# PLC Connection Guide

EB Pro Ver.5.01.02
EB8000 Ver.4.65.17

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# ABB AC500

Supported Series: ABB AC500

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | ABB AC500 | | |
| PLC I/F | RS485 2W | RS232/RS485 2W / Ethernet | |
| Baud rate | 19200 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

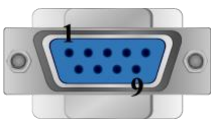
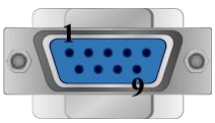
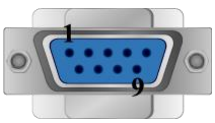
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MX0 | DDDDo | 0 ~ 81917 | |
| B | MW0 | DDDDD | 0 ~ 32767 | |
| B | MW1 | DDDDD | 0 ~ 32767 | |

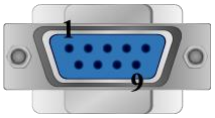
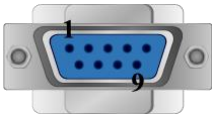
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

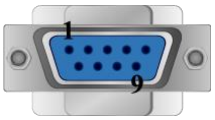
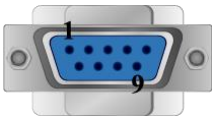
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC COM2 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

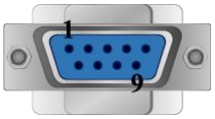
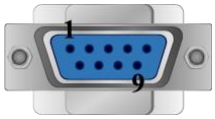
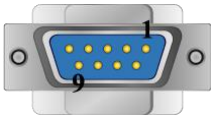
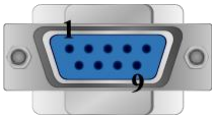
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC COM2 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

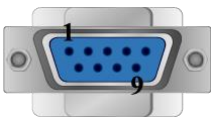
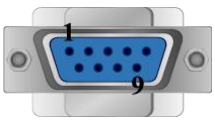
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC COM2 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

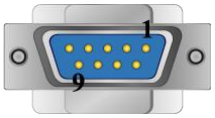
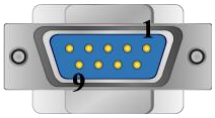
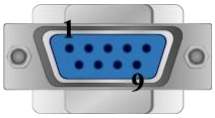
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC COM2 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

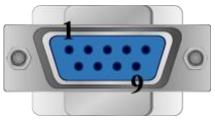
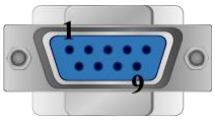
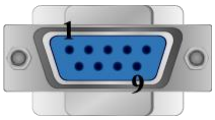
| COM1 RS232 9P D-Sub Female | | | PLC COM2 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

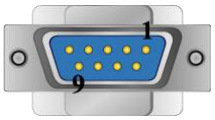
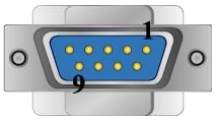
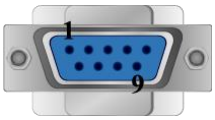
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | PLC COM2 RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 Data- |
| 2 RX+ | 9 Data+ | | 3 Data+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

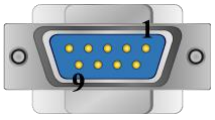
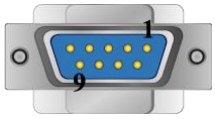
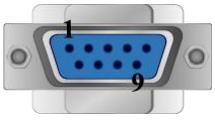
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | PLC COM2 RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 Data- |
| 6 RX+ | 1 Data+ | | 3 Data+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

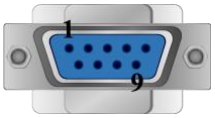
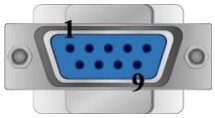
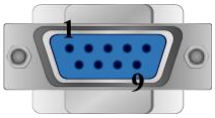
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | PLC COM2 RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 Data- |
| 2 RX+ | 8 Data+ | | 3 Data+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | PLC COM2 RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 Data- |
| 2 RX+ | 9 Data+ | | 3 Data+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | PLC COM2 RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 Data- |
| 2 RX+ | 8 Data+ | | 3 Data+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |
|  |  | |  |

Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/19/2012 | Driver released |

# ABB TOTALFLOW FCU

Supported Series: ABB TOTALFLOW FCU
Website: http://new.abb.com/us

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | ABB TOTALFLOW FCU | | |
| PLC I/F | Ethernet | | |
| Port no. | 10000 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | BIT | DDD.DDD.DDDD | 0 ~ 255.255.9999 | |
| B | W_BIT | DDD.DDD.DDDDdd | 0 ~ 255.255.999915 | |
| Byte | BYTE | DDD.DDD.DDDD | 0 ~ 255.255.9999 | |
| W | WORD | DDD.DDD.DDDD | 0 ~ 255.255.9999 | |
| DW | DWORD | DDD.DDD.DDDD | 0 ~ 255.255.9999 | |
| W | STRING | DDD.DDD.DDDD | 0 ~ 255.255.9999 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Sep/22/2014 | Driver released |

# Altus ALNET-I

Supported Series: Altus SeriesMode PO3042, PO3142, PO3242, PO3342, PL103 ,PL104, PL105, QK800, QK801, QK2000.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Altus ALNET-I | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device Type | Format | Range | Memo |
|---|---|---|---|---|
| B | M_Bit | DDDDh | 0 ~ 1023f | Memories |
| B | A | DDDh | 0 ~ 511f | Auxiliary Relays |
| B | E | DDDh | 0 ~ 511f | Input Relays |
| B | D_Bit | DDDDdd | 0 ~ 102331 | Decimals |
| B | F_Bit | DDDDdd | 0 ~ 102331 | Reals |
| B | I_Bit | DDDDdd | 0 ~ 102331 | Integers |
| B | S | DDDh | 0 ~ 511f | Output Relays |
| W | M | DDDD | 0 ~ 4096 | Memories |
| DW | D | DDDD | 0 ~ 4096 | Decimals |
| DW | F | DDDD | 0 ~ 1023 | Reals |
| DW | I | DDDD | 0 ~ 1023 | Integers |
| W | TM | HHHH | 0 ~ ffff* | Memory Tables |
| DW | TD | HHHH | 0 ~ ffff* | Decimal Tables |
| DW | TF | HHHH | 0 ~ ffff* | Real Tables |
| DW | TI | HHHH | 0 ~ ffff* | Integer Tables |

Note: The formats of TM, TD, TF and TI in PLC software are represented as TXA[B]. “X” can be M, D, F, or I.

The address range of B is 0~FF, and A is 0~FF. The device type is AABB, and the range depends on the PLC settings.

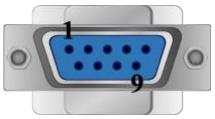
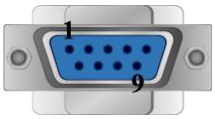
For example: Model PO3242, range of “A” is ”0” and range of “B” is 0 ~ 7.

## Wiring Diagram:

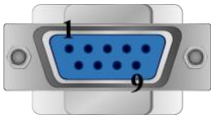
**The following is the view from the soldering point of a cable.**

9P D-Sub to 8P RJ45: PLC PO3042, PO3142, PO3242, PO3342

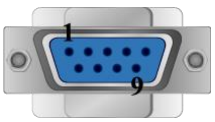
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

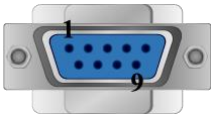
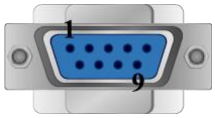
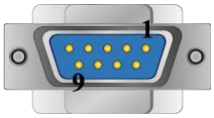
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

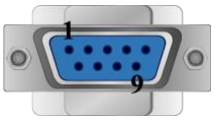
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

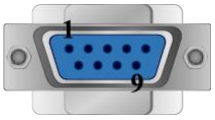
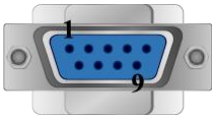
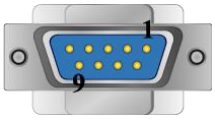
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

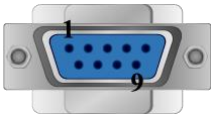
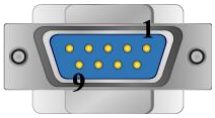
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: PLC PL103, PL104, PL105

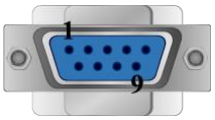
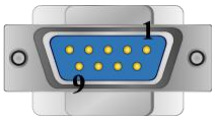
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 7 TX |
| 3 TX | 7 TX | | 1 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

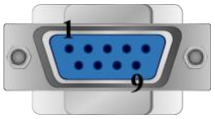
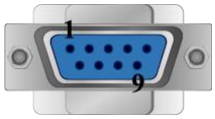
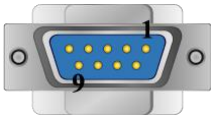
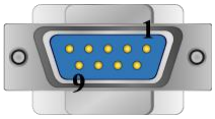
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 7 TX |
| 3 TX | | | 1 RX |
| 5 GND | | | 5 GND |
|  | | |  |

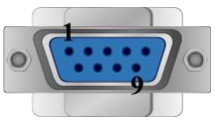
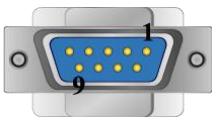
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 7 TX |
| 3 TX | | | 1 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 7 TX |
| 3 TX | 4 TX | 7 TX | 1 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

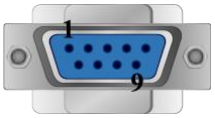
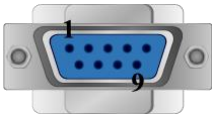
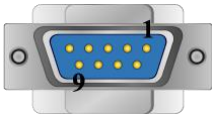
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 7 TX |
| 6 TX | | | 1 RX |
| 5 GND | | | 5 GND |
|  | | |  |

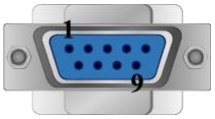
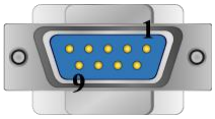
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: PLC QK800, QK801, QK2000.

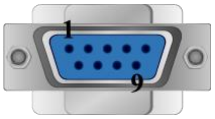
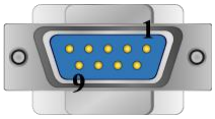
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

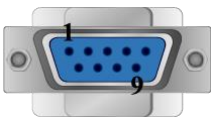
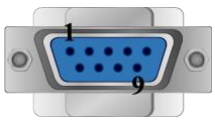
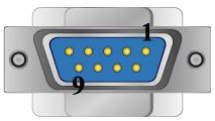
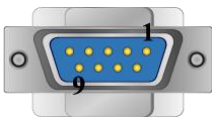
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

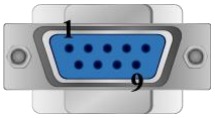
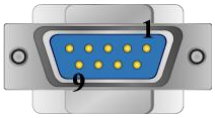
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 7 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jul/24/2009 | |

# Artrich Inverter AR100 Series

Supported Series: Artrich Inverter AR100 Series
Website: www.artrich.cn

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Artrich Inverter AR100 Series | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

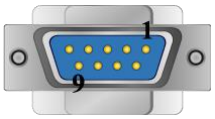
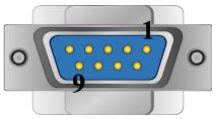
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | F3002_bit | Hh | 0 ~ 0f | |
| B | F3003_bit | Hh | 0 ~ 0f | |
| W | F0-0 ~ F0-1 | D | 0 | W/R |
| W | F0-2 | D | 0 ~ 1 | W/R *Note1 |
| W | F0-3 ~ F0-157 | D | 0 | W/R |
| W | F2-0 ~ F2-16 | D | 0 | Read only |
| W | F3000 ~ F3001 | D | 0 | Write only |
| W | F3002 ~ F3003 | D | 0 | Read only |
| W | FC01 ~ FC12 | D | 0 | Read only |

Note 1: Value 0 means write to NAND Flash (Data will be saved after power off.) Value 1 means write to RAM (Data will not be saved after power off.)

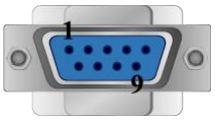
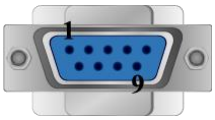
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

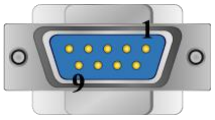
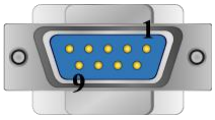
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 Data- |
| 2 RX+ | 9 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

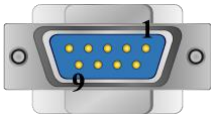
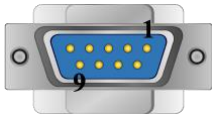
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 Data- |
| 6 RX+ | 1 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

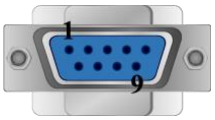
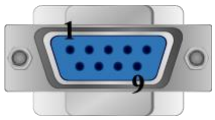
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 Data- |
| 2 RX+ | 8 Data+ | | 1 Data+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 Data- |
| 2 RX+ | 9 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 Data- |
| 2 RX+ | 8 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/18/2014 | Driver released |

# Artrich Inverter AR200/216/600 Series

Supported Series: Artrich Inverter AR200/216/600 Series
Website: www.artrich.cn

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Artrich Inverter AR200/216/600 Series | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

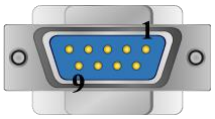
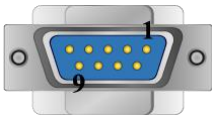
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | F3002_bit | Hh | 0 ~ 0f | |
| B | F3003_bit | Hh | 0 ~ 0f | |
| W | F0-0 ~ F0-1 | D | 0 | W/R |
| W | F0-2 | D | 0 ~ 1 | W/R *Note1 |
| W | F0-3 ~ F0-178 | D | 0 | W/R |
| W | F2-0 ~ F2-16 | D | 0 | Read only |
| W | F3000 ~ F3001 | D | 0 | Write only |
| W | F3002 ~ F3003 | D | 0 | Read only |
| W | FC01 ~ FC12 | D | 0 | Read only |

Note 1: Value 0 means write to NAND Flash (Data will be saved after power off.) Value 1 means write to RAM (Data will not be saved after power off.)

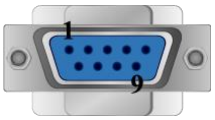
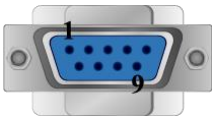
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

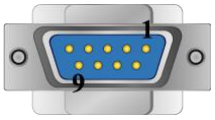
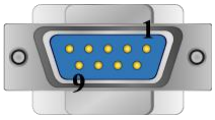
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 Data- |
| 2 RX+ | 9 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

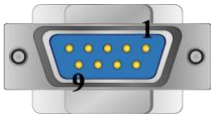
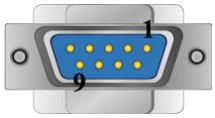
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 Data- |
| 6 RX+ | 1 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

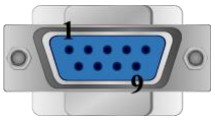
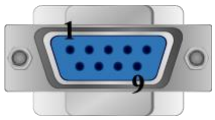
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 Data- |
| 2 RX+ | 8 Data+ | | 1 Data+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

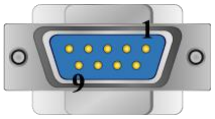
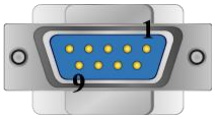
| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 Data- |
| 2 RX+ | 9 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

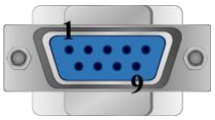
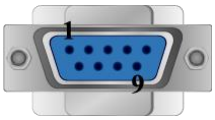
| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 Data- |
| 2 RX+ | 8 Data+ | | 1 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

**The following is the view from the soldering point of a cable.**

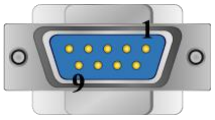
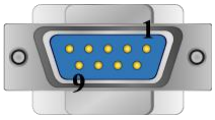
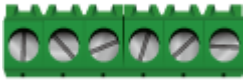
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | RS485- |
| 2 RX+ | 9 Data+ | | RS485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

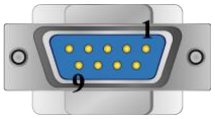
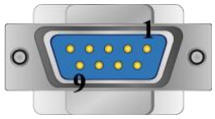
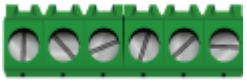
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | RS485- |
| 6 RX+ | 1 Data+ | | RS485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

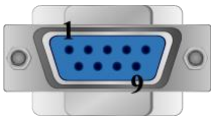
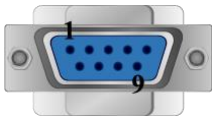
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | RS485- |
| 2 RX+ | 8 Data+ | | RS485+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | RS485- |
| 2 RX+ | 9 Data+ | | RS485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | RS485- |
| 2 RX+ | 8 Data+ | | RS485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/18/2014 | Driver released |

# BACnet BACnet/IP

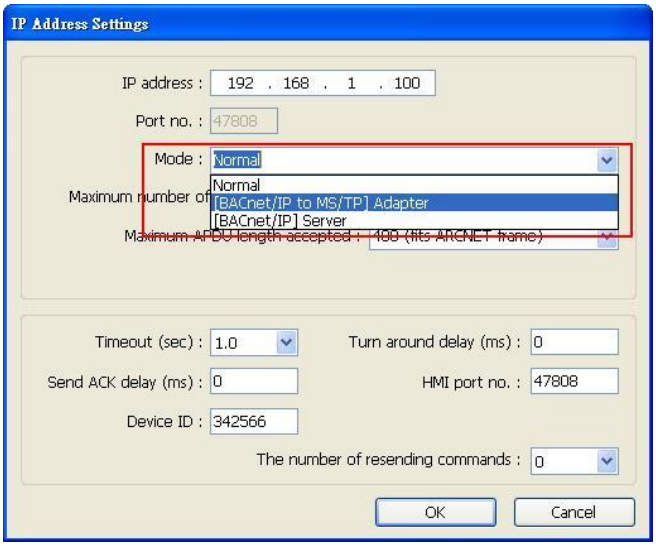
Supported series: BACnet/IP protocol devices

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | BACnet/IP | | |
| PLC I/F | Ethernet | | |
| Port no. | 47808 | | 47808 is the standard communication port of BACnet protocol. |
| HMI port no. | 47808 | 47808~47823 | Different HMI ports are required when connecting multiple |
| Device ID | 342566 | 0~999999 | According to device. |
| PLC sta. no. | 1 | | |

## BACnet/IP to MS/TP Adapter Setting:

1. When using BACnet/IP driver, please correctly set “Mode”, “Maxinum number of segments accepted”, and “Maximum APDU length accepted” according to the actual device.







**BACnet/IP to MS/TP adapter**

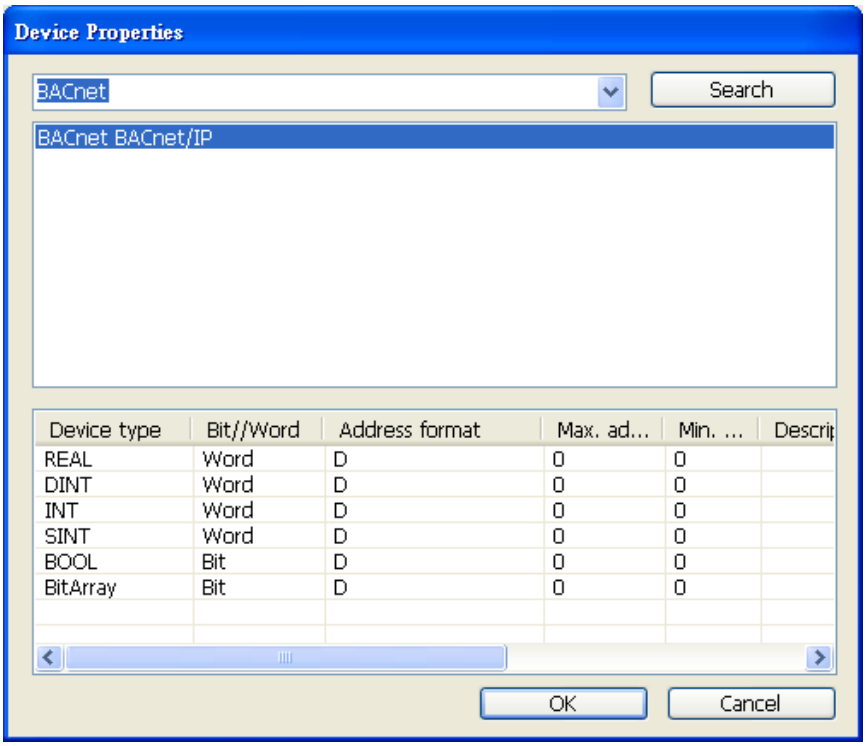
2. As shown above, in BACnet/IP to MS/TP Adapter mode, [Network number] must follow the factory setting, and enter the device station number in [Device ID].

3. [HMI port no]. default: 47808, can be filled in other effective value.

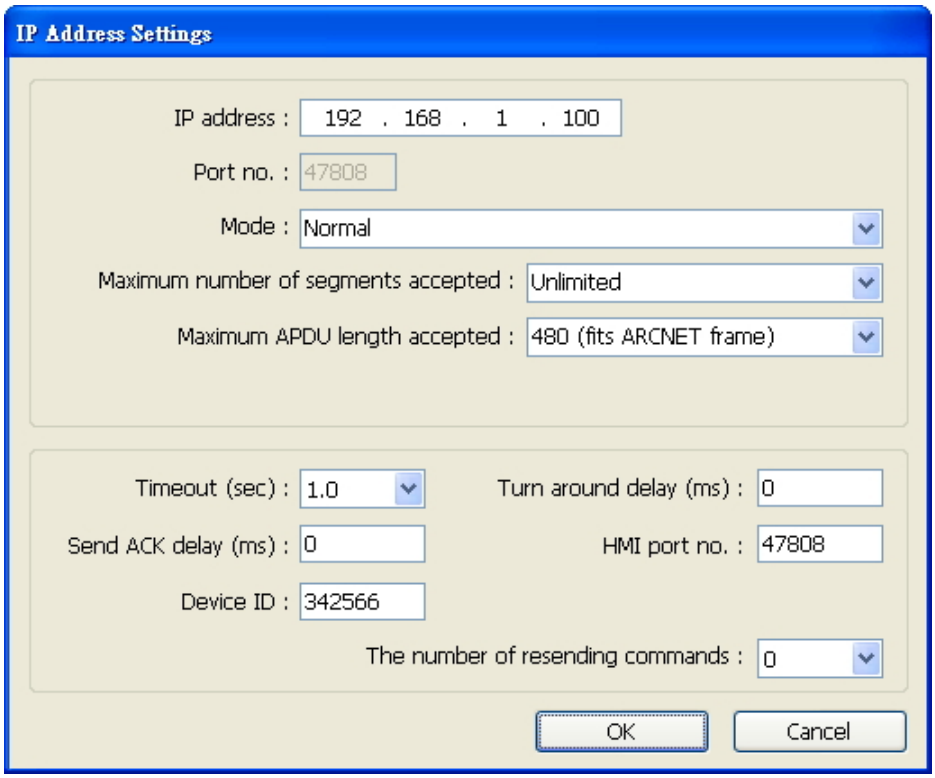
## How to Import Tags:

EasyBuilder Pro provides two ways to gain tag addresses. One is to directly get tag information via internet, another is to export the generated CSV file via SCADA, and then import to EasyBuilder Pro. The following introduces how to import tag address information.

### Step 1. Add BACnet/IP driver in System Parameters Settings

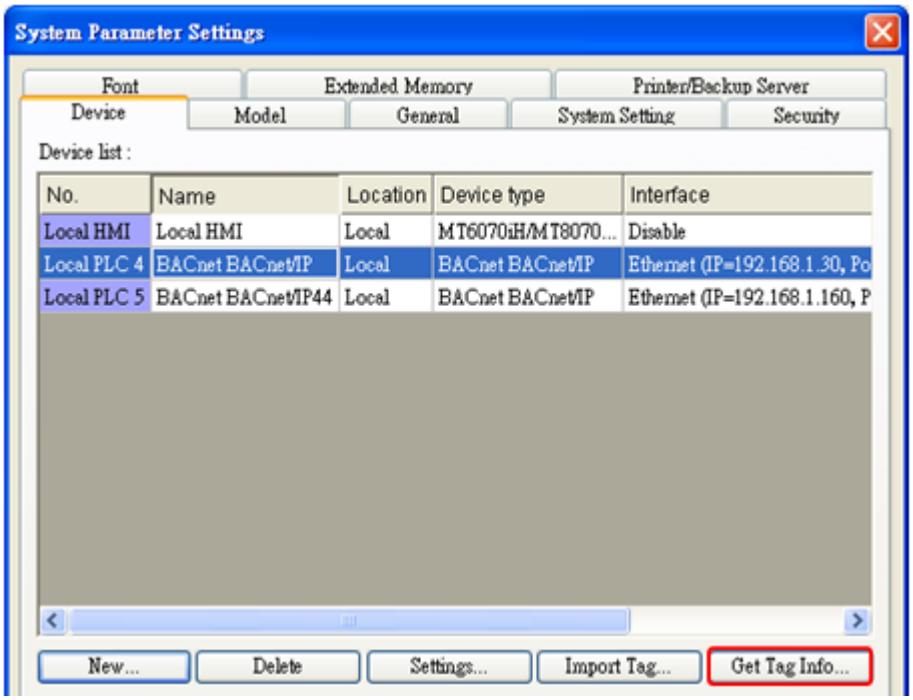


**Step 2. Correctly set the relevant parameters.**

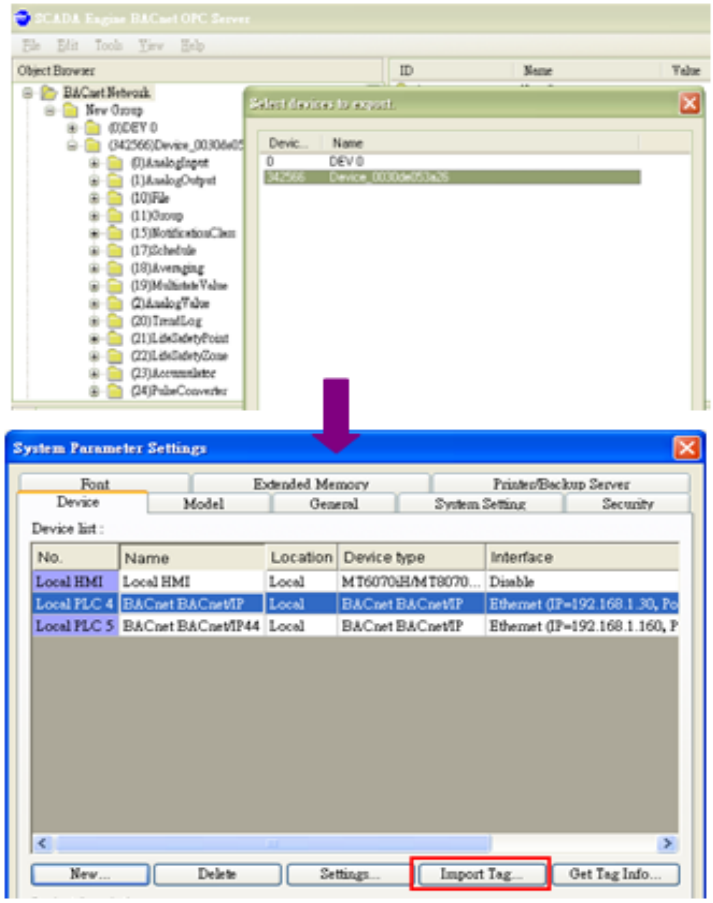



**Step 3. Get tag address information**

Way 1: Click **Get Tag Info**.



Way 2: Import the CSV file generated by SCADA software.




CSV file content is shown below; users can build the file and import:

a. Object format

b. OBJECT NAME (user defined tag name, EasyBuilder will start reading data from the 6th row of CSV file.), DEVICE ID, OBJECT TYPE(object ID) and INSTANCE(object address)

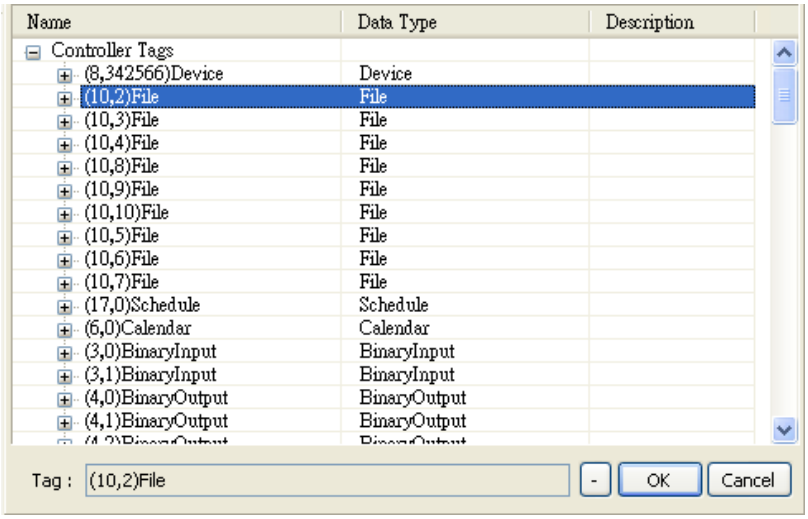
A1 GROUP_ID

| | A | B | C | D |
|---|---|---|---|---|
| 1 | GROUP_ID | GROUP_NAME | | |
| 2 | 1 | New Group | | |
| 3 | DEVICE_ID | GROUP_ID | DEVICE_NAME | |
| 4 | 342566 | 1 | Device_0030de053a26 | |
| 5 | DEVICE_ID | OBJECT_TYPE | INSTANCE | OBJECT_NAME |
| 6 | 342566 | 0 | 0 | ANALOG_INPUT_0 |
| 7 | 342566 | 0 | 1 | ANALOG_INPUT_1 |
| 8 | 342566 | 0 | 2 | ANALOG_INPUT_2 |
| 9 | 342566 | 1 | 0 | ANALOG_OUTPUT_0 |
| 10 | 342566 | 1 | 1 | ANALOG_OUTPUT_1 |
| 11 | 342566 | 1 | 2 | ANALOG_OUTPUT_2 |
| 12 | 342566 | 2 | 0 | ANALOG_VALUE_0 |
| 13 | 342566 | 2 | 1 | ANALOG_VALUE_1 |
| 14 | 342566 | 2 | 2 | ANALOG_VALUE_2 |
| 15 | 342566 | 2 | 3 | ANALOG_VALUE_3 |
| 16 | 342566 | 3 | 0 | BINARY_INPUT_0 |
| 17 | 342566 | 3 | 1 | BINARY_INPUT_1 |
| 18 | 342566 | 3 | 2 | BINARY_INPUT_2 |
| 19 | 342566 | 3 | 3 | BINARY_INPUT_3 |
| 20 | 342566 | 3 | 4 | BINARY_INPUT_4 |
| 21 | 342566 | 3 | 5 | BINARY_INPUT_5 |

**Step 4. File imported successfully.**




Take **(10，2)File** as an example, **10** represents object ID, **2** represents object address, **File** represents user defined name or default name.




## Default Object Model:

| Object ID | Object Name | Object Structure |
|---|---|---|
| 0 | Analog Input | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Units<br>Min Press Value<br>Max Press Value<br>Cov Increment<br>Resolution<br>High Limit<br>Low Limit<br>Dead Band |

| Object ID | Object Name | Object Structure |
|---|---|---|
| | | Profile Name |
| 1 | Analog Output | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Units<br>Relinquish Default<br>Min Press Value<br>Max Press Value<br>Cov Increment<br>Resolution<br>High Limit<br>Low Limit<br>Dead Band<br>Profile Name |
| 2 | Analog Value | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Units<br>Relinquish Default<br>Cov Increment<br>High Limit<br>Low Limit<br>Dead Band<br>Profile Name |
| 3 | Binary Input | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Polarity<br>Profile Name |

| Object ID | Object Name | Object Structure |
|---|---|---|
| | | Notify Type<br>Alarm Value |
| 4 | Binary Output | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Polarity<br>Profile Name<br>Notify Type |
| 5 | Binary Value | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Profile Name<br>Notify Type<br>Alarm Value |
| 6 | Calendar | Object Name<br>Object Identifier<br>Object Type<br>Present Value |
| 7 | Command | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>In Process<br>All Writes Successful |
| 8 | Device | Object Name<br>Object Identifier<br>Object Type<br>System Status<br>Vendor Name<br>Vendor Identifier<br>Model Name<br>Firmware Revision |

| Object ID | Object Name | Object Structure |
|---|---|---|
| | | Application Software Version<br>Protocol Version<br>Protocol Revision<br>Max APDU length Accepted<br>Segmentation Supported<br>Apdu Timeout<br>Number Of APDU retries<br>Data Base Revision<br>Max Segments Accepted<br>Day light Savings Status<br>Apdu Segment Timeout<br>Backup Failure Timeout |
| 10 | File | Object Name<br>Object Identifier<br>Object Type<br>File Type<br>File Size<br>Archive<br>Read Only |
| 11 | Group | Object Name<br>Object Identifier<br>Object Type |
| 13 | Multi State Input | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Reliability<br>Number Of States<br>Time Delay<br>Notification Class<br>Notify Type<br>Profile Name |
| 14 | Multi State Output | Object Name<br>Object Identifier<br>Object Type<br>Present Value |

| Object ID | Object Name | Object Structure |
|---|---|---|
| | | Event State<br>Out Of Service<br>Reliability<br>Number Of States<br>Time Delay<br>Notification Class<br>Notify Type<br>Profile Name |
| 15 | Notification Class | Object Name<br>Object Identifier<br>Object Type<br>Notification Class<br>Priority |
| 17 | Schedule | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Priority For Writing<br>Reliability<br>Out Of Service |
| 18 | Averaging | Object Name<br>Object Identifier<br>Object Type<br>Minimum Value<br>Average Value<br>Maximum Value<br>Attempted Samples<br>Valid Samples<br>Window Interval<br>Window Samples |
| 19 | Multi State Value | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Reliability<br>Number Of States |

| Object ID | Object Name | Object Structure |
|---|---|---|
| | | Notification Class<br>Notify Type<br>Profile Name<br>Time Delay |
| 20 | Trend Log | Object Name<br>Object Identifier<br>Object Type<br>Enable<br>Stop When Full<br>Buffer Size<br>Record Count<br>Total Record Count |
| 21 | Life Safety Point | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Tracking Value<br>Event State<br>Reliability<br>Out Of Service<br>Mode<br>Silenced |
| 22 | Life Safety Zone | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Tracking Value<br>Event State<br>Reliability<br>Out of Service<br>Mode<br>Silenced |
| 23 | Accumulator | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service |

| Object ID | Object Name | Object Structure |
|---|---|---|
| | | Scale<br>Units<br>Reliability |
| 24 | Pulse Converter | Object Name<br>Object Identifier<br>Object Type<br>Present Value<br>Event State<br>Out Of Service<br>Units<br>Scale Factor<br>Adjust Value<br>High Limit<br>Low Limit<br>Dead Band<br>Cov Increment<br>Count |

Note 1. Object name can not include “#”.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

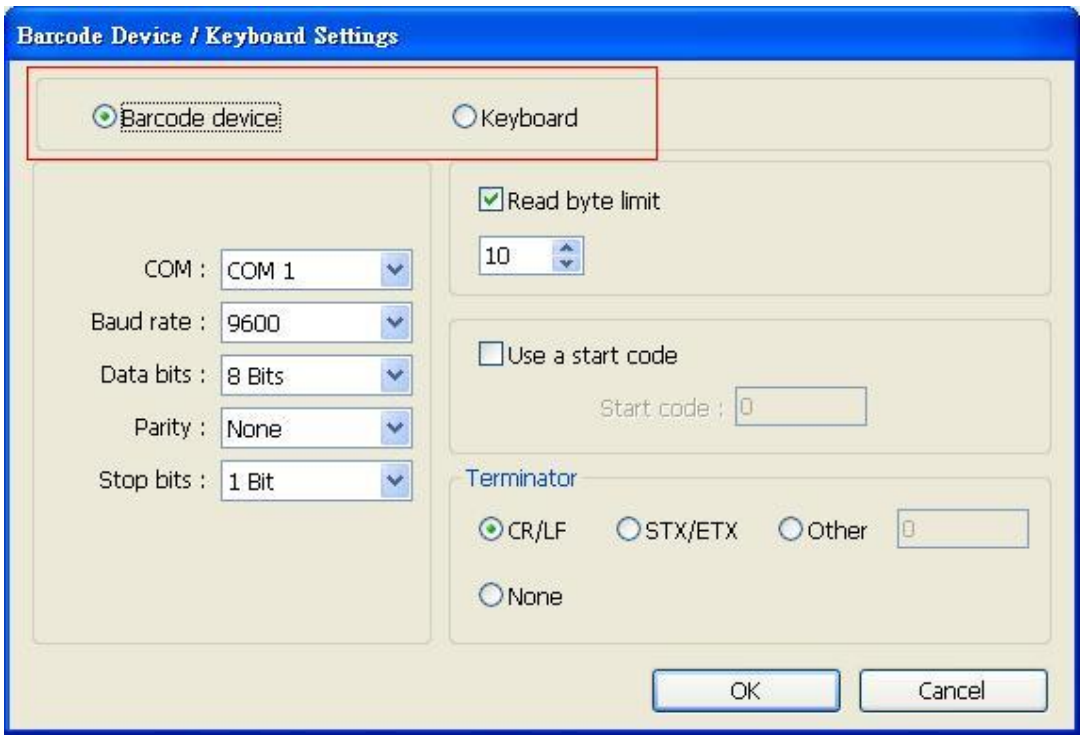
| Version | Date | Description |
|---|---|---|
| V1.00 | Jan/12/2012 | Driver released |

# Barcode/Keyboard (USB/COM)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Barcode/Keyboard (USB/COM) | | |
| PLC I/F | RS232 | RS232/485,USB | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | None | None, Even, Odd | |
| Stop bits | 1 | 1,2 | |
| Terminator | CR/LF | CR/LF, STX/ETX, Other, None | |

★When setting device properties, select [Barcode device] or [Keyboard] mode.



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | FLAG | DD | 0 | Flag |
| B | RESET | O | 0 | *Note 1 |
| W | BARCODE 0 | DD | 0 | Length |
| W | BARCODE 1 | DD | 1~255 | String |
| W | RESULT | D | 0 | *Note 2 |



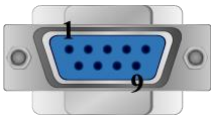
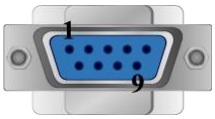
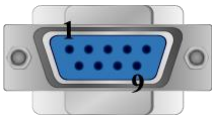
1. RESET: If set on, clears the data of BARCODE and RESULT, and clears FLAG to OFF.

2. RESULT:Indicates the result of data reading.
   The following values indicate:
   0 : Waiting to read BARCODE.
   1 : BARCODE is successfully read.
   2 : Invalid BARCODE format.
   3 : Exceeds the number of bytes specified in [Read byte limit].
   4 : The Start Code of the data read does not match the setting.
   5 : The Terminator of the data read does not match the setting.

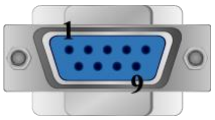
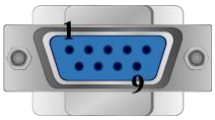
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

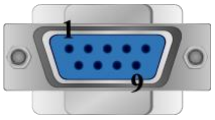
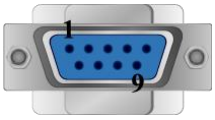
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub FeMale |
|---|---|---|---|
| 2 RX | 8 RX | | TXD |
| 3 TX | 7 TX | | RXD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

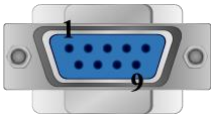
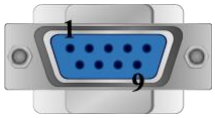
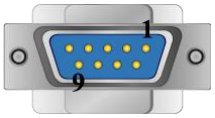
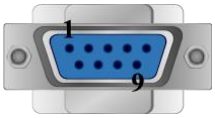
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

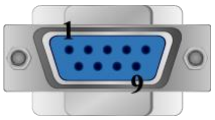
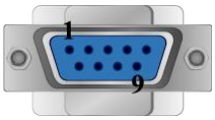
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub FeMale |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD |
| 3 TX | 4 TX | 7 TX | RXD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale |
|---|---|---|---|
| 9 RX | | | TXD |
| 6 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Oct/1/2010 | |

# Baumuller

Website: http://www.baumuller.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Baumuller | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 0 | Defaults | |

## PLC Setting:

| | |
|---|---|
| Communication mode | RK 512 Protocol, 19200, 8, 1, Even |

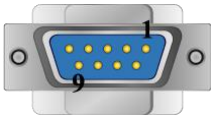
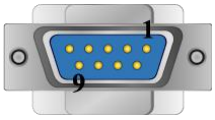
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | DB0_bit ~ DB29_bit | DDDh | 0 ~ 255f | |
| W | DB0 ~ DB29 | DDD | 0 ~ 255 | |

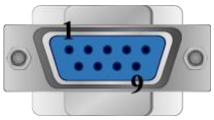
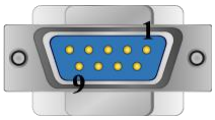
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

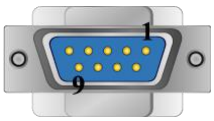
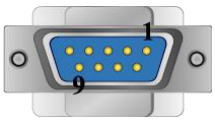
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | Baumuller servo RS422<br>9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 1 TXD- |
| 2 RX+ | | | 9 TXD+ |
| 3 TX- | | | 5 RXD- |
| 4 TX+ | | | 6 RXD+ |
| 5 GND | | | 8 GND |
|  | | |  |

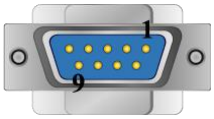
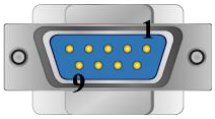
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | Baumuller servo RS422<br>9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | 1 TXD- |
| 6 RX+ | | | 9 TXD+ |
| 9 TX- | | | 5 RXD- |
| 8 TX+ | | | 6 RXD+ |
| 5 GND | | | 8 GND |
|  | | |  |

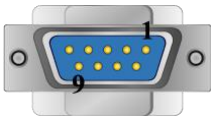
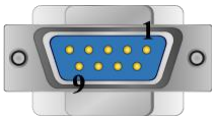
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | Baumuller servo RS422<br>9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 1 TXD- |
| 2 RX+ | | | 9 TXD+ |
| 3 TX- | | | 5 RXD- |
| 4 TX+ | | | 6 RXD+ |
| 5 GND | | | 8 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | Baumuller servo RS422<br>9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 1 TXD- |
| 2 RX+ | | | 9 TXD+ |
| 3 TX- | | | 5 RXD- |
| 4 TX+ | | | 6 RXD+ |
| 5 GND | | | 8 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | Baumuller servo RS422<br>9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 1 TXD- |
| 2 RX+ | | | 9 TXD+ |
| 3 TX- | | | 5 RXD- |
| 4 TX+ | | | 6 RXD+ |
| 5 GND | | | 8 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Apr/17/2009 | |

# Beckhoff ADS/AMS (Ethernet)

Supported Series: Twincat

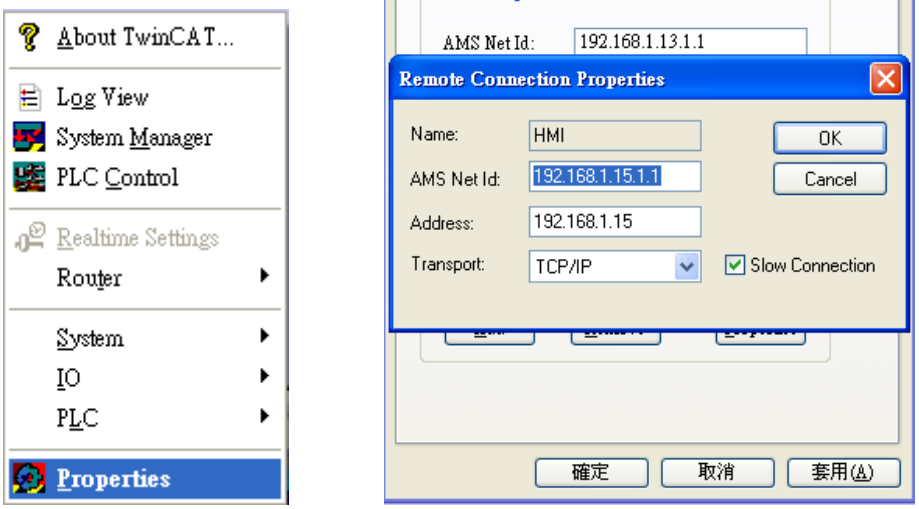
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Beckhoff ADS/AMS (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 48898 | | |
| ADS port | 801 | 801, 811, 821, 831 | |
| PLC sta. no. | 1 | | |

## PLC Setting:

**Step1.**

Open TwinCat System Properties.




PLC Settings: Set HMI Name, AMS Net ID, and Address.

Ex:

HMI IP: 192.168.1.15

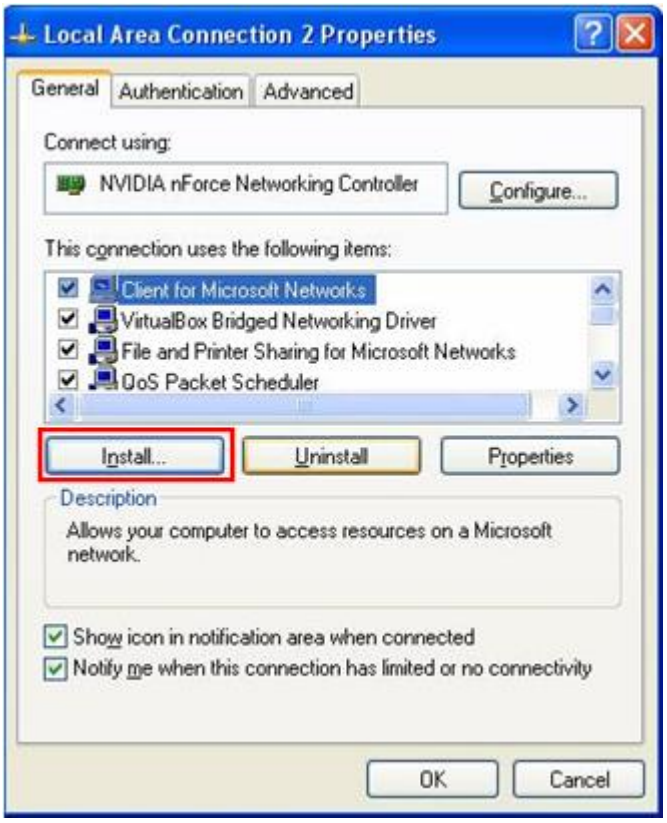
AMS Net ID: Must input 192.168.1.15.1.1

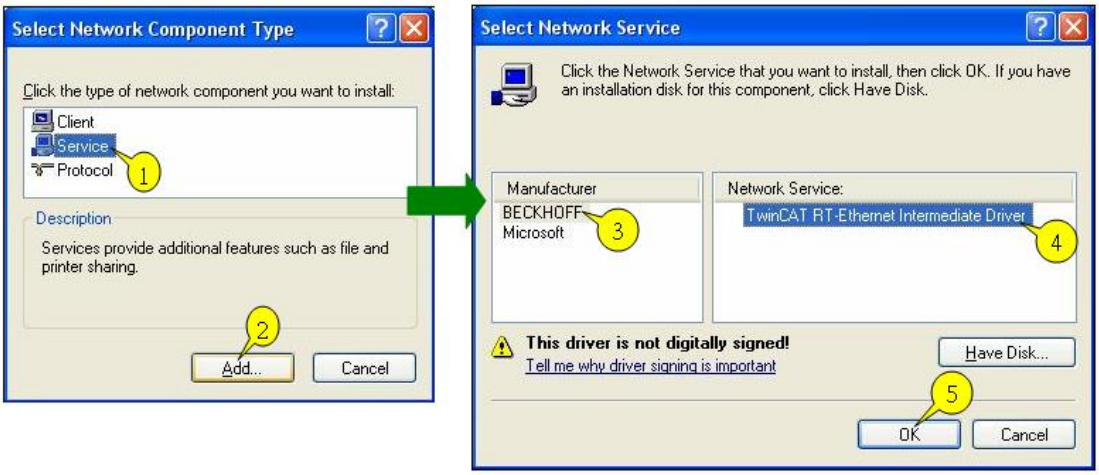
Address: 192.168.1.15

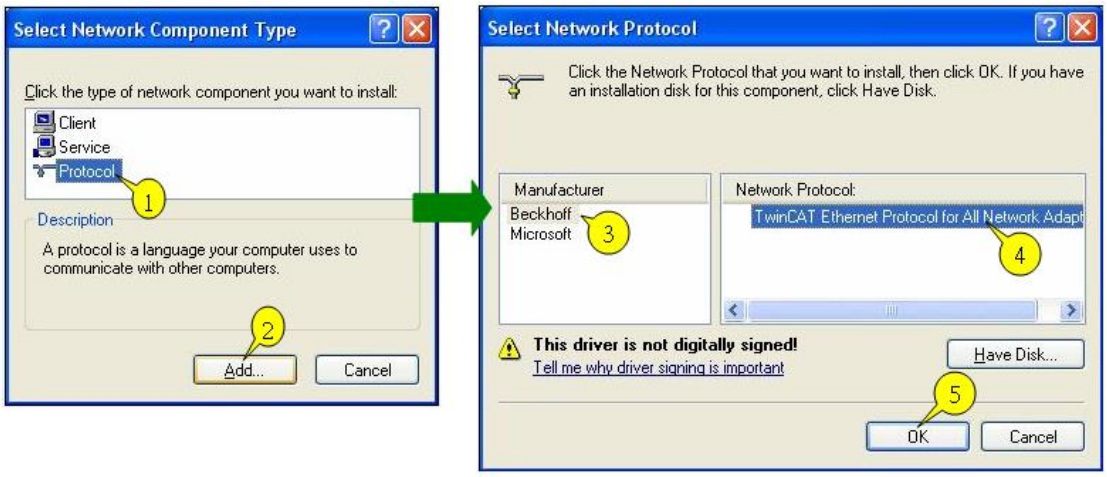
Name: Input “HMI” or any user–defined name.

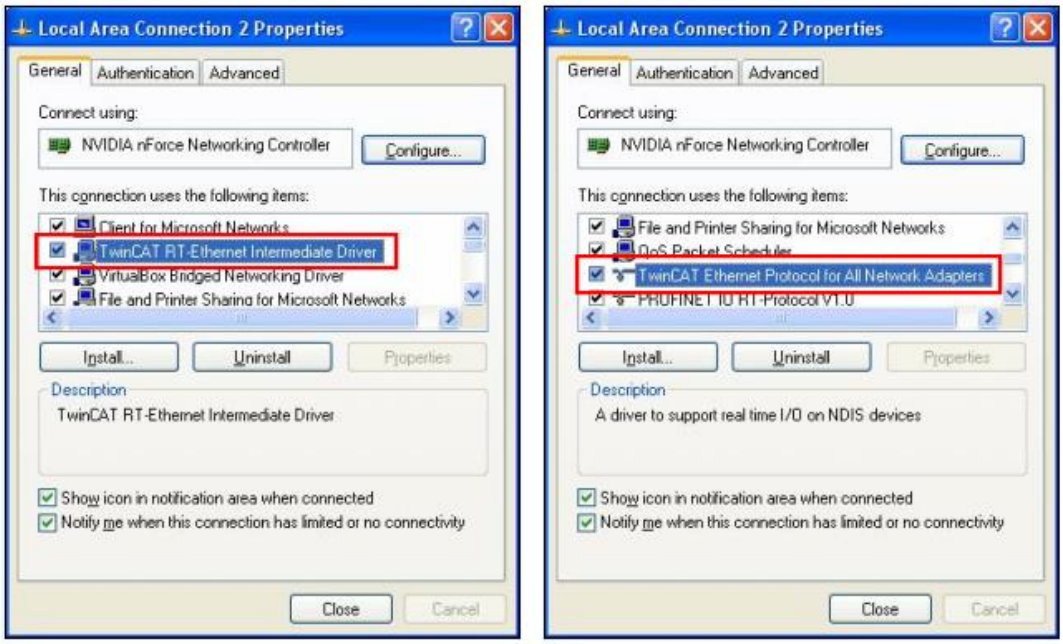
**Step2.**

Simulate PLC on PC. 2 Twincat drivers must be installed as follows:



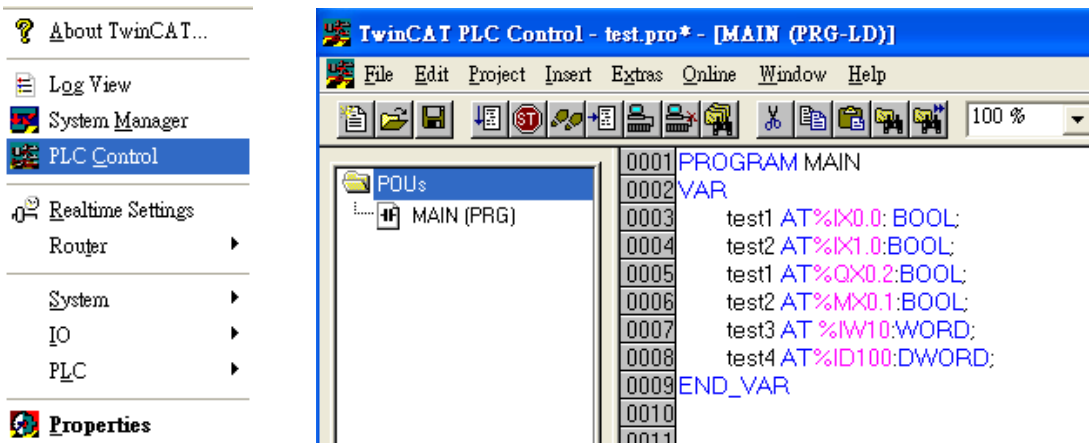






**Step3.**

The following commands can be utilized for Twincat PLC to output the parameters observed.



PS. Twincat PLC

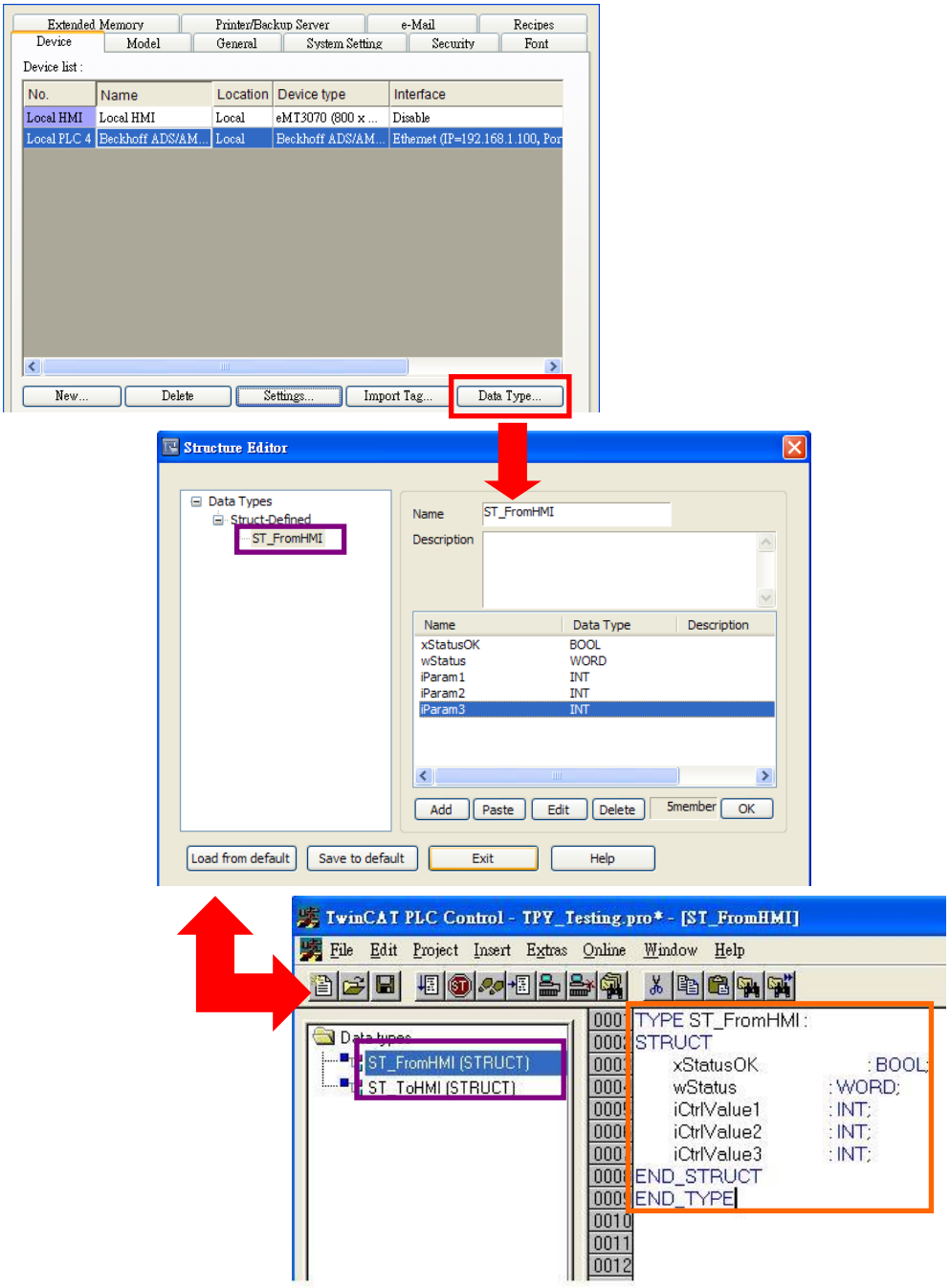
IX, QX, MX - Must output in BOOL type.

IW, QW, MW - Must output in UINT, WORD, and INT types.

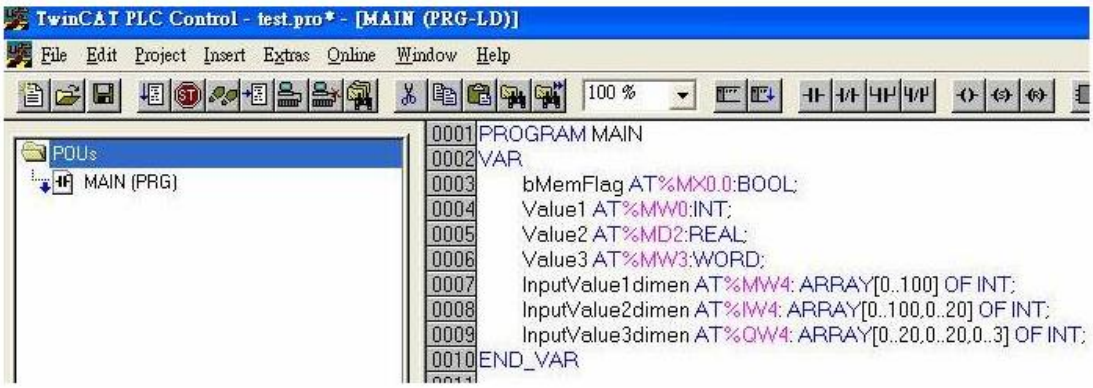
ID, QD, MD - Must output in UDINT, DWORD, and DINT types.

This driver supports variables under STRUCT structure. Click [Data Type] to open Structure Editor and create the same [Name] and [Data Type] as in Twincat PLC Control. The standard data types include:

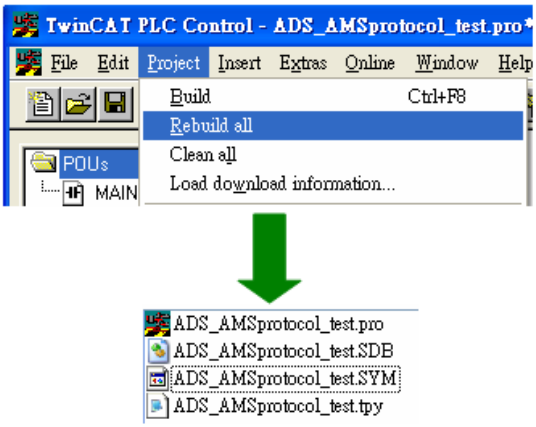
BOOL, WORD, INT, UINT, DINT, UDINT, REAL, DWORD, ARRAY



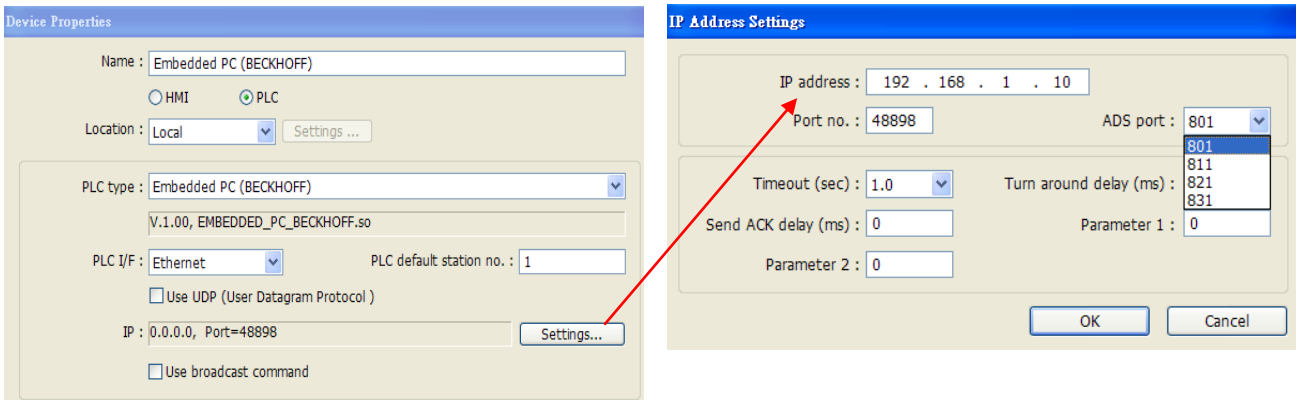
The syntax of Tag in Twincat software is: Tag Name +AT+%+Type,
as shown in the following figure.




Project -> Rebuild all



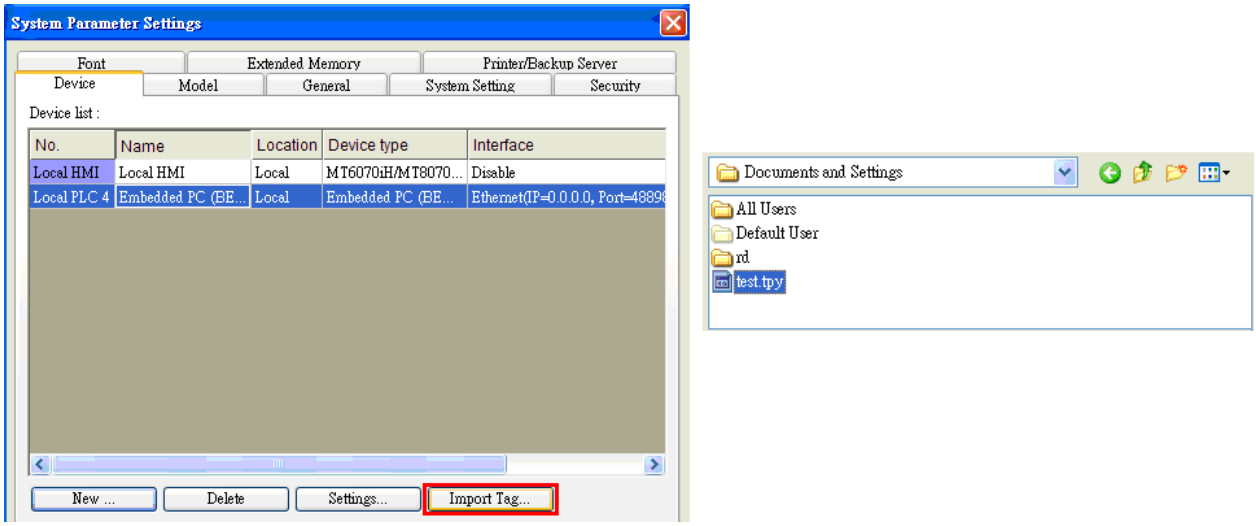

**Step4.** Set PLC IP in EasyBuilder.



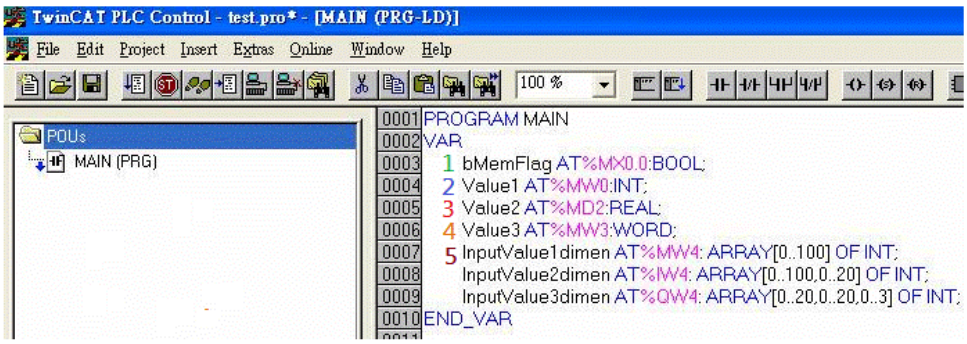
**Step5.**

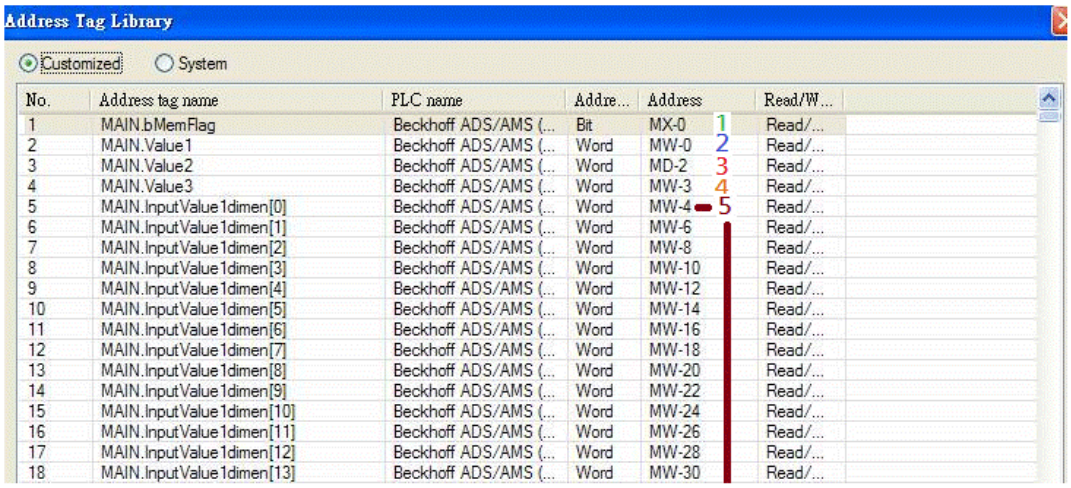
Click [Import Tag] button in EasyBuilder to open the TPY file compiled by Twincat PLC Control.

Note: When using Beckhoff driver, if the TPY file cannot be imported, try download and install MSXML 4.0 in Microsoft - Download Center.




Import tpy to EasyBuilder, the result is shown in the following figure.

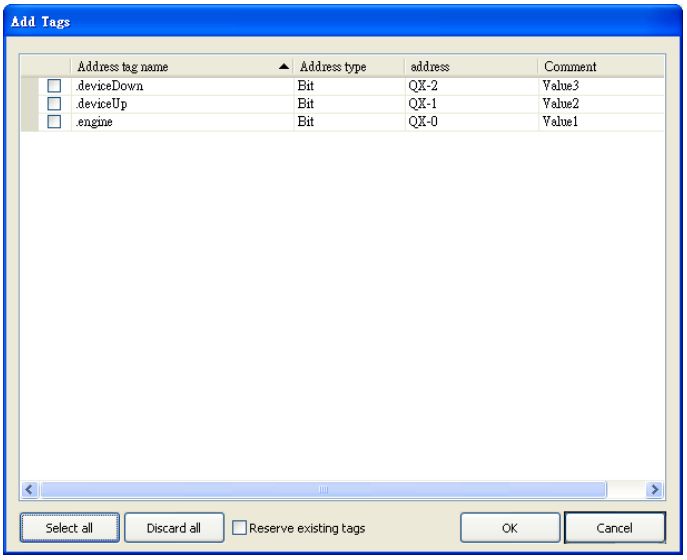


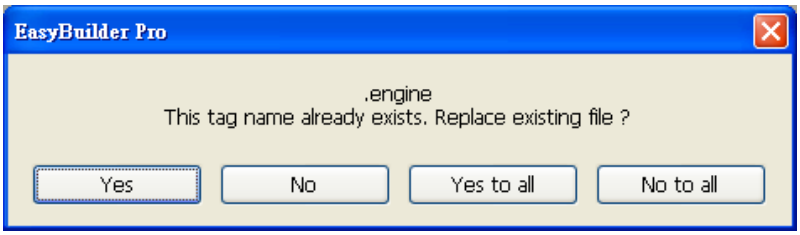



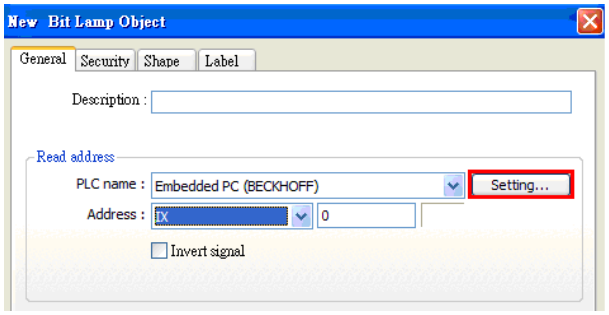
**Step6.**

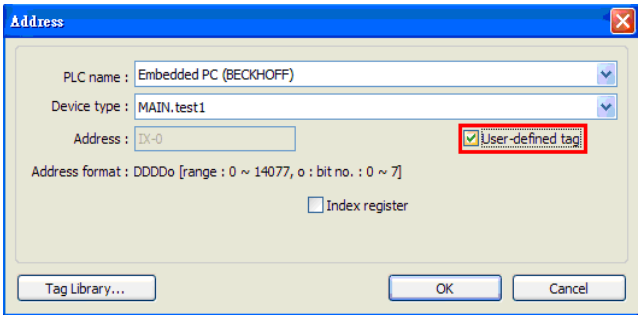
The following dialog box appears for users to select all or part of the data to import. A reminding message is shown when import the same data repeatedly.

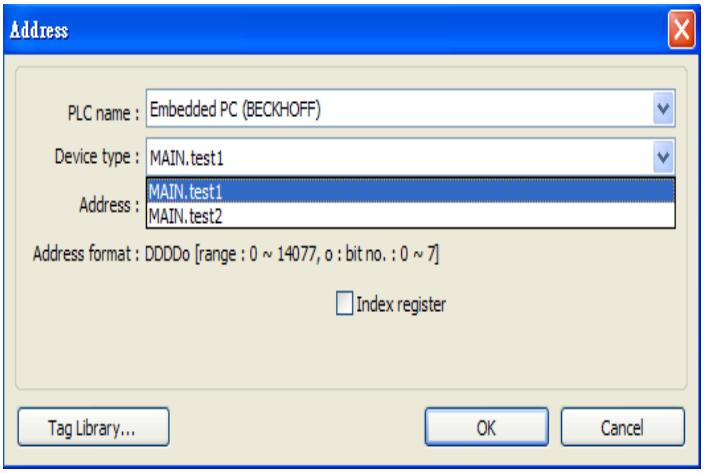
*EasyBuilder8000 does not support [Comment] setting.



**Step7.**

Download the project compiled in EasyBuilder to HMI.

## Device address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IX | DDDDDo | 0 ~ 655357 | o : Bit no.(0 ~ 7) |
| B | QX | DDDDDo | 0 ~ 655357 | o : Bit no.(0 ~ 7) |
| B | MX | DDDDDo | 0 ~ 655357 | o : Bit no.(0 ~ 7) |
| W | IW | DDDDD | 0 ~ 65535 | |
| W | QW | DDDDD | 0 ~ 65535 | |
| W | MW | DDDDD | 0 ~ 65535 | |
| DW | ID | DDDDD | 0 ~ 65535 | |
| DW | QD | DDDDD | 0 ~ 65535 | |
| DW | MD | DDDDD | 0 ~ 65535 | |

## Support Device Type:

| data type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| Array | Word array for ASCII input and ASCII display | Length=word |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/08/2010 | Driver released. |
| V1.10 | Aug/24/2011 | Extended address range up to 65535. |

# Beckhoff Embedded PC

Supported Series: Intel-CX10x0,CX50x0 and Twincat

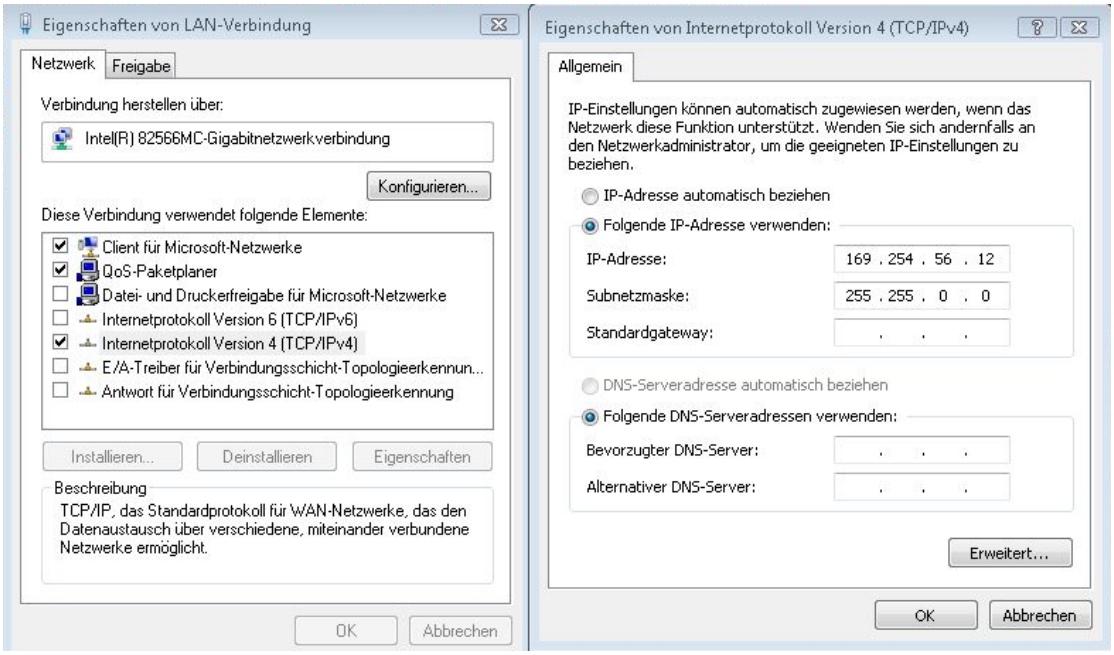
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Beckhoff Embedded PC | | |
| PLC I/F | Ethernet | | |
| Port no. | 48898 | | |
| ADS port | 801 | 801, 811, 821, 831 | |
| PLC sta. no. | 1 | | |

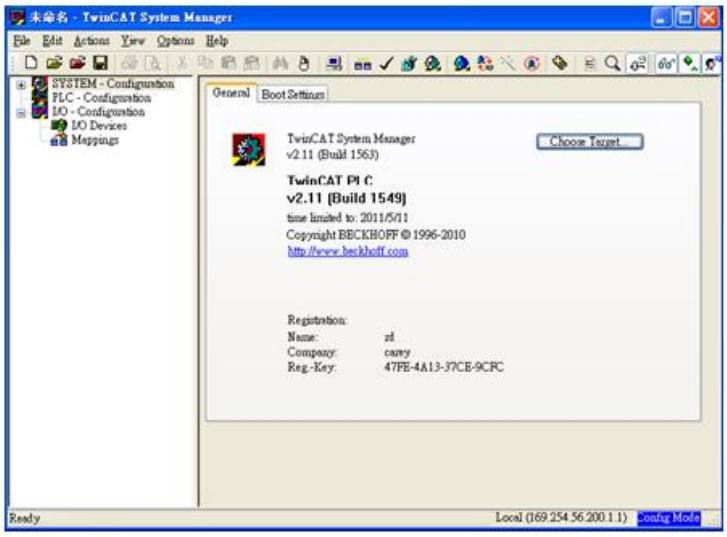
## PLC Setting:

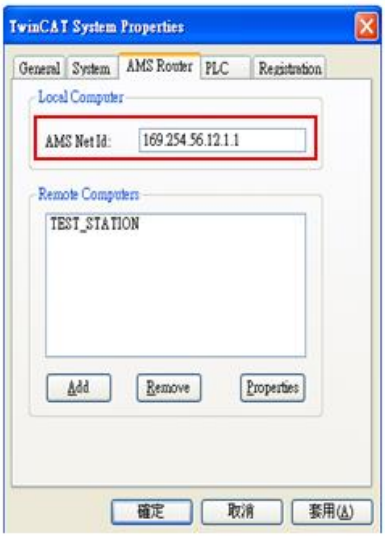
**For Twincat:**

a. Confirm PC IP address

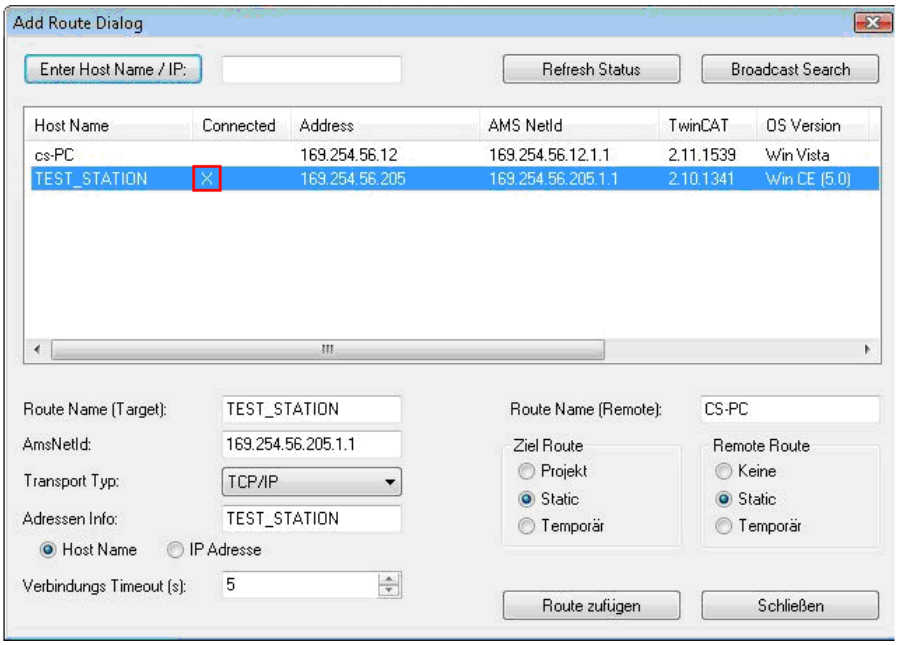


b. Open Twincat, Set IP address 169.254.56.12.1.1

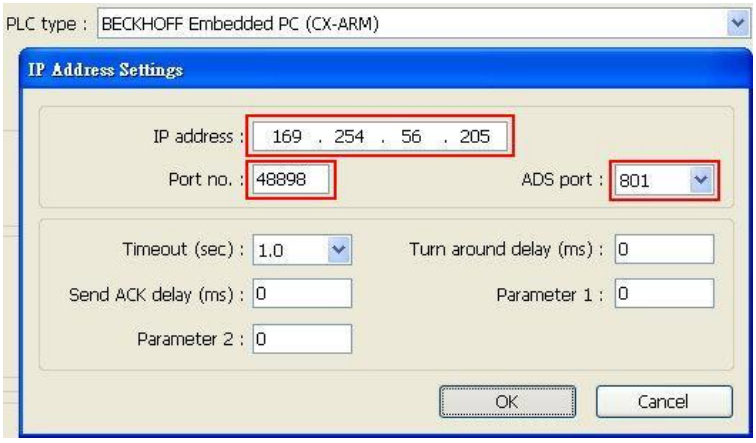



c. Use Twincat to build a Route Table to make sure the system is connected, if PLC power turns OFF and then ON, please redo this step.
Note: when connected, if “X” is displayed, the connection succeeded.



d. Open EasyBuilder, set IP address, ADS port and Port no.

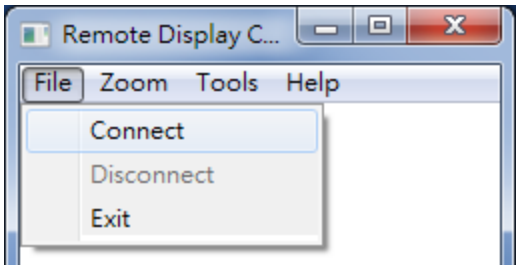



e. Run on line simulation.

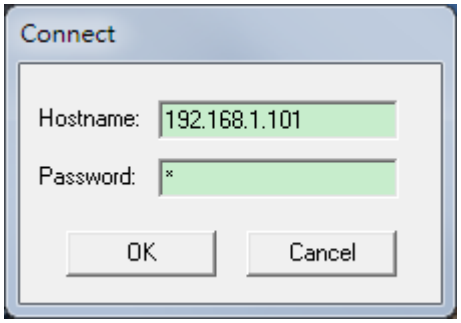
Note: If the project is downloaded to HMI, please set HMI IP 169.254.56.12 identically to Twincat IP address setting.

**For CERHOST:**

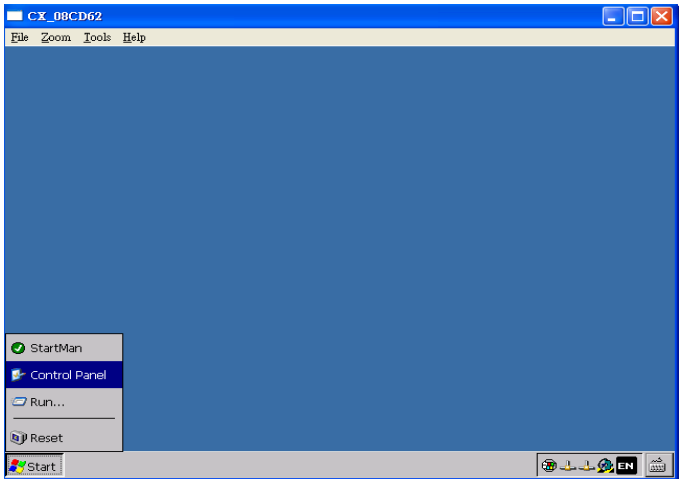
a. Execute CERHOST.exe to connect with PLC on PC.



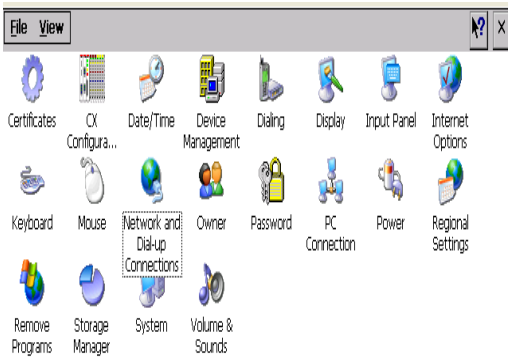

b. Enter PLC IP and Password (default password: 1).

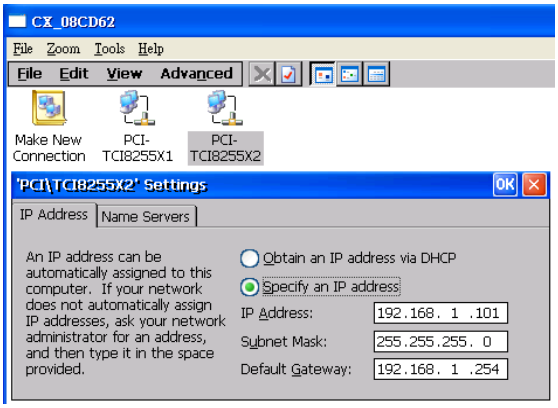


c. Succeeded to connect with PLC, click Start -> click Control Panel.

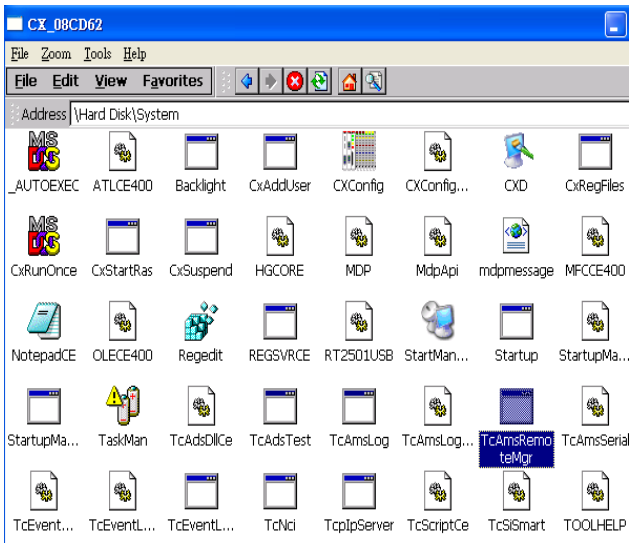



d. Click [Network and Dial-Up Connections] to display PLC device information; select the PLC to check its IP.

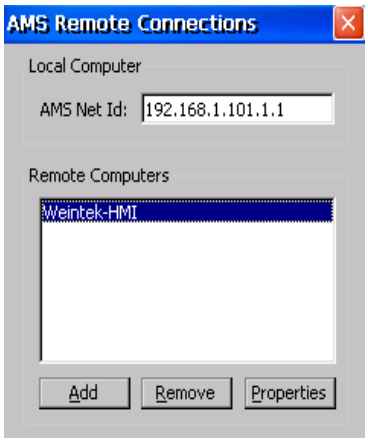



e. Access PLC system settings, the default directory: \Hard Disk\System, execute [TcAmsRemoteMgr].



f. AMS Net Id consists of 6 numbers, separated by “.”. The first 4 numbers stand for IP and followed by “1.1”. The figure below shows the AMS Net Id of Local Computer, please enter PLC IP plus “1.1”. Remote Computers shows the information of the HMI to connect with. Click [Add] to add the HMI and click [OK] to finish setting.



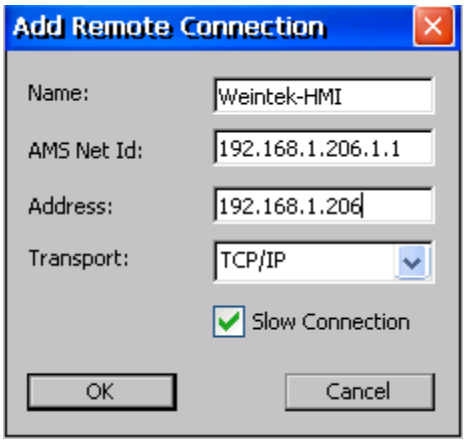

g. Name: Device name.

AMS Net Id: The IP followed by “1.1” of the device to connect with.

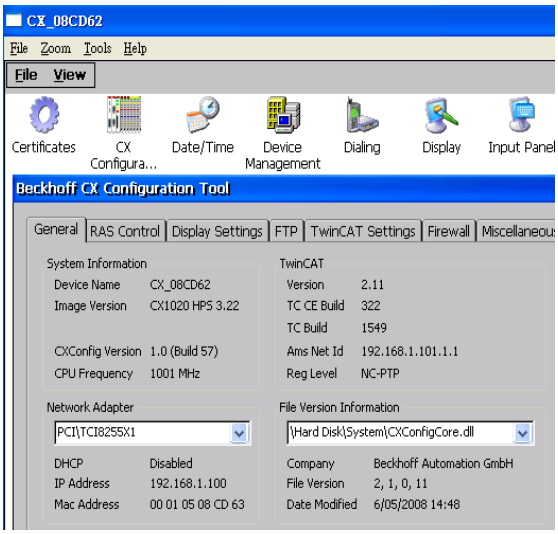
Address: The IP address of the device to connect with.

Transport: The way of connection.

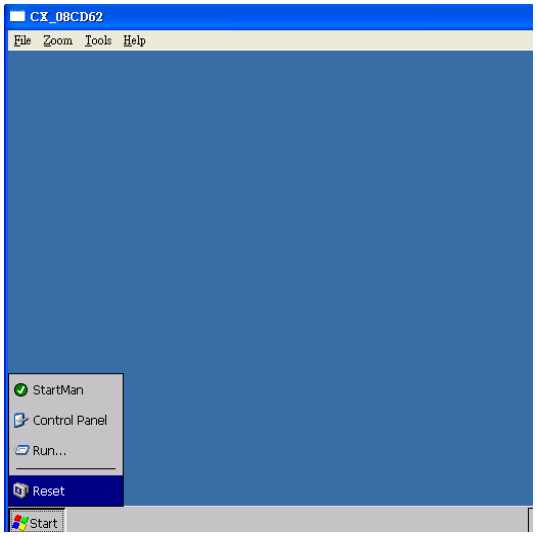
Slow Connection: As shown in the figure below.



h. Return to Control Panel; execute CX Configuration Tool to confirm PLC AMS Net Id.



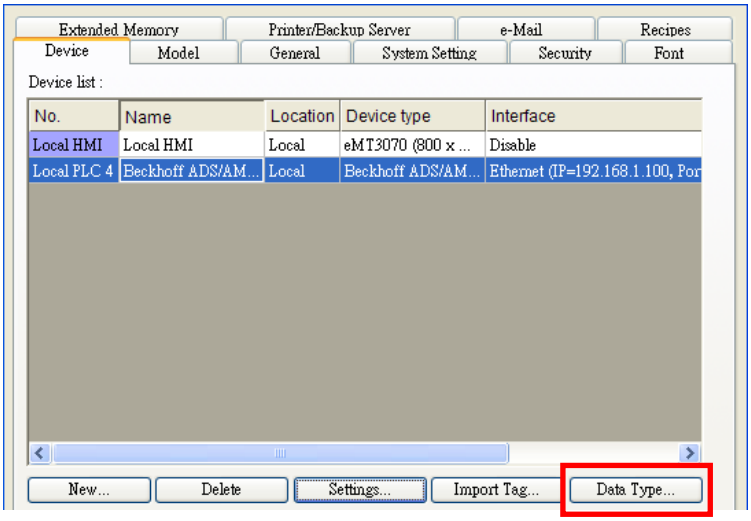

i. Confirm settings and click Start -> Reset PLC.

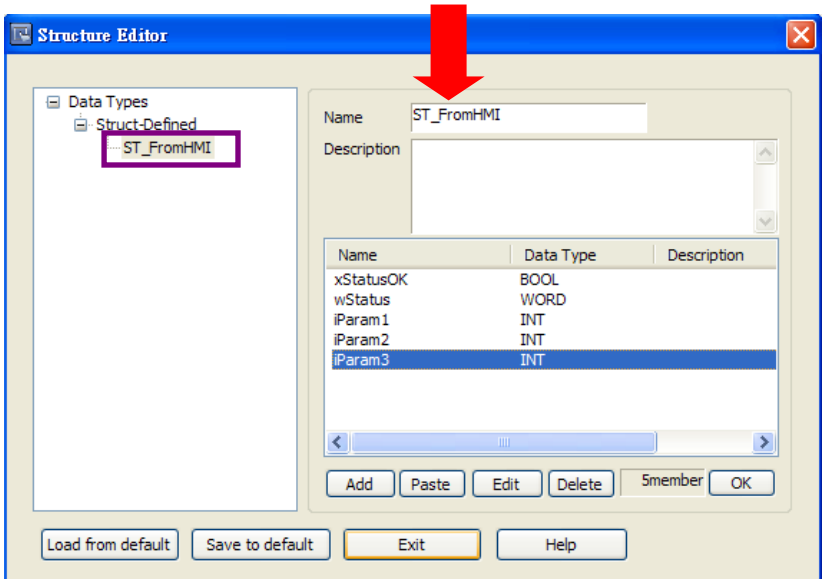


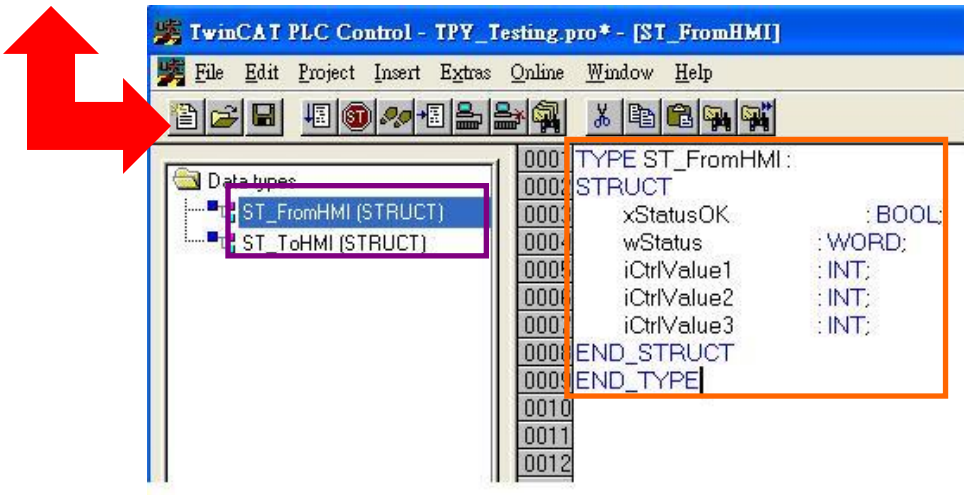
## Building Data Structure：

**Step1.** This driver supports variables under STRUCT structure. Click [Data Type] to open Structure Editor and create the same [Name] and [Data Type] as in Twincat PLC Control. The standard data types include:

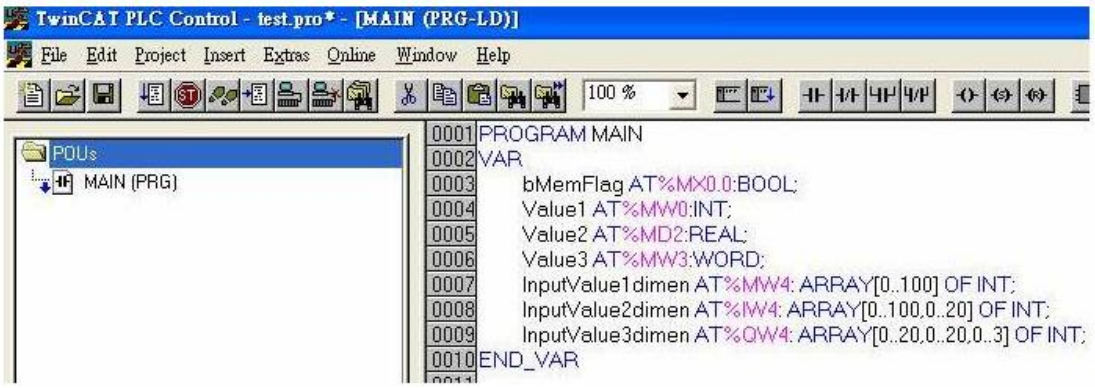
BOOL, WORD, INT, UINT, DINT, UDINT, REAL, DWORD, ARRAY



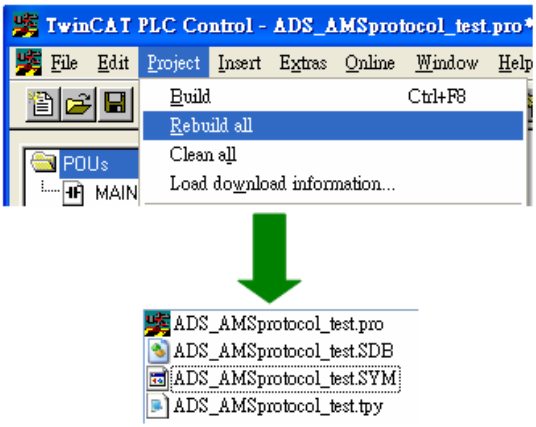



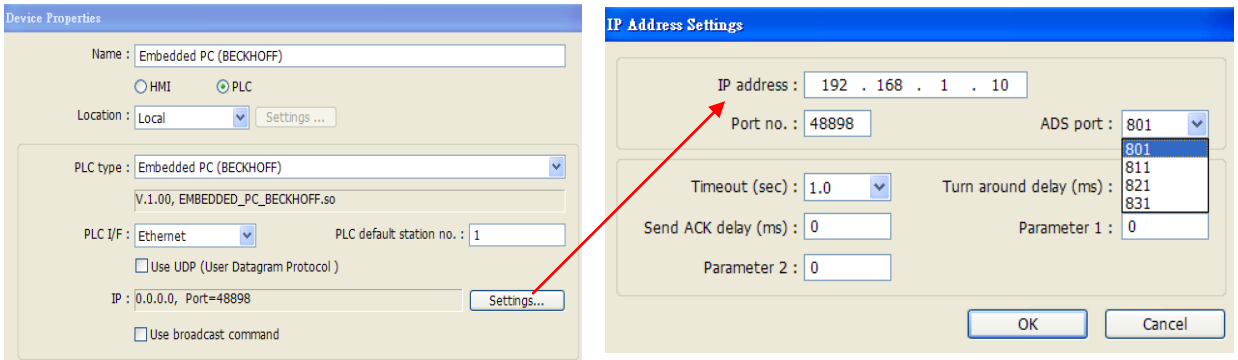
The syntax of Tag in Twincat software is: Tag Name +AT+%+Type,
as shown in the following figure.




**Step2.**Project → Rebuild all



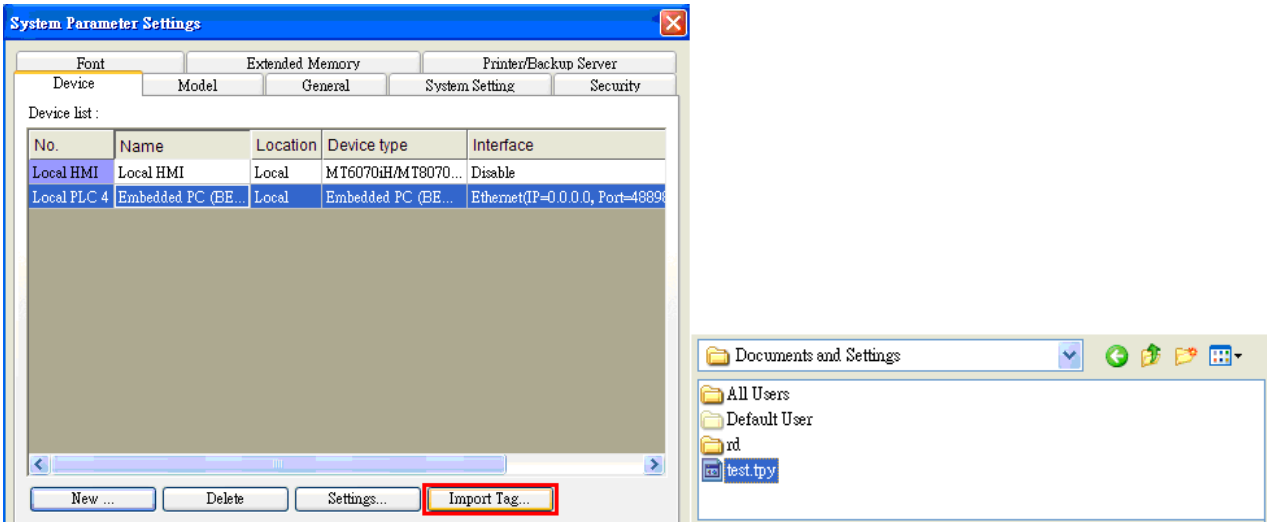

**Step3.** Set PLC IP in EasyBuilder.



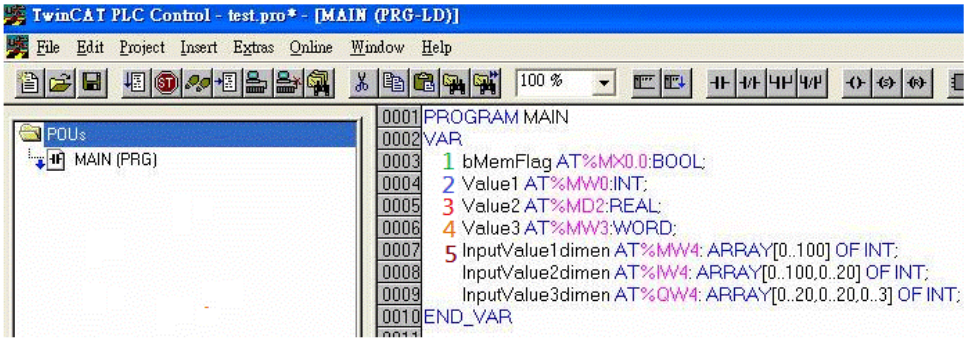
**Step4.**

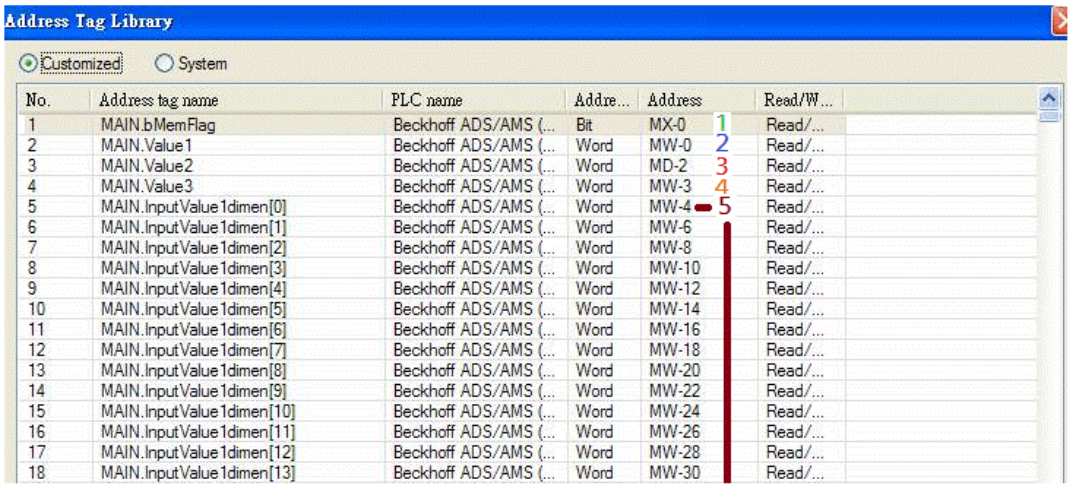
Click [Import Tag] button in EasyBuilder to open the TPY file compiled by Twincat PLC Control.

Note: When using Beckhoff driver, if the TPY file cannot be imported, try download and install MSXML 4.0 in Microsoft - Download Center.




Import tpy to EasyBuilder, the result is shown in the following figure.

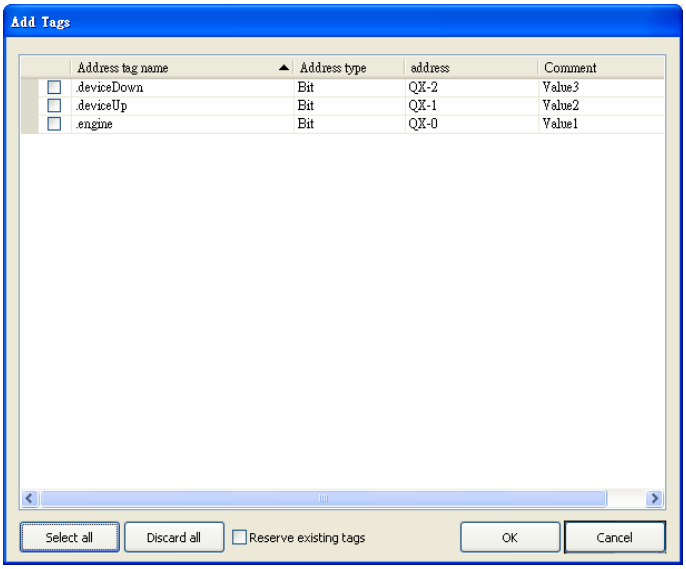


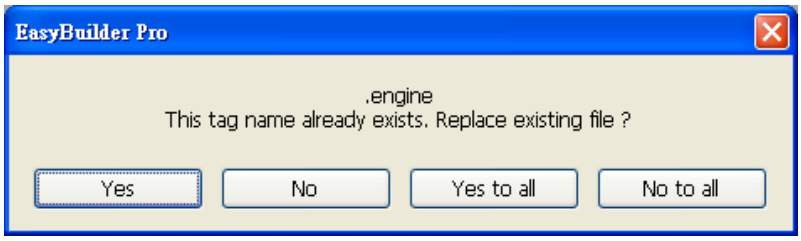



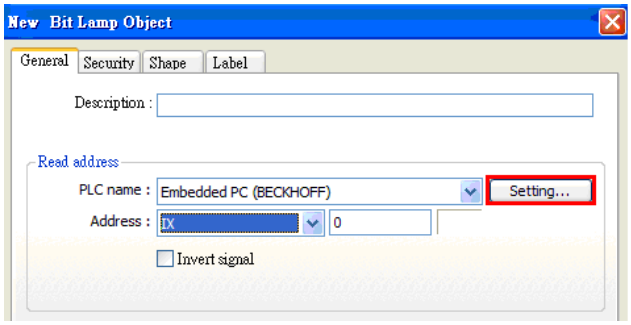
**Step5.**

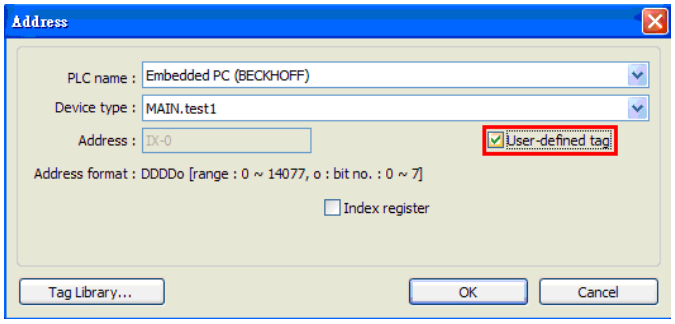
The following dialog box appears for users to select all or part of the data to import. A reminding message is shown when import the same data repeatedly.

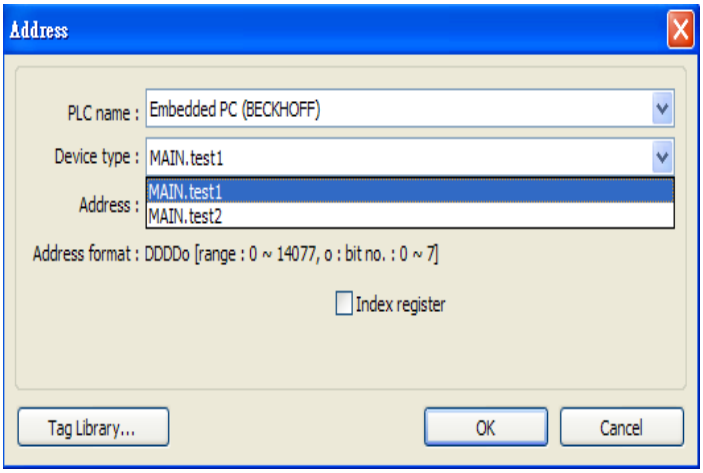
*EasyBuilder8000 does not support [Comment] setting.



**Step6.**

Download the project compiled in EasyBuilder to HMI.

## Device address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IX | DDDDDo | 0 ~ 655357 | o : Bit no.(0 ~ 7) |
| B | QX | DDDDDo | 0 ~ 655357 | o : Bit no.(0 ~ 7) |
| B | MX | DDDDDo | 0 ~ 655357 | o : Bit no.(0 ~ 7) |
| W | IW | DDDDD | 0 ~ 65535 | |
| W | QW | DDDDD | 0 ~ 65535 | |
| W | MW | DDDDD | 0 ~ 65535 | |
| DW | ID | DDDDD | 0 ~ 65535 | |
| DW | QD | DDDDD | 0 ~ 65535 | |
| DW | MD | DDDDD | 0 ~ 65535 | |

## Support Device Type:

| Data Type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| Array | Word array for ASCII input and ASCII display | Length=word |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/18/2011 | Driver released. |
| V1.10 | Aug/24/2011 | Extended address range up to 65535. |

# Beckhoff TwinCAT 3 ADS/AMS (Ethernet)

Supported Series:
CX8000,CX90x0,CX1010,CP62xx,CX5010,CP62xx,CX1020,CX2020,CPxxxx,C6920,CX2030,CPxxxx,CP6930,CX2040,C65xx,C69xx.

Website: http://infosys.beckhoff.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Beckhoff TwinCAT 3 ADS/AMS (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 48898 | | |
| PLC sta. no. | No need to set station no. | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IX | DDDDDdd | 0 ~ 6553515 | |
| B | QX | DDDDDdd | 0 ~ 6553515 | |
| B | MX | DDDDDdd | 0 ~ 6553515 | |
| W | IW | OOOOOO | 0 ~ 65535 | |
| W | QW | DDDDD | 0 ~ 65535 | |
| W | MW | DDDDD | 0 ~ 65535 | |
| W | ID | DDDDD | 0 ~ 65535 | |
| W | QD | DDDDD | 0 ~ 65535 | |
| W | MD | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jun/07/2013 | Driver released. |

# Beckhoff TwinCAT PLC (Ethernet) – Free Tag Names

Supported Series:
CX8000,CX90x0,CX1010,CP62xx,CX5010,CP62xx,CX1020,CX2020,CPxxxx,C6920,CX2030,CPxxxx,CP6930,CX2040,C65xx,C69xx.
Website: http://infosys.beckhoff.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Beckhoff TwinCAT PLC (Ethernet) – Free Tag Names | | |
| PLC I/F | Ethernet | | |
| Port no. | 48898 | | |
| PLC sta. no. | No need to set station no. | | |

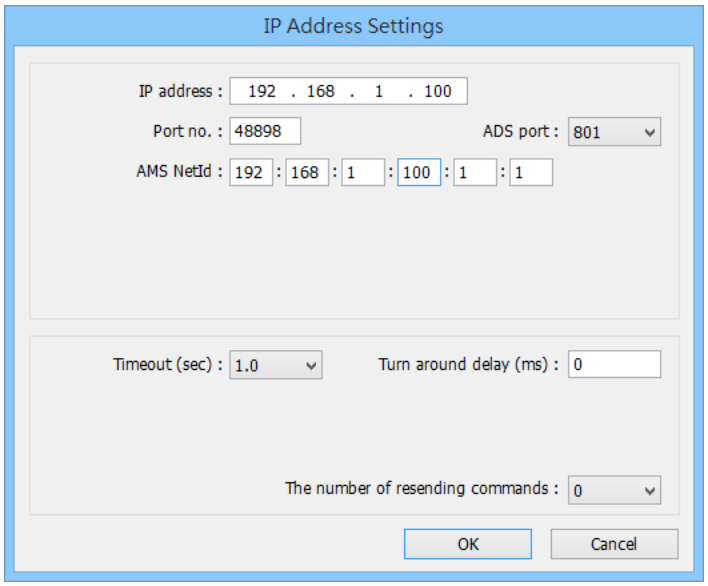
## Support Device Type:

| Data Type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| Array | Word array for ASCII input and ASCII display | Length=word |

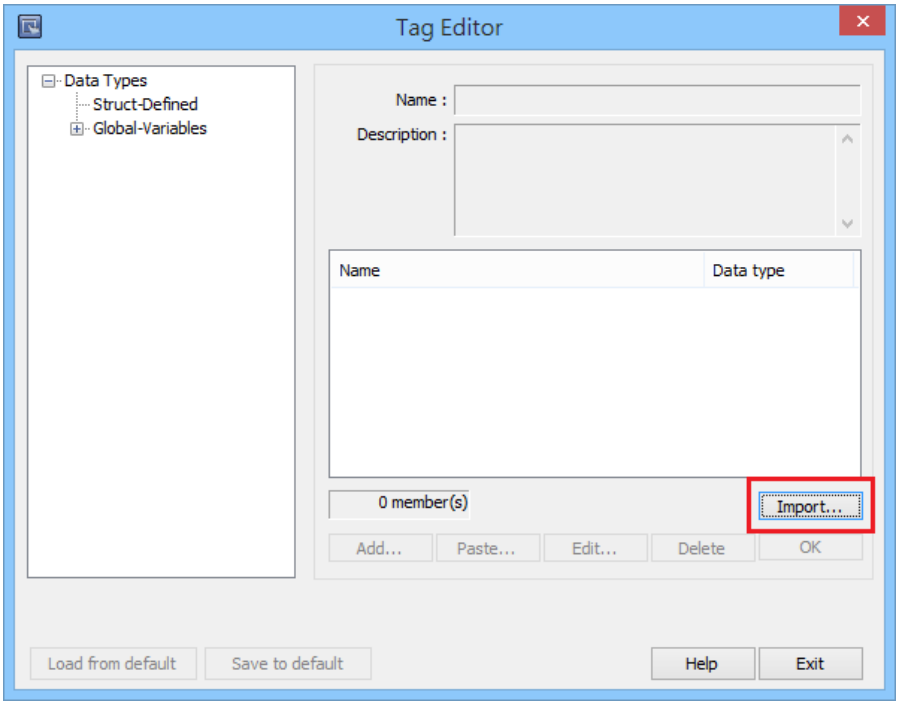
## How to Import Tags:

The files generated after compilation in TwinCAT2 and TwinCAT3 programming software can be directly imported to EasyBuilder. The following steps explain how to import address tags.

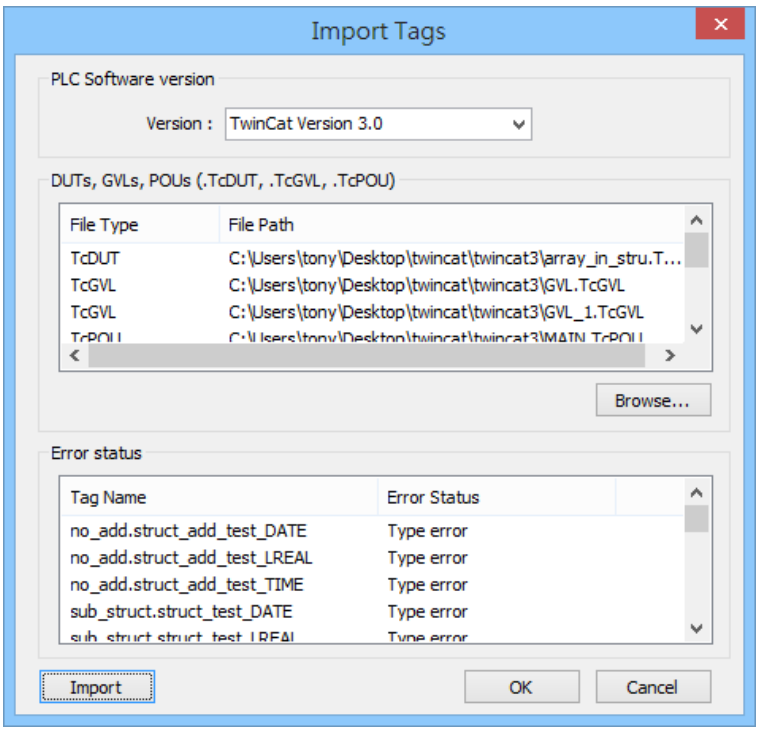
1. Go to System Parameter Settings and add “Beckhoff TwinCAT PLC (Ethernet) – Free Tag Names” to the device list. Click [Settings] and configure the PLC parameters.



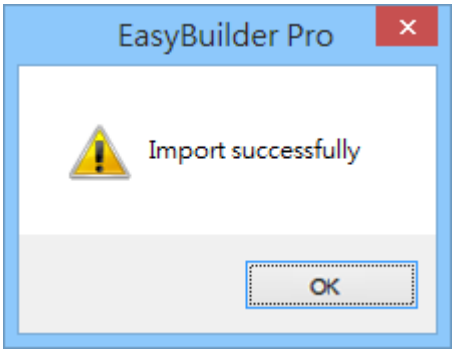

2. Go to System Parameter Settings » Tag Editor and click [Import].



3. Select PLC Software Version. The standard file type of TwinCAT 2.0 is .typ. The standard file types of TwinCAT 3.0 are: .TcDUT, .TcGVL, and .TcPOU. Select the file type and then click [Import]. The invalid address types will be displayed in Error Status field. Click [OK] to leave.




4. The “Import successfully” message will be shown upon completion.



## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/12/2014 | Driver released. |

# Bosch Rexroth

## HMI Setting:

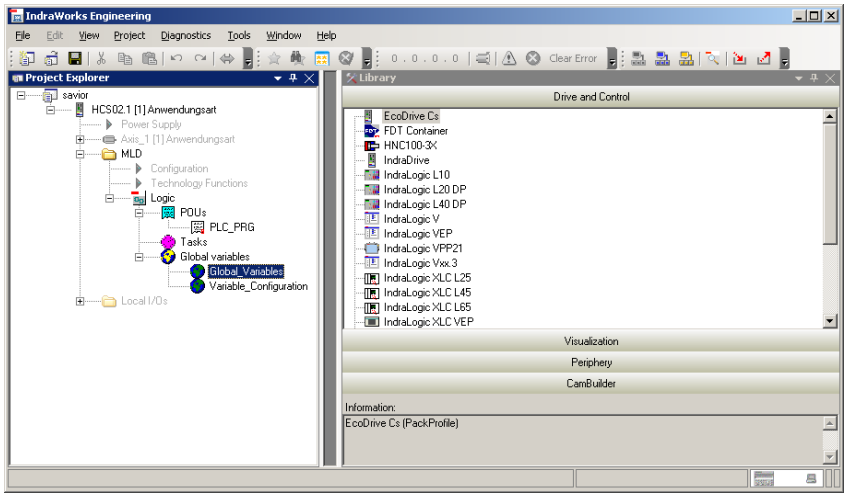
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Bosch Rexroth | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Support Device Type:

| Data type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Byte | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| SInt | 16-bit BCD, Hex, Binary, Signed | 8-bit |
| USInt | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |

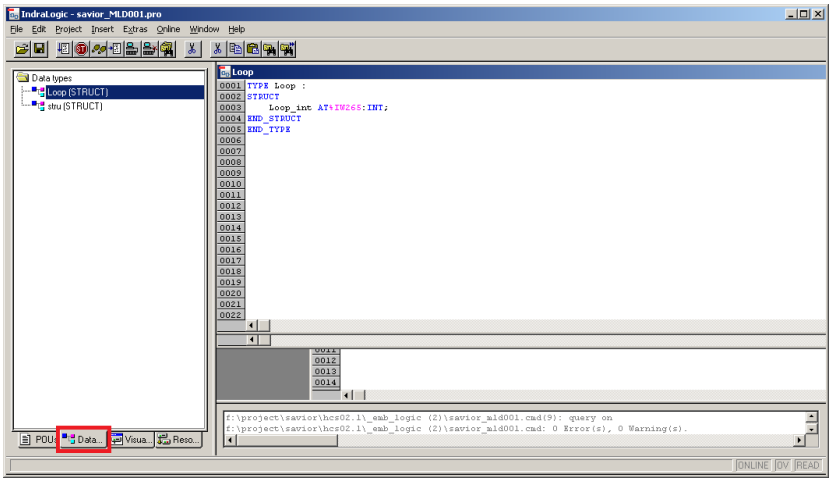
# Import Tag:

1. Launch IndraWorks PLC software, click **[Global_Variables]**, and edit the project.

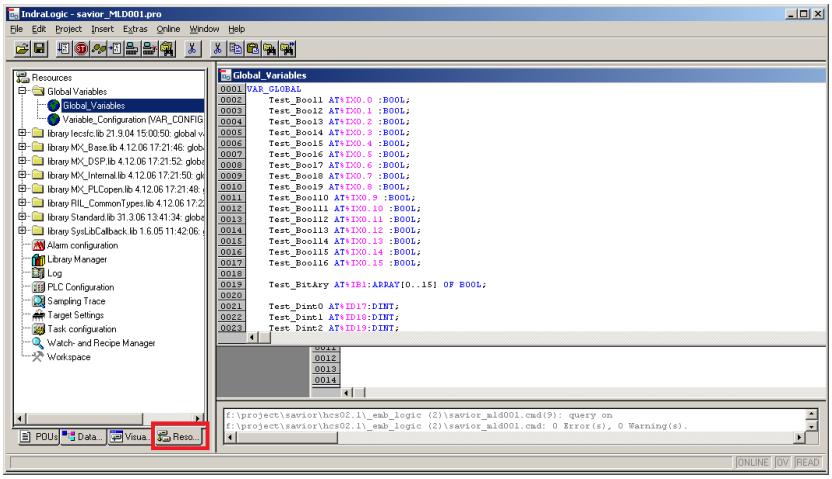



2. Struct can be edited in **[Data types]** tab, and Global_varaibles can be edited in **[Resources]** tab.

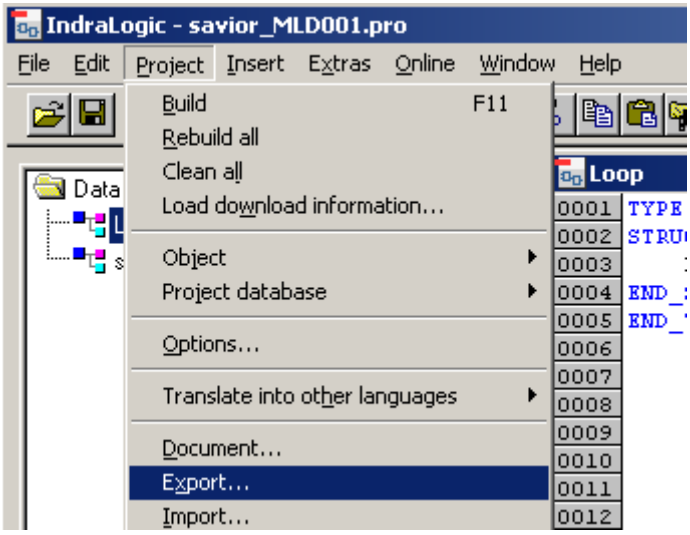
**[Data types]**



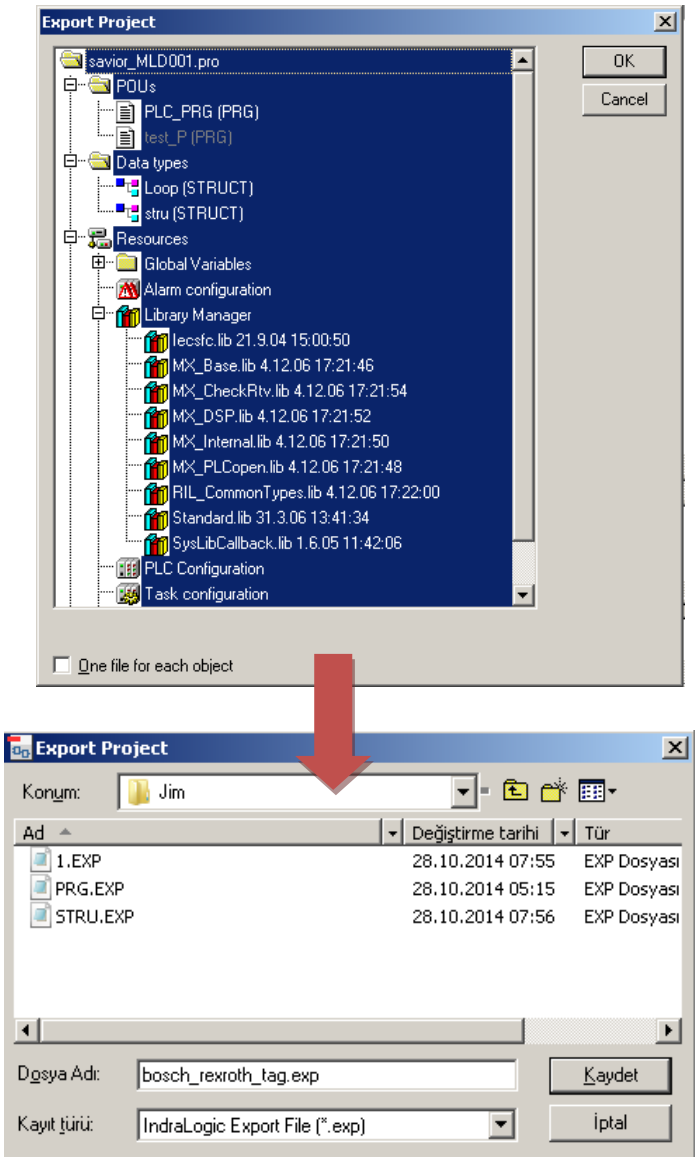

**[Resources]**



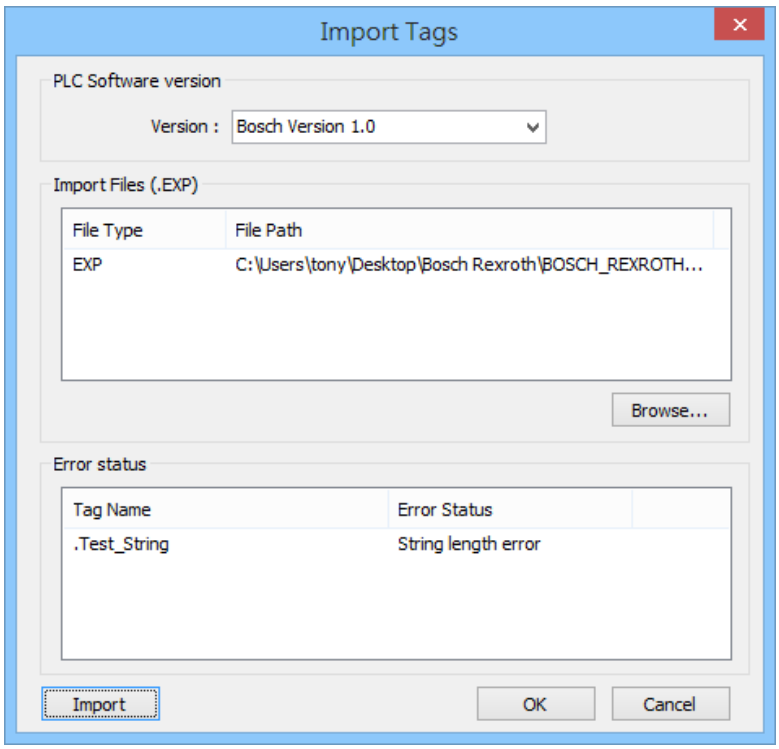
3. After editing the project, click **[Project]** -> **[Export]** to export the tags.



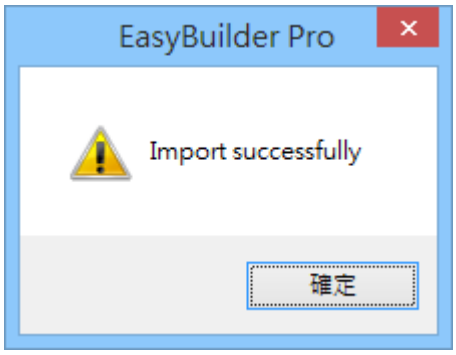

4. You may select all, a part of, or a single file to export. Click **[OK]**, enter the file name and designate the directory to store the file.



5. Launch EasyBuilder, select Bosch Rexroth driver, and import the address tags. The illegal addresses will be eliminated, and displayed in the **[Error status]** field. Click **[OK]** to leave.



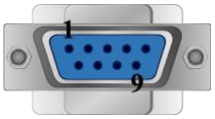
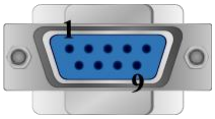

6. "Import successfully" message will be displayed when successfully import the address tags.



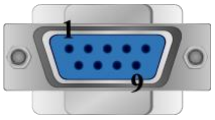
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

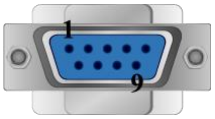
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC RS232 terminal |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

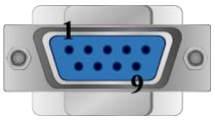
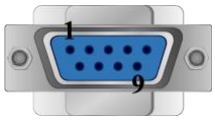
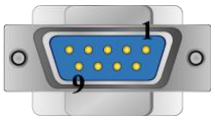
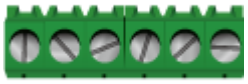
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 terminal |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

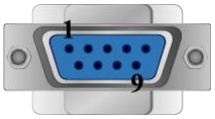
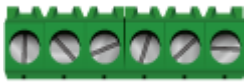
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 terminal |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC RS232 terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 terminal |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/18/2014 | Driver released. |

# CANopen Slave (for eMT3000 only)

eMT3000 series only

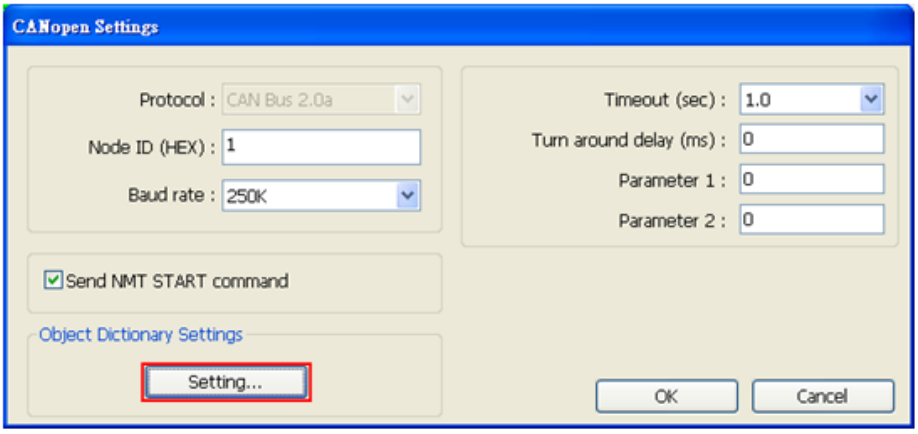
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | CAN (Controller Area Network) Bus | | |
| Node ID | 1 | 1~127 | |
| Baud rate | 250K | 10K~1M | |

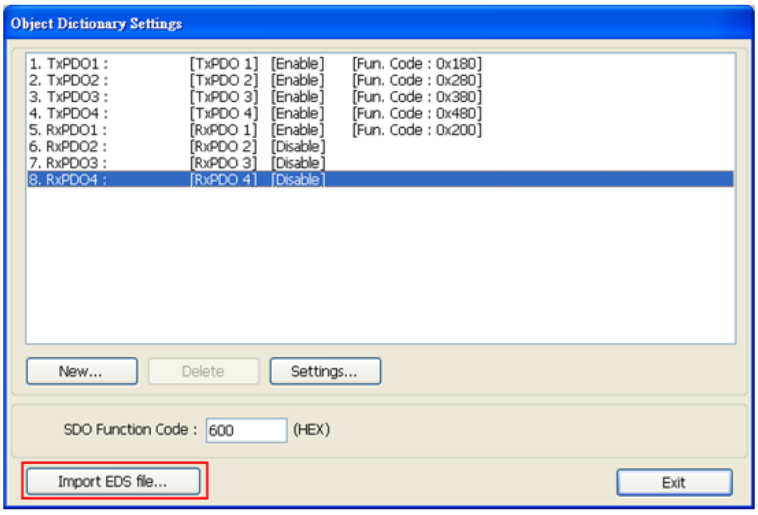
| | | | |
|---|---|---|---|
| Online simulator | NO | Extend address mode | NO |

Follow the steps to import EDS file.

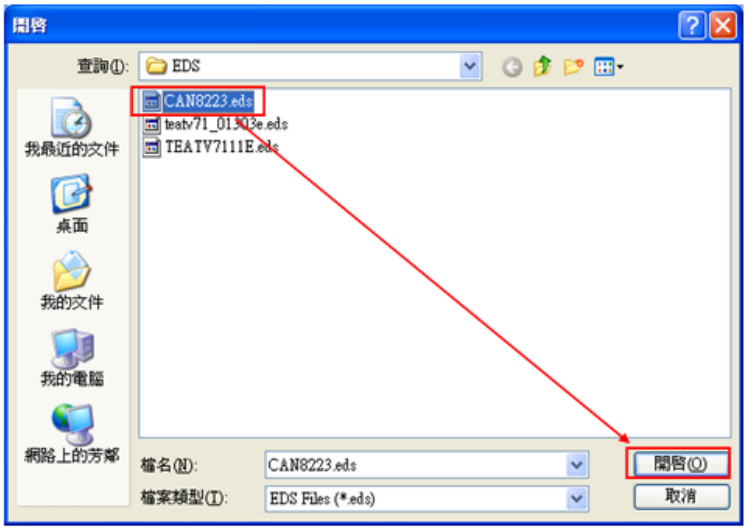
Step 1. Object Dictionary Settings -> Setting




Step 2. Import EDS file.



Step 3. Select the EDS file to be imported.




Step 4. Successfully import EDS file.




## Device Address:

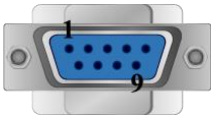
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | TxPDOn_BIT | DDDNo | 100 ~ 99977 | DDD：PDO no.<br>N：address (unit：byte).<br>o：bit no. |
| B | RxPDOn_BIT | DDDNo | 100 ~ 99977 | DDD：PDO no.<br>N：address (unit：byte).<br>o：bit no. |
| B | SDO_8bit_Bit | HHHHHHo | 0 ~ FFFFFF7 | HHHH(Index)+HH(Sub-index)+o(Bit no) |
| B | SDO_16bit_Bit | HHHHHHdd | 0 ~ HHHHHH15 | HHHH(Index)+HH(Sub-index)+dd(Bit no) |
| W | TxPDOn | DDDN | 10 ~ 9997 | DDD：PDO no.<br>N：address(unit：byte) |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | TxPDOn_Byte | DDDN | 10 ~ 9997 | DDD：PDO no.<br>N：address(unit：byte) |
| W | RxPDOn | DDDN | 10 ~ 9997 | DDD：PDO no.<br>N：address(unit：byte) |
| W | RxPDOn_Byte | DDDN | 10 ~ 9997 | DDD：PDO no.<br>N：address(unit：byte) |
| W | SDO_8bit | HHHHHH | 0~FFFFFF | HHHH(Index)+HH(Sub-index) |
| W | SDO_16bit | HHHHHH | 0~FFFFFF | |
| W | SDO_32bit | HHHHHH | 0~FFFFFF | |

## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

eMT3000 series

| CAN Bus 9P<br>D-Sub Female | | | CAN Device |
|---|---|---|---|
| 7 CAN- | | | CAN - |
| 8 CAN+ | | | CAN+ |
| 5 GND | | | GND |
|  | | |  |

## Demo Project Link:




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Aug/20/2012 | Add device type : SDO_8bit_Bit , SDO_16bit_Bit. |

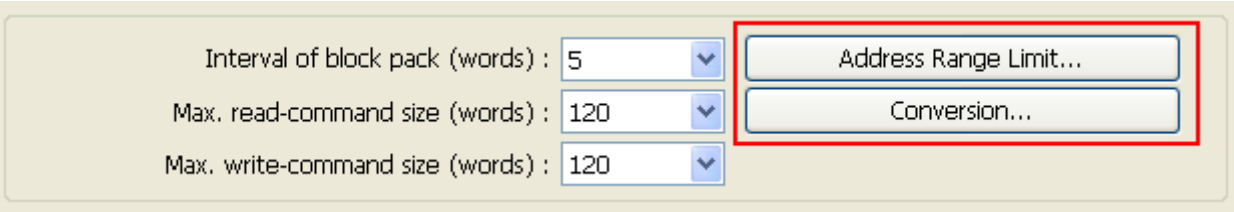
# CD MODBUS RTU

Supported Series : REVO-CL / REVO-M / REVO E / CD3000E / MULTIDRIVE / REVO-TC / REVO-PC
Website : http://www.cdautomation.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | CD MODBUS RTU | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |



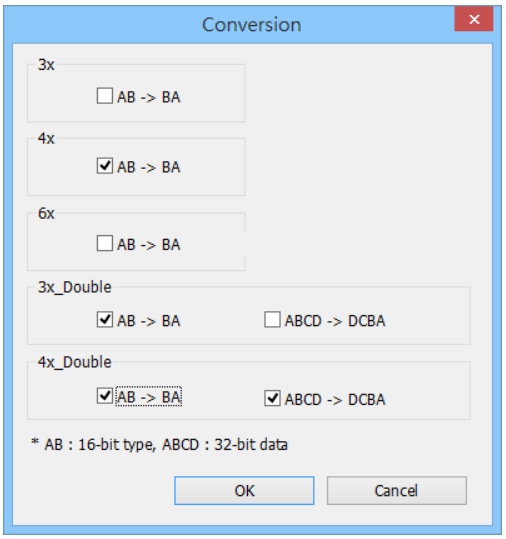

**[Address Range Limit]**
The address range of 0x, 1x, and 0x_multi_coils device types can be set.
**[Conversion]**
The 3x_Double and 4x_Double address types are added. If [ABCD ->CDAB] check box is selected, please select 3x_Double and 4x_Double address types.

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 6x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register (read only) |
| W | 3x_MAX1W | DDDDD | 1 ~ 65535 | Display 32 bits *Note1 |
| DW | 3x_MAX2W | DDDDD | 1 ~ 65535 | *Note1 |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| W | 4x_MAX1W | DDDDD | 1 ~ 65535 | Display 32 bits *Note1 |
| DW | 4x_MAX2W | DDDDD | 1 ~ 65535 | *Note1 |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |
| W | 3x_Double | DDDDD | 1 ~ 65535 | *Note2 |
| W | 4x_Double | DDDDD | 1 ~ 65535 | *Note2 |
| W | 4x_32Bit | DDDDD | 1 ~ 65535 | Output Registerv *Note1 |
| W | 0x_single_coil | DDDDD | 1 ~ 65535 | |

Note1: MAX1W and 4X_32Bit read/write 1 word for each package and display a 32-bits value, whereas MAX2W reads/write 2 words for each package.

Note2: Go the [System Parameter Settings] -> [Device Properties] and click [Conversion] to set the data format of device types 3x, 4x, 6x, 3x_double, 4x double.



## NOTE:

Address type “5x” is mapping to Hold Reg. The communication protocol of 5x is almost the same as “4x” except that “5x” swaps double word.

If 4x contains the following information:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x20001 | | 0x40003 | | 0x60005 | | |

For 5x, it will be:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x2 | 0x1 | 0x4 | 0x3 | 0x6 | 0x5 | |
| Data | 0x10002 | | 0x30004 | | 0x50006 | | |

Modbus RTU function code:

0x 0x01 Read coil 0x05 write single coil

0x_multi_coils 0x01 Read coil 0x0f write multiple coils

1x 0x02 Read discrete input N/A for write operation

3x 0x04 Read input register N/A for write operation

4x 0x03 Read holding register 0x10 write multiple registers

5x 0x03 Read holding register 0x10 write multiple registers

(Note: reverse word order in double word format)

3xbit is equivalent to 3x

4xbit is equivalent to 4x

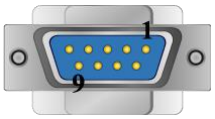
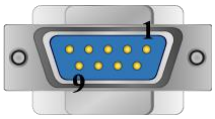
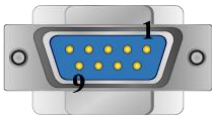
6x 0x03 Read holding register 0x06 write single register

(Note: 6x is limited to device of one word only)

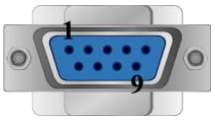
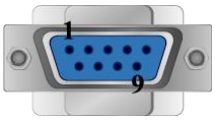
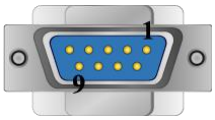
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

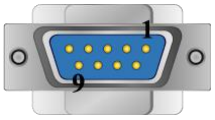
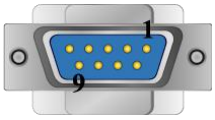
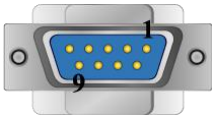
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

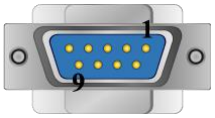
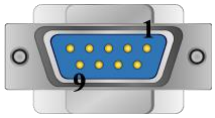
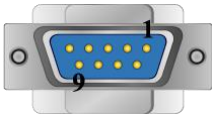
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

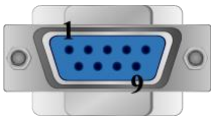
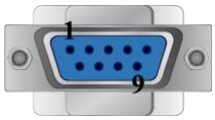
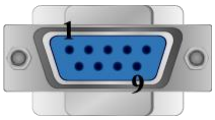
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.30 | Jun/24/2014 | |

# CD MODBUS TCP/IP

Supported Series: REVO-CL / REVO-M / REVO E / CD3000E / MULTIDRIVE / REVO-TC / REVO-PC

Website : http://www.cdautomation.com/

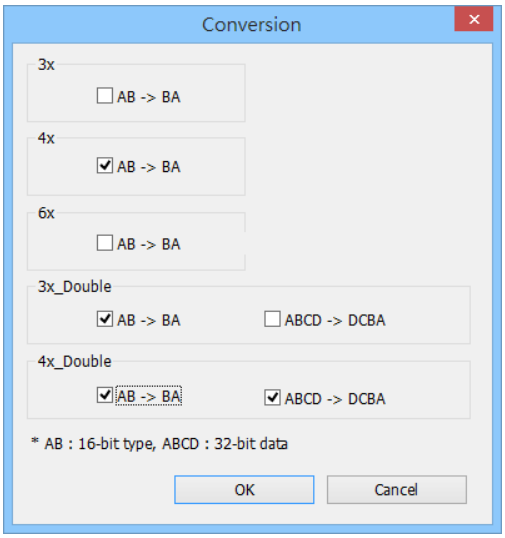
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | CD MODBUS TCP/IP | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0~255 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_bit | DDDDDdd | 100 ~ 6553515 | Input Register bit(read only) |
| B | 4x_bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 6x_bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |
| DW | 3x_Double | DDDDD | 1 ~ 65535 | *Note1 |
| DW | 4X_Double | DDDDD | 1 ~ 65535 | *Note1 |
| W | 4x string central europe | DDDDD | 1 ~ 65535 | Convert the Central Europe ASCII to Unicode. |
| W | 4x string central europe (rev) | DDDDD | 1 ~ 65535 | |

Note1: Go the [System Parameter Settings] -> [Device Properties] and click [Conversion] to set the data format of device types 3x, 4x, 6x, 3x_double, 4x double.




## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.90 | Feb/18/2014 | |

# Change

Supported Series: Compressor controller

Website: http://www.sh-changjia.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Change | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 1~6 | |

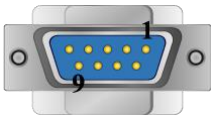
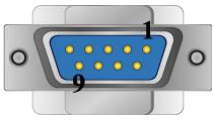
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CTL | DDD | 0 ~ 5, 128, 150 | Write only |
| DW | SET | DDD | 0 ~ 57, 128 | |
| DW | STATUS | DD | 1 ~ 20 | Read only |

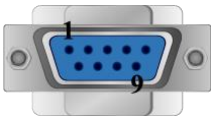
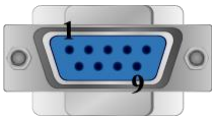
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

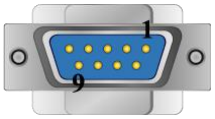
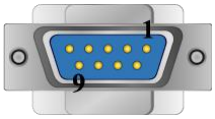
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Change RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 15 D- |
| 2 RX+ | 9 Data+ | | 16 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

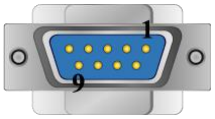
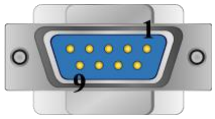
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Change RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 15 D- |
| 6 RX+ | 1 Data+ | | 16 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

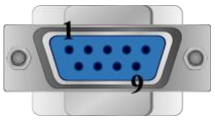
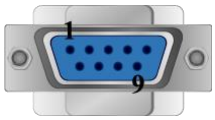
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Change RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 15 D- |
| 2 RX+ | 8 Data+ | | 16 D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Change RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 15 D- |
| 2 RX+ | 9 Data+ | | 16 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Change RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 15 D- |
| 2 RX+ | 8 Data+ | | 16 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jan/19/2011 | Driver released. |

# Cimon CM1-CP4A/ECO1A

Supported Series: Cimon CM1 series, CP4A module

Website: http://www.kdtsys.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Cimon CM1-CP4A/ECO1A | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

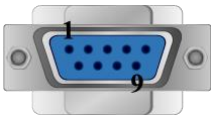
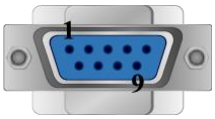
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDh | 0 ~ 23f | 0-1F Read Only |
| B | Y | DDh | 0 ~ 23f | |
| B | M | DDDh | 0 ~ 511f | |
| B | K | DDDh | 0 ~ 127f | |
| B | L | DDDh | 0 ~ 127f | |
| B | F | DDDh | 0 ~ 127f | Read Only |
| B | T | DDDh | 0 ~ 102f | |
| B | C | DDDh | 0 ~ 102f | |
| W | D | DDDD | 0 ~ 4999 | |
| W | S | DD | 0 ~ 99 | Max. Range: 99 |
| W | TS | DDDD | 0 ~ 1023 | |
| W | TC | DDDD | 0 ~ 1023 | |
| W | CS | DDDD | 0 ~ 1023 | |
| W | CC | DDDD | 0 ~ 1023 | |

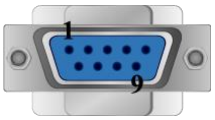
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

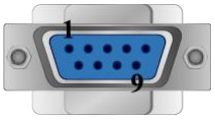
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | CM1-CP4A RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

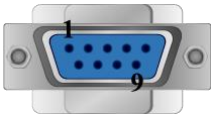
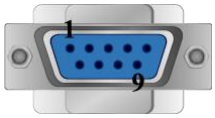
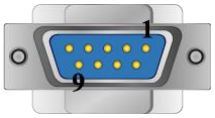
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CM1-CP4A RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

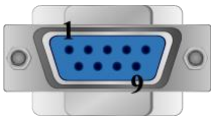
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CM1-CP4A RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | CM1-CP4A RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | CM1-CP4A RS232 6P RJ11 Male |
|---|---|---|---|
| 9 RX | | | 2 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Nov/30/2009 | |

# Cimon CM1-SC02A

Supported Series: Cimon CM series, SC02A module

Website: http://www.kdtsys.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Cimon CM1-SC02A | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

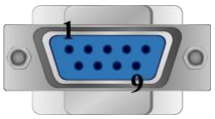
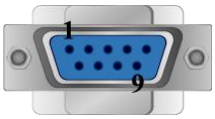
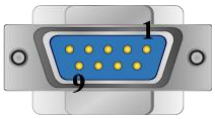
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDh | 0 ~ 23f | 0-1F Read Only |
| B | Y | DDh | 0 ~ 23f | 0-F Read Only |
| B | M | DDDh | 0 ~ 511f | |
| B | K | DDDh | 0 ~ 127f | |
| B | L | DDDh | 0 ~ 127f | |
| B | F | DDDh | 0 ~ 127f | Read Only |
| B | T | DDDh | 0 ~ 102f | |
| B | C | DDDh | 0 ~ 102f | |
| W | D | DDDD | 0 ~ 4999 | |
| W | S | DD | 0 ~ 99 | Max. Range: 99 |
| W | TS | DDDD | 0 ~ 1023 | |
| W | TC | DDDD | 0 ~ 1023 | |
| W | CS | DDDD | 0 ~ 1023 | |
| W | CC | DDDD | 0 ~ 1023 | |

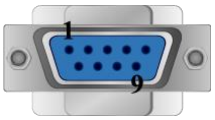
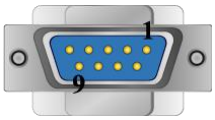
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

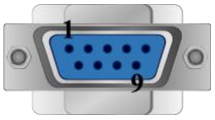
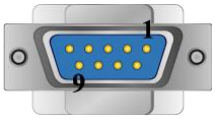
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | CM1-SC02A RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

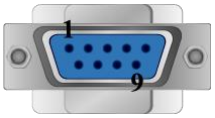
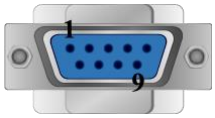
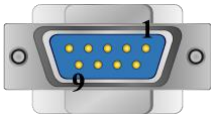
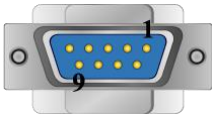
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CM1-SC02A RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

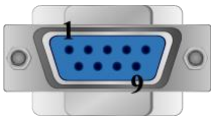
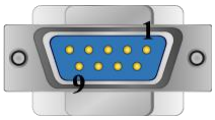
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CM1-SC02A RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | CM1-SC02A RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | CM1-SC02A RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Nov/30/2009 | |

# CoDeSys Automation Alliance

Supported Version: CoDeSys V2.2

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | CoDeSys Automation Alliance | | |
| PLC I/F | Ethernet | | |
| Port no. | 1200 | | |
| PLC sta. no. | No need to set station no. | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IX | DDDDDdd | 0 ~ 6553515 | |
| B | QX | DDDDDdd | 0 ~ 6553515 | |
| B | MX | DDDDDdd | 0 ~ 6553515 | |
| W | IW | OOOOOO | 0 ~ 65535 | |
| W | QW | DDDDD | 0 ~ 65535 | |
| W | MW | DDDDD | 0 ~ 65535 | |
| W | ID | DDDDD | 0 ~ 65535 | |
| W | QD | DDDDD | 0 ~ 65535 | |
| W | MD | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jun/05/2013 | Driver released. |

# Copley Digital Drives

Supported Series: Digital Servo Driver & Controllers, Xenus, Xenus Micro, Accelnet, Accelnet Micro, Stepnet series.

Website: http://www.copleycontrols.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Copley Digital Drives | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 0 | 0-127 | |

## Device Address:

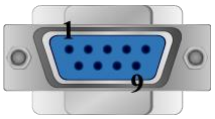
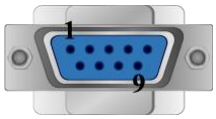
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Flash INT 16 | HHH | 0 ~ 999 | For Register is INT16 or U16 |
| W | RAM INT 16 | HHH | 0 ~ 999 | For Register is INT16 or U16 |
| W | Flash INT 32 | HHH | 0 ~ 999 | For Register is INT32 or U32 |
| W | RAM INT 32 | HHH | 0 ~ 999 | For Register is INT32 or U32 |
| W | Register | DDDD | 0 ~ 2457 | |
| W | T_command | H | 0 | |
| W | Reset | H | 0 | |

## Wiring Diagram:

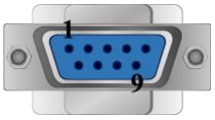
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P RJ11: Xenus, Xenus Micro, Accelnet, Stepnet

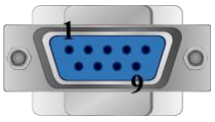
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 5 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 3, 4 GND |
|  |  | |  |

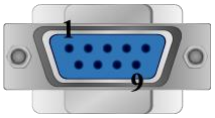
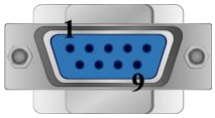
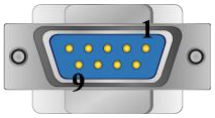
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

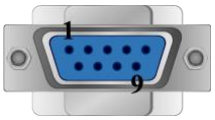
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 5 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 3, 4 GND |
|  |  |  |  |

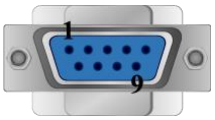
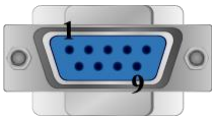
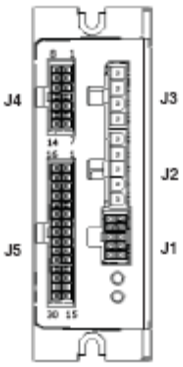
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P RJ11 Male |
|---|---|---|---|
| 9 RX | | | 5 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 3, 4 GND |
|  | | |  |

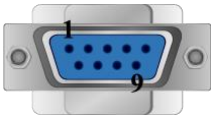
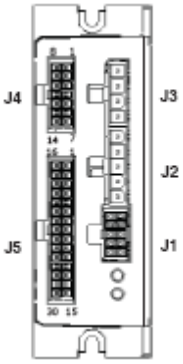
**The following is the view from the soldering point of a cable.**

Accelnet Micro:

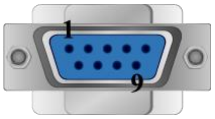
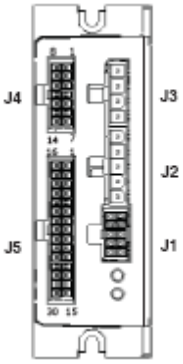
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Accelnet Micro Panel RS232 J5 Cable Connector |
|---|---|---|---|
| 2 RX | 8 RX | | 29 TXD |
| 3 TX | 7 TX | | 14 RXD |
| 5 GND | 5 GND | | 15 GND |
|  |  | |  |

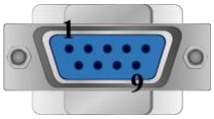
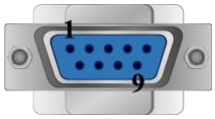
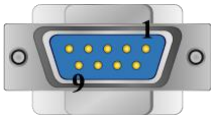
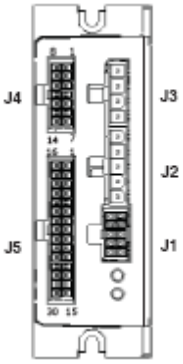
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Accelnet Micro Panel RS232 J5 Cable Connector |
|---|---|---|---|
| 2 RX | | | 29 TXD |
| 3 TX | | | 14 RXD |
| 5 GND | | | 15 GND |
|  | | |  |

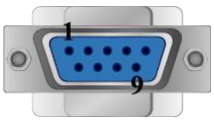
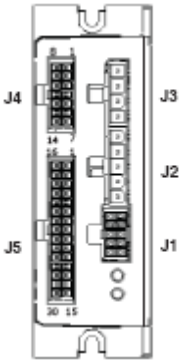
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Accelnet Micro Panel RS232 J5 Cable Connector |
|---|---|---|---|
| 2 RX | | | 29 TXD |
| 3 TX | | | 14 RXD |
| 5 GND | | | 15 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Accelnet Micro Panel RS232 J5 Cable Connector |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 29 TXD |
| 3 TX | 4 TX | 7 TX | 14 RXD |
| 5 GND | 5 GND | 5 GND | 15 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Accelnet Micro Panel RS232 J5 Cable Connector |
|---|---|---|---|
| 9 RX | | | 29 TXD |
| 6 TX | | | 14 RXD |
| 5 GND | | | 15 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Dec/30/2008 | |

# CROUZET M3 (FBD)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | CROUZET M3 (FBD) | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DD | 1 ~ 99 | Input |
| B | SLI_Bit | DDh | 10 ~ 24f | Serial link input |
| B | SLO_Bit | DDh | 250 ~ 48f | Serial link output (read only) |
| B | State | D | 1 | State in PLC (read only) |
| W | AI | DD | 1 ~ 99 | Analogy input (default: 1 ~ 4) |
| W | SL_IN | DD | 1 ~ 24 | Serial link input |
| W | SL_OUT | DD | 25 ~ 48 | Serial link output (read only) |
| W | Time | D | 1 ~ 6 | Time & Day* |
| W | Order | D | 1 | Command** (write only) |

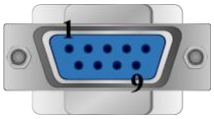
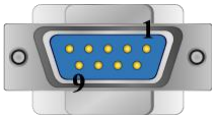
* address 1: second, address 2 : minute, address 3 : hour , address 4 : day, address 5 : month, address 6 : year. The value range for “Year” is 0~99, entering “0” represents year 2000, entering “99” represents year 2099.

** run mode write 2, stop mode write 1.

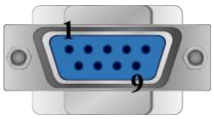
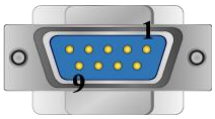
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

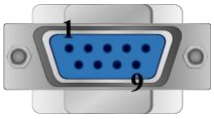
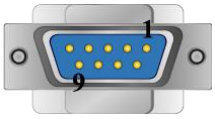
eMT3000 series

| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 7 RTS | | | 4 DTR |
|  | | |  |

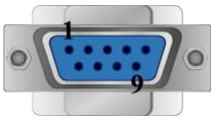
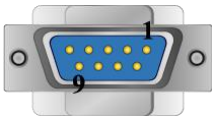
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
| 0V External Power Supply | | | |
| +5V External Power Supply | | | 4 DTR |
|  | | |  |

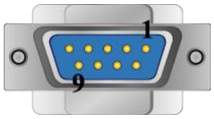
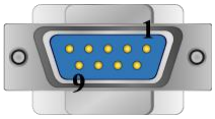
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 7 RTS | | | 4 DTR |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

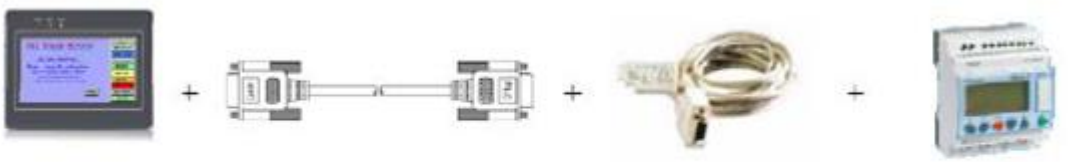
| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 7 RTS | | | 4 DTR |
|  | | |  |

MTx050i/MTx050iP/MTx050iE Series

| COM1 RS232 9P D-Sub Male | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 9 RX | | | 2 TD |
| 6 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 4 TX+ | | | 4 DTR |
|  | | |  |



(3m serial link cable)
Note: Please use 3m serial link cable (Accessories from Millenium 3) and extension cable (as shown) to communicate with HMI series.



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Oct/26/2010 | |
| V1.20 | Mar/29/2012 | Add device type : State, Time, Order |
| V1.30 | May/14/2012 | “Time” entering is now allowed. |
| V1.60 | Jun/05/2013 | Modify device type from IA to AI. |

# CROUZET M3 (LAD)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | CROUZET M3 (LAD) | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DD | 1 ~ 99 | Input (default: 1 ~ 4) |
| B | O | DD | 1 ~ 99 | Output (default: 1 ~ 4) |
| B | M | DD | 1 ~ 28 | Relay |
| B | SLI_Bit | DDh | 10 ~ 24f | Serial link input |
| B | SLO_Bit | DDh | 250 ~ 48f | Serial link output (read only) |
| B | State | D | 1 | State in PLC (read only) |
| W | T | DD | 1 ~ 12 | Timer |
| W | C | DD | 1 ~ 16 | Counter |
| W | AI | DD | 1 ~ 99 | Analogy input (default: 1 ~ 4) |
| W | SL_IN | DD | 1 ~ 24 | Serial link input |
| W | SL_OUT | DD | 25 ~ 48 | Serial link output (read only) |
| W | Time | D | 1 ~ 6 | Time & Day * |
| W | Order | D | 1 | Command (write only) ** |

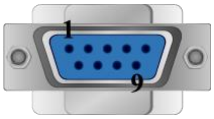
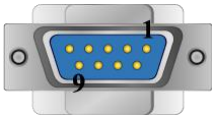
* address 1: second, address 2 : minute, address 3 : hour , address 4 : day, address 5 : month, address 6 : year .The value range for “Year” is 0~99, entering “0” represents year 2000, entering “99” represents year 2099.

** run mode write 2, stop mode write 1.

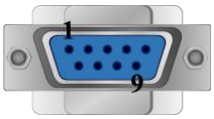
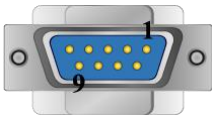
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

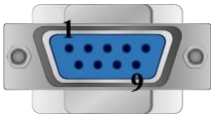
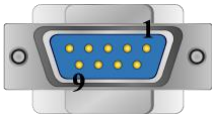
eMT3000 series

| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 7 RTS | | | 4 DTR |
|  | | |  |

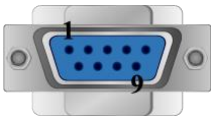
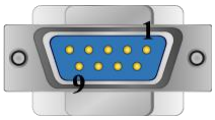
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
| 0V External Power Supply | | | |
| +5V External Power Supply | | | 4 DTR |
|  | | |  |

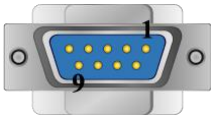
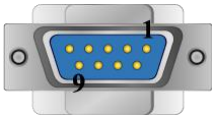
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 7 RTS | | | 4 DTR |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

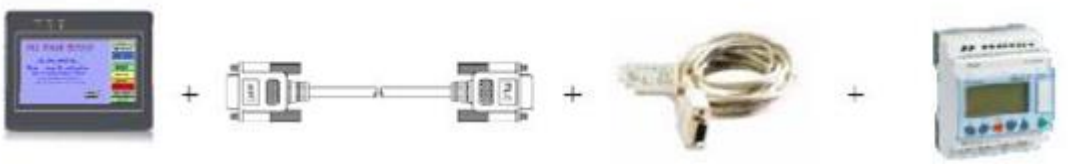
| COM1 RS232 9P D-Sub Female | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 7 RTS | | | 4 DTR |
|  | | |  |

MTx050i/MTx050iP/MTx050iE Series

| COM1 RS232 9P D-Sub Male | | | CROUZET M3 RS232 9P D-Sub Male (Extension Cable) |
|---|---|---|---|
| 9 RX | | | 2 TD |
| 6 TX | | | 3 RD |
| 5 GND | | | 5 GND |
| 4 TX+ | | | 4 DTR |
|  | | |  |



(3m serial link cable)
Note: Please use 3m serial link cable (Accessories from Millenium 3) and extension cable (as shown) to communicate with HMI series.



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Oct/26/2010 | |
| V1.30 | Mar/30/2012 | Add device type : State, Time, Order |
| V1.40 | May/14/2012 | “Time” entering is now allowed. |
| V1.70 | Jun/05/2013 | Modify device type from IA to AI. |

# Danfoss ECL Apex20

Website: http://www.danfoss.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Danfoss ECL Apex20 | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

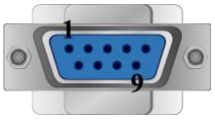
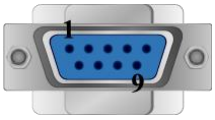
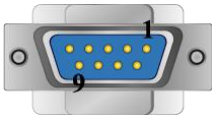
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Flag | DDDD | 0 ~ 8191 | |
| B | Output | DDDD | 0 ~ 1023 | |
| B | Input | DDDD | 0 ~ 1023 | |
| B | Reg_Bit | DDDDDdd | 0 ~ 1638331 | dd: Bit no. (00 ~ 31) |
| DW | Register | DDDDD | 0 ~ 16383 | |
| DW | Counter | DDDD | 0 ~ 1599 | |
| DW | Timer | DDDD | 0 ~ 1599 | |
| DW | Reg_Float | DDDDD | 0 ~ 16383 | Support 32-bit float format |

EasyBuilder device address range may differ from PLC extended mode, please refer to EasyBuilder address range as above.

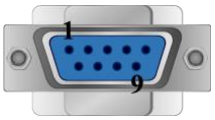
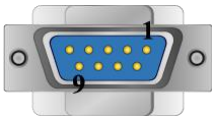
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

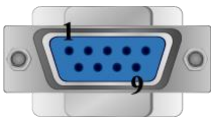
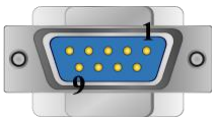
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | ECL Apex20 Controller RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  |  | |  | |

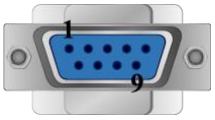
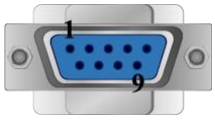
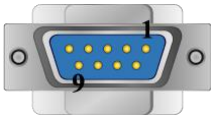
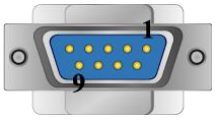
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | ECL Apex20 Controller RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

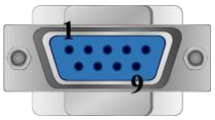
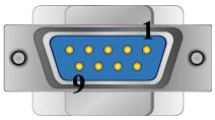
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | ECL Apex20 Controller RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

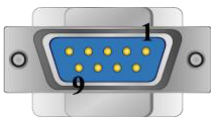
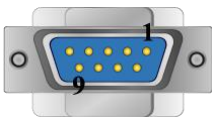
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | ECL Apex20 Controller RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

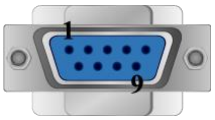
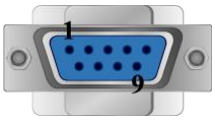
| COM1 RS232 9P D-Sub Female | | | ECL Apex20 Controller RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

**The following is the view from the soldering point of a cable.**

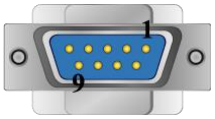
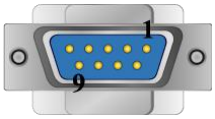
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | ECL Apex20 Controller Port#1 / Port#0 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 11 / 29 |
| 2 RX+ | 9 Data+ | | 12 / 28 |
| 5 GND | 5 GND | | |
|  |  | |  |

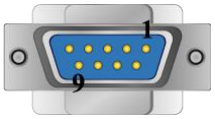
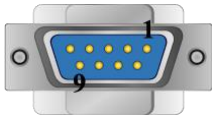
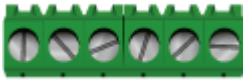
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | ECL Apex20 Controller Port#1 / Port#0 |
|---|---|---|---|
| 7 RX- | 4 Data- | | 11 / 29 |
| 6 RX+ | 1 Data+ | | 12 / 28 |
| 5 GND | 5 GND | | |
|  |  | |  |

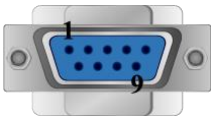
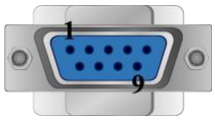
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | ECL Apex20 Controller Port#1 / Port#0 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 11 / 29 |
| 2 RX+ | 8 Data+ | | 12 / 28 |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | ECL Apex20 Controller Port#1 / Port#0 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 11 / 29 |
| 2 RX+ | 9 Data+ | | 12 / 28 |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | ECL Apex20 Controller Port#1 / Port#0 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 11 / 29 |
| 2 RX+ | 8 Data+ | | 12 / 28 |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | OCT/06/2008 | |

# Danfoss ECL Apex20 (Ethernet)

Website: http://www.danfoss.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Danfoss ECL Apex20 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 5050 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Flag | DDDD | 0 ~ 8191 | |
| B | Output | DDDD | 0 ~ 1023 | |
| B | Input | DDDD | 0 ~ 1023 | |
| B | Reg_Bit | DDDDDdd | 0 ~ 1638331 | dd: Bit no. (00 ~ 31) |
| W | Register | DDDDD | 0 ~ 16383 | |
| W | Counter | DDDD | 0 ~ 1599 | |
| W | Timer | DDDD | 0 ~ 1599 | |
| W | Reg_Float | DDDDD | 0 ~ 16383 | Support 32-bit float format |

EasyBuilder device address range may differ from PLC extended mode, please refer to EasyBuilder address range as above.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jan/10/2011 | |

# Danfoss FC Series

Supported Series: FC051, FC100, FC200, FC300, VLT Micro Driver.
Website: http://www.danfoss.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Danfoss FC Series | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

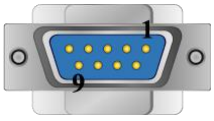
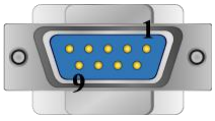
| Bit/Word | Device type | | Format | Range | Memo |
|---|---|---|---|---|---|
| W | Parameter | 09 | DDDD | 0 ~ 9999 | Set Parameter |
| DW | Reference | 10 | D | 0 ~ 1 | Control Bus Reference |
| DW | Para_Index | 11 | DDDDDD | 0 ~ 999999 | Set Parameter(Index) |

Para_Index 310.1=31001, Para_Index310.0=31000

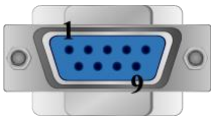
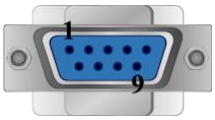
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

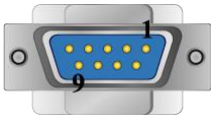
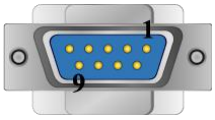
eMT3000 series

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | FC RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 69 D- |
| 2 RX+ | 9 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

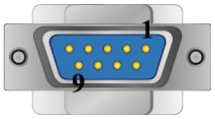
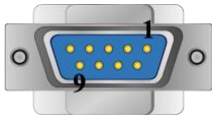
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | FC RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 69 D- |
| 6 RX+ | 1 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

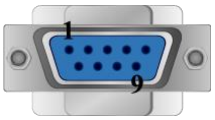
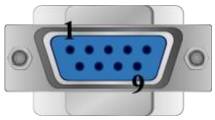
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | FC RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 69 D- |
| 2 RX+ | 8 Data+ | | 68 D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | FC RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 69 D- |
| 2 RX+ | 9 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | FC RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 69 D- |
| 2 RX+ | 8 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

*RW100 set PCD1 Control Word of station 1
*RW101 read PCD1 Status Word of station 1
*RW102 set PCD2 Control Word of station 2
*RW103 read PCD2 Status Word of station 2
*RW104 set PCD3 Control Word of station 3
*RW105 read PCD3 Status Word of station 3
*RW106 set PCD4 Control Word of station 4
*RW107 read PCD4 Status Word of station 4

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jan/14/2010 | |

# Danfoss VLT2800 Series

Supported Series: VLT2800 series

Website: http://www.danfoss.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Danfoss VLT2800 Series | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 0-126 | According to PLC |

## PLC Setting:

| | |
|---|---|
| Communication mode | 9600, Even, 8, 1 (default) |

## Device Address:

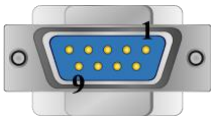
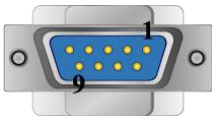
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| DW | Parameter | DDDD | 0 ~ 2000 | Set Parameter |
| W | Reference | D | 0 ~ 1 | Control Bus Reference |

The control word register is set according to the station number.
If the station number is 1, the control word will be RW100 and RW101; if the station number is 2, the control word will be RW102 and RW103, and so on.

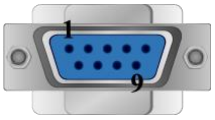
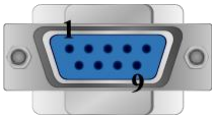
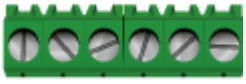
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

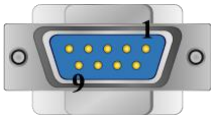
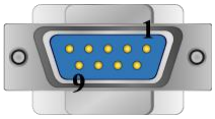
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 69 D- |
| 2 RX+ | 9 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

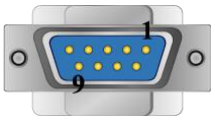
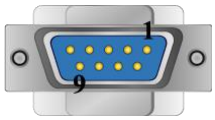
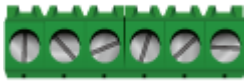
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 69 D- |
| 6 RX+ | 1 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

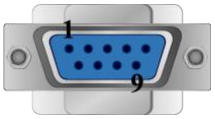
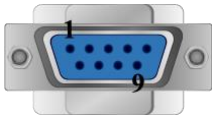
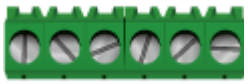
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 69 D- |
| 2 RX+ | 8 Data+ | | 68 D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 69 D- |
| 2 RX+ | 9 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 69 D- |
| 2 RX+ | 8 Data+ | | 68 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Dec/30/2008 | |

# DELTA DVP

Supported Series: DELTA DVP series

Website: http://www.deltadriver.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | DELTA DVP | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 7 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 0-255 | |

*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

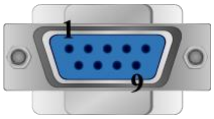
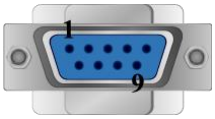
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOOOO | 0 ~ 23417 (octal) | Input |
| B | Y | OOOOO | 0 ~ 23417 (octal) | Output |
| B | M | DDDDD | 0 ~ 65536 | Auxiliary Relay |
| B | S | DDDD | 0 ~ 9999 | Step Relay |
| B | T | DDDD | 0 ~ 9999 | Timer |
| B | C | DDDD | 0 ~ 9999 | Counter |
| B | TV_Bit | DDDDdd | 0 ~ 999915 | Timer |
| W | TV | DDDD | 0 ~ 9999 | Timer |
| W | CV | DDD | 0 ~ 127 | Counter |
| W | CV2 | DDD | 200 ~ 254 | Double Word Counter |
| W | D | DDDD | 0 ~ 9999 | Data Register |

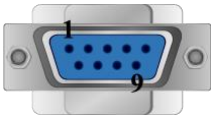
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

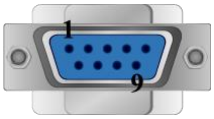
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 5 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 3/8 GND |
|  |  | |  |

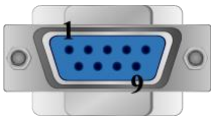
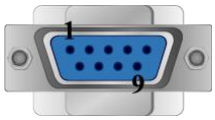
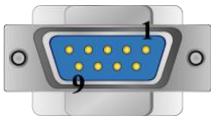
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 5 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 3/8 GND |
|  | | |  |

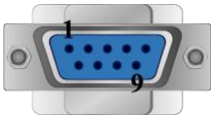
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 5 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 3/8 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 5 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 3/8 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 5 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 3/8 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Dec/30/2008 | |

# DELTA DVPEN01-SL (Ethernet)

Website: http://www.deltadriver.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | DELTA DVPEN01-SL (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 0 | | |

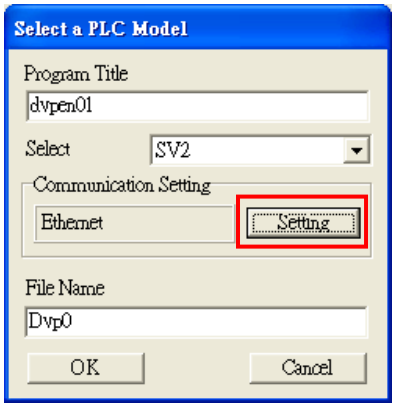
## Device Address:

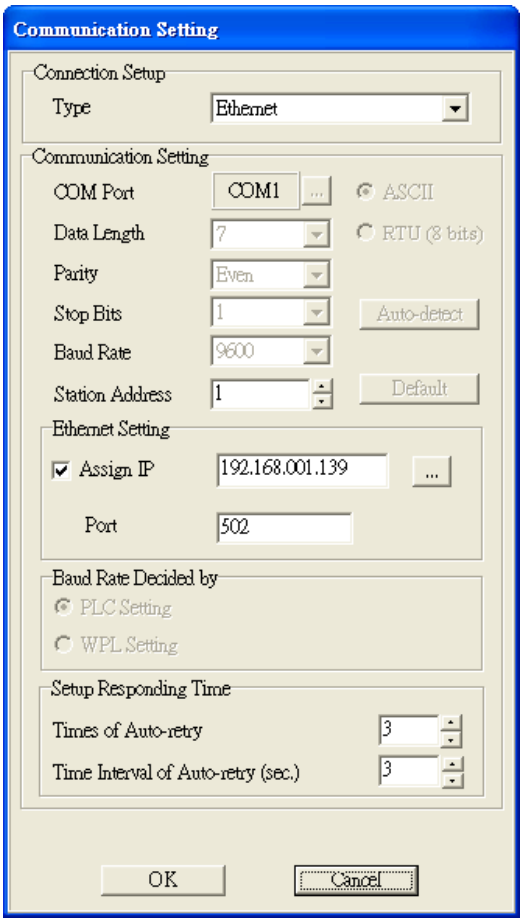
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | C_Bit | DDD | 0 ~ 255 | |
| B | M | DDDD | 0 ~ 4095 | |
| B | S | DDDD | 0 ~ 1023 | |
| B | T_Bit | DDD | 0 ~ 255 | |
| B | X | OOO | 0 ~ 571 | |
| B | Y | OOO | 0 ~ 571 | |
| W | C | DDD | 0 ~ 199 | |
| DW | C_32Bit | DDD | 200 ~ 255 | |
| W | D | DDDDD | 0 ~ 11999 | |
| W | T | DDD | 0 ~ 255 | |

# PLC Setting:

## 1. Communication Setting

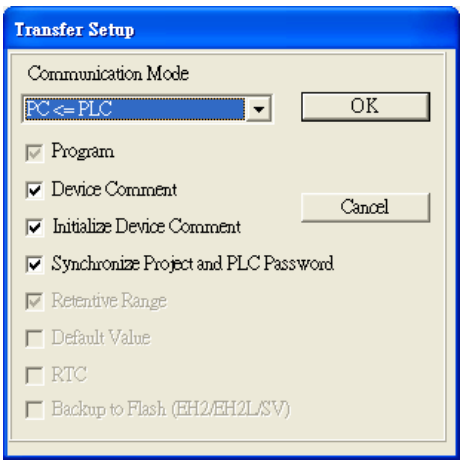
Add a new program, click **File** > **New**, enter the **Program Title** and **File Name**, and select the correct controller type. Click **Setting** to configure the communication parameters. Click **OK** to confirm the setting. The communication with PLC starts.



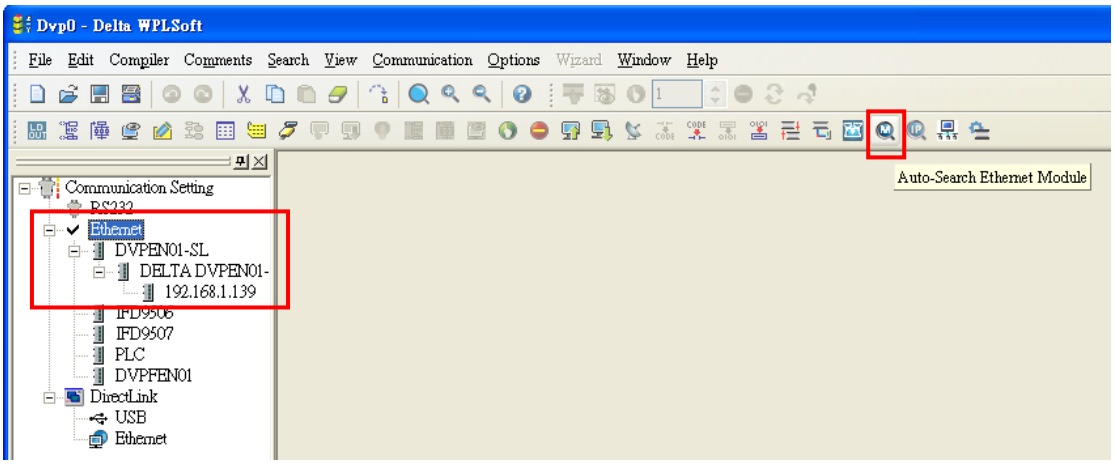

## 2. Transfer Setup

Click **Communication** and select **PC<=>(PLC | HPP)**, on **Transfer Setup** dialog box, select the needed parameters for upload or download, and click **OK** to start the action.



### 3. Auto-Search Ethernet Module

Click **Auto-Search Ethernet Module** to find the PLC modules on the same network. As shown in the following figure, DVPEN01-SL, IP address 192.168.1.139 is found.




## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jun/11/2012 | Driver released. |
| V1.10 | Aug/20/2012 | Add device type : C_32Bit. |

# DL-BCM Server

Website: http://www.hzdelin.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | DL-BCM Server | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | 0-31 | |

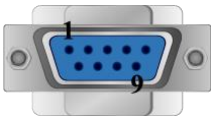
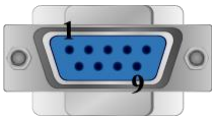
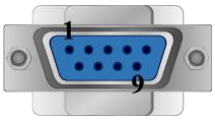
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | LB | dddd | 0 ~ 9998 | |
| W | LW | dddd | 0 ~ 9998 | |
| W | RW | ddddd | 0 ~ 55536 | |

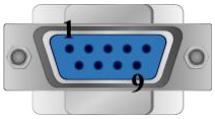
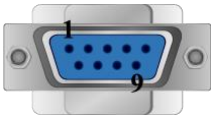
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

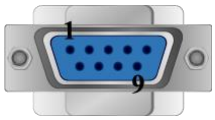
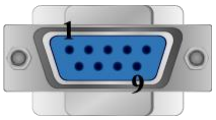
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

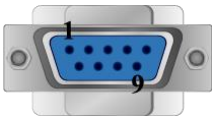
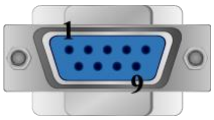
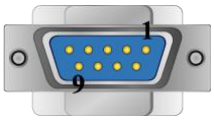
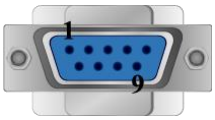
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

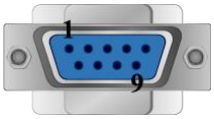
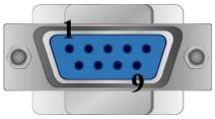
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

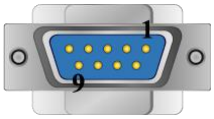
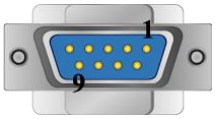
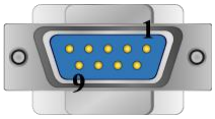
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

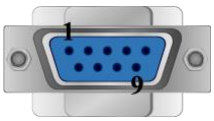
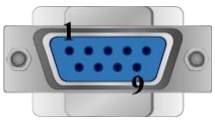
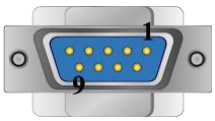
| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

**The following is the view from the soldering point of a cable.**

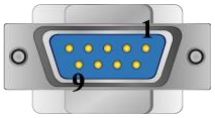
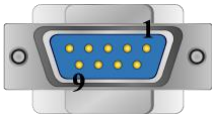
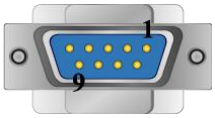
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

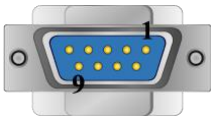
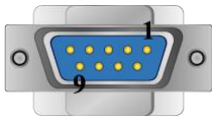
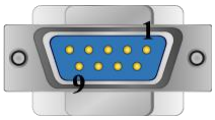
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

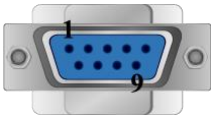
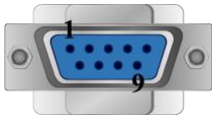
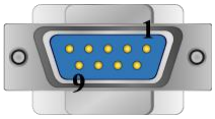
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/8/2008 | Driver released |

# DL/T645 CHUANG HONG

Website: http://www.cw180.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | DL/T645 CHUANG HONG | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | B621 | D | 0 ~ 1 | |
| W | B622 | D | 0 ~ 1 | |
| W | B623 | D | 0 ~ 1 | |
| W | zero phase | D | 0 ~ 1 | |
| W | B611 | D | 0 ~ 1 | |
| W | B612 | D | 0 ~ 1 | |
| W | B613 | D | 0 ~ 1 | |
| W | B631 | D | 0 ~ 1 | |
| W | B632 | D | 0 ~ 1 | |
| W | B633 | D | 0 ~ 1 | |
| W | B630 | D | 0 ~ 1 | |
| W | B641 | D | 0 ~ 1 | |
| W | B642 | D | 0 ~ 1 | |
| W | B643 | D | 0 ~ 1 | |
| W | B640 | D | 0 ~ 1 | |
| W | A-apparentT | D | 0 ~ 1 | |
| W | B-apparentT | D | 0 ~ 1 | |
| W | C-apparentT | D | 0 ~ 1 | |
| W | T-apparentT | D | 0 ~ 1 | |
| W | B650 | D | 0 ~ 1 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | B651 | D | 0 ~ 1 | |
| W | B652 | D | 0 ~ 1 | |
| W | B653 | D | 0 ~ 1 | |
| W | 9010 | D | 0 ~ 1 | |
| W | 9020 | D | 0 ~ 1 | |
| W | 9110 | D | 0 ~ 1 | |
| W | 9120 | D | 0 ~ 1 | |
| W | 9130 | D | 0 ~ 1 | |
| W | 9140 | D | 0 ~ 1 | |
| W | 9150 | D | 0 ~ 1 | |
| W | 9160 | D | 0 ~ 1 | |
| W | 9410 | D | 0 ~ 1 | |
| W | 9420 | D | 0 ~ 1 | |
| W | 9510 | D | 0 ~ 1 | |
| W | 9520 | D | 0 ~ 1 | |
| W | 9530 | D | 0 ~ 1 | |
| W | 9540 | D | 0 ~ 1 | |
| W | 9550 | D | 0 ~ 1 | |
| W | 9560 | D | 0 ~ 1 | |
| W | 9810 | D | 0 ~ 1 | |
| W | 9820 | D | 0 ~ 1 | |
| W | 9910 | D | 0 ~ 1 | |
| W | 9920 | D | 0 ~ 1 | |
| W | 9930 | D | 0 ~ 1 | |
| W | 9940 | D | 0 ~ 1 | |
| W | 9950 | D | 0 ~ 1 | |
| W | 9960 | D | 0 ~ 1 | |
| W | A010 | D | 0 ~ 1 | |
| W | A020 | D | 0 ~ 1 | |
| W | A110 | D | 0 ~ 1 | |
| W | A120 | D | 0 ~ 1 | |
| W | A130 | D | 0 ~ 1 | |
| W | A140 | D | 0 ~ 1 | |
| W | A150 | D | 0 ~ 1 | |
| W | A160 | D | 0 ~ 1 | |
| W | A410 | D | 0 ~ 1 | |
| W | A420 | D | 0 ~ 1 | |
| W | A510 | D | 0 ~ 1 | |
| W | A520 | D | 0 ~ 1 | |
| W | A530 | D | 0 ~ 1 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | A540 | D | 0 ~ 1 | |
| W | A550 | D | 0 ~ 1 | |
| W | A560 | D | 0 ~ 1 | |
| W | A810 | D | 0 ~ 1 | |
| W | A820 | D | 0 ~ 1 | |
| W | A910 | D | 0 ~ 1 | |
| W | A920 | D | 0 ~ 1 | |
| W | A930 | D | 0 ~ 1 | |
| W | A940 | D | 0 ~ 1 | |
| W | A950 | D | 0 ~ 1 | |
| W | A960 | D | 0 ~ 1 | |
| W | B010 | D | 0 ~ 1 | |
| W | B020 | D | 0 ~ 1 | |
| W | B110 | D | 0 ~ 1 | |
| W | B120 | D | 0 ~ 1 | |
| W | B130 | D | 0 ~ 1 | |
| W | B140 | D | 0 ~ 1 | |
| W | B150 | D | 0 ~ 1 | |
| W | B160 | D | 0 ~ 1 | |
| W | B410 | D | 0 ~ 1 | |
| W | B420 | D | 0 ~ 1 | |
| W | B510 | D | 0 ~ 1 | |
| W | B520 | D | 0 ~ 1 | |
| W | B530 | D | 0 ~ 1 | |
| W | B540 | D | 0 ~ 1 | |
| W | B550 | D | 0 ~ 1 | |
| W | B560 | D | 0 ~ 1 | |
| W | B810 | D | 0 ~ 1 | |
| W | B820 | D | 0 ~ 1 | |
| W | B910 | D | 0 ~ 1 | |
| W | B920 | D | 0 ~ 1 | |
| W | B930 | D | 0 ~ 1 | |
| W | B940 | D | 0 ~ 1 | |
| W | B950 | D | 0 ~ 1 | |
| W | B960 | D | 0 ~ 1 | |
| W | B210 | D | 0 ~ 1 | |
| W | B211 | D | 0 ~ 1 | |
| W | B212 | D | 0 ~ 1 | |
| W | B213 | D | 0 ~ 1 | |
| W | B214 | D | 0 ~ 1 | |

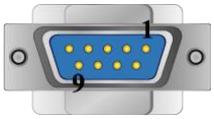
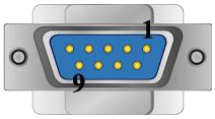
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | B310 | D | 0 ~ 1 | |
| W | B311 | D | 0 ~ 1 | |
| W | B312 | D | 0 ~ 1 | |
| W | B313 | D | 0 ~ 1 | |
| W | B320 | D | 0 ~ 1 | |
| W | B321 | D | 0 ~ 1 | |
| W | B322 | D | 0 ~ 1 | |
| W | B323 | D | 0 ~ 1 | |
| W | B330 | D | 0 ~ 1 | |
| W | B331 | D | 0 ~ 1 | |
| W | B332 | D | 0 ~ 1 | |
| W | B333 | D | 0 ~ 1 | |
| W | B340 | D | 0 ~ 1 | |
| W | B341 | D | 0 ~ 1 | |
| W | B342 | D | 0 ~ 1 | |
| W | B343 | D | 0 ~ 1 | |
| W | C010 | D | 0 ~ 1 | |
| W | C011 | D | 0 ~ 1 | |
| W | C020 | D | 0 ~ 1 | |
| W | C021 | D | 0 ~ 1 | |
| W | C022 | D | 0 ~ 1 | |
| W | C030 | D | 0 ~ 1 | |
| W | C031 | D | 0 ~ 1 | |
| W | C032 | D | 0 ~ 1 | |
| W | C033 | D | 0 ~ 1 | |
| W | C034 | D | 0 ~ 1 | |
| W | C111 | D | 0 ~ 1 | |
| W | C112 | D | 0 ~ 1 | |
| W | C113 | D | 0 ~ 1 | |
| W | C114 | D | 0 ~ 1 | |
| W | C115 | D | 0 ~ 1 | |
| W | C116 | D | 0 ~ 1 | |
| W | C117 | D | 0 ~ 1 | |
| W | C118 | D | 0 ~ 1 | |
| W | C119 | D | 0 ~ 1 | |
| W | C11A | D | 0 ~ 1 | |
| W | C211 | D | 0 ~ 1 | |
| W | C212 | D | 0 ~ 1 | |
| W | C310 | D | 0 ~ 1 | |
| W | C311 | D | 0 ~ 1 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | C312 | D | 0 ~ 1 | |
| W | C313 | D | 0 ~ 1 | |
| W | C314 | D | 0 ~ 1 | |
| W | C320 | D | 0 ~ 1 | |
| W | C321 | D | 0 ~ 1 | |
| W | C322 | D | 0 ~ 1 | |
| W | C330 | D | 0 ~ 1 | |
| W | C331 | D | 0 ~ 1 | |
| W | C332 | D | 0 ~ 1 | |
| W | C340 | D | 0 ~ 1 | |
| W | C341 | D | 0 ~ 1 | |
| W | C342 | D | 0 ~ 1 | |
| W | C3A0 | D | 0 ~ 1 | |
| W | C3A1 | D | 0 ~ 1 | |
| W | C3A2 | D | 0 ~ 1 | |
| W | C410 | D | 0 ~ 1 | |
| W | C411 | D | 0 ~ 1 | |
| W | C41E | D | 0 ~ 1 | |
| W | C510 | D | 0 ~ 1 | |
| W | C511 | D | 0 ~ 1 | |
| W | B634 | D | 0 ~ 1 | |
| W | B635 | D | 0 ~ 1 | |

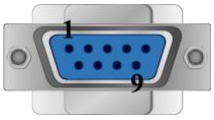
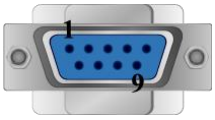
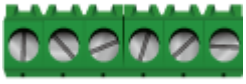
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

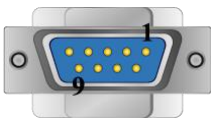
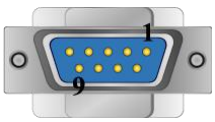
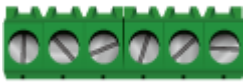
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 13 RS485B1 |
| 2 RX+ | 9 Data+ | | 12 RS485A1 |
| 5 GND | 5 GND | | |
|  |  | |  |

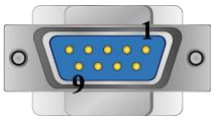
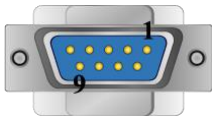
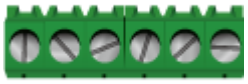
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 13 RS485B1 |
| 6 RX+ | 1 Data+ | | 12 RS485A1 |
| 5 GND | 5 GND | | |
|  |  | |  |

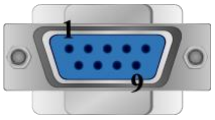
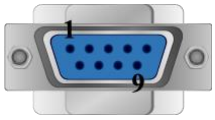
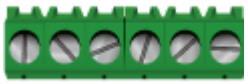
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 13 RS485B1 |
| 2 RX+ | 8 Data+ | | 12 RS485A1 |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 13 RS485B1 |
| 2 RX+ | 9 Data+ | | 12 RS485A1 |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 13 RS485B1 |
| 2 RX+ | 8 Data+ | | 12 RS485A1 |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/13/2011 | Driver released. |

# DL/T645 Standard

Website: http://www.cw180.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | DL/T645 Standard | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

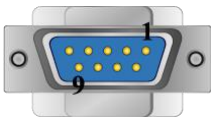
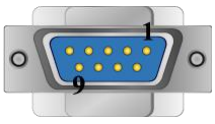
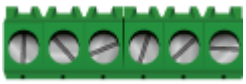
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Data | HHHHHHHH | 0 ~ 6FFFFFF | |

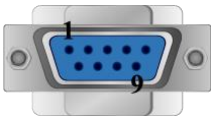
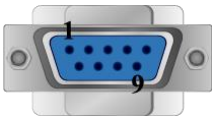
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

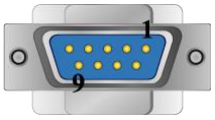
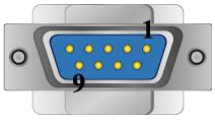
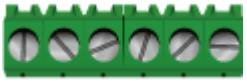
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

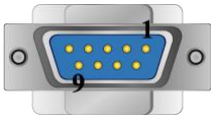
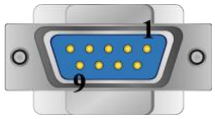
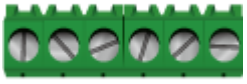
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

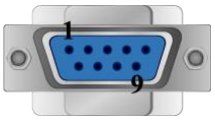
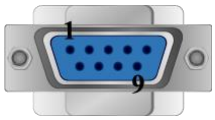
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/14/2011 | Driver released. |

# ELSIST MODBUS ASCII

Supported Series: SlimLine & Netsyst controllers RS232/485
Website: http://www.elsist.it

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | ELSIST MODBUS ASCII | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0-255 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus ASCII protocol |

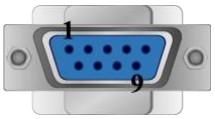
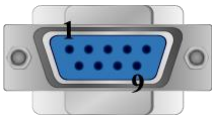
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | %MX | DDDDD | 1 ~ 65535 | 0x01 read coil<br>0x05 write single coil |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input register bit (read only) |
| B | %MW_Bit | DDDDDdd | 100 ~ 6553515 | 0x03 read holding register<br>0x06 write single register |
| W | 3x | DDDDD | 1 ~ 65535 | Input register (read only) |
| W | %MW | DDDDD | 1 ~ 65535 | 0x03 read holding register<br>0x10 write multiple register |
| W | 6x | DDDDD | 1 ~ 65535 | |

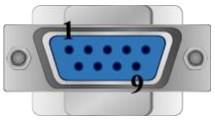
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

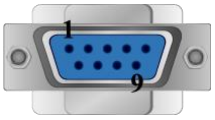
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 6 TXD |
| 3 TX | 7 TX | | 5 RXD |
| 5 GND | 5 GND | | 4 GND |
|  |  | |  |

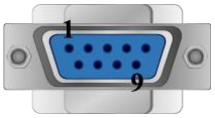
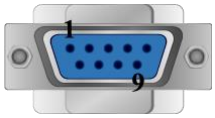
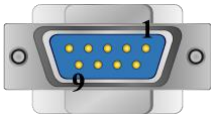
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | | | 6 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

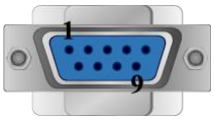
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | | | 6 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

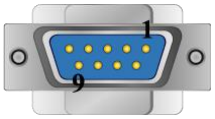
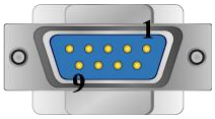
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 6 TXD |
| 3 TX | 4 TX | 7 TX | 5 RXD |
| 5 GND | 5 GND | 5 GND | 4 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

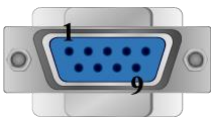
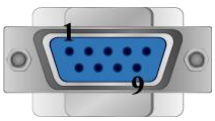
| COM1 RS232 9P D-Sub Female | | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 9 RX | | | 6 TXD |
| 6 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

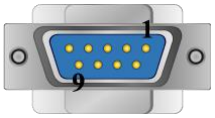
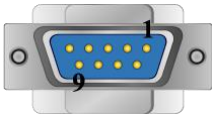
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 3-Way TB |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

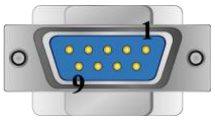
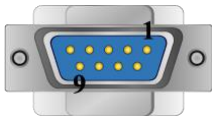
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 3-Way TB |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2 D- |
| 6 RX+ | 1 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

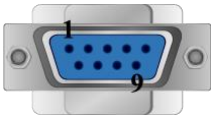
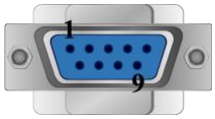
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W<br>3-Way TB |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 9 GND | | 3 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W<br>3-Way TB |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W<br>3-Way TB |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.50 | Feb/18/2014 | |

# ELSIST MODBUS RTU

Supported Series : SlimLine & Netsyst controllers RS232/485
Website : http://www.elsist.it

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | ELSIST MODBUS ASCII | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

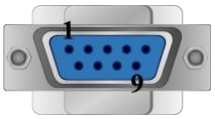
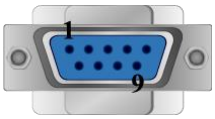
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | %MX | DDDDD | 0 ~ 65535 | 0x01 Read coil<br>0x05 write single coil |
| B | %MX_Bit | DDDDDdd | 0 ~ 6553515 | 0x03 Read holding register<br>0x06 write single register |
| B | %MW | DDDDD | 0 ~ 6553515 | 0x03 Read holding register<br>0x10 write multiple registers |
| B | %MWD | DDDDD | 0 ~ 6553515 | 0x03 Read holding register<br>0x10 write multiple registers |

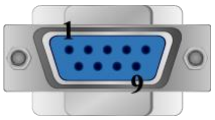
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

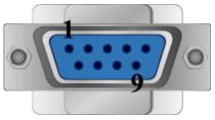
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 6 TXD |
| 3 TX | 7 TX | | 5 RXD |
| 5 GND | 5 GND | | 4 GND |
|  |  | |  |

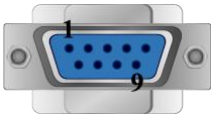
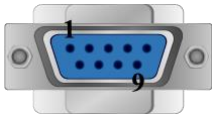
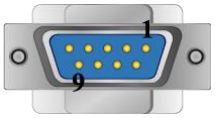
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | | | 6 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

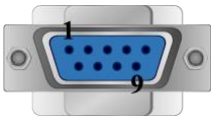
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | | | 6 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

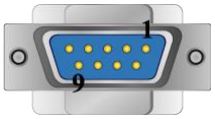
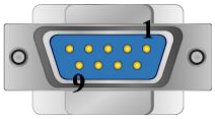
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | COMx RS232 RJ45 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 6 TXD |
| 3 TX | 4 TX | 7 TX | 5 RXD |
| 5 GND | 5 GND | 5 GND | 4 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

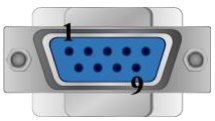
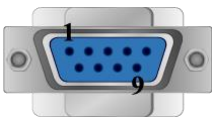
| COM1 RS232 9P D-Sub Female | | | COMx RS232 RJ45 Male |
|---|---|---|---|
| 9 RX | | | 6 TXD |
| 6 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

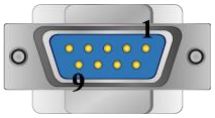
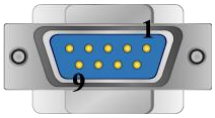
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 3-Way TB |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

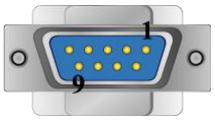
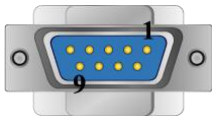
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 3-Way TB |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2 D- |
| 6 RX+ | 1 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

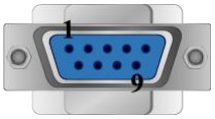
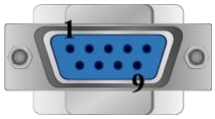
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W<br>3-Way TB |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 9 GND | | 3 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W<br>3-Way TB |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W<br>3-Way TB |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.30 | Jun/24/2014 | |

# ELSIST MODBUS TCP/IP

Supported Series: SlimLine & Netsyst controllers Ethernet TCP/IP
Website: http://www.elsist.it

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | ELSIST MODBUS TCP/IP | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0~255 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus TCP/IP |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | %MX | DDDDD | 0 ~ 65535 | 0x01 Read coil<br>0x05 write single coil |
| B | %MW_Bit | DDDDDdd | 0 ~ 6553515 | 0x03 Read holding register<br>0x06 write single register |
| W | %MW | DDDDD | 0 ~ 65535 | 0x03 Read holding register<br>0x10 write multiple registers |
| DW | %MWD | DDDDD | 0 ~ 65535 | 0x03 Read holding register<br>0x10 write multiple registers |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.90 | Feb/18/2014 | |

# EMERSON Charge Module

Website: http://www.emersonnetworkpower.com.cn/Pages/Default.aspx

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | EMERSON Charge Module | | |
| PLC I/F | RS-232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

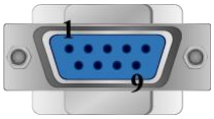
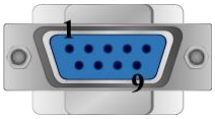
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Float_Point_Forced | D | 0 ~ 1 | |
| B | Average_Point_Forced | D | 0 ~ 1 | |
| W | Switch_Status | D | 0 ~ 1 | |
| W | Manual_Status | D | 0 ~ 1 | |
| W | Protect_Status | D | 0 ~ 1 | |
| W | Failure_Status | D | 0 ~ 1 | |
| W | Preset_Voltage | D | 0 ~ 1 | |
| W | Preset_Percent | D | 0 ~ 1 | |
| W | Output_Voltage | D | 0 ~ 1 | |
| W | Output_Current | D | 0 ~ 1 | |
| W | High_Limit | D | 0 ~ 1 | |
| W | Low_Limit | D | 0 ~ 1 | |
| W | Float_Point_Setting | D | 0 ~ 1 | |
| W | Average_Point_Setting | D | 0 ~ 1 | |

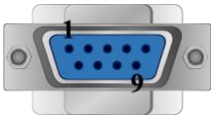
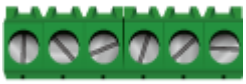
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

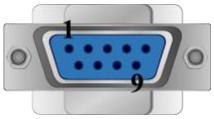
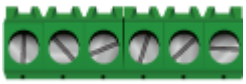
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TXD |
| 3 TX | 7 TX | | RXD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

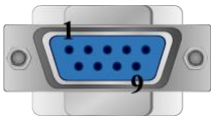
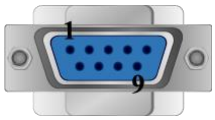
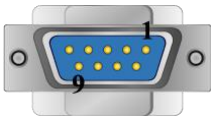
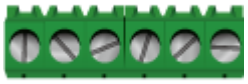
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

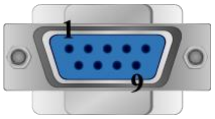
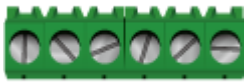
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD |
| 3 TX | 4 TX | 7 TX | RXD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 terminal |
|---|---|---|---|
| 9 RX | | | TXD |
| 6 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/3/2009 | |

# EMERSON PLC EC20

Supported Series: Emerson PLC EC20 Series. (Modbus RTU Protocol)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | EMERSON PLC EC20 | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600, 19200, 115200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | 0-255 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

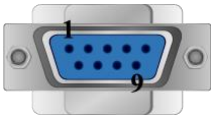
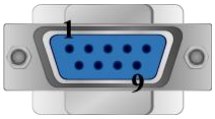
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Y | OOO | 0 ~ 377 | 0000-02550 |
| B | X | OOO | 0 ~ 377 | 1200-01455 0000-0255 |
| B | M | DDDD | 0 ~ 1999 | 2000-3999 |
| B | SM | DDD | 0~ 255 | 4400-4655 |
| B | S | DDD | 0 ~ 991 | 6000-6991 |
| B | T | DDD | 0 ~ 255 | 8000-8255 |
| B | C | DDD | 0 ~ 255 | 9200-9455 |
| W | D | DDDD | 0 ~ 7999 | 0000-7999 |
| W | SD | DDD | 0 ~ 255 | 8000-8255 |
| W | Z | DD | 0 ~ 15 | 8500-8515 |
| W | T | DDD | 0 ~ 255 | 9000-9255 |
| W | C | DDD | 0 ~ 199 | 9500-9699 |
| DW | C_Double | DDD | 200 ~ 255 | 9700-9811 |
| DW | D_Double | DDDD | 0 ~ 7998 | 0000-7999 |

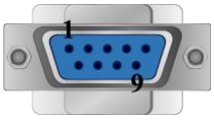
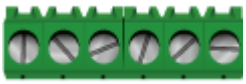
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

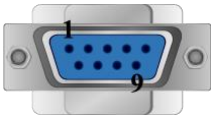
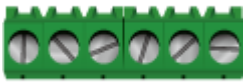
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Emerson EC20 COM1 terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TXD |
| 3 TX | 7 TX | | RXD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

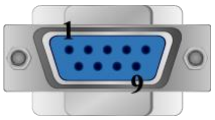
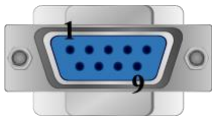
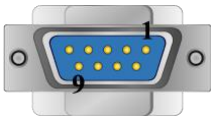
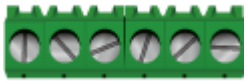
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Emerson EC20 COM1 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

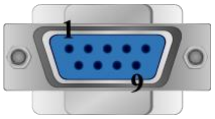
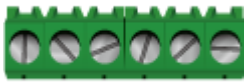
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Emerson EC20 COM1 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Emerson EC20 COM1 terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD |
| 3 TX | 4 TX | 7 TX | RXD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Emerson EC20 COM1 terminal |
|---|---|---|---|
| 9 RX | | | TXD |
| 6 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Dec/30/2008 | |

# FATEK FB/FBs/B1/B1z Series

Supported Series: FATEK FB/FBs/B1/B1z series, FB MC series, and FB MA series need FB-DTBR converter.
Website: http://www.fatek.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | FATEK FB/FBs/B1/B1z Series | | |
| PLC I/F | RS232 | RS232/RS485/Ethernet | |
| Baud rate | 9600 | | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 0-255 | Must match PLC port setting. |
| Port no. | 500 | | Ethernet only. |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDD | 0 ~ 9999 | Input |
| B | Y | DDDD | 0 ~ 9999 | Output |
| B | M | DDDD | 0 ~ 9999 | Internal Relay |
| B | S | DDDD | 0 ~ 9999 | Step Relay |
| B | T | DDDD | 0 ~ 9999 | Timer |
| B | C | DDDD | 0 ~ 9999 | Counter |
| B | PLC_MODE | D | 0 | PLC mode |
| B | R_Bit | DDDDdd | 0 ~ 999915 | |
| B | D_Bit | DDDDdd | 0 ~ 999915 | |
| W | RT | DDDD | 0 ~ 9999 | Timer Register |
| W | RC | DDDD | 0 ~ 9999 | Counter Register |
| W | R | DDDD | 0 ~ 9999 | Data Register |
| W | D | DDDD | 0 ~ 9999 | Data Register |
| W | DRT | DDDD | 0 ~ 9999 | Double Word Timer Register |
| W | DRC | DDD | 200 ~ 255 | Double Word Counter Register |

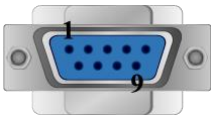
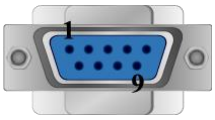
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | WX | DDDD | 0 ~ 9999 | Input Word |
| W | WY | DDDD | 0 ~ 9999 | Output Word |
| W | WM | DDDD | 0 ~ 9999 | Internal Relay Word |
| W | WS | DDDD | 0 ~ 9999 | |
| W | FR | DDDD | 0 ~ 9999 | |

## Wiring Diagram:

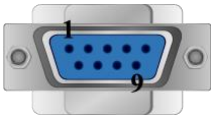
**The following is the view from the soldering point of a cable.**

9P D-Sub to 4P Mini-DIN: FBs Port0

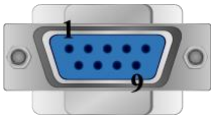
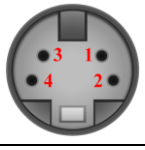
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | FBs RS232 4P Mini-DIN Male socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 4 RX |
| 5 GND | 5 GND | | 2 GND |
|  |  | |  |

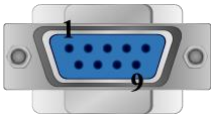
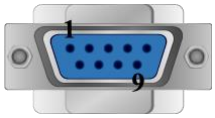
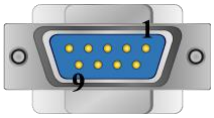
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | FBs RS232 4P Mini-DIN Male socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 4 RX |
| 5 GND | | | 2 GND |
|  | | |  |

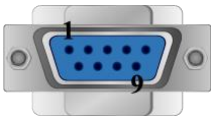
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | FBs RS232 4P Mini-DIN Male socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 4 RX |
| 5 GND | | | 2 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | FBs RS232 4P Mini-DIN Male socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 4 RX |
| 5 GND | 5 GND | 5 GND | 2 GND |
|  |  |  |  |

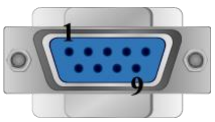
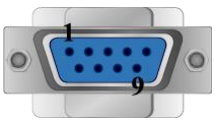
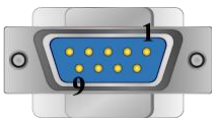
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | FBs RS232 4P Mini-DIN Male socket |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 4 RX |
| 5 GND | | | 2 GND |
|  | | |  |

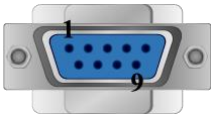
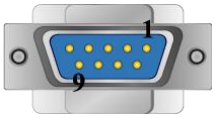
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: FBs communication module

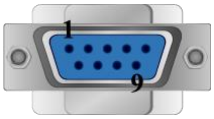
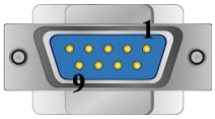
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | FBs communication module RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

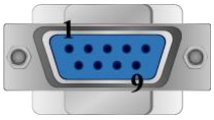
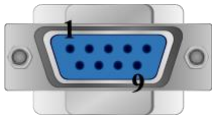
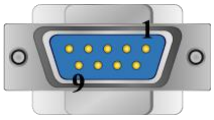
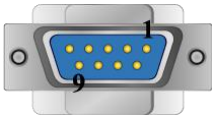
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | FBs communication module RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

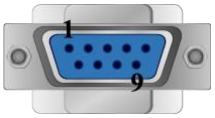
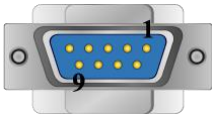
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | FBs communication module RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | FBs communication module RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

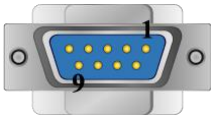
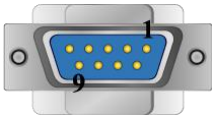
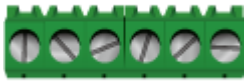
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | FBs communication module RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

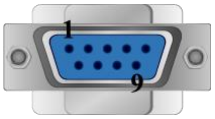
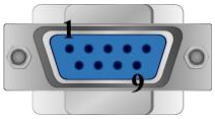
**The following is the view from the soldering point of a cable.**

FBs communication module 3P Terminal Block

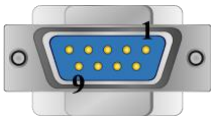
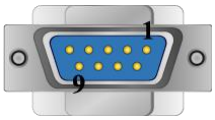
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | FBs communication module 3P Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

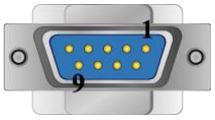
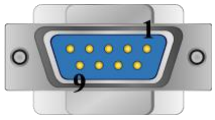
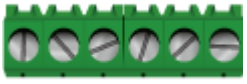
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | FBs communication module 3P Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

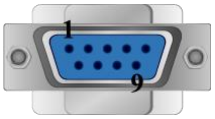
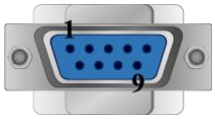
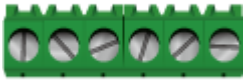
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | FBs communication module 3P Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | FBs communication module 3P Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

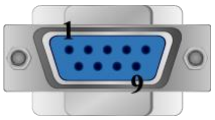
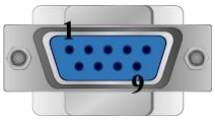
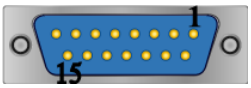
MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | FBs communication module 3P Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

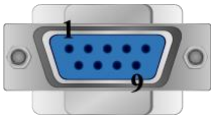
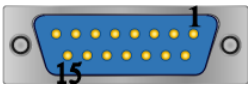
**The following is the view from the soldering point of a cable.**

9P D-Sub to 15P D-Sub: CPU Port

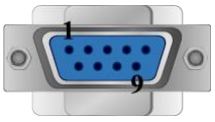
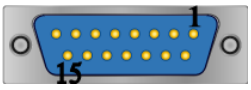
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | FB CPU Port RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TX | |
| 3 TX | 7 TX | | 1 RX | |
| 5 GND | 5 GND | | 6 GND | |
| | | | 3 RTS | short |
| | | | 4 CTS | |
|  |  | |  | |

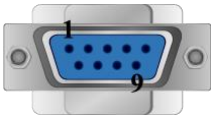
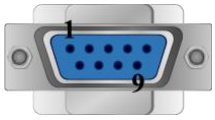
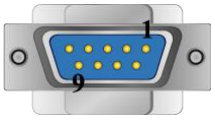
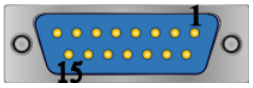
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | FB CPU Port RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 1 RX | |
| 5 GND | | | 6 GND | |
| | | | 3 RTS | short |
| | | | 4 CTS | |
|  | | |  | |

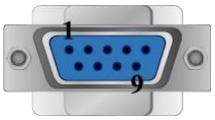
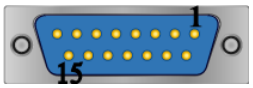
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | FB CPU Port RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 1 RX | |
| 5 GND | | | 6 GND | |
| | | | 3 RTS | short |
| | | | 4 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | FB CPU Port RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX | |
| 3 TX | 4 TX | 7 TX | 1 RX | |
| 5 GND | 5 GND | 5 GND | 6 GND | |
| | | | 3 RTS<br>4 CTS | short |
|  |  |  |  | |

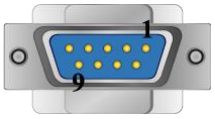
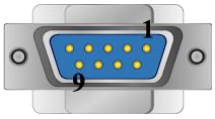
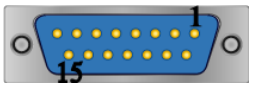
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | FB CPU Port RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TX | |
| 6 TX | | | 1 RX | |
| 5 GND | | | 6 GND | |
| | | | 3 RTS<br>4 CTS | short |
|  | | |  | |

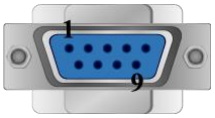
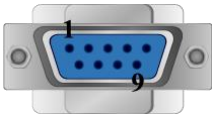
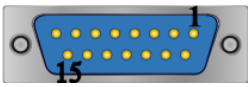
**The following is the view from the soldering point of a cable.**

9P D-Sub to 15P D-Sub: CPU Port RS485 2W

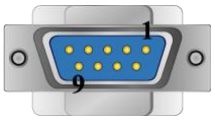
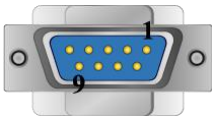
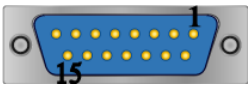
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | FB CPU Port RS485 2W 15P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 7 D- |
| 2 RX+ | 9 Data+ | | 5 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

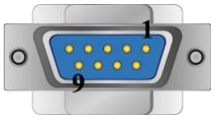
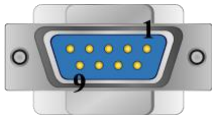
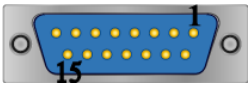
cMT/mTV series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | FB CPU Port RS485<br>2W 15P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 7 D- |
| 6 RX+ | 1 Data+ | | 5 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

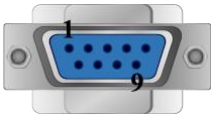
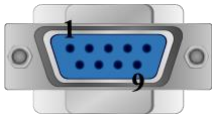
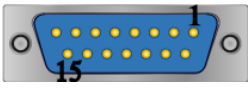
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | FB CPU Port RS485<br>2W 15P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 7 D- |
| 2 RX+ | 8 Data+ | | 5 D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | FB CPU Port RS485<br>2W 15P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 7 D- |
| 2 RX+ | 9 Data+ | | 5 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | FB CPU Port RS485<br>2W 15P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 7 D- |
| 2 RX+ | 8 Data+ | | 5 D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.60 | Feb/17/2011 | R_Bit, D_Bit and WS address types are added. |
| V1.70 | Nov/29/2011 | FR address types are added. |

# Fuji NB Series

Website: http://www.fujielectric.co.jp/fcs/eng/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Fuji NB Series | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 19200 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | NITP Protocol / PLC Password (default is 0) |

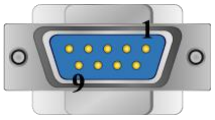
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Y | HHH | 0 ~ 7ff | Output Relay |
| B | X | HHH | 0 ~ 3ff | Input Relay |
| B | M | HHH | 0 ~ fff | Internal Relay |
| B | L | HHH | 0 ~ fff | Latch Relay |
| B | C | HH | 0 - ff | Counter |
| B | M_Spe | HHHH | 0 ~ 81ff | Special Relay |
| B | T | HHH | 0 ~ 1ff | Timer |
| W | TV | HHH | 0 ~ 3ff | Timer value |
| W | CV | HHH | 0 ~ 3ff | Counter value |
| W | D | HHHH | 0 ~ 1fff | Data Register |
| W | D_Spe | HHHH | 0 ~ 81ff | Special Register |

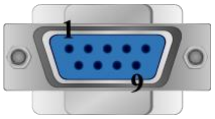
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

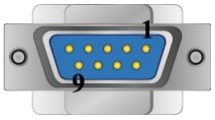
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | Fuji NB Series RS422<br>8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 5 RX+ |
| 5 GND | | | |
|  | | |  |

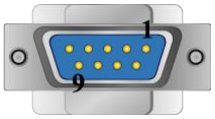
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | Fuji NB Series RS422<br>8P RJ45 Male |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 3 TX+ |
| 9 TX- | | | 6 RX- |
| 8 TX+ | | | 5 RX+ |
| 5 GND | | | |
|  | | |  |

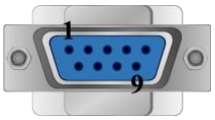
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | Fuji NB Series RS422<br>8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 5 RX+ |
| 5 GND | | | |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | Fuji NB Series RS422<br>8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 5 RX+ |
| 5 GND | | | |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | Fuji NB Series RS422<br>8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 5 RX+ |
| 5 GND | | | |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | May/05/2009 | |

# GE Fanuc 0i MD

Website: http://www.fanucfa.com/welcome_worldwide/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | GE Fanuc 0i MD | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

| | |
|---|---|
| On-line simulation | YES |

## PLC Setting:

Reader/Puncher interface (2ch.) is used for touch panel interface.
External touch panel interface, S/N: A02B-0320-J685, for Power Mate Series.

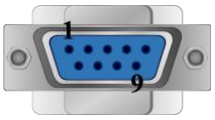
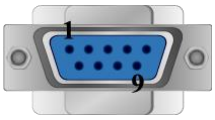
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDo | 0 ~ 11277 | |
| B | Y | DDDDo | 0 ~ 11277 | |
| B | K | DDDo | 0 ~ 9997 | |
| B | E | DDDDo | 0 ~ 99997 | |
| B | D_Bit | DDDDo | 0 ~ 99997 | |
| B | R_Bit | DDDDo | 0 ~ 94997 | |
| W | T | DDDD | 0 ~ 9499 | Must be a multiple of 2 |
| W | C | DDDD | 0 ~ 5199 | Must be a multiple of 4 |
| W | D_Byte | DDDD | 0 ~ 9999 | |
| W | R_Byte | DDDD | 0 ~ 9499 | |
| W | D | DDDD | 0 ~ 9999 | Must be a multiple of 2 |
| W | R | DDDD | 0 ~ 9499 | Must be a multiple of 2 |

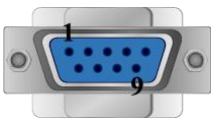
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

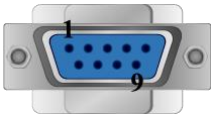
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 20P JD36B or JD54 Female | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 11 TX | |
| 3 TX | 7 TX | | 1 RX | |
| 5 GND | 5 GND | | 8(JD36) 4(JD54) GND | |
| | | | 15 RTS | short |
| | | | 05 CTS | |
| | | | 03 DR | short |
| | | | 07 CD | |
| | | | 13 ER | |
|  |  | |  | |

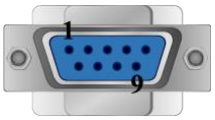
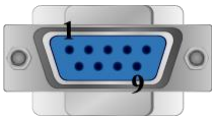
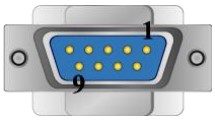
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 20P JD36B or JD54 Female | |
|---|---|---|---|---|
| 2 RX | | | 11 TX | |
| 3 TX | | | 1 RX | |
| 5 GND | | | 8(JD36) 4(JD54) GND | |
| | | | 15 RTS | short |
| | | | 05 CTS | |
| | | | 03 DR | short |
| | | | 07 CD | |
| | | | 13 ER | |
|  | | |  | |

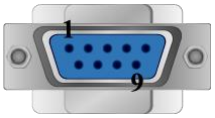
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 20P JD36B or JD54 Female | |
|---|---|---|---|---|
| 2 RX | | | 11 TX | |
| 3 TX | | | 1 RX | |
| 5 GND | | | 8(JD36) 4(JD54) GND | |
| | | | 15 RTS | short |
| | | | 05 CTS | |
| | | | 03 DR | short |
| | | | 07 CD | |
| | | | 13 ER | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 20P JD36B or JD54 Female | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 11 TX | |
| 3 TX | 4 TX | 7 TX | 1 RX | |
| 5 GND | 5 GND | 5 GND | 8(JD36) 4(JD54) GND | |
| | | | 15 RTS | short |
| | | | 05 CTS | |
| | | | 03 DR | short |
| | | | 07 CD | |
| | | | 13 ER | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| | | | | |
|---|---|---|---|---|
| COM1 RS232 9P D-Sub Female | | | RS232 20P JD36B or JD54 Female | |
| 9 RX | | | 11 TX | |
| 6 TX | | | 1 RX | |
| 5 GND | | | 8(JD36) 4(JD54) GND | |
| | | | 15 RTS | short |
| | | | 05 CTS | |
| | | | 03 DR | short |
| | | | 07 CD | |
| | | | 13 ER | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/16/2011 | Driver released. |

# GE Fanuc CMM

Website: http://www.ge.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | GE Fanuc CMM | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 19200 | 9600,19200,38400,57600,115200 | |
| Data bits | 8 | 7,8 | Must set to 8 for this protocol |
| Parity | Odd | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 0 | 0-255 | Does not apply to this protocol |

## PLC Setting:

Refer to the related PLC manual.

## Device Address:

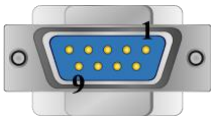
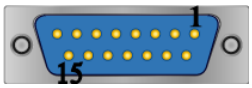
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDD | 1 ~ 10000 | Input relay |
| B | Q | DDDDD | 1 ~ 10000 | Output relay |
| B | M | DDDDD | 1 ~ 10000 | Auxiliary relay |
| B | G | DDDD | 1 ~ 7680 | |
| B | T | DDD | 1 ~ 256 | |
| B | SA | DDD | 1 ~ 128 | |
| B | SB | DDD | 1 ~ 128 | |
| B | SC | DDD | 1 ~ 128 | |
| B | S | DDD | 1 ~ 128 | |
| W | AI | DDDDD | 1 ~ 10000 | Analog input register |
| W | AQ | DDDDD | 1 ~ 10000 | Analog output register |
| W | R | DDDDD | 1 ~ 32640 | Data register |

## Wiring Diagram:

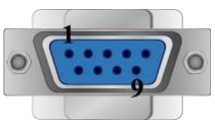
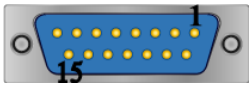
**The following is the view from the soldering point of a cable.**

CPU Port 90-30/VersaMax

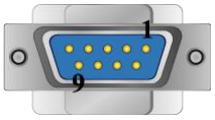
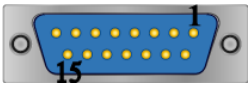
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | 90-30/VersaMax RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

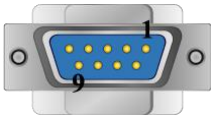
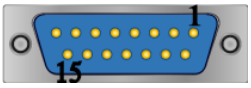
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | 90-30/VersaMax RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 12 SDA | |
| 6 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 9 TX- | | | 10 RDA | |
| 8 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

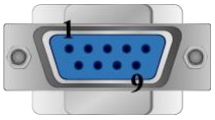
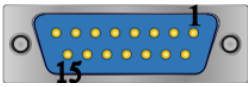
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | 90-30/VersaMax RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | 90-30/VersaMax RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

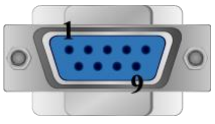
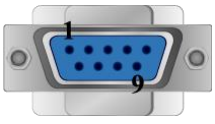
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | 90-30/VersaMax RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

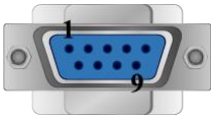
**The following is the view from the soldering point of a cable.**

CPU Port (90-30 series CPU351/352/363/364)

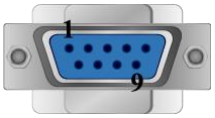
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 5 RX |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

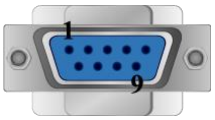
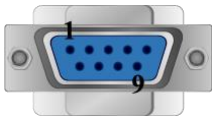
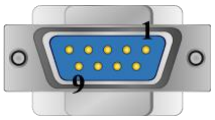
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 5 RX |
| 5 GND | | | 3 GND |
|  | | |  |

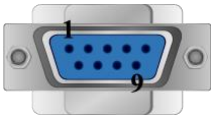
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 5 RX |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 5 RX |
| 5 GND | 5 GND | 5 GND | 3 GND |
|  |  |  |  |

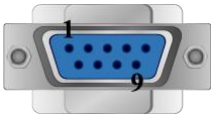
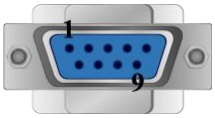
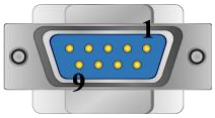
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 5 RX |
| 5 GND | | | 3 GND |
|  | | |  |

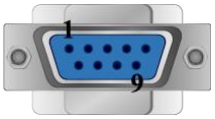
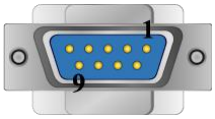
**The following is the view from the soldering point of a cable.**

CPU Port (VersaMax series CPU001/002/005/E05)

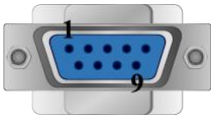
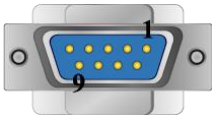
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

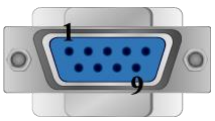
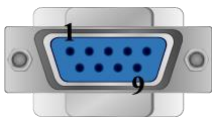
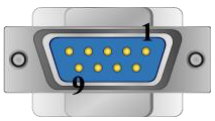
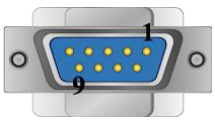
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

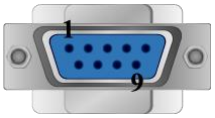
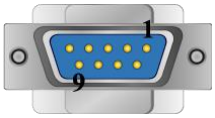
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jul/09/2009 | Driver released. |

# GE Fanuc RX3i

Website: http://www.ge.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | GE Fanuc RX3i | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 19200 | 1200~115200 | |
| Data bits | 8 | | |
| Parity | Odd | None, Even, Odd | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 1 | 1~99 | |

## PLC Setting:

Refer to the related PLC manual.

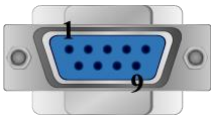
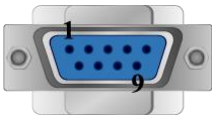
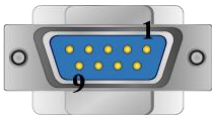
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDD | 1 ~ 32768 | |
| B | Q | DDDDD | 1 ~ 32768 | |
| B | M | DDDDD | 1 ~ 32768 | |
| B | G | DDDDD | 1 ~ 32768 | |
| B | T | DDDDD | 1 ~ 32768 | |
| B | SA | DDDDD | 1 ~ 32768 | |
| B | SB | DDDDD | 1 ~ 32768 | |
| B | SC | DDDDD | 1 ~ 32768 | |
| B | S | DDDDD | 1 ~ 32768 | |
| W | AI | DDDDD | 1 ~ 32768 | |
| W | AQ | DDDDD | 1 ~ 32768 | |
| W | R | DDDDD | 1 ~ 32768 | |

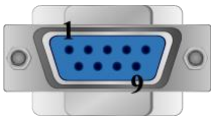
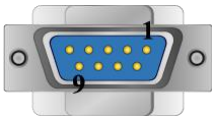
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

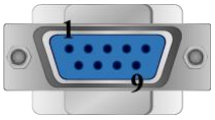
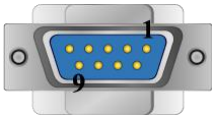
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | GE Fanuc RX3i COM1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

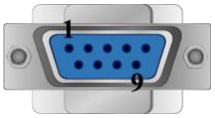
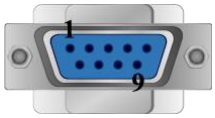
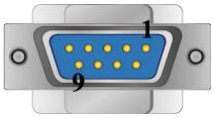
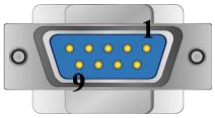
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | GE Fanuc RX3i COM1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

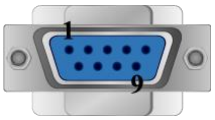
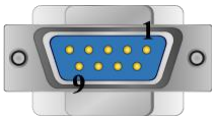
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | GE Fanuc RX3i COM1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | GE Fanuc RX3i COM1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

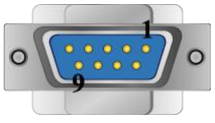
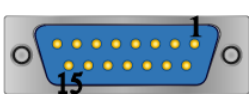
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | GE Fanuc RX3i COM1 RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

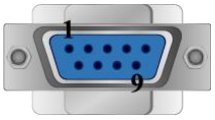
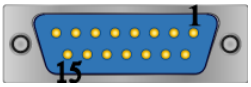
**The following is the view from the soldering point of a cable.**

GE Fanuc RX3i COM2

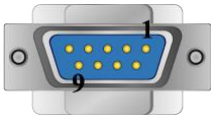
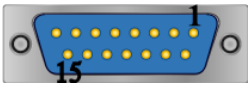
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | GE Fanuc RX3i COM2 RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

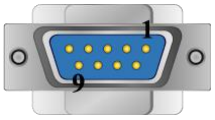
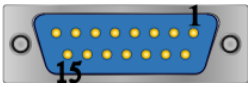
cMT/mTV series

| COM1 RS485 4W 9P D-Sub Female | | | GE Fanuc RX3i COM2 RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 12 SDA | |
| 6 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 9 TX- | | | 10 RDA | |
| 8 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

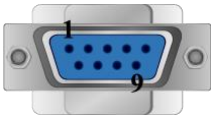
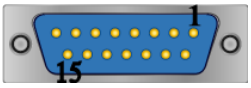
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | GE Fanuc RX3i COM2 RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | GE Fanuc RX3i COM2<br>RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | GE Fanuc RX3i COM2<br>RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Oct/01/2010 | Driver released. |

# GE Fanuc Series 90-30 (Ethernet)

Supported Series: GE 90-30 series, CPU model 374plus.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | GE Fanuc Series 90-30 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 18245 | | |
| PLC sta. no. | 1 | 1~99 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I_bit | DDDDD | 1 ~ 32768 | |
| B | Q_bit | DDDDD | 1 ~ 32768 | |
| B | M_bit | DDDDD | 1 ~ 32768 | |
| B | G_bit | DDDDD | 1 ~ 32768 | |
| B | T_bit | DDDDD | 1 ~ 32768 | |
| B | SA_bit | DDDDD | 1 ~ 32768 | Read Only |
| B | SB_bit | DDDDD | 1 ~ 32768 | Read Only |
| B | SC_bit | DDDDD | 1 ~ 32768 | Read Only |
| B | S_bit | DDDDD | 1 ~ 32768 | Read Only |
| B | R_bit | DDDDD | 1 ~ 32768 | |
| W | I | DDDDD | 1 ~ 32753 | Address increment by 8 words, ex: I1, I9, I17, I25….. |
| W | Q | DDDDD | 1 ~ 32753 | The rule is same as above, ex:Q1, Q9, Q17… |
| W | M | DDDDD | 1 ~ 32753 | The rule is same as above, ex:M1, M9, M17.. |
| W | G | DDDDD | 1 ~ 32753 | The rule is same as above, ex:G1, G9, G17… |
| W | T | DDDD | 1 ~ 1024 | The rule is same as above, ex:T1, T9, T17…. |
| W | SA | DDDDD | 1 ~ 32753 | Read only, the rule is same as above |
| W | SB | DDDDD | 1 ~ 32753 | Read only, the rule is same as above |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | SC | DDDDD | 1 ~ 32753 | Read only, the rule is same as above |
| W | S | DDDDD | 1 ~ 32753 | Read only, the rule is same as above |
| W | R | DDDDD | 1 ~ 32768 | |
| W | AI | DDDDD | 1 ~ 32768 | |
| W | AQ | DDDDD | 1 ~ 32768 | |
| W | W | DDDDDDD | 1 ~ 5000000 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.70 | Apr/09/2010 | |
| V1.80 | Nov/09/2011 | Add device type : R_bit |
| V1.90 | Jan/17/2012 | Add device type : W |

# GE Fanuc SNP-X

Supported Series: GE Fanuc 90 & VersaMax series PLC
Website: http://www.ge.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | GE Fanuc SNP-X | | |
| PLC I/F | RS485 4W | RS232/RS485 | |
| Baud rate | 19200 | 9600 ~ 115200 | |
| Data bits | 8 | 7, 8 | Must set to 8 for this protocol |
| Parity | Odd | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 0 | 0-255 | Does not apply to this protocol |

## PLC Setting:

Refer to the related PLC manual.

## Device Address:

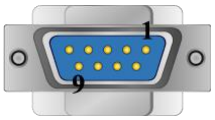
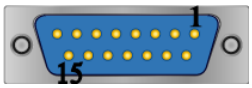
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDD | 1 ~ 10000 | Input relay |
| B | Q | DDDDD | 1 ~ 10000 | Output relay |
| B | M | DDDDD | 1 ~ 10000 | Auxiliary relay |
| B | G | DDDD | 1 ~ 7680 | |
| B | T | DDD | 1 ~ 256 | |
| B | SA | DDD | 1 ~ 128 | |
| B | SB | DDD | 1 ~ 128 | |
| B | SC | DDD | 1 ~ 128 | |
| B | S | DDD | 1 ~ 128 | |
| B | R_bit | DDDDDdd | 1 ~ 3264015 | Data register bit |
| W | AI | DDDDD | 1 ~ 10000 | Analog input register |
| W | AQ | DDDDD | 1 ~ 10000 | Analog output register |
| W | R | DDDDD | 1 ~ 32640 | Data register |

## Wiring Diagram:

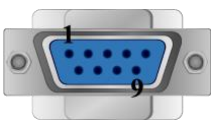
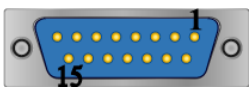
**The following is the view from the soldering point of a cable.**

CPU Port (90-30/VersaMax)

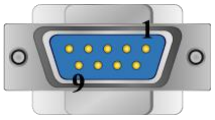
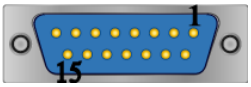
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | 90-30/VersaMax RS422<br>15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

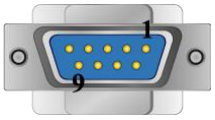
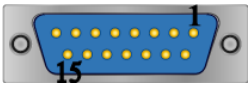
cMT/mTV series

| COM1 RS485 4W<br>9P D-Sub Female | | | 90-30/VersaMax RS422<br>15P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 12 SDA | |
| 6 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 9 TX- | | | 10 RDA | |
| 8 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

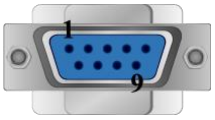
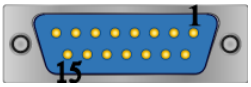
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | 90-30/VersaMax RS422<br>15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | 90-30/VersaMax RS422<br>15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

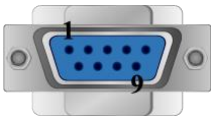
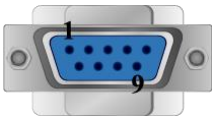
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | 90-30/VersaMax RS422<br>15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 12 SDA | |
| 2 RX+ | | | 13 SDB | |
| 5 GND | | | 7 GND | |
| 3 TX- | | | 10 RDA | |
| 4 TX+ | | | 11 RDB | short |
| | | | 9 RT | |
| | | | 6 RTSA | short |
| | | | 15 CTSA | |
| | | | 8 RTSB | short |
| | | | 14 CTSB | |
|  | | |  | |

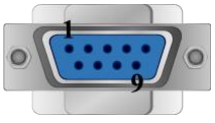
**The following is the view from the soldering point of a cable.**

CPU Port (90-30 series CPU351/352/363/364)

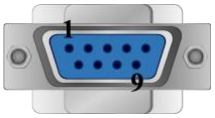
eMT3000 series

| COM1 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Female | | 90-30/90-70 series<br>RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 5 RX |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

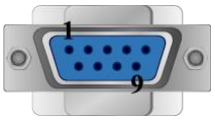
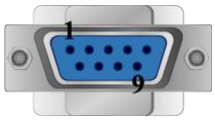
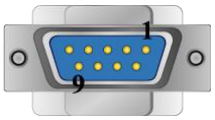
cMT/mTV series

| COM1 RS232 9P<br>D-Sub Female | | | 90-30/90-70 series<br>RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 5 RX |
| 5 GND | | | 3 GND |
|  | | |  |

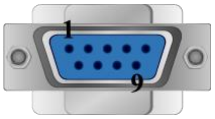
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 5 RX |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series excepts MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 5 RX |
| 5 GND | 5 GND | 5 GND | 3 GND |
|  |  |  |  |

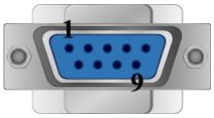
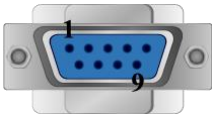
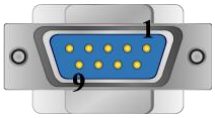
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | 90-30/90-70 series RS232 6P RJ11 Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 5 RX |
| 5 GND | | | 3 GND |
|  | | |  |

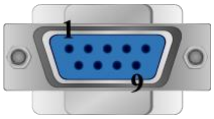
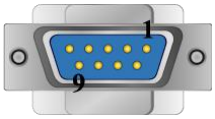
**The following is the view from the soldering point of a cable.**

CPU Port (VersaMax series CPU001/002/005/E05)

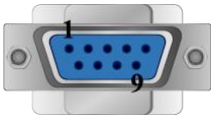
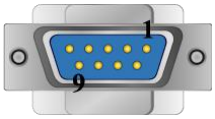
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

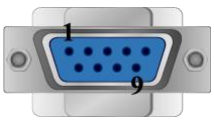
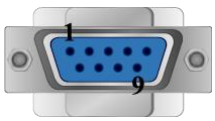
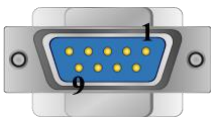
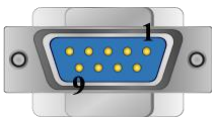
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

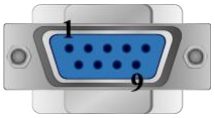
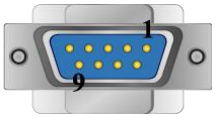
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | VersaMax series RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Jan/09/2009 | |
| V1.40 | Dec/25/2012 | Add device type : R_bit |

# Haiwell PLC

Support Series: E series, S series and H series.

Web: http://www.haiwell.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Haiwell PLC | | |
| PLC I/F | RS232 | RS232,RS485 2W | |
| Baud rate | 19200 | 19200 | |
| Data bits | 8 | 8 | |
| Parity | None | None | |
| Stop bits | 2 | 2 | |
| PLC sta. no. | 1 | 1~247 | |

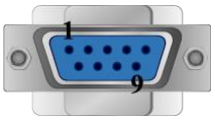
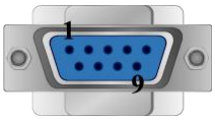
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDD | 0 ~ 1023 | Input Switch |
| B | Y | DDDD | 0 ~ 1023 | Output Switch |
| B | M | DDDDD | 0 ~ 12287 | Internal Relay |
| B | T | DDDD | 0 ~ 1023 | Timer (Output Coil State) |
| B | C | DDD | 0 ~ 255 | Timer (Output Coil State) |
| B | SM | DDD | 0 ~ 215 | System Status Bit |
| B | S | DDDD | 0 ~ 2047 | Step Bit |
| W | CR | DD | 0 ~ 79 | Special Module Parameter Register |
| W | AI | DDD | 0 ~ 255 | Analog Input Register |
| W | AQ | DDD | 0 ~ 255 | Analog Output Register |
| W | V | DDDDD | 0 ~ 14847 | Data Register |
| W | TCV | DDDD | 0 ~ 1023 | Timer (current value register) |
| W | CCV | DDD | 0 ~ 255 | Timer (current value register) |
| W | SV | DDD | 0 ~ 154 | System Register |

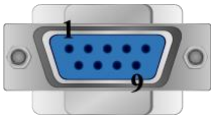
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

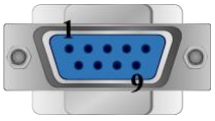
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 4P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 1 RX |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

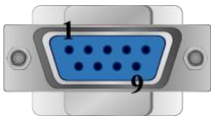
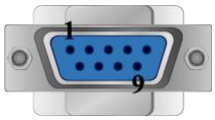
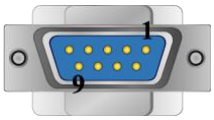
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 4P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 1 RX |
| 5 GND | | | 3 GND |
|  | | |  |

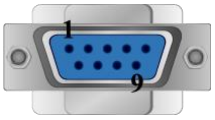
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 4P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 1 RX |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

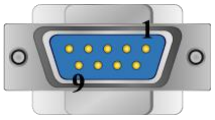
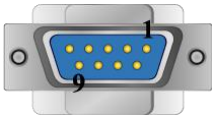
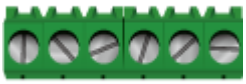
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 4P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 1 RX |
| 5 GND | 5 GND | 5 GND | 3 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

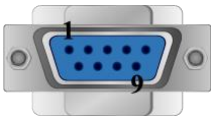
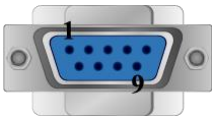
| COM1 RS232 9P D-Sub Female | | | RS232 4P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 1 RX |
| 5 GND | | | 3 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

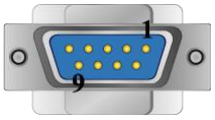
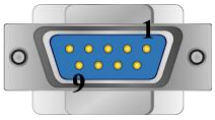
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | B- Data+ |
| 2 RX+ | 9 Data+ | | A+ Data- |
| 5 GND | 5 GND | | |
|  |  | |  |

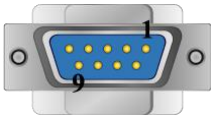
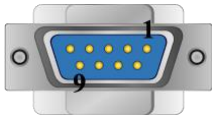
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | B- Data+ |
| 6 RX+ | 1 Data+ | | A+ Data- |
| 5 GND | 5 GND | | |
|  |  | |  |

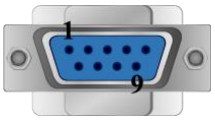
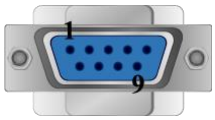
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | B- Data+ |
| 2 RX+ | 8 Data+ | | A+ Data- |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | B- Data+ |
| 2 RX+ | 9 Data+ | | A+ Data- |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | B- Data+ |
| 2 RX+ | 8 Data+ | | A+ Data- |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/2/2012 | Driver released. |

# Hangzhou Maiou MO-TECH

Support Series: LS GLOFA series GM3, GM4, GM6, GM7 CPU Port.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Hangzhou Maiou MO-TECH | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

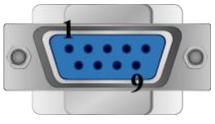
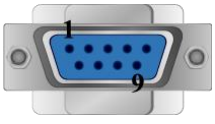
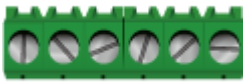
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MWX | DDDdd | 0 ~ 25515 | B |
| B | MWX_NO_RPS | DDDdd | 0 ~ 25515 | B |
| W | MW | DDD | 0 ~ 255 | W |
| W | MW_NO_RPS | DDD | 0 ~ 255 | W |

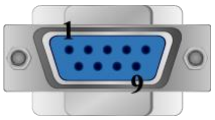
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

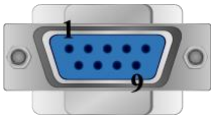
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 Terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TD |
| 3 TX | 7 TX | | RD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

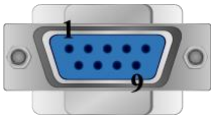
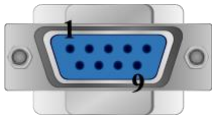
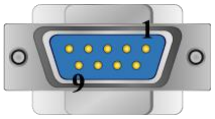
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 2 RX | | | TD |
| 3 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

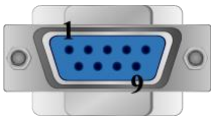
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 2 RX | | | TD |
| 3 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 Terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TD |
| 3 TX | 4 TX | 7 TX | RD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 9 RX | | | TD |
| 6 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/27/2010 | |

# Hanyoung Controller

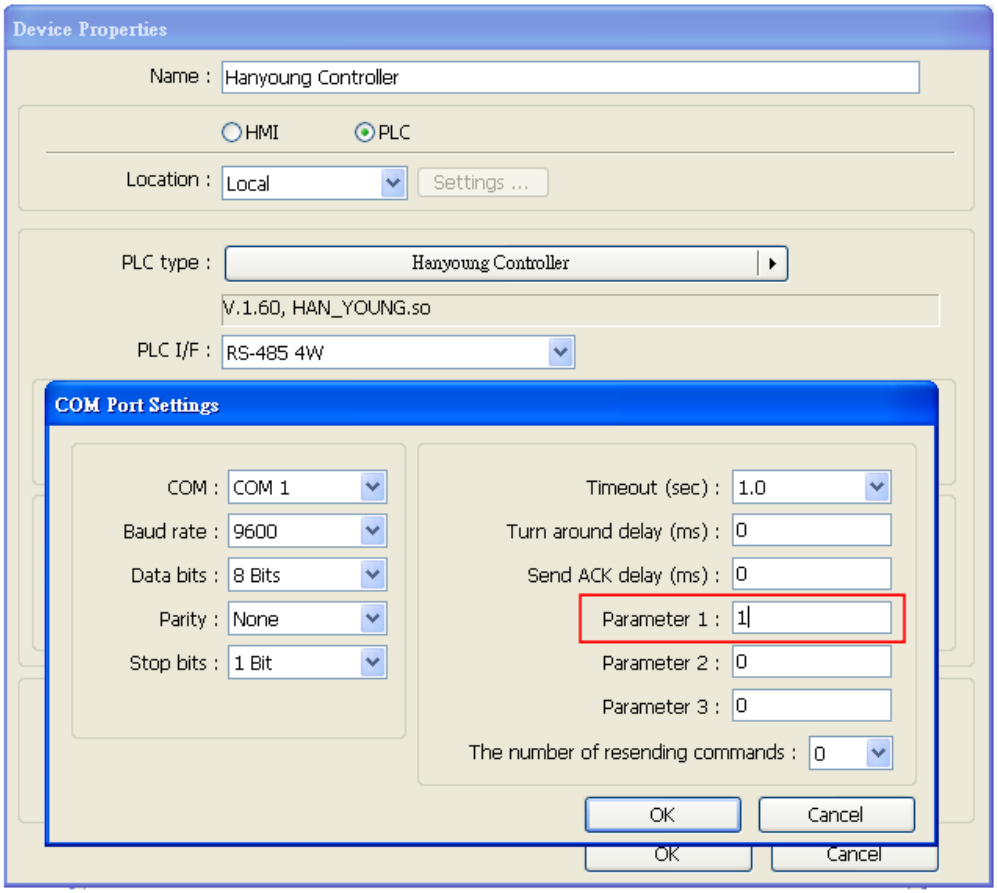
Supported Series: Temperature Controller.

Website: http://hynux.com/kor/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Hanyoung Controller | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | 7 or 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 1 | 0-255 | |

*In System Parameter Settings / Device Settings / COM Settings, set Parameter 1 to “1” to support Check Sum Mode.



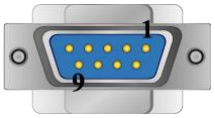
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDD | 1 ~ 9999 | |
| W | D | DDDD | 1 ~ 9999 | |

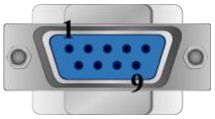
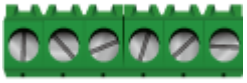
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

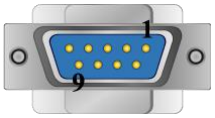
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | Han Young RS422 terminal |
|---|---|---|---|
| 1 RX- | | | 32 TX- |
| 2 RX+ | | | 31 TX+ |
| 3 TX- | | | 34 RX- |
| 4 TX+ | | | 33 RX+ |
| 5 GND | | | |
|  | | |  |

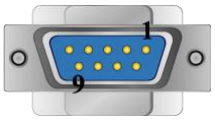
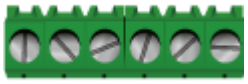
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | Han Young RS422 terminal |
|---|---|---|---|
| 7 RX- | | | 32 TX- |
| 6 RX+ | | | 31 TX+ |
| 9 TX- | | | 34 RX- |
| 8 TX+ | | | 33 RX+ |
| 5 GND | | | |
|  | | |  |

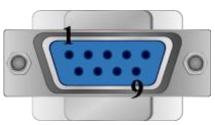
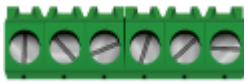
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | Han Young RS422 terminal |
|---|---|---|---|
| 1 RX- | | | 32 TX- |
| 2 RX+ | | | 31 TX+ |
| 3 TX- | | | 34 RX- |
| 4 TX+ | | | 33 RX+ |
| 5 GND | | | |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | Han Young RS422 terminal |
|---|---|---|---|
| 1 RX- | | | 32 TX- |
| 2 RX+ | | | 31 TX+ |
| 3 TX- | | | 34 RX- |
| 4 TX+ | | | 33 RX+ |
| 5 GND | | | |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | Han Young RS422 terminal |
|---|---|---|---|
| 1 RX- | | | 32 TX- |
| 2 RX+ | | | 31 TX+ |
| 3 TX- | | | 34 RX- |
| 4 TX+ | | | 33 RX+ |
| 5 GND | | | |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.60 | Jun/14/2010 | |

# HAWE PLVC

Supported Series: HAWE PLVC

Website: http://www.hawe.de/de/home/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | HAWE PLVC | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

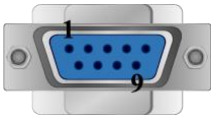
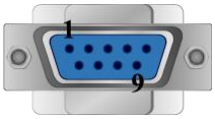
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ ffff | Input Bits |
| B | Y | HHHH | 0 ~ ffff | Output Bits |
| B | M | DDDDD | 0 ~ 65535 | Internal Relays |
| B | T | DDDDD | 0 ~ 65535 | |
| B | C | DDDDD | 0 ~ 65535 | |
| B | B | HHHH | 0 ~ ffff | |
| B | F | DDDDD | 0 ~ 65535 | |
| W | TV | DDDDD | 0 ~ 65535 | Timer Preset Value |
| W | CV | DDDDD | 0 ~ 65535 | Counter Preset Value |
| W | D | DDDDD | 0 ~ 65535 | Data Registers |
| W | W | HHHH | 0 ~ ffff | |
| W | R | DDDDD | 0 ~ 65535 | |

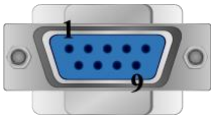
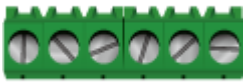
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

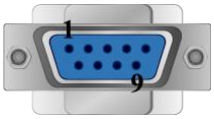
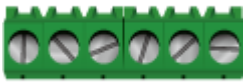
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TXD |
| 3 TX | 7 TX | | RXD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

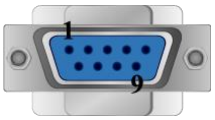
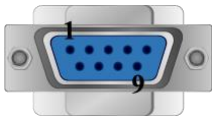
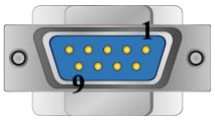
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

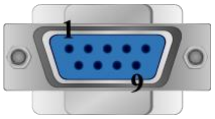
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD |
| 3 TX | 4 TX | 7 TX | RXD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 terminal |
|---|---|---|---|
| 9 RX | | | TXD |
| 6 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Sep/17/2009 | |

# HeFei ShenNong Motor

Website: http://www.ahsngd.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | HeFei ShenNong Motor | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

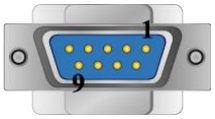
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | ADDR00 | H | 1 ~ D | |
| W | ADDR01 | H | 1 ~ D | |
| W | ADDR02 | H | 1 ~ D | |
| W | ADDR03 | H | 1 ~ D | |
| W | ADDR04 | H | 1 ~ D | |
| W | ADDR05 | H | 1 ~ D | |
| W | ADDR06 | H | 1 ~ D | |
| W | ADDR07 | H | 1 ~ D | |
| W | ADDR08 | H | 1 ~ D | |
| W | ADDR09 | H | 1 ~ D | |
| W | ADDR0a | H | 1 ~ D | |
| W | ADDR0b | H | 1 ~ D | |
| W | ADDR0c | H | 1 ~ D | |
| W | ADDR0d | H | 1 ~ D | |
| W | ADDR0e | H | 1 ~ D | |
| W | ADDR0f | H | 1 ~ D | |
| W | ADDR3f | H | 0 ~ b | |
| W | DATAn | D | 0 ~ 5 | |

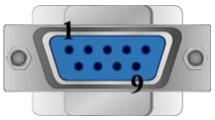
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

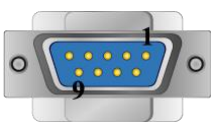
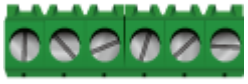
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

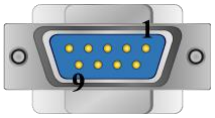
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS422 terminal |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

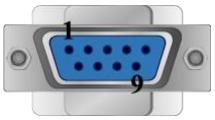
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/17/2014 | |

# Heng Yuan EU series

Supported Series: EU sereis, EU5 series, EU10 series.
Website: http://www.tjhysensor.cn/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Heng Yuan EU series | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 2 | 1-31 | |

| | | |
|---|---|---|
| Online simulator | YES | |
| Extend address mode | YES | |

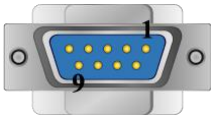
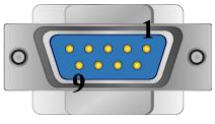
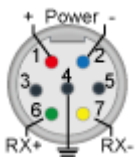
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Parameter | DDDD | 0 ~ 2000 | |

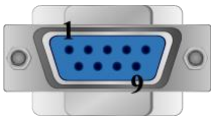
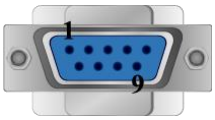
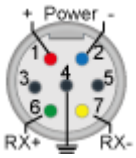
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

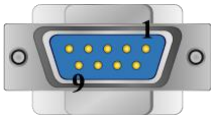
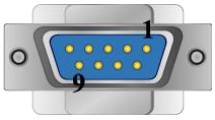
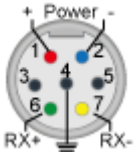
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Heng Yuan Sensor RS485 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 7 RX- (Yellow) |
| 2 RX+ | 9 Data+ | | 6 RX+ (Green) |
| 5 GND | 5 GND | | 4 GND (Black) |
|  |  | |  |

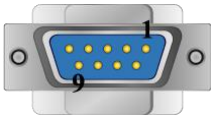
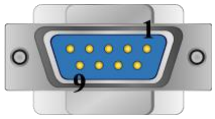
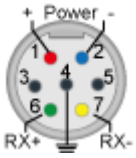
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Heng Yuan Sensor RS485 |
|---|---|---|---|
| 7 RX- | 4 Data- | | 7 RX- (Yellow) |
| 6 RX+ | 1 Data+ | | 6 RX+ (Green) |
| 5 GND | 5 GND | | 4 GND (Black) |
|  |  | |   |

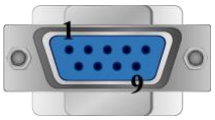
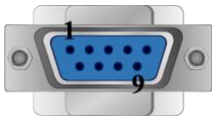
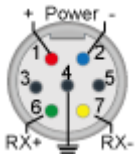
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Heng Yuan Sensor RS485 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 7 RX- (Yellow) |
| 2 RX+ | 8 Data+ | | 6 RX+ (Green) |
| 5 GND | 9 GND | | 4 GND (Black) |
|  |  | |   |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Heng Yuan Sensor RS485 |
|---|---|---|---|
| 1 RX- | 6 Data- | | 7 RX- (Yellow) |
| 2 RX+ | 9 Data+ | | 6 RX+ (Green) |
| 5 GND | 5 GND | | 4 GND (Black) |
|  |  | |   |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Heng Yuan Sensor RS485 |
|---|---|---|---|
| 1 RX- | 7 Data- | | 7 RX- (Yellow) |
| 2 RX+ | 8 Data+ | | 6 RX+ (Green) |
| 5 GND | 5 GND | | 4 GND (Black) |
|   |   | |   |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/30/2008 | Driver released. |

# Hitachi EH-SIO

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Hitachi EH-SIO | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 19200 | 9600, 19200, 38400 | |
| Data bits | 7 | 7 | |
| Parity | Even | Even | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | 19200, E, 7, 1 (default) |

## Device Address:

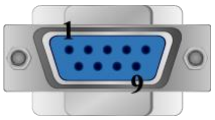
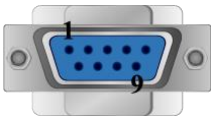
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHHh | 0 ~ fffff | External input-bit (X) |
| B | Y | HHHHh | 0 ~ fffff | External output-bit (Y) |
| B | M | HHHHh | 0 ~ fffff | Data area-bit (M) |
| B | T | HHHHh | 0 ~ fffff | Timer (T) |
| B | R | HHHHh | 0 ~ fffff | Internal output (R) |
| B | L | HHHHh | 0 ~ fffff | Link area-bit (L) |
| W | TC | HH | 0 ~ ff | Timer/Counter current value |
| W | WM | HHHH | 0 ~ 270f | Data area-word (M) |
| W | WX | HHHH | 0 ~ 270f | External input-word (X) |
| W | WY | HHHH | 0 ~ 270f | External output-word (Y) |
| W | WR | HHHH | 0 ~ 270f | Internal output-word (R) |
| W | WL | HHHH | 0 ~ 270f | Link area-word (L) |

## Wiring Diagram:

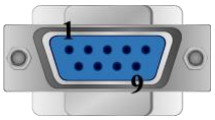
**The following is the view from the soldering point of a cable.**

EH-SIO port1/port 2 RS232

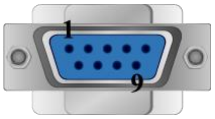
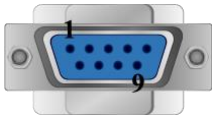
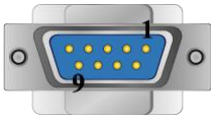
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 5 SD | |
| 3 TX | 7 TX | | 6 RD | |
| 5 GND | 5 GND | | 1 SG | |
| 8 CTS | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  |  | |  | |

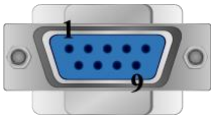
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 2 RX | | | 5 SD | |
| 3 TX | | | 6 RD | |
| 5 GND | | | 1 SG | |
| 8 CTS | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 5 SD | |
| 3 TX | 4 TX | 7 TX | 6 RD | |
| 5 GND | 5 GND | 5 GND | 1 SG | |
| 8 CTS | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  |  |  |  | |

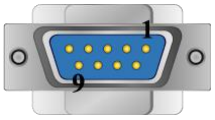
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 9 RX | | | 5 SD | |
| 6 TX | | | 6 RD | |
| 5 GND | | | 1 SG | |
| | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  | | |  | |

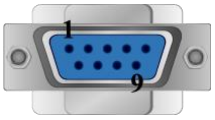
**The following is the view from the soldering point of a cable.**

EH-SIO port2 RS485 4W

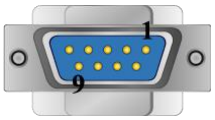
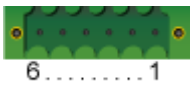
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | Hitachi EH-SIO |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 6 SG |
|  | | |  |

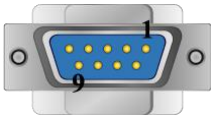
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | Hitachi EH-SIO |
|---|---|---|---|
| 7 RX- | | | 2 TX- |
| 6 RX+ | | | 1 TX+ |
| 9 TX- | | | 4 RX- |
| 8 TX+ | | | 3 RX+ |
| 5 GND | | | 6 SG |
|  | | |  |

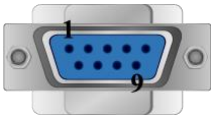
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | Hitachi EH-SIO |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 6 SG |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | Hitachi EH-SIO |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 6 SG |
|  | | |  |

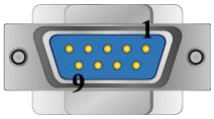
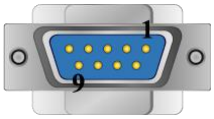
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | Hitachi EH-SIO |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 6 SG |
|  | | |  |

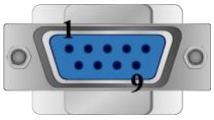
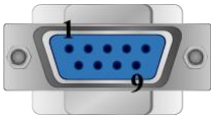
**The following is the view from the soldering point of a cable.**

EH-SIO port2 RS485 2W

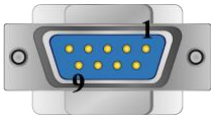
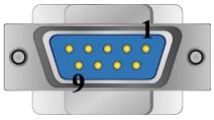
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Hitachi EH-SIO | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 2 TX- | short |
| | | | 4 RX- | |
| 2 RX+ | 9 Data+ | | 1 TX+ | short |
| | | | 3 RX+ | |
| 5 GND | 5 GND | | 6 SG | |
|  |  | |  | |

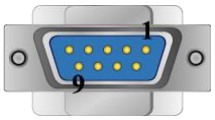
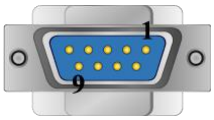
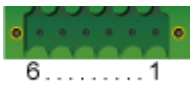
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Hitachi EH-SIO | |
|---|---|---|---|---|
| 7 RX- | 4 Data- | | 2 TX- | short |
| | | | 4 RX- | |
| 6 RX+ | 1 Data+ | | 1 TX+ | short |
| | | | 3 RX+ | |
| 5 GND | 5 GND | | 6 SG | |
|  |  | |  | |

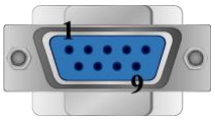
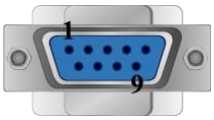
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Hitachi EH-SIO | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 2 TX- | short |
| | | | 4 RX- | |
| 2 RX+ | 8 Data+ | | 1 TX+ | short |
| | | | 3 RX+ | |
| 5 GND | 9 GND | | 6 SG | |
|  |  | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Hitachi EH-SIO | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 2 TX- | short |
| | | | 4 RX- | |
| 2 RX+ | 9 Data+ | | 1 TX+ | short |
| | | | 3 RX+ | |
| 5 GND | 5 GND | | 6 SG | |
|  |  | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Hitachi EH-SIO | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 2 TX- | short |
| | | | 4 RX- | |
| 2 RX+ | 8 Data+ | | 1 TX+ | short |
| | | | 3 RX+ | |
| 5 GND | 5 GND | | 6 SG | |
|  |  | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/25/2010 | Driver released. |

# Hitachi EHV Series (Ethernet)

Website: http://www.hitachi-ies.co.jp/english/products/plc/index.htm

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Hitachi EHV Series (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 3004 | 3004~3007 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHHh | 0 ~ fffff | External input-bit (X) |
| B | Y | HHHHh | 0 ~ fffff | External output-bit (Y) |
| B | M | HHHHh | 0 ~ fffff | Data area-bit (M) |
| B | T | DDDDD | 0 ~ 65535 | Timer (T) |
| B | R | HHHHh | 0 ~ fffff | Internal output (R) |
| B | L | HHHHh | 0 ~ fffff | Link area-bit (L) |
| W | TC | DDDD | 0 ~ 2559 | Timer/Counter current value |
| W | WM | HHHH | 0 ~ 7fff | Data area-word (M) |
| W | WX | HHHH | 0 ~ ffff | External Input-word (X) |
| W | WY | HHHH | 0 ~ ffff | External output-word (Y) |
| W | WR | HHHH | 0 ~ ffff | Internal output-word (R) |
| W | WL | HHHH | 0 ~ 73ff | Link area-word (L) |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jan/12/2010 | Driver released |

# Hitachi H/EH/EHV Series

Supported Series: Hitachi H series, EH-150, Micro-EH, H20, H40, H64, H200, H250, H252, H300, H302, H700, H702, H1000, H1002, H2000, H4010.

Website: http://www.hitachi-ies.co.jp/english/products/plc/index.htm

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Hitachi H/EH/EHV Series | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 19200 | 9600, 19200, 38400 | |
| Data bits | 7 | 7 | |
| Parity | Even | Even | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | 0-255 | Does not apply to this protocol. |

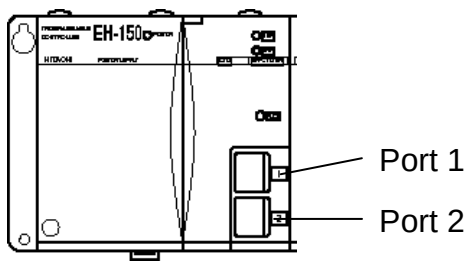
| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | NO |
| Extend address mode | NO | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHHh | 0 ~ fffff | External input-bit (X) |
| B | Y | HHHHh | 0 ~ fffff | External output-bit (Y) |
| B | M | HHHHh | 0 ~ fffff | Data area-bit (M) |
| B | T | HHHHh | 0 ~ fffff | Timer (T) |
| B | R | HHHHh | 0 ~ fffff | Internal output (R) |
| B | L | HHHHh | 0 ~ fffff | Link area-bit (L) |
| W | TC | HH | 0 ~ ff | Timer/Counter current value |
| W | WM | HHHH | 0 ~ 270f | Data area-word (M) |
| W | WX | HHHH | 0 ~ 270f | External input-word (X) |
| W | WY | HHHH | 0 ~ 270f | External output-word (Y) |
| W | WR | HHHH | 0 ~ c3ff | Internal output-word (R) |
| W | WL | HHHH | 0 ~ 270f | Link area-word (L) |

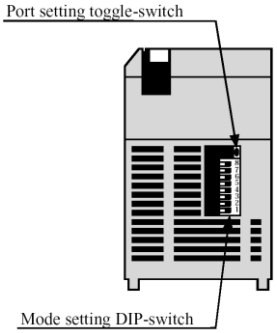
## Wiring Diagram:

WARNING: If your communication cable is not wired exactly as shown in our cable assembly instructions, damage to the HMI or loss of communications can be caused.

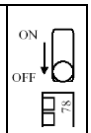
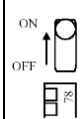



| CPU TYPE | Port 1 | Port 2 |
|---|---|---|
| EH-150/CPU 104A | RS-232 | RS-232 |
| EH-150/CPU 208A | RS-232 | RS-232 |
| EH-150/CPU 308A | RS-232/RS-485 | RS-232 |
| EH-150/CPU 316A | RS-232/RS-485 | RS-232 |
| EH-150/CPU 448A | RS-232/RS-485 | RS-232 |

| Switch Number | | | | |
|---|---|---|---|---|
| 1 | OFF | Normal mode | | |
| 2 | OFF | TRNS0 operation | | |
| 3, 4 | 3 | 4 | Port1 transmission speed | |
| | ON | ON | 4,800 bps | Doesn't support |
| | OFF | ON | 9,600 bps | |
| | ON | OFF | 19,200 bps | Default |
| | OFF | OFF | 38,400 bps | |
| 5 | ON | Dedicated port | | |
| 6 | 6 | PHL | Port2 transmission speed | |
| | ON | Low | 9,600 bps | |
| | ON | High | 38,400 bps | |
| | OFF | Low | 4,800 bps | Doesn't support |
| | OFF | High | 19,200 bps | Default |
| 7 | OFF | (System mode) | | Do not turn on. |
| 8 | OFF | (System mode) | | Do not turn on. |



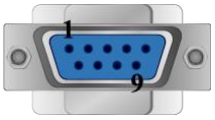
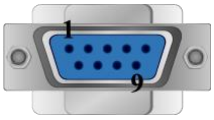

Toggle-Switch

| | |
|---|---|
| PHL Low |  |
| PHL High |  |

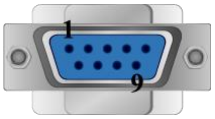
**The following is the view from the soldering point of a cable.**

EH-150 port1/port 2 RS232 / MICRO-EH port1 RS232

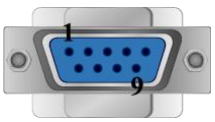
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 5 SD | |
| 3 TX | 7 TX | | 6 RD | |
| 5 GND | 5 GND | | 1 SG | |
| 8 CTS | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  |  | |  | |

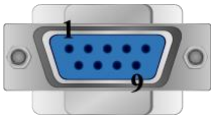
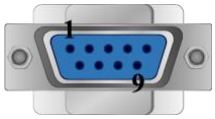
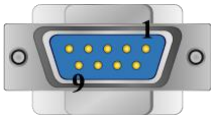
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 2 RX | | | 5 SD | |
| 3 TX | | | 6 RD | |
| 5 GND | | | 1 SG | |
| | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  | | |  | |

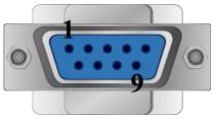
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 2 RX | | | 5 SD | |
| 3 TX | | | 6 RD | |
| 5 GND | | | 1 SG | |
| 8 CTS | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 5 SD | |
| 3 TX | 4 TX | 7 TX | 6 RD | |
| 5 GND | 5 GND | 5 GND | 1 SG | |
| 8 CTS | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  |  |  |  | |

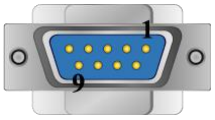
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male | |
|---|---|---|---|---|
| 9 RX | | | 5 SD | |
| 6 TX | | | 6 RD | |
| 5 GND | | | 1 SG | |
| | | | 8 RS | |
| | | | 4 PHL | short |
| | | | 7 DR | |
|  | | |  | |

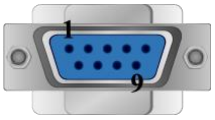
**The following is the view from the soldering point of a cable.**

EH-150 port1 RS485 4W

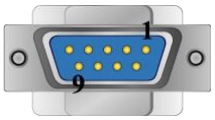
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 5 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 7 RX+ |
| 5 GND | | | 1 SG |
|  | | |  |

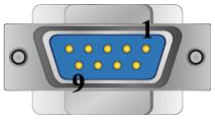
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 7 RX- | | | 5 TX- |
| 6 RX+ | | | 4 TX+ |
| 9 TX- | | | 6 RX- |
| 8 TX+ | | | 7 RX+ |
| 5 GND | | | 1 SG |
|  | | |  |

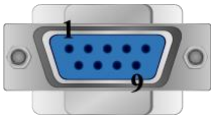
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 5 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 7 RX+ |
| 5 GND | | | 1 SG |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 5 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 7 RX+ |
| 5 GND | | | 1 SG |
|  | | |  |

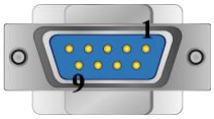
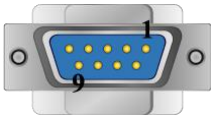
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 5 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 7 RX+ |
| 5 GND | | | 1 SG |
|  | | |  |

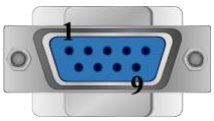
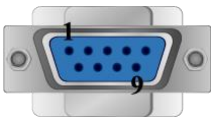
**The following is the view from the soldering point of a cable.**

EH-150 port1 RS485 2W

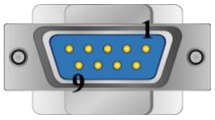
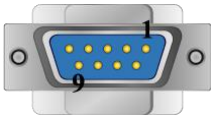
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 Male | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 4 TX+ | short |
| | | | 7 RX+ | |
| 2 RX+ | 9 Data+ | | 5 TX- | short |
| | | | 6 RX- | |
| 5 GND | 5 GND | | 1 SG | |
|  |  | |  | |

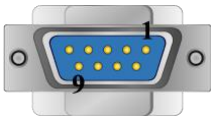
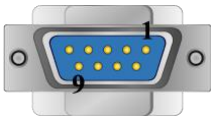
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 Male | |
|---|---|---|---|---|
| 7 RX- | 4 Data- | | 4 TX+ | short |
| | | | 7 RX+ | |
| 6 RX+ | 1 Data+ | | 5 TX- | short |
| | | | 6 RX- | |
| 5 GND | 5 GND | | 1 SG | |
|  |  | |  | |

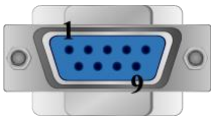
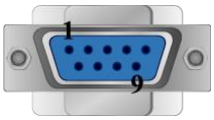
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 Male | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 4 TX+ | short |
| | | | 7 RX+ | |
| 2 RX+ | 8 Data+ | | 5 TX- | short |
| | | | 6 RX- | |
| 5 GND | 9 GND | | 1 SG | |
|  |  | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 Male | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 4 TX+ | short |
| | | | 7 RX+ | |
| 2 RX+ | 9 Data+ | | 5 TX- | short |
| | | | 6 RX- | |
| 5 GND | 5 GND | | 1 SG | |
|  |  | |  | |

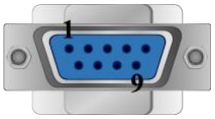
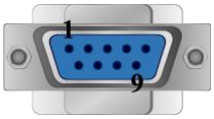
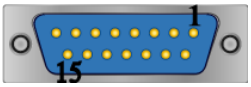
MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 Male | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 4 TX+ | short |
| | | | 7 RX+ | |
| 2 RX+ | 8 Data+ | | 5 TX- | short |
| | | | 6 RX- | |
| 5 GND | 5 GND | | 1 SG | |
|  |  | |  | |

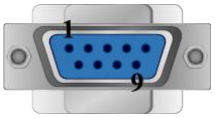
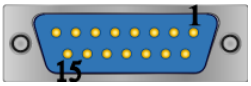
**The following is the view from the soldering point of a cable.**

H Series CPU Port RS232

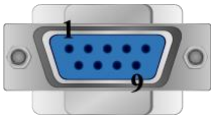
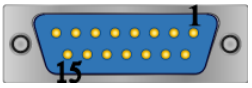
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 9 SG | short |
| | | | 10 SG | |
| 8 CTS | | | 4 RTS | |
| | | | 5 CTS | short |
| | | | 7 DSR | |
| | | | 8 PHL | |
| | | | 14 PV12 | |
|  |  | |  | |

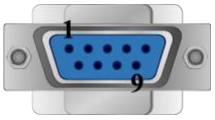
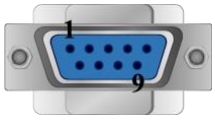
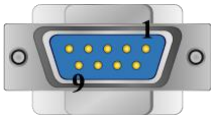
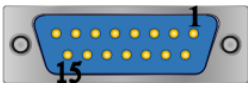
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 9 SG | short |
| | | | 10 SG | |
| | | | 4 RTS | |
| | | | 5 CTS | short |
| | | | 7 DSR | |
| | | | 8 PHL | |
| | | | 14 PV12 | |
|  | | |  | |

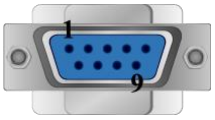
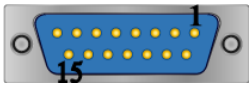
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 9 SG | short |
| | | | 10 SG | |
| 8 CTS | | | 4 RTS | |
| | | | 5 CTS | short |
| | | | 7 DSR | |
| | | | 8 PHL | |
| | | | 14 PV12 | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 9 SG | short |
| | | | 10 SG | |
| 8 CTS | | | 4 RTS | |
| | | | 5 CTS | short |
| | | | 7 DSR | |
| | | | 8 PHL | |
| | | | 14 PV12 | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

<table>
<tr><td>COM1 RS232 9P D-Sub Female</td><td></td><td></td><td colspan="2">RS232 15P D-Sub Male</td></tr>
<tr><td>9 RX</td><td></td><td></td><td colspan="2">2 TXD</td></tr>
<tr><td>6 TX</td><td></td><td></td><td colspan="2">3 RXD</td></tr>
<tr><td rowspan="2">5 GND</td><td rowspan="2"></td><td rowspan="2"></td><td>9 SG</td><td rowspan="2">short</td></tr>
<tr><td rowspan="5">10 SG</td></tr>
<tr><td colspan="2">4 RTS</td></tr>
<tr><td rowspan="4" colspan="2"></td><td>5 CTS</td><td rowspan="4">short</td></tr>
<tr><td>7 DSR</td></tr>
<tr><td>8 PHL</td></tr>
<tr><td>14 PV12</td></tr>
<tr><td>
</td><td></td><td></td><td colspan="2">
</td></tr>
</table>

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Oct/22/2009 | Fixed HMI occupies the control right of CPU module. |
| V1.30 | Mar/22/2010 | |

# HollySys LE/LM PLC

Supported Series: HollySys LE/LM series PLC
Website: http://www.hollysys.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | HollySys LE/LM PLC | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 38400 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

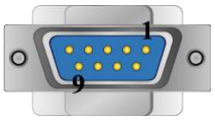
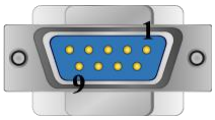
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IX | DDDDo | 0 ~ 81907 | |
| B | MX | DDDDo | 0 ~ 81907 | |
| B | QX | DDDDo | 0 ~ 81907 | |
| W | IW | DDDD | 0 ~ 8190 | |
| W | QW | DDDD | 0 ~ 8190 | |
| W | MW | DDDD | 0 ~ 8190 | |
| W | MD | DDDD | 0 ~ 8190 | |
| W | MR | DDDD | 0 ~ 8190 | |

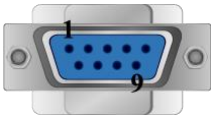
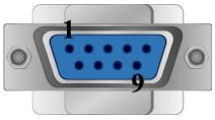
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

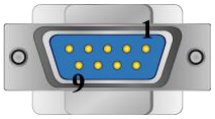
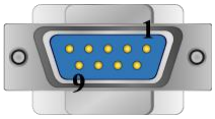
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 6 D- |
| 2 RX+ | 9 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

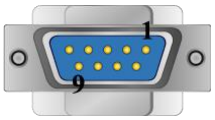
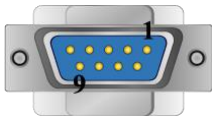
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | 4 Data- | | 6 D- |
| 6 RX+ | 1 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

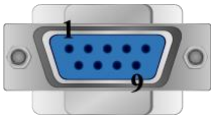
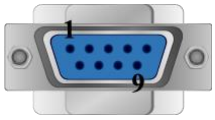
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 6 D- |
| 2 RX+ | 8 Data+ | | 5 D+ |
| 5 GND | 9 GND | | 7 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 6 D- |
| 2 RX+ | 9 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 6 D- |
| 2 RX+ | 8 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/17/2014 | Driver released. |

# HUST H4C

Supported Series: HUST CNC Controller H4C, H6C Series.
Website: http://www.hust.com.tw/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | HUST H4C | | |
| PLC I/F | RS-232 | | CPU port |
| Baud rate | 38400 | 9600,19200,38400,57600 | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 2 | | |
| Turn around delay | 5 | | |
| PLC sta. no. | 1 | | |

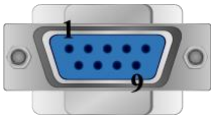
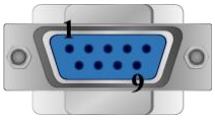
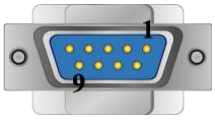
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDD | 0 ~ 255 | Mapping to VM 10800 ~ 10807 (read only) |
| B | O | DDD | 0 ~ 255 | Mapping to VM 10808 ~ 10815 (read only) |
| B | C | DDD | 0 ~ 255 | Mapping to VM 10816 ~ 10823 (read only) |
| B | S | DDD | 0 ~ 255 | Mapping to VM 10824 ~ 10831 (read only) |
| B | A | DDD | 0 ~ 1023 | Mapping to VM 10832 ~ 10863 (read only) |
| B | VM_bit | DDDDDdd | 0 ~ 9999931 | Bit address (dd): 00 ~ 31 |
| DW | VM | DDDDD | 0 ~ 99999 | Please refer to the controller specification for register range. |
| DW | R | DDD | 0 ~ 255 | Mapping to VM 10000 ~ 10255 (read only) |
| DW | Cn | DDD | 0 ~ 255 | Mapping to VM 10256 ~ 10511 (read only) |
| DW | Tm | DDD | 0 ~ 255 | Mapping to VM 10512 ~ 10767 (read only) |

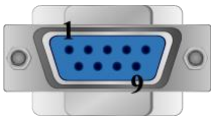
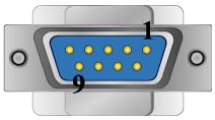
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

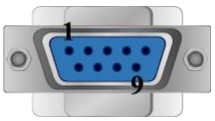
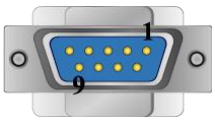
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

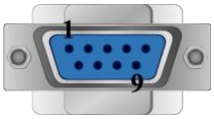
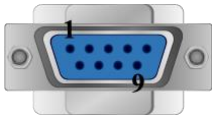
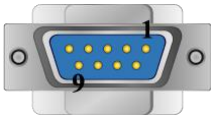
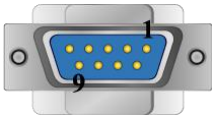
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

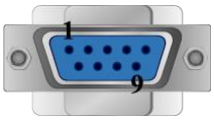
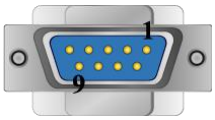
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TXD | |
| 6 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/09/2013 | Driver released. |
| V1.20 | Mar/17/2014 | 1. Improves communication speed<br>2. Communication protection |

# HUST H4X

Supported Series: HUST CNC Controller H4 Series.
Website: http://www.hust.com.tw/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | HUST H4X | | |
| PLC I/F | RS-232 | | CPU port |
| Baud rate | 38400 | 9600,19200,38400,57600 | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 2 | | |
| Turn around delay | 5 | | |
| PLC sta. no. | 1 | | |

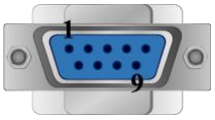
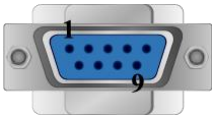
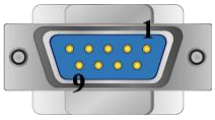
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDD | 0 ~ 255 | Mapping to VM 10800 ~ 10807 (read only) |
| B | O | DDD | 0 ~ 255 | Mapping to VM 10808 ~ 10815 (read only) |
| B | C | DDD | 0 ~ 255 | Mapping to VM 10816 ~ 10823 (read only) |
| B | S | DDD | 0 ~ 255 | Mapping to VM 10824 ~ 10831 (read only) |
| B | A | DDD | 0 ~ 255 | Mapping to VM 10832 ~ 10863 (read only) |
| B | VM_bit | DDDDDdd | 100 ~ 9999931 | Bit address (dd): 00 ~ 31 |
| DW | VM | DDDDD | 1 ~ 99999 | Please refer to the controller specification for register range. |
| DW | R | DDD | 0 ~ 255 | Mapping to VM 10000 ~ 10255 (read only) |
| DW | Cn | DDD | 0 ~ 255 | Mapping to VM 10256 ~ 10511 (read only) |
| DW | Tm | DDD | 0 ~ 255 | Mapping to VM 10512 ~ 10767 (read only) |

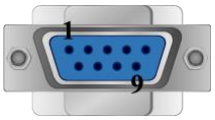
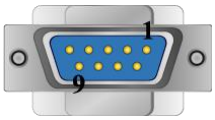
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

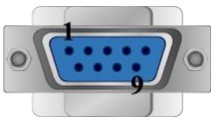
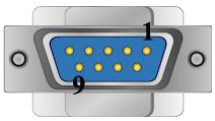
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

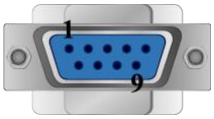
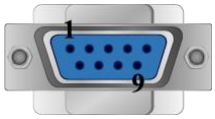
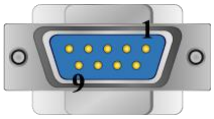
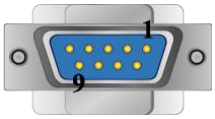
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

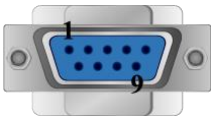
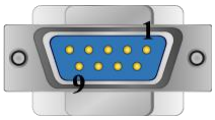
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | HUST CNC Controller RS232 D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TXD | |
| 6 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.01 | Sep/29/2009 | |

# IAI PCON-C-42PI

Supported Series: PCON Controller for RCP2 Series.
Website: http://www.intelligentactuator.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | IAI PCON-C-42PI | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | 9600 ~ 115200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 1 ~ 16 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SFTY | D | 1 | |
| B | SON | D | 1 | |
| B | ALRS | D | 1 | |
| B | BKRL | D | 1 | |
| B | STP | D | 1 | |
| B | HOME | D | 1 | |
| B | CSTR | D | 1 | |
| B | JISL | D | 1 | |
| B | MOD | D | 1 | |
| B | TEAC | D | 1 | |
| B | JOG+ | D | 1 | |
| B | JOG- | D | 1 | |
| B | ST0 | D | 1 | |
| B | ST1 | D | 1 | |
| B | ST2 | D | 1 | |
| B | ST3 | D | 1 | |
| B | ST4 | D | 1 | |
| B | ST5 | D | 1 | |
| B | ST6 | D | 1 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | ST7 | D | 1 | |
| B | PMSL | D | 1 | |
| B | STOP | D | 1 | |
| B | CLBR | D | 1 | |
| B | DSS1_Bit | Ddd | 15 | EMGS |
| B | DSS1_Bit | Ddd | 14 | SFTY |
| B | DSS1_Bit | Ddd | 13 | PWR |
| B | DSS1_Bit | Ddd | 12 | SV |
| B | DSS1_Bit | Ddd | 11 | PSFL |
| B | DSS1_Bit | Ddd | 10 | ALMH |
| B | DSS1_Bit | Ddd | 9 | ALML |
| B | DSS1_Bit | Ddd | 8 | ABER |
| B | DSS1_Bit | Ddd | 7 | BKRL |
| B | DSS1_Bit | Ddd | 5 | STP |
| B | DSS1_Bit | Ddd | 4 | HEND |
| B | DSS1_Bit | Ddd | 3 | PEND |
| B | DSS1_Bit | Ddd | 2 | CEND |
| B | DSS1_Bit | Ddd | 1 | CLBS |
| B | DSS2_Bit | Ddd | 15 | ENBS |
| B | DSS2_Bit | Ddd | 13 | LOAD |
| B | DSS2_Bit | Ddd | 12 | TRQS |
| B | DSS2_Bit | Ddd | 11 | MODS |
| B | DSS2_Bit | Ddd | 10 | TEAC |
| B | DSS2_Bit | Ddd | 9 | JOG+ |
| B | DSS2_Bit | Ddd | 8 | JOG- |
| B | DSS2_Bit | Ddd | 7 | PE7 |
| B | DSS2_Bit | Ddd | 6 | PE6 |
| B | DSS2_Bit | Ddd | 5 | PE5 |
| B | DSS2_Bit | Ddd | 4 | PE4 |
| B | DSS2_Bit | Ddd | 3 | PE3 |
| B | DSS2_Bit | Ddd | 2 | PE2 |
| B | DSS2_Bit | Ddd | 1 | PE1 |
| B | DSS2_Bit | Ddd | 0 | PE0 |
| B | DSSE_Bit | Ddd | 15 | EMGP |
| B | DSSE_Bit | Ddd | 14 | MPUV |
| B | DSSE_Bit | Ddd | 13 | RMDS |
| B | DSSE_Bit | Ddd | 11 | GHMS |

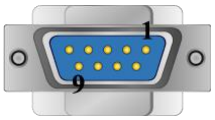
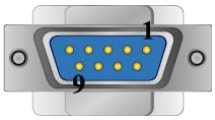
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | DSSE_Bit | Ddd | 10 | PUSH |
| B | DSSE_Bit | Ddd | 9 | PSNS |
| B | DSSE_Bit | Ddd | 8 | PMSS |
| B | DSSE_Bit | Ddd | 5 | MOVE |
| B | POSS_Bit | Ddd | 9 | PM512 |
| B | POSS_Bit | Ddd | 8 | PM256 |
| B | POSS_Bit | Ddd | 7 | PM128 |
| B | POSS_Bit | Ddd | 6 | PM64 |
| B | POSS_Bit | Ddd | 5 | PM32 |
| B | POSS_Bit | Ddd | 4 | PM16 |
| B | POSS_Bit | Ddd | 3 | PM8 |
| B | POSS_Bit | Ddd | 2 | PM4 |
| B | POSS_Bit | Ddd | 1 | PM2 |
| B | POSS_Bit | Ddd | 0 | PM1 |
| B | ZONS_Bit | Ddd | 14 | LS2 |
| B | ZONS_Bit | Ddd | 13 | LS1 |
| B | ZONS_Bit | Ddd | 12 | LS0 |
| B | ZONS_Bit | Ddd | 8 | ZP |
| B | ZONS_Bit | Ddd | 1 | Z2 |
| B | ZONS_Bit | Ddd | 0 | Z1 |
| B | DIPM_Bit | Ddd | 0 ~ 15 | IN0 ~ IN15 |
| B | DOPM_Bit | Ddd | 0 ~ 15 | OUT0 ~ OUT15 |
| B | SIPM_Bit | Ddd | 14 | NP |
| B | SIPM_Bit | Ddd | 12 | PP |
| B | SIPM_Bit | Ddd | 8 | MDSW |
| B | SIPM_Bit | Ddd | 4 | BLCT |
| B | SIPM_Bit | Ddd | 3 | HMCK |
| B | SIPM_Bit | Ddd | 2 | OT |
| B | SIPM_Bit | Ddd | 1 | CREP |
| B | SIPM_Bit | Ddd | 0 | LS |
| B | EMG | D | 1 | |
| B | POSR_Bit | Ddd | 0 ~ 15 | |
| W | PNOW | D | 1 | |
| W | ALMC | D | 1 | |
| W | DIPM | D | 1 | |
| W | DOPM | D | 1 | |
| W | DSS1 | D | 1 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | DSS2 | D | 1 | |
| W | DSSE | D | 1 | |
| W | STAT | D | 1 | |
| W | VNOW | D | 1 | |
| W | CNOW | D | 1 | |
| W | DEVI | D | 1 | |
| W | STIM | D | 1 | |
| W | SIPM | D | 1 | |
| W | ZONS | D | 1 | |
| W | POSS | D | 1 | |
| W | DRG1 | D | 1 | |
| W | DRG2 | D | 1 | |
| W | POSR_NUM | D | 1 | |
| W | PCMD | D | 1 | |
| W | INP | D | 1 | |
| W | VCMD | D | 1 | |
| W | ACMD | D | 1 | |
| W | PPOW | D | 1 | |
| W | CTLF | D | 1 | |
| W | FBFC | D | 1 | |
| W | POSR_MOV | D | 1 | |
| W | PCMD_T | DDD | 0 ~ 768 | |
| W | INP_T | DDD | 0 ~ 768 | |
| W | VCMD_T | DDD | 0 ~ 768 | |
| W | ZNMP_T | DDD | 0 ~ 768 | |
| W | ZNLP_T | DDD | 0 ~ 768 | |
| W | ACMD_T | DDD | 0 ~ 768 | |
| W | DCMD_T | DDD | 0 ~ 768 | |
| W | PPOW_T | DDD | 0 ~ 768 | |
| W | LPOW_T | DDD | 0 ~ 768 | |
| W | CTLF_T | DDD | 0 ~ 768 | |

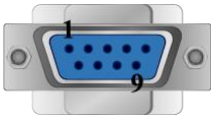
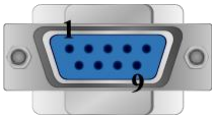
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

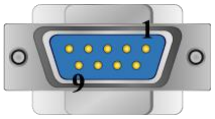
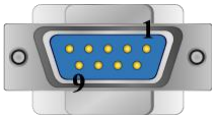
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

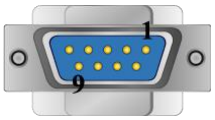
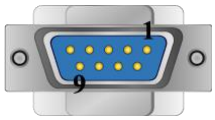
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2 D- |
| 6 RX+ | 1 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

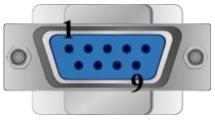
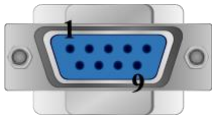
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 9 GND | | 7 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/17/2014 | Driver released. |
| V1.10 | Mar/13/2015 | |

# IAI X-SEL CONTROLLER

Website: http://www.iai-robot.co.jp/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | IAI X-SEL CONTROLLER | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600~19200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Servo_On_Off | H | 1 ~ 8 | Address 1~8 represent the corresponding axis.<br>Write 1 means ON and 0 means OFF. |
| W | Servo_Origin | H | 1 ~ 8 | Address 1~8 represent the corresponding axis.<br>Back to origin. |
| W | CurrentAxisPos | H | 1 ~ 8 | For reading current position. The state of current axis is put in RW axis*100.<br>i.e., for the state of axis 2, 2*100=200, so it is in RW200. |
| W | RunProgram | H | 0 | Data written indicates which program to run. |
| W | EndProgram | H | 0 | Data written indicates which program to stop. |
| W | PointMove | H | 0 ~ 8 | Address 1~8 represent the corresponding axis. The data written indicates which point to reach. Put parameters ACC, DEC, SPEED in axis*100+1, axis*100+2 and axis*100+3 respectively. |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | JoggingMove | H | 0 ~ 8 | Jogging. Address 1~8 represent the corresponding axis. Put parameters ACC, DEC, SPEED and Position in axis*100+11, axis*100+12, axis*100+13 and axis*100+14 respectively. |
| W | AbsoluteMove | H | 0 ~ 8 | Jog to the set absolute coordinate. Address 1~8 represent the corresponding axis. Put parameters ACC, DEC, SPEED and Position in axis*100+21, axis*100+22, axis*100+23 and axis*100+24 respectively. |
| W | PointChange | H | 0 ~ 8 | To change the value of the point. Address 1~8 represent the corresponding axis. Put parameters ACC, DEC, SPEED and Position in axis*100+31, axis*100+32, axis*100+33 and axis*100+34 respectively. |
| W | SoftWareReset | H | 0 | Reset soft ware. |

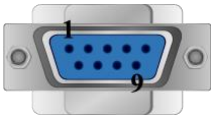
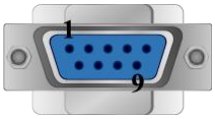
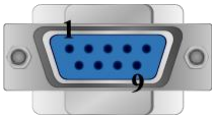
Note: ddd: Decimal, hhh: Hexadecimal, ooo: Octal.

Each model of CPU is different; it is recommended to refer to PLC Manual Device List.

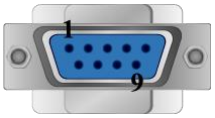
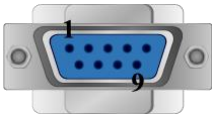
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

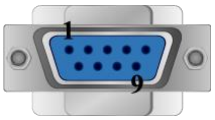
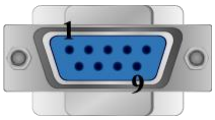
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

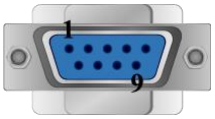
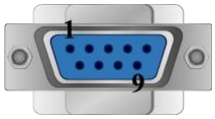
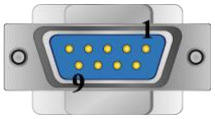
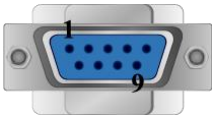
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

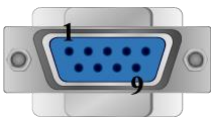
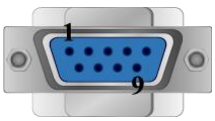
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Host RS232 D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jun/01/2010 | Driver released. |

# IAI X-SEL CONTROLLER-SSE

Website: http://www.iai-robot.co.jp/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | IAI X-SEL CONTROLLER-SSE | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600~19200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IP_Bit | DDD | 0 ~ 299 | |
| B | OP_Bit | DDD | 300 ~ 599 | |
| B | FG_Bit | DDDDDD | 0 ~ 128999 | |
| B | AX1Status | D | 0 ~ 8 | |
| B | AX2Status | D | 0 ~ 8 | |
| B | AX3Status | D | 0 ~ 8 | |
| W | IP | DDD | 0 ~ 272 | |
| W | OP | DDD | 300 ~ 572 | |
| W | FG | DDDDDD | 0 ~ 128999 | |
| W | PDT | D | 0 | |
| W | INT | DDDDDDD | 0 ~ 1281299 | |
| W | RL | DDDDDDD | 0 ~ 1281399 | |
| W | STR | DDDDDD | 0 ~ 128998 | |
| W | AX1Sensor | D | 0 | |
| W | AX2Sensor | D | 0 | |
| W | AX3Sensor | D | 0 | |
| W | AX1Error | D | 0 | |
| W | AX2Error | D | 0 | |
| W | AX3Error | D | 0 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | AX1Encode | D | 0 | |
| W | AX2Encode | D | 0 | |
| W | AX3Encode | D | 0 | |
| W | AX1Positio23 | D | 0 | |
| W | AX2Positio24 | D | 0 | |
| W | AX3Positio25 | D | 0 | |
| W | PGStatus | DDD | 0 ~ 255 | |
| W | PGStepNo | DDD | 0 ~ 255 | |
| W | PGError | DDD | 0 ~ 255 | |
| W | PGErrorNo | DDD | 0 ~ 255 | |
| W | SYST | D | 0 ~ 6 | |
| W | VR | HHH | 0 ~ 3FF | |
| W | ER0 | HHHH | 0 ~ FFFF | |
| W | ER1 | HHHH | 0 ~ FFFF | |
| W | ER2 | HHHH | 0 ~ FFFF | |
| W | ER3 | HHHH | 0 ~ FFFF | |
| W | ER4 | HHHH | 0 ~ FFFF | |
| W | ER5 | HHHH | 0 ~ FFFF | |
| W | ER6 | HHHH | 0 ~ FFFF | |
| W | ER7 | HHHH | 0 ~ FFFF | |
| W | SV | D | 0 | |
| W | RO | D | 0 ~ 3 | |
| W | ACM | D | 0 | |
| W | RCM | D | 0 | |
| W | JIM | D | 0 | |
| W | PNM | D | 0 | |
| W | PD_Set | D | 0 | |
| W | PCLR | DDDDDD | 0 ~ 999999 | |
| W | AR0 | D | 0 | |
| W | PR_253 | DDD | 0 ~ 128 | |
| W | PR_254 | DDD | 0 ~ 128 | |
| W | PR_255 | DDD | 0 ~ 128 | |
| W | PR_256 | DDD | 0 ~ 128 | |
| W | PR_257 | DDD | 0 ~ 128 | |
| W | SR0 | D | 0 | |
| W | OPR0 | D | 0 | |
| W | ChSpd | D | 0 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | PD2_Value | DDDDD | 10 ~ 40960 | |
| W | PD3_Value | DDDDD | 10 ~ 40960 | |
| W | Stop_Canl | D | 1 ~ 7 | |
| W | PDn1Value | D | 0 ~ 7 | |
| W | PDn2Value | D | 0 ~ 7 | |
| W | PDn3Value | D | 0 ~ 7 | |
| W | PDn4Value | D | 0 ~ 7 | |
| W | PDn5Value | D | 0 ~ 7 | |

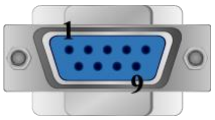
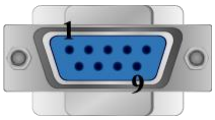
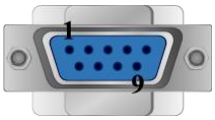
Note: ddd: Decimal, hhh: Hexadecimal, ooo: Octal.

Each model of CPU is different; it is recommended to refer to PLC Manual Device List.

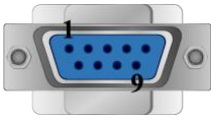
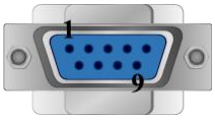
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

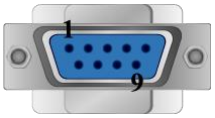
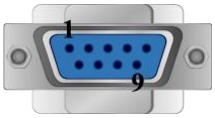
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

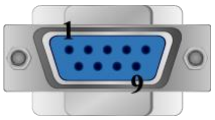
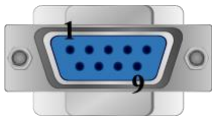
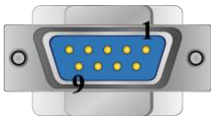
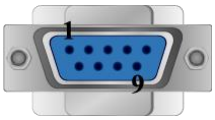
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

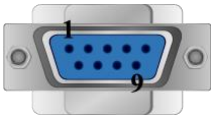
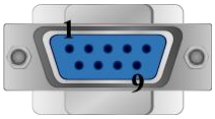
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Host RS232 D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Host RS232 D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/19/2012 | Driver released. |

# IDEC Micro

Supported Series: IDEC Micro3, Micro3C, MicroSmart, OpenNet Controller series.

Website: http://www.idec.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | IDEC Micro | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 7 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 255 (for 1:1 connect) | 0-255 | 255 or same as the PLC setting |

| | | |
|---|---|---|
| Online simulator | YES | |
| Extend address mode | YES | Do not set the PLC Station No. to 255 |

## PLC Setting:

| | |
|---|---|
| Communication mode | 9600, E, 7, 1 (default), Use Computer Link Protocol |

## Device Address:

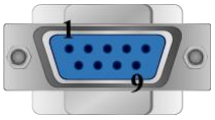
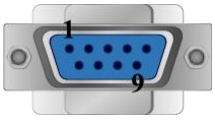
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDo | 0 ~ 20477 | Input (I) |
| B | Y | DDDDo | 0 ~ 20477 | Output (Q) |
| B | M | DDDDo | 0 ~ 20477 | Internal Relay (M) |
| W | RT | DDDD | 0 ~ 9999 | Timer (T) |
| W | RC | DDDD | 0 ~ 9999 | Counter (C) |
| W | D | DDDD | 0 ~ 9999 | Data Register (D) |

## Wiring Diagram:

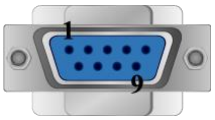
**The following is the view from the soldering point of a cable.**

Micro3C, MicroSmart, OpenNet Controller CPU Ladder Port

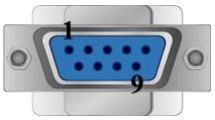
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Port1 or Port2 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

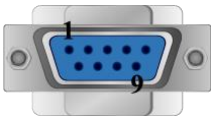
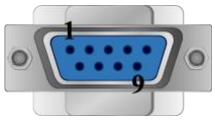
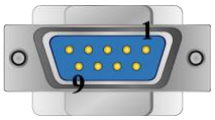
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Port1 or Port2 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 7 GND |
|  | | |  |

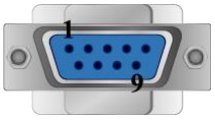
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Port1 or Port2 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 7 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Port1 or Port2 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 7 GND |
|  |  |  |  |

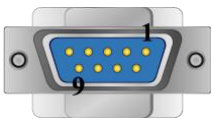
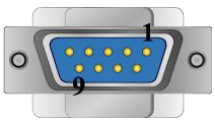
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Port1 or Port2 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 7 GND |
|  | | |  |

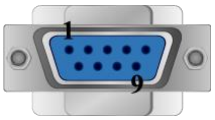
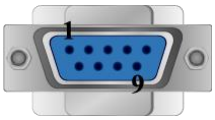
**The following is the view from the soldering point of a cable.**

Micro3 CPU Port, MicroSmart with FC4A-PC2 RS485 Communication Adapter

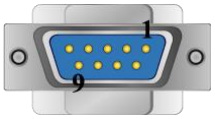
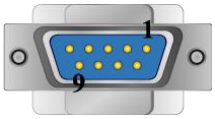
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 RXD- |
| 2 RX+ | 9 Data+ | | 1 RXD+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

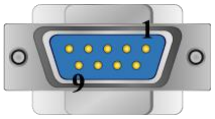
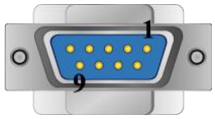
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 8P Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2 RXD- |
| 6 RX+ | 1 Data+ | | 1 RXD+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

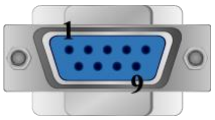
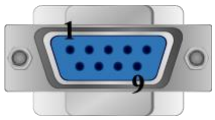
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 RXD- |
| 2 RX+ | 8 Data+ | | 1 RXD+ |
| 5 GND | 9 GND | | 7 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 RXD- |
| 2 RX+ | 9 Data+ | | 1 RXD+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

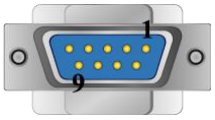
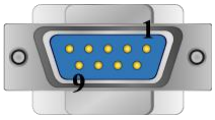
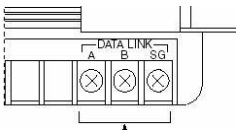
MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 RXD- |
| 2 RX+ | 8 Data+ | | 1 RXD+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

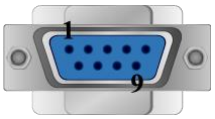
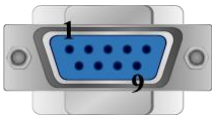
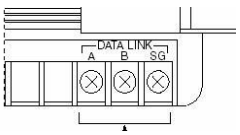
**The following is the view from the soldering point of a cable.**

Micro3C, OpenNet Controller Data Link Terminals,MicroSmart with FC4A-PC3 RS485 Communication Adapter

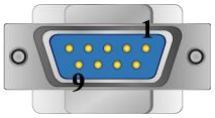
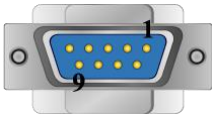
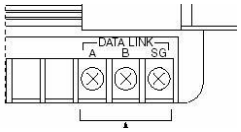
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Data Link Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | A RXD- |
| 2 RX+ | 9 Data+ | | B RXD+ |
| 5 GND | 5 GND | | SG GND |
|  |  | |  |

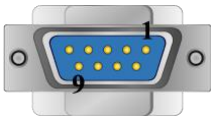
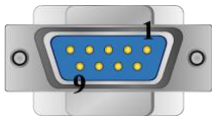
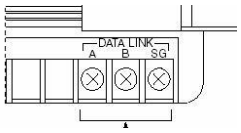
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Data Link Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | A RXD- |
| 6 RX+ | 1 Data+ | | B RXD+ |
| 5 GND | 5 GND | | SG GND |
|  |  | |  |

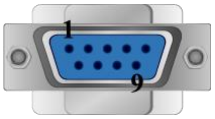
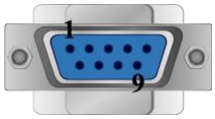
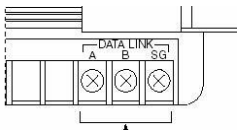
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | Data Link Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | A RXD- |
| 2 RX+ | 8 Data+ | | B RXD+ |
| 5 GND | 9 GND | | SG GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | Data Link Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | A RXD- |
| 2 RX+ | 9 Data+ | | B RXD+ |
| 5 GND | 5 GND | | SG GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | Data Link Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | A RXD- |
| 2 RX+ | 8 Data+ | | B RXD+ |
| 5 GND | 5 GND | | SG GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Jun/19/2009 | |

# Inovance H2U/H1U

Website: http://www.inovance.cn/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Inovance H2U/H1U | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 9600 | 9600~19200 | |
| Data bits | 7 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 377 | Input Bits |
| B | Y | OOO | 0 ~ 377 | Output Bits |
| B | M | DDDD | 0 ~ 7999 | Auxiliary Relay |
| B | T | DDD | 0 ~ 255 | Timer Relay |
| B | C | DDD | 0 ~ 255 | Counter Relay |
| B | SM | DDDD | 8000 ~ 9999 | Special Auxiliary Relay |
| B | D_Bit | DDDDdd | 0 ~ 799915 | |
| B | S | DDDD | 0 ~ 4095 | |
| W | TV | DDD | 0 ~ 255 | Timer Memory |
| W | CV | DDD | 0 ~ 199 | Counter Memory |
| W | D | DDDD | 0 ~ 7999 | Data Registers |
| DW | CV2 | DDD | 200 ~ 255 | Counter Memory (32bit) |
| W | SD | DDDD | 8000 ~ 9999 | Special Data Register |

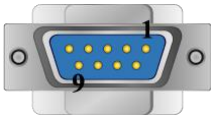
Note: ddd: Decimal, hhh: Hexadecimal, ooo: Octal.

Each model of CPU is different, it is recommended to refer to PLC Manual Device List.

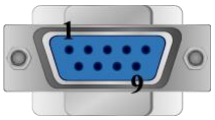
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

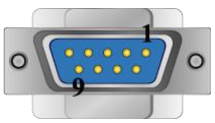
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | H2U/H1U RS422 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

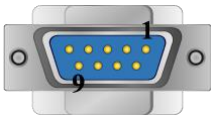
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | H2U/H1U RS422 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 7 TX+ |
| 9 TX- | | | 1 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

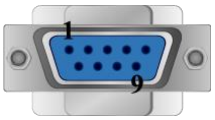
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | H2U/H1U RS422 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | H2U/H1U RS422 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | H2U/H1U RS422 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/19/2010 | Driver released. |

# Justfi Controller

Supported Series: Justfi weighing instruments, Industrial Batching Controller supports XK31CB4, XK31CB6.

Website: http://www.justfi.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Justfi controller | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 7 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 1 | | |

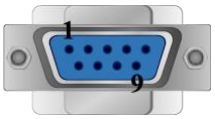
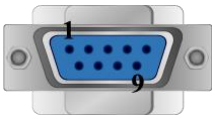
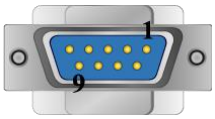
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Func | DD | 0 ~ 99 | Read / Write |
| DW | Func_DW | DD | 0 ~ 99 | Read / Write |
| W | RW | H | 0 | Weight (read only) |
| W | RF | H | 0 | Read result (read only) |
| W | RT | H | 0 | Read total (read only) |
| W | RG | H | 0 | Read prescription group |
| W | RC | H | 0 | Circle |
| W | RB | H | 0 | Read status (read only) |
| W | MZ | H | 0 | Zero (write only) |
| W | MT | H | 0 | Tare (write only) |
| W | CT | H | 0 | Clear tare (write only) |
| W | DT | H | 0 | Clear total (write only) |
| W | BB | H | 0 | Start (write only) |
| W | HB | H | 0 | Stop (write only) |
| W | BD | H | 0 | Discharge (write only) |
| W | RP1t<br>….<br>RP6F | H | 0 | Read/Write recipe |

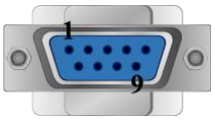
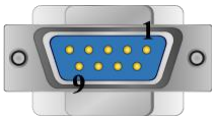
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

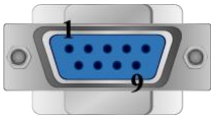
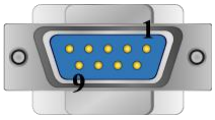
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | CB4 RS232 |
|---|---|---|---|
| 2 RX | 8 RX | | TD |
| 3 TX | 7 TX | | RD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

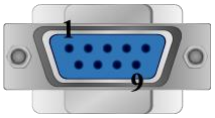
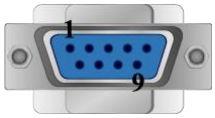
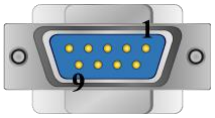
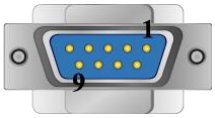
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CB4 RS232 |
|---|---|---|---|
| 2 RX | | | TD |
| 3 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

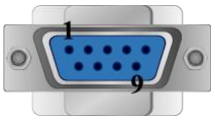
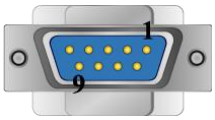
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CB4 RS232 |
|---|---|---|---|
| 2 RX | | | TD |
| 3 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | CB4 RS232 |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TD |
| 3 TX | 4 TX | 7 TX | RD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | CB4 RS232 |
|---|---|---|---|
| 9 RX | | | TD |
| 6 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Nov/04/2009 | |

# Kernel sistemi DMX Series

Supported Series: Kernel systemi DMX 30

Website: http://www.kernelgroup.it/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Kernel sistemi DMX Series | | |
| PLC I/F | RS232 | RS485 | |
| Baud rate | 19200 | 9600 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | Must match the PLC port setting |

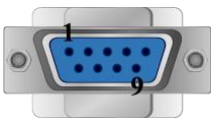
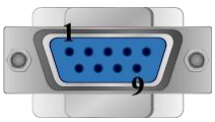
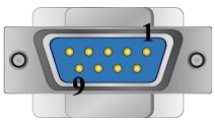
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | D | HHHH | 0 ~ ffff | |

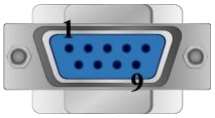
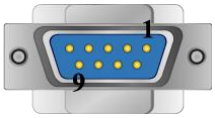
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

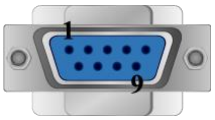
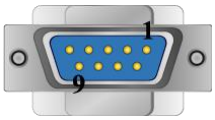
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | DMX30 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

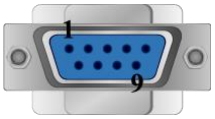
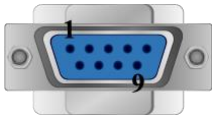
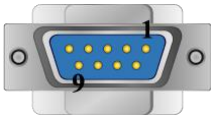
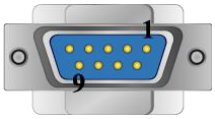
cMT/mTV series

| COM1 RS232 9P<br>D-Sub Female | | | DMX30 RS232 9P<br>D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

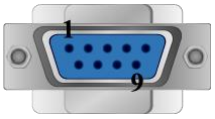
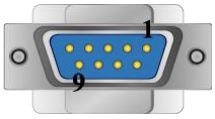
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | DMX30 RS232 9P<br>D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P<br>D-Sub Female | COM2 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Male | DMX30 RS232 9P<br>D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | DMX30 RS232 9P<br>D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Feb/06/2010 | Driver releasesd. |

# KEYENCE KV-10/16/24/40/80/Visual KV Series

Supported Series: KEYENCE KV series, KV16~80

Website: http://www.keyence.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KEYENCE KV-10/16/24/40/80/Visual KV Series | | |
| PLC I/F | RS232 | RS232 | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | RLY | DDDdd0* | 0 ~ 655150* | dd:0 ~ 15 |
| B | DM_Bit | DDDDDh | 0 ~ 65535f | |
| W | DM | DDDDD | 0 ~ 65535 | |
| W | TM | DDDD | 0 ~ 8999 | |
| W | T | DDDD | 0 ~ 9999 | |
| W | T_Curr | DDDD | 0 ~ 9999 | Timer_Current |
| W | T_Preset | DDDD | 0 ~ 9999 | |
| W | C | DDDD | 0 ~ 9999 | |
| W | C_Curr | DDDD | 0 ~ 9999 | Counter_Current |
| W | C_Preset | DDDD | 0 ~ 9999 | |

Note:*

If Relay (bit) register is used, please place a zero at the end of the address.

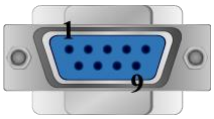
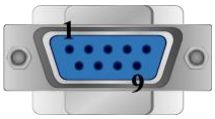
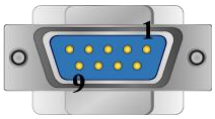
For example, to read Relay (bit) 100, the address is written as “1000”.

## Wiring Diagram:

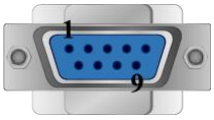
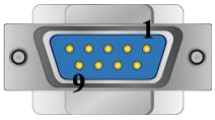
**The following is the view from the soldering point of a cable.**

RS232 CPU Port:

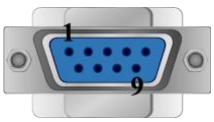
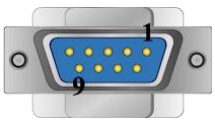
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

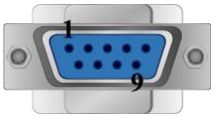
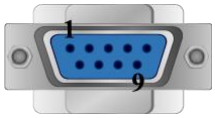
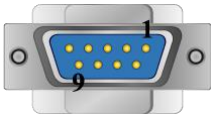
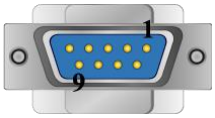
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

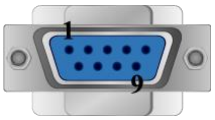
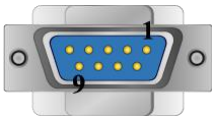
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

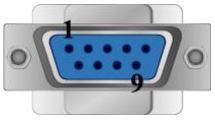
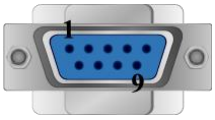
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

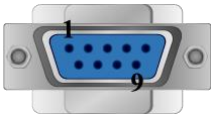
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P RJ11:

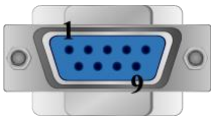
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

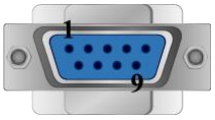
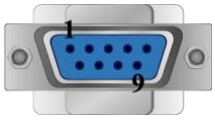
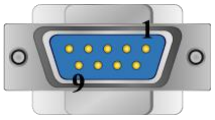
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 3 GND |
|  | | |  |

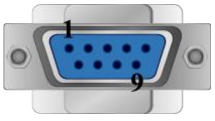
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P RJ11 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 3 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P RJ11 Male |
|---|---|---|---|
| 9 RX | | | 2 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 3 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Apr/17/2009 | |

# KEYENCE KV-3000

Supported Series: KEYENCE KV-3000

Website: http://www.keyence.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KEYENCE KV-3000 | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MR | DDDdd | 0 ~ 99915 | Intenal auxiliary relay |
| B | LR | DDDdd | 0 ~ 99915 | Latch relay |
| B | CR | DDDdd | 0 ~ 99915 | Control relay |
| B | R | DDDdd | 0 ~ 99915 | Relay |
| B | B | HHHh | 0 ~ 3FFF | Link Relay |
| B | T | DDDD | 0 ~ 9999 | Timer |
| B | C | DDDD | 0 ~ 9999 | Counter |
| B | DM_Bit | DDDDDdd | 0 ~ 6553515 | |
| B | TM_Bit | DDDDdd | 0 ~ 999915 | |
| B | CM_Bit | DDDDDdd | 0 ~ 6553515 | |
| B | EM_Bit | DDDDDdd | 0 ~ 6553515 | |
| B | FM_Bit | DDDDDdd | 0 ~ 6553515 | |
| W | DM | DDDDD | 0 ~ 65535 | Data memory |
| W | TM | DDDD | 0 ~ 9999 | Temp data momory |
| W | CM | DDDDD | 0 ~ 65535 | Control memory |

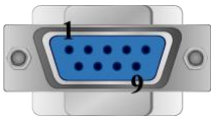
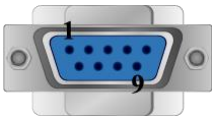
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | EM | DDDDD | 0 ~ 65535 | Data memory |
| W | FM | DDDDD | 0 ~ 65535 | File register |
| W | MR_Word | DDD | 0 ~ 999 | |
| W | LR_Word | DDD | 0 ~ 999 | |
| W | CR_Word | DDD | 0 ~ 999 | |
| W | W | HHHH | 0 ~ 3FFF | Link register |
| W | ZF | DDDDDD | 0 ~ 131071 | File register |
| DW | TC | DDDD | 0 ~ 9999 | Timer current value |
| DW | TS | DDDD | 0 ~ 9999 | Timer set value |
| DW | CC | DDDD | 0 ~ 9999 | Counter current value |
| DW | CS | DDDD | 0 ~ 9999 | Counter set value |
| DW | Z | DD | 1 ~ 12 | |
| DW | TRM | D | 0 ~ 7 | |

## Wiring Diagram:

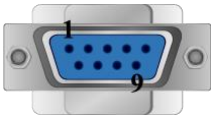
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P RJ11:

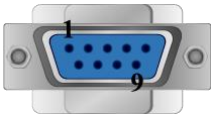
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 4P RJ11 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 1 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 2 GND |
|  |  | |  |

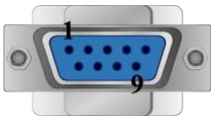
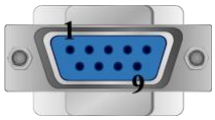
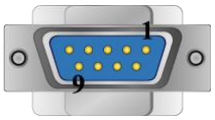
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 4P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 1 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

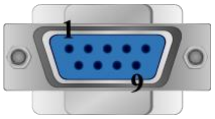
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 4P RJ11 Male |
|---|---|---|---|
| 2 RX | | | 1 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 4P RJ11 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 1 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 2 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 4P RJ11 Male |
|---|---|---|---|
| 9 RX | | | 1 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/28/2014 | Driver released. |

# KEYENCE KV-5000 (Ethernet)

Supported series: KV5000, 3000, 1000 series.
Website: http://www.keyence.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KEYENCE KV-5000 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 8501 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MR | DDDdd | 0 ~ 99915 | |
| B | LR | DDDdd | 0 ~ 99915 | |
| B | CR | DDDdd | 0 ~ 99915 | |
| B | RLY | DDDdd | 0 ~ 99915 | |
| W | DM | DDDDD | 0 ~ 65535 | |
| W | TM | DDDD | 0 ~ 9999 | |
| W | T | DDDD | 0 ~ 9999 | |
| W | T_Curr | DDDD | 0 ~ 9999 | Timer Current |
| W | T_Preset | DDDD | 0 ~ 9999 | Timer Preset |
| W | C | DDDD | 0 ~ 9999 | |
| W | C_Curr | DDDD | 0 ~ 9999 | |
| W | C_Preset | DDDD | 0 ~ 9999 | |
| W | CM | DDDDD | 0 ~ 65535 | |
| W | EM | DDDDD | 0 ~ 65535 | |
| W | FM | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/25/2009 | Driver released. |

# KEYENCE KV-L20V/700/1000/3000/5000 Series

Supported series: KV-L20V,700,1000,3000,5000 series, KV Nano series
Website: http://www.keyence.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KEYENCE KV-L20V/700/1000/3000/5000 Series | | |
| PLC I/F | RS232 | RS232,RS485 2W,RS485 4W | |
| Baud rate | 115200 | 9600 ~ 115200 | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |

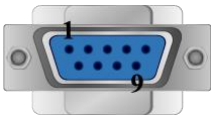
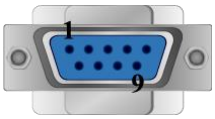
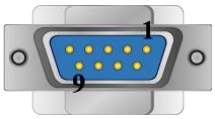
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MR | DDDdd | 0 ~ 99915 | |
| B | LR | DDDdd | 0 ~ 99915 | |
| B | CR | DDDdd | 0 ~ 99915 | |
| B | RLY | DDDdd | 0 ~ 99915 | |
| W | DM | DDDDD | 0 ~ 65535 | |
| W | TM | DDDD | 0 ~ 9999 | |
| W | T | DDDD | 0 ~ 9999 | |
| W | T_Curr | DDDD | 0 ~ 9999 | Timer_Current |
| W | T_Preset | DDDD | 0 ~ 9999 | |
| W | C | DDDD | 0 ~ 9999 | |
| W | C_Curr | DDDD | 0 ~ 9999 | Counter_Current |
| W | C_Preset | DDDD | 0 ~ 9999 | |
| W | CM | DDDDD | 0 ~ 65535 | |
| W | EM | DDDDD | 0 ~ 65535 | |
| W | FM | DDDDD | 0 ~ 65535 | |

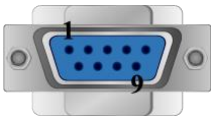
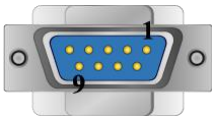
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

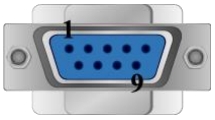
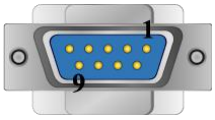
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

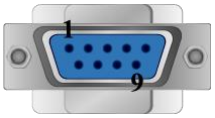
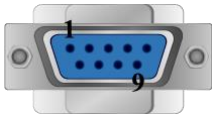
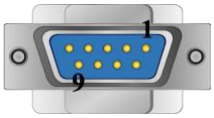
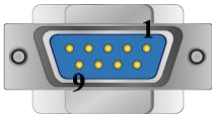
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

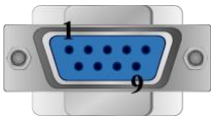
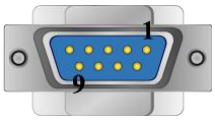
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

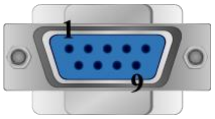
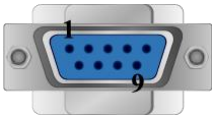
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

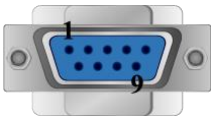
| COM1 RS232 9P D-Sub Female | | | OP-26486 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

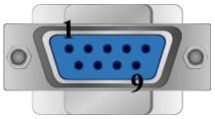
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | KV-L20V Port2 RS232 terminal |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 5 RXD |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

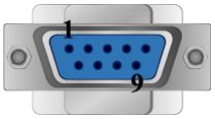
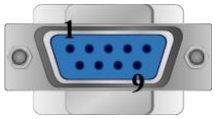
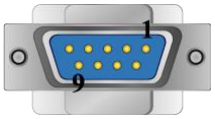
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | KV-L20V Port2 RS232 terminal |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

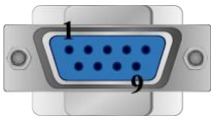
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | KV-L20V Port2 RS232 terminal |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

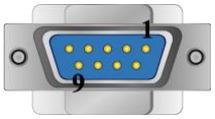
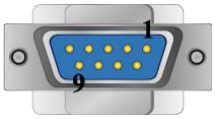
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | KV-L20V Port2 RS232 terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 5 RXD |
| 5 GND | 5 GND | 5 GND | 1 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

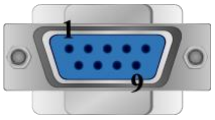
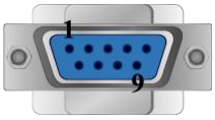
| COM1 RS232 9P D-Sub Female | | | KV-L20V Port2 RS232 terminal |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 5 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

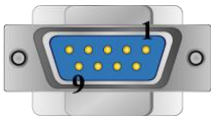
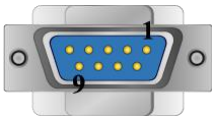
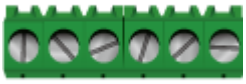
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | KV-L20V Port2 R485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 3 D- |
| 2 RX+ | 9 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

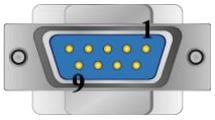
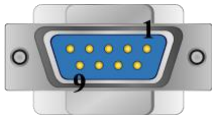
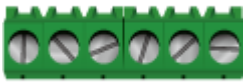
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | KV-L20V Port2 R485 2W terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 3 D- |
| 6 RX+ | 1 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

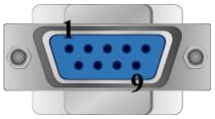
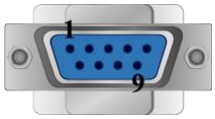
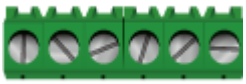
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | KV-L20V Port2 R485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 3 D- |
| 2 RX+ | 8 Data+ | | 5 D+ |
| 5 GND | 9 GND | | 1 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

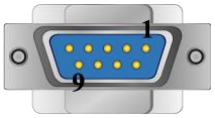
| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | KV-L20V Port2 R485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 3 D- |
| 2 RX+ | 9 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

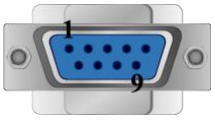
| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | KV-L20V Port2 R485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 3 D- |
| 2 RX+ | 8 Data+ | | 5 D+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

**The following is the view from the soldering point of a cable.**

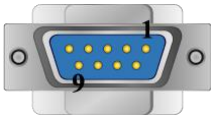
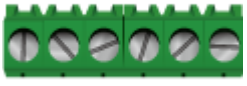
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | KV-L20V Port2 R485 4W terminal |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 4 RX+ |
| 5 GND | | | 1 GND |
|  | | |  |

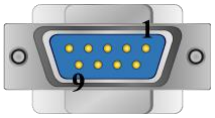
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | KV-L20V Port2 R485 4W terminal |
|---|---|---|---|
| 7 RX- | | | 3 TX- |
| 6 RX+ | | | 5 TX+ |
| 9 TX- | | | 2 RX- |
| 8 TX+ | | | 4 RX+ |
| 5 GND | | | 1 GND |
|  | | |  |

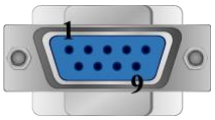
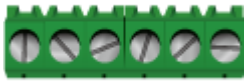
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | KV-L20V Port2 R485 4W terminal |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 4 RX+ |
| 5 GND | | | 1 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | KV-L20V Port2 R485<br>4W terminal |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 4 RX+ |
| 5 GND | | | 1 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | KV-L20V Port2 R485<br>4W terminal |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 4 RX+ |
| 5 GND | | | 1 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.20 | Jul/28/2009 | |
| V2.30 | Oct/5/2012 | Support KV-L20V module |

# Korenix 6550

Website: http://www.korenix.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Korenix 6550 | | Modbus protocol |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | | 0 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 1x | DDDDD | 1 ~ 65535 | |
| B | 0x | DDDDD | 1 ~ 65535 | |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | |
| B | 6x_Bit | DDDDDdd | 100 ~ 6553515 | |
| W | 3x | DDDDD | 1 ~ 65535 | |
| W | 4x | DDDDD | 1 ~ 65535 | |
| W | 5x | DDDDD | 1 ~ 65535 | |
| W | 6x | DDDDD | 1 ~ 65535 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.61 | Apr/17/2009 | |

# KOYO CLICK

Supported Series: KOYO CLICK PLC series
Website: http://www.automationdirect.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KOYO CLICK | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | 1200~115200 | |
| Data bits | 8 | | |
| Parity | Odd | Odd,Even,None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 1~247 | |

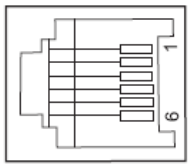
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | Ddd | 001 ~ 816 | Input Status (Read Only) |
| B | Y | Ddd | 001 ~ 816 | Output Status |
| B | C | DDDD | 1 ~ 2000 | Control Bit |
| B | T | DDD | 1 ~ 500 | Timer Status (Read Only) |
| B | CT | DDD | 1 ~ 250 | Counter Status (Read Only) |
| B | SC | DDDD | 1 ~ 1000 | System Control Bit (Read Only) |
| W | DS | DDDD | 1 ~ 4500 | Data Registers |
| W | DD | DDDD | 1 ~ 1000 | Data Registers (Double Word) |
| W | DH | DDD | 1 ~ 500 | Data Registers |
| W | DF | DDD | 1 ~ 500 | Data Registers (Double Word) |
| W | XD | D | 0 ~ 8 | Input Status Registers (Read Only) |
| W | YD | D | 0 ~ 8 | Output Status Registers |
| W | TD | DDD | 1 ~ 500 | Timer Current Values (Read Only) |
| W | CTD | DDD | 1 ~ 250 | Counter Current Values (Double Word/Read Only) |
| W | SD | DDDD | 1 ~ 1000 | System Data Registers (Read Only) |
| W | TXT | DDDD | 1 ~ 1000 | Text Data Registers |

## Wiring Diagram:

KOYO CLICK PLC Com Port:

6 pin RJ12 Phone Type Jack – both ports

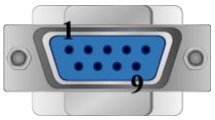
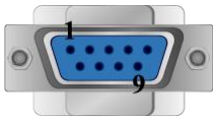



| Port 1 Pin Descriptions | | |
|---|---|---|
| 1 | 0V | Power (-) connection (GND) |
| 2 | 5V | Power (+) connection |
| 3 | RXD | Receive data (RS-232) |
| 4 | TXD | Transmit data (RS-232) |
| 5 | NC | No connection |
| 6 | 0V | Power (-) connection (GND) |

| Port 2 Pin Descriptions | | |
|---|---|---|
| 1 | 0V | Power (-) connection (GND) |
| 2 | 5V | Power (+) connection |
| 3 | RXD | Receive data (RS-232) |
| 4 | TXD | Transmit data (RS-232) |
| 5 | RTS | Request to send |
| 6 | 0V | Power (-) connection (GND) |

**The following is the view from the soldering point of a cable.**

Driver eMT3000 series

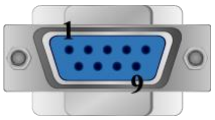
| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 4 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |







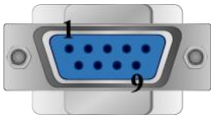
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | | | 4 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

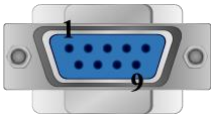
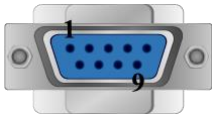
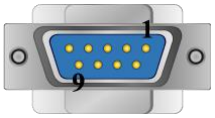




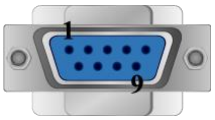
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | | | 4 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 4 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 1 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P RJ12 Male |
|---|---|---|---|
| 9 RX | | | 4 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

## Version:

| Version | Date | Description |
|---|---|---|
| V1.50 | Jun/22/2010 | |
| V1.70 | Oct/20/2014 | Fixed the problem where TXT address type 500 and later cannot be used. |

# KOYO DIRECT

Supported Series: KOYO DirectLogic series PLC DL05, DL06, DL105, DL205, DL305, and DL405 series.

Website: http://www.automationdirect.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KOYO DIRECT | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600, 19200, 38400 | |
| Data bits | 8 | 7, 8 | |
| Parity | Odd | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 1-90 | |

## PLC Setting:

| | |
|---|---|
| | 1. The PLC must not have a password.<br>2. PLC must be set for Full Duplex operation.<br>3. PLC must be set for No Hardware Handshaking.<br>4. The PLC must be set to use the 'K' Sequence Protocol.<br>5. Set the mode switch to the TERM mode.<br>6. When using the D4-440 CPU, the station number must be set to 1. |

## Device Address:

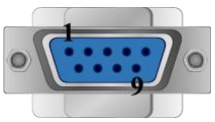
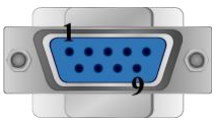
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOOO | 0 ~ 4000 | Input Bits |
| B | Y | OOOO | 0 ~ 4000 | Output Bits |
| B | C | OOOOO | 0 ~ 10000 | Control Relays |
| B | T | OOOO | 0 ~ 1000 | Timer Status Bits |
| B | CT | OOOO | 0 ~ 1000 | Counter Status Bits |
| B | S | OOOO | 0 ~ 2000 | |
| B | SP | OOOO | 0 ~ 2000 | |
| B | GX | OOOOO | 0 ~ 10000 | |
| B | GY | OOOOO | 0 ~ 10000 | |
| W | V | OOOOO | 0 ~ 77777 | V Memory |
| W | Timer | OOOO | 0 ~ 1000 | |
| W | Counter | OOOO | 0 ~ 1000 | |

## Wiring Diagram:

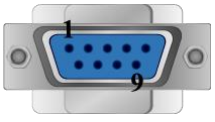
**The following is the view from the soldering point of a cable.**

DL05/DL06/DL105/DL230/DL240/DL250/DL350/DL450 RS232 port

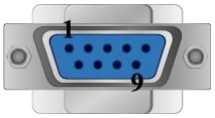
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | KOYO DirectLogic PLC RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 4 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

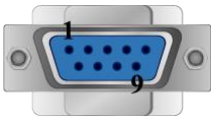
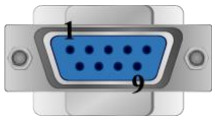
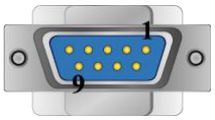
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | KOYO DirectLogic PLC RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | | | 4 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 1 GND |
|  | | |  |

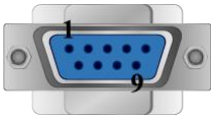
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | KOYO DirectLogic PLC RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | | | 4 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 1 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | KOYO DirectLogic PLC RS232 6P RJ12 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 4 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 1 GND |
|  |  |  |  |

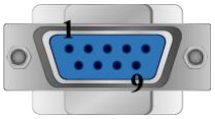
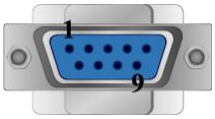
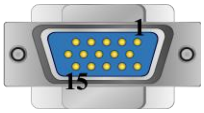
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | KOYO DirectLogic PLC RS232 6P RJ12 Male |
|---|---|---|---|
| 9 RX | | | 4 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 1 GND |
|  | | |  |

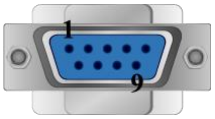
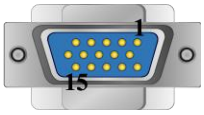
**The following is the view from the soldering point of a cable.**

CPU unit: DL06/DL250 CPU Port2 RS232

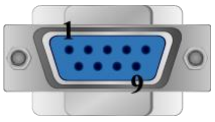
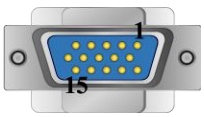
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 Port2 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TX | |
| 3 TX | 7 TX | | 3 RX | |
| 5 GND | 5 GND | | 7 GND | |
| | | | 4 RTC | short |
| | | | 5 CTS | |
|  |  | |  | |

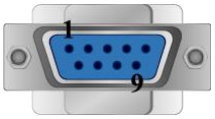
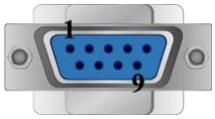
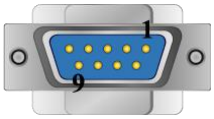
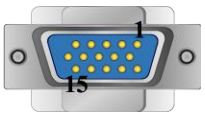
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 Port2 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | | | 4 RTC | short |
| | | | 5 CTS | |
|  | | |  | |

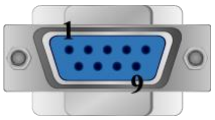
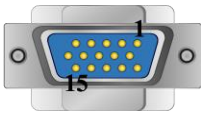
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Port2 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | | | 4 RTC | short |
| | | | 5 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P<br>D-Sub Female | COM2 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Male | RS232 Port2 15P<br>D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX | |
| 3 TX | 4 TX | 7 TX | 3 RX | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | | | 4 RTC<br>5 CTS | short |
|  |  |  |  | |

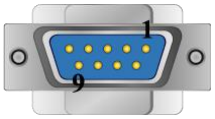
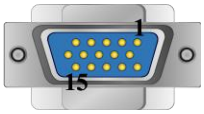
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | RS232 Port2 15P<br>D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TX | |
| 6 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | | | 4 RTC<br>5 CTS | short |
|  | | |  | |

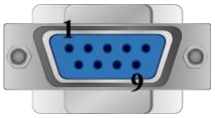
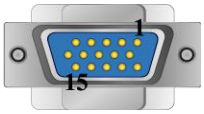
**The following is the view from the soldering point of a cable.**

CPU unit: DL06/DL250 CPU Port2 RS422

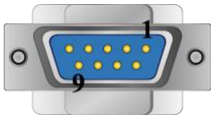
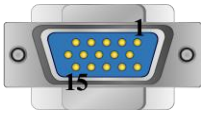
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Port2 15P<br>D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 10 TX- | |
| 2 RX+ | | | 9 TX+ | |
| 3 TX- | | | 6 RX- | |
| 4 TX+ | | | 13 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 11 RTS+ | Short |
| | | | 14 CTS+ | |
| | | | 12 RTS- | Short |
| | | | 15 CTS- | |
|  | | |  | |

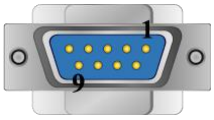
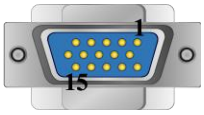
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | RS422 Port2 15P<br>D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 10 TX- | |
| 6 RX+ | | | 9 TX+ | |
| 9 TX- | | | 6 RX- | |
| 8 TX+ | | | 13 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 11 RTS+ | Short |
| | | | 14 CTS+ | |
| | | | 12 RTS- | Short |
| | | | 15 CTS- | |
|  | | |  | |

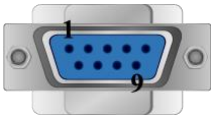
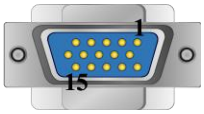
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port2 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 10 TX- | |
| 2 RX+ | | | 9 TX+ | |
| 3 TX- | | | 6 RX- | |
| 4 TX+ | | | 13 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 11 RTS+ | Short |
| | | | 14 CTS+ | |
| | | | 12 RTS- | Short |
| | | | 15 CTS- | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port2 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 10 TX- | |
| 2 RX+ | | | 9 TX+ | |
| 3 TX- | | | 6 RX- | |
| 4 TX+ | | | 13 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 11 RTS+ | Short |
| | | | 14 CTS+ | |
| | | | 12 RTS- | Short |
| | | | 15 CTS- | |
|  | | |  | |

MT6050i/MT8050i/MT8050iE

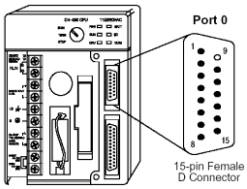
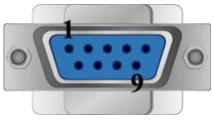
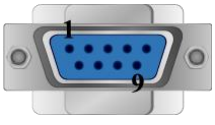
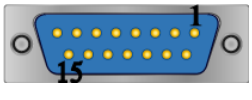
| COM1 RS485 4W 9P D-Sub Female | | | RS422 Port2 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 10 TX- | |
| 2 RX+ | | | 9 TX+ | |
| 3 TX- | | | 6 RX- | |
| 4 TX+ | | | 13 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 11 RTS+ | Short |
| | | | 14 CTS+ | |
| | | | 12 RTS- | Short |
| | | | 15 CTS- | |
|  | | |  | |

Note: DL06/DL250 CPU Port2 include RS232 and RS422

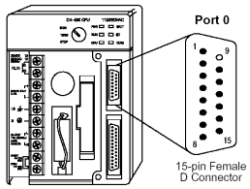
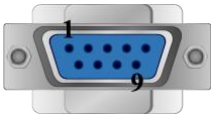
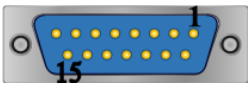
**The following is the view from the soldering point of a cable.**

DL430/DL440/DL450 CPU unit Port0 RS232

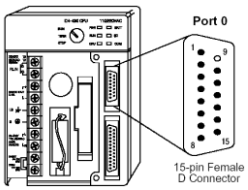
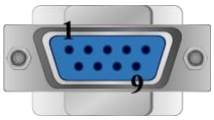
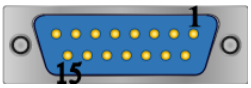
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 Port0 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TX | |
| 3 TX | 7 TX | | 3 RX | |
| 5 GND | 5 GND | | 13 GND | |
| | |   | 1 YOP | short |
| | | | 7 CTS | |
| | | | 2 YOM | |
| | | | 4 ONLINE | short |
| | | | 14 GND | |
|  |  | |  | |

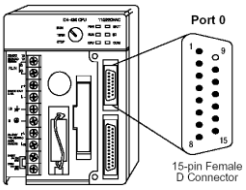
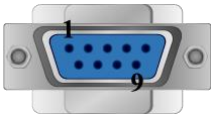
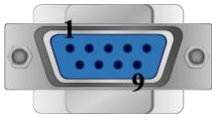
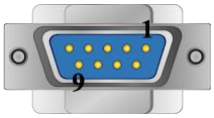
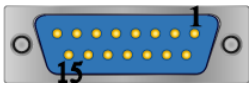
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 Port0 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 3 RX | |
| 5 GND | | | 13 GND | |
| | |  | 1 YOP | |
| | | | 7 CTS | short |
| | | | 2 YOM | |
| | | | 4 ONLINE | |
| | | | 14 GND | short |
|  | | |  | |

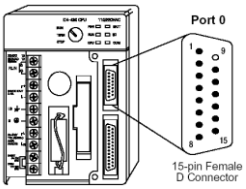
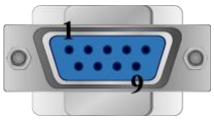
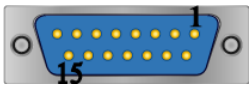
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Port0 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 3 RX | |
| 5 GND | | | 13 GND | |
| | |  | 1 YOP | |
| | | | 7 CTS | short |
| | | | 2 YOM | |
| | | | 4 ONLINE | |
| | | | 14 GND | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 Port0 15P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX | |
| 3 TX | 4 TX | 7 TX | 3 RX | |
| 5 GND | 5 GND | 5 GND | 13 GND | |
| | |  | 1 YOP | short |
| | | | 7 CTS | |
| | | | 2 YOM | |
| | | | 4 ONLINE | short |
| | | | 14 GND | |
|  |  |  |  | |

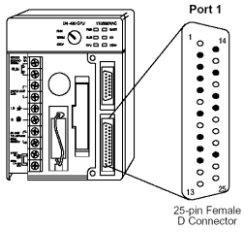
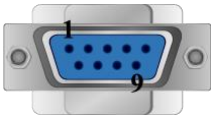
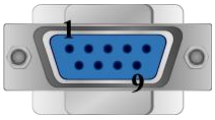
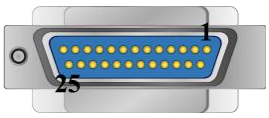
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Port0 15P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TX | |
| 6 TX | | | 3 RX | |
| 5 GND | | | 13 GND | |
| | |  | 1 YOP | short |
| | | | 7 CTS | |
| | | | 2 YOM | |
| | | | 4 ONLINE | short |
| | | | 14 GND | |
|  | | |  | |

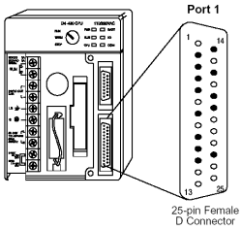
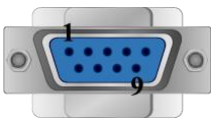
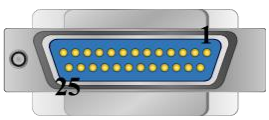
**The following is the view from the soldering point of a cable.**

CPU unit: DL430/DL440/DL450 CPU unit Port1 & DL350 CPU unit Port2 RS232

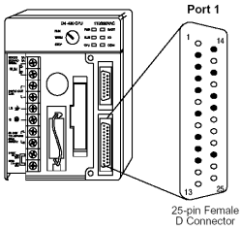
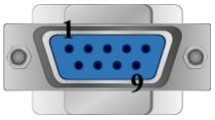
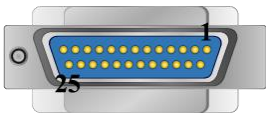
eMT3000 series

<table>
<tr><td>COM1 RS232 9P<br>D-Sub Female</td><td>COM3 RS232 9P<br>D-Sub Female</td><td></td><td colspan="2">RS232 Port1 25P<br>D-Sub Male</td></tr>
<tr><td>2 RX</td><td>RX</td><td></td><td colspan="2">2 TX</td></tr>
<tr><td>3 TX</td><td>7 TX</td><td></td><td colspan="2">3 RX</td></tr>
<tr><td>5 GND</td><td>5 GND</td><td></td><td colspan="2">7 GND</td></tr>
<tr><td colspan="3" rowspan="2">
</td><td>4 RTC<br>5 CTS</td><td rowspan="2">Short</td></tr>
<tr><td></td></tr>
<tr><td>
</td><td>
</td><td></td><td colspan="2">
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</table>

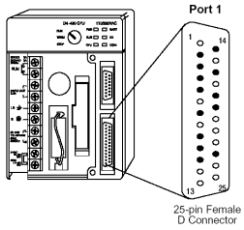
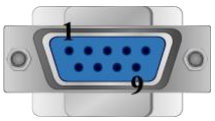
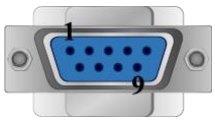
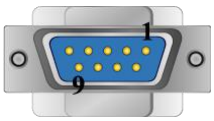
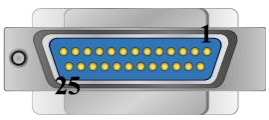
cMT/mTV series

<table>
<tr><td>COM1 RS232 9P<br>D-Sub Female</td><td></td><td></td><td colspan="2">RS232 Port1 25P<br>D-Sub Male</td></tr>
<tr><td>2 RX</td><td></td><td></td><td colspan="2">2 TX</td></tr>
<tr><td>3 TX</td><td></td><td></td><td colspan="2">3 RX</td></tr>
<tr><td>5 GND</td><td></td><td></td><td colspan="2">7 GND</td></tr>
<tr><td colspan="3" rowspan="2">
</td><td>4 RTC<br>5 CTS</td><td rowspan="2">Short</td></tr>
<tr><td></td></tr>
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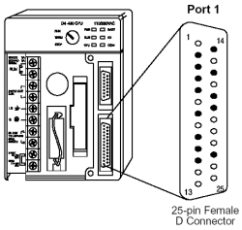
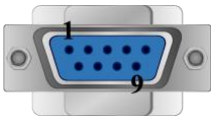
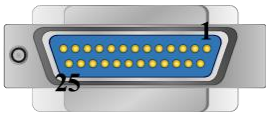
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Port1 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | |  | 4 RTC<br>5 CTS | Short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 Port1 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX | |
| 3 TX | 4 TX | 7 TX | 3 RX | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | |  | 4 RTC<br>5 CTS | Short |
|  |  |  |  | |

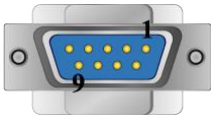
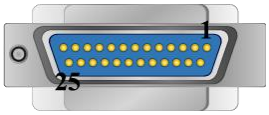
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Port1 25P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TX | |
| 6 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | |  | 4 RTC<br>5 CTS | Short |
|  | | |  | |

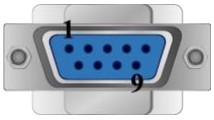
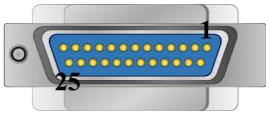
**The following is the view from the soldering point of a cable.**

CPU unit: DL430/DL440/DL450 CPU unit Port1 & DL350 CPU unit Port2 RS422

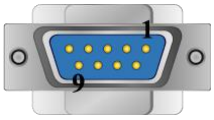
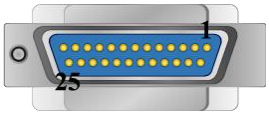
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TX- | |
| 2 RX+ | | | 14 TX+ | |
| 3 TX- | | | 10 RX- | |
| 4 TX+ | | | 9 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 19 RTS+<br>11 CTS+ | Short |
| | | | 18 RTS-<br>23 CTS- | Short |
|  | | |  | |

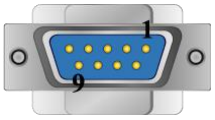
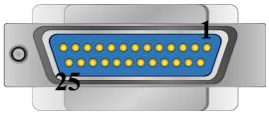
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 16 TX- | |
| 6 RX+ | | | 14 TX+ | |
| 9 TX- | | | 10 RX- | |
| 8 TX+ | | | 9 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 19 RTS+ | Short |
| | | | 11 CTS+ | |
| | | | 18 RTS- | Short |
| | | | 23 CTS- | |
|  | | |  | |

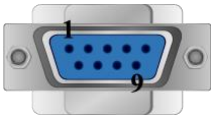
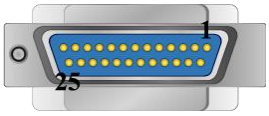
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TX- | |
| 2 RX+ | | | 14 TX+ | |
| 3 TX- | | | 10 RX- | |
| 4 TX+ | | | 9 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 19 RTS+ | Short |
| | | | 11 CTS+ | |
| | | | 18 RTS- | Short |
| | | | 23 CTS- | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TX- | |
| 2 RX+ | | | 14 TX+ | |
| 3 TX- | | | 10 RX- | |
| 4 TX+ | | | 9 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 19 RTS+ | Short |
| | | | 11 CTS+ | |
| | | | 18 RTS- | Short |
| | | | 23 CTS- | |
|  | | |  | |

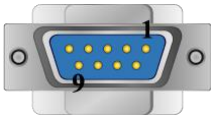
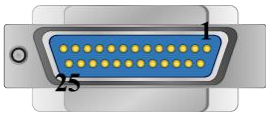
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TX- | |
| 2 RX+ | | | 14 TX+ | |
| 3 TX- | | | 10 RX- | |
| 4 TX+ | | | 9 RX+ | |
| 5 GND | | | 7 GND | |
| | | | 19 RTS+ | Short |
| | | | 11 CTS+ | |
| | | | 18 RTS- | Short |
| | | | 23 CTS- | |
|  | | |  | |

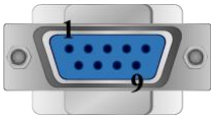
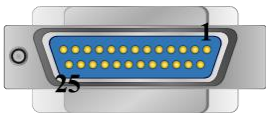
**The following is the view from the soldering point of a cable.**

CPU unit: DL450 CPU unit Port3 RS422

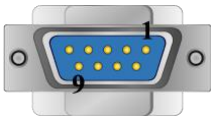
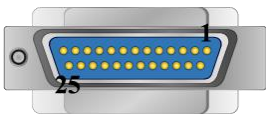
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Port3 25P<br>D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 13 TX- |
| 2 RX+ | | | 12 TX+ |
| 3 TX- | | | 25 RX- |
| 4 TX+ | | | 24 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

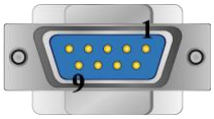
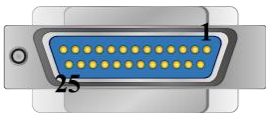
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | RS422 Port3 25P<br>D-Sub Male |
|---|---|---|---|
| 7 RX- | | | 13 TX- |
| 6 RX+ | | | 12 TX+ |
| 9 TX- | | | 25 RX- |
| 8 TX+ | | | 24 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

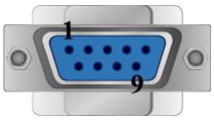
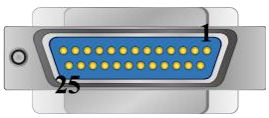
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Port3 25P<br>D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 13 TX- |
| 2 RX+ | | | 12 TX+ |
| 3 TX- | | | 25 RX- |
| 4 TX+ | | | 24 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port3 25P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 13 TX- |
| 2 RX+ | | | 12 TX+ |
| 3 TX- | | | 25 RX- |
| 4 TX+ | | | 24 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

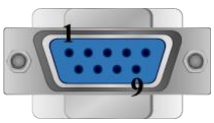
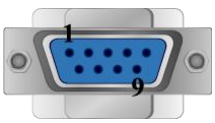
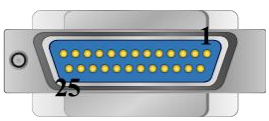
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS422 Port3 25P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 13 TX- |
| 2 RX+ | | | 12 TX+ |
| 3 TX- | | | 25 RX- |
| 4 TX+ | | | 24 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

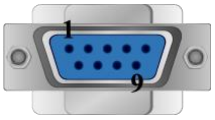
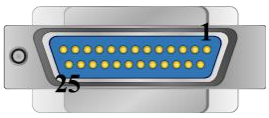
**The following is the view from the soldering point of a cable.**

Communication unit: DL205 series D2-DCM and DL405 series D4-DCM RS232

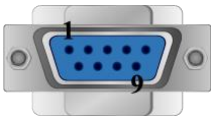
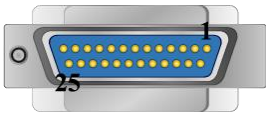
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TX | |
| 3 TX | 7 TX | | 3 RX | |
| 5 GND | 5 GND | | 7 GND | |
| | | | 4 RTC | short |
| | | | 5 CTS | |
|  |  | |  | |

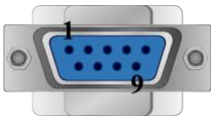
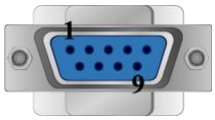
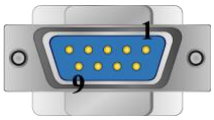
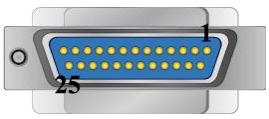
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | | | 4 RTC<br>5 CTS | short |
|  | | |  | |

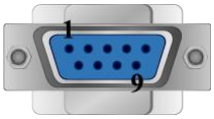
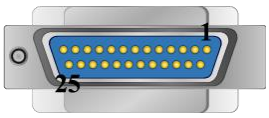
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TX | |
| 3 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | | | 4 RTC<br>5 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX | |
| 3 TX | 4 TX | 7 TX | 3 RX | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | | | 4 RTC<br>5 CTS | short |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TX | |
| 6 TX | | | 3 RX | |
| 5 GND | | | 7 GND | |
| | | | 4 RTC | short |
| | | | 5 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Nov/08/2010 | |

# KOYO Do-more

Supported Series: Do-more H2 Series PLC
Website: http://www.automationdirect.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KOYO Do-more | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | 9600 ~ 115200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

| | | | |
|---|---|---|---|
| Online simulation | YES | Extend address mode | NO |

## PLC Setting:

| | |
|---|---|
| Serial Port Mode | Do-more programming |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | ST | DDDD | 0 ~ 1023 | |
| B | X | DDDDD | 0 ~ 65535 | |
| B | Y | DDDDD | 0 ~ 65535 | |
| B | C | DDDDD | 0 ~ 65535 | |
| B | MI | DDDDD | 0 ~ 65535 | |
| B | MC | DDDDD | 0 ~ 65535 | |
| B | T.Done | DDDDD | 0 ~ 32766 | Read only |
| B | CT.Done | DDDDD | 0 ~ 32766 | Read only |
| B | DLX | OOOOOO | 0 ~ 177777 | |
| B | DLY | OOOOOO | 0 ~ 177777 | |
| B | DLC | OOOOOO | 0 ~ 177777 | |
| W | DLV | OOOOOO | 0 ~ 177777 | |
| W | SDT | D.D | 0 ~ 7.6 | *Note 1 |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | WX | DDDDD | 0 ~ 65535 | |
| W | WY | DDDDD | 0 ~ 65535 | |
| W | V | DDDDD | 0 ~ 65535 | |
| W | N | DDDDD | 0 ~ 65535 | |
| W | SS | DDDD.DD | 0 ~ 3854.34 | Read only *Note 2 |
| W | SL | DDDD.DDD | 0 ~ 1007.130 | Read only *Note 2 |
| W | UDT | DDDDD.D | 0 ~ 32767.6 | *Note 1 |
| W | PL | DDD | 0 ~ 255 | |
| W | MIR | DDDDD | 0 ~ 65535 | |
| W | MHR | DDDDD | 0 ~ 65535 | |
| W | DST | DDD | 0 ~ 511 | |
| W | D | DDDDD | 0 ~ 65534 | |
| W | R | DDDDD | 0 ~ 65534 | Real Number (float) |
| W | T.ACC | DDDDD | 0 ~ 32766 | |
| W | CT.ACC | DDDDD | 0 ~ 32766 | |

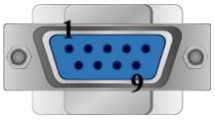
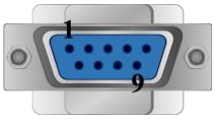
*Note 1：SDT , UDT: xxx.0 = Year, xxx.1 = Month, xxx.2 = Day, xxx.3 = DayOfWeek, xxx.4 = Hour, xxx.5 = Minute, xxx.6 = Second.

*Note 2：SS , SL: xxx.0 = MaxLen, xxx.1 = Length, xxx.2 ~ 34 = String(SS) xxx.2 ~ 130 = String (SL)

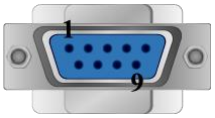
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

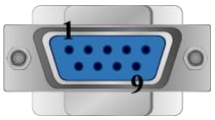
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Koyo Direct Logic 205 RS-232 6P RJ12 |
|---|---|---|---|
| 2 RX | 8 RX | | 4 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 1 GND |
| 7 RTS | | | 6 CTS |
| 8 CTS | | | 5 RTS |
|  |  | |  |

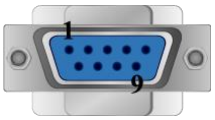
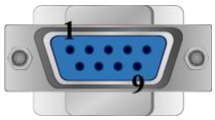
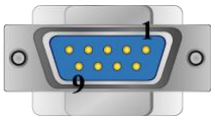
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Koyo Direct Logic 205 RS-232 6P RJ12 |
|---|---|---|---|
| 2 RX | | | 4 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

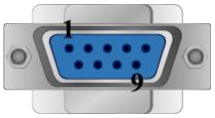
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Koyo Direct Logic 205 RS-232 6P RJ12 |
|---|---|---|---|
| 2 RX | | | 4 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
| 7 RTS | | | 6 CTS |
| 8 CTS | | | 5 RTS |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Koyo Direct Logic 205 RS-232 6P RJ12 |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 4 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 1 GND |
| 7 RTS | | | 6 CTS |
| 8 CTS | | | 5 RTS |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Koyo Direct Logic 205 RS-232 6P RJ12 |
|---|---|---|---|
| 9 RX | | | 4 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|   | | |   |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/03/2013 | Driver released. |

# KOYO Do-more (Ethernet)

Supported Series: Do-more H2 Series PLC Ethernet port
Website: http://www.automationdirect.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KOYO Do-more (Ethernet) | | |
| PLC I/F | Ethernet | | USE UDP |
| Port no. | 28784 | | |
| PLC sta. no. | No need to set station no. | | |

## PLC Setting:

| | |
|---|---|
| Serial Port Mode | Do-more programming |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | ST | DDDD | 0 ~ 1023 | |
| B | X | DDDDD | 0 ~ 65535 | |
| B | Y | DDDDD | 0 ~ 65535 | |
| B | C | DDDDD | 0 ~ 65535 | |
| B | MI | DDDDD | 0 ~ 65535 | |
| B | MC | DDDDD | 0 ~ 65535 | |
| B | T.Done | DDDDD | 0 ~ 32766 | Read only |
| B | CT.Done | DDDDD | 0 ~ 32766 | Read only |
| B | DLX | OOOOOO | 0 ~ 177777 | |
| B | DLY | OOOOOO | 0 ~ 177777 | |
| B | DLC | OOOOOO | 0 ~ 177777 | |
| W | DLV | OOOOOO | 0 ~ 177777 | |
| W | SDT | D.D | 0 ~ 7.6 | *Note 1 |
| W | WX | DDDDD | 0 ~ 65535 | |
| W | WY | DDDDD | 0 ~ 65535 | |
| W | V | DDDDD | 0 ~ 65535 | |
| W | N | DDDDD | 0 ~ 65535 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | SS | DDDD.DD | 0 ~ 3854.34 | Read only *Note 2 |
| W | SL | DDDD.DDD | 0 ~ 1007.130 | Read only *Note 2 |
| W | UDT | DDDDD.D | 0 ~ 32767.6 | *Note 1 |
| W | PL | DDD | 0 ~ 255 | |
| W | MIR | DDDDD | 0 ~ 65535 | |
| W | MHR | DDDDD | 0 ~ 65535 | |
| W | DST | DDD | 0 ~ 511 | |
| W | D | DDDDD | 0 ~ 65534 | |
| W | R | DDDDD | 0 ~ 65534 | Real Number (float) |
| W | T.ACC | DDDDD | 0 ~ 32766 | |
| W | CT.ACC | DDDDD | 0 ~ 32766 | |

*Note 1：SDT , UDT: xxx.0 = Year, xxx.1 = Month, xxx.2 = Day, xxx.3 = DayOfWeek, xxx.4 = Hour, xxx.5 = Minute, xxx.6 = Second.

*Note 2：SS , SL: xxx.0 = MaxLen, xxx.1 = Length, xxx.2 ~ 34 = String(SS) xxx.2 ~ 130 =String (SL)

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/03/2013 | Driver released. |

# KOYO Ethernet

Supported Series: KOYO DirectLogic series, model H0-ECOM100, H2-ECOM100.

Website: http://www.automationdirect.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | KOYO Ethernet | | |
| PLC I/F | Ethernet | | UDP/IP |
| Port no. | 28784 | | |
| PLC sta. no. | No need to set station no. | 0 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | GX | OOOO | 0 ~ 3777 | Global I/O |
| B | X | OOOO | 0 ~ 1777 | Real Word Inputs |
| B | SP | OOOO | 0 ~ 1777 | Special Purpose Relays |
| B | GY | OOOO | 0 ~ 3777 | More Global I/O |
| B | Y | OOOO | 0 ~ 1777 | Real Word Outputs |
| B | C | OOOO | 0 ~ 3777 | Control Relays |
| B | S | OOOO | 0 ~ 1777 | Stage Status Bits |
| B | T | OOO | 0 ~ 377 | Timer Status Bits |
| B | CT | OOO | 0 ~ 377 | Counter Status Bits |
| W | V | OOOOO | 0 ~ 41237 | V-memory |
| W | CCM_32 | HHH | 1 ~ 200 | GX, X, SP |
| W | CCM_33 | HHH | 1 ~ 340 | GY,Y,C,S,T,CT |
| W | CCM_31 | HHHH | 1 ~ 42a0 | V |

ddd:Decimal, hhh:Hexadecimal, ooo:Octal

**The mapping of CCM32, CCM33, and CCM31 with other addresses.**

| Device type | Range | Device type | Range |
|---|---|---|---|
| CCM_31 | 1~42A0 | V | 0~41237 |
| | | | |
| CCM_32 | 1~FF | GX | 0~3777 |
| CCM_32 | 101~17F | X | 0~1777 |
| CCM_32 | 181~1FF | SP | 0~1777 |
| | | | |
| CCM_33 | 1~FF | GY | 0~3777 |
| CCM_33 | 101~17F | Y | 0~1777 |
| CCM_33 | 181~27F | C | 0~3777 |
| CCM_33 | 281~2FF | S | 0~1777 |
| CCM_33 | 301~31F | T | 0~377 |
| CCM_33 | 321~33F | CT | 0~377 |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jul/03/2009 | |

# Lenze

Supported Series: PLC Model No.: 9300/8200 series, and EPL10200
Pass-through 2102IB fieldbus module: RS485 (LECOM B)

Website: http://www.lenze.de

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Lenze | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 7 | 7,8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 1 | 0-255 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Same as the MT500 setting |

## Device Address:

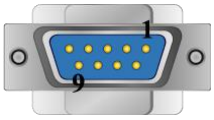
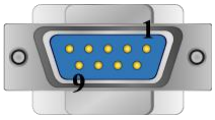
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CNB | DDDDdd | 0 ~ 999915 | Subcode not supported. Can only read/write CNI Word Type. |
| B | CB | DDDDddxx | 0 ~ 81920015 | Subcode supported. Can only read/write CI Word Type. |
| W | CI | DDDDdd | 0 ~ 819200 | Subcode supported. Integer |
| W | CD | DDDDdd | 0 ~ 819200 | Subcode supported. DWord |
| W | CF | DDDDdd | 0 ~ 819200 | Subcode supported. DWord (float point) |
| W | CNI | DDDD | 0 ~ 9999 | Subcode not supported. Integer |
| W | CND | DDDD | 0 ~ 9999 | Subcode not supported. DWord |
| W | CNF | DDDD | 0 ~ 9999 | Subcode not supported. DWord (float point) |

## Wiring Diagram:

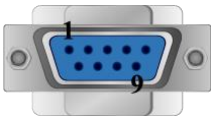
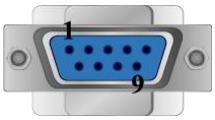
**The following is the view from the soldering point of a cable.**

Lenze 2102IB LECOM-B RS485 plug-in terminal 4-pole

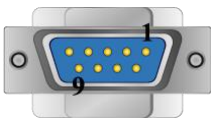
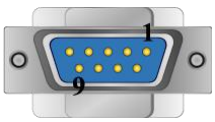
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 72 T/R (A) |
| 2 RX+ | 9 Data+ | | 71 T/R (B) |
| 5 GND | 5 GND | | |
|  |  | |  |

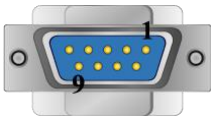
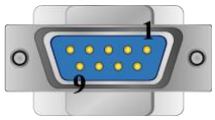
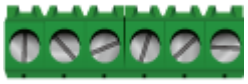
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 72 T/R (A) |
| 6 RX+ | 1 Data+ | | 71 T/R (B) |
| 5 GND | 5 GND | | |
|  |  | |  |

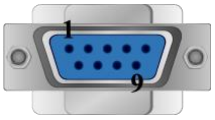
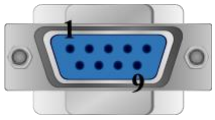
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 72 T/R (A) |
| 2 RX+ | 8 Data+ | | 71 T/R (B) |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 72 T/R (A) |
| 2 RX+ | 9 Data+ | | 71 T/R (B) |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 72 T/R (A) |
| 2 RX+ | 8 Data+ | | 71 T/R (B) |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Sep/6/2011 | |

# LingYan BMS

Website: http://www.lyeda.com/Project_file/bms01.htm

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LingYan BMS | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

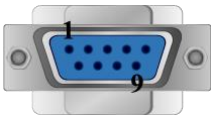
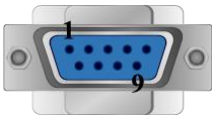
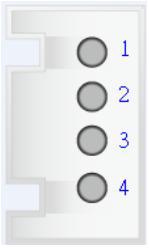
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Battery_Unit | D | 0 | |
| W | Insulator_Unit | D | 0 | |
| W | Switch_Unit | D | 0 | |

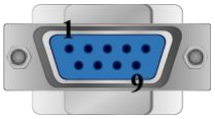
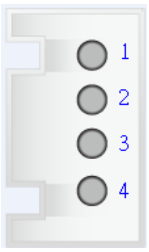
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

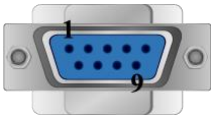
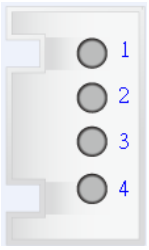
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 4P Terminal |
|---|---|---|---|
| 2 RX | 8 RX | | 1 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 4 GND |
|  |  | |  |

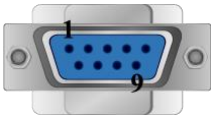
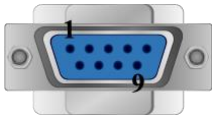
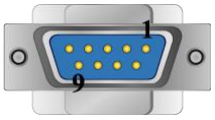
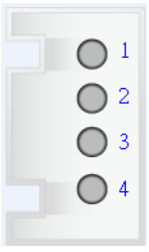
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 4P Terminal |
|---|---|---|---|
| 2 RX | | | 1 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

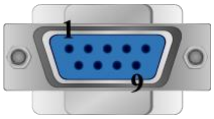
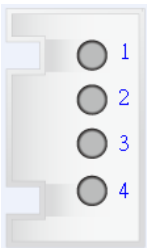
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 4P Terminal |
|---|---|---|---|
| 2 RX | | | 1 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 4P Terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 1 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 4 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 4P Terminal |
|---|---|---|---|
| 9 RX | | | 1 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 4 GND |
|  | | |  |





## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Nov/12/2009 | |

# LIYAN EX series

Supported Series: LIYAN PLC Ex/Ex1s/Ex1n/Ex2n series

Website: http://www.liyanplc.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi FX0s/FX0n/FX1s/FX1n/FX2 | | |
| PLC I/F | RS232 | RS232 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 7 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 0 | 0-255 | Must match the PLC port setting. |

## Device Address:

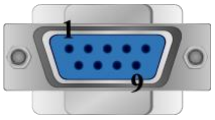
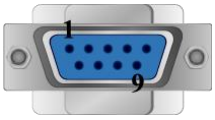
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | ooo | 0 ~ 377 | Input Relay |
| B | Y | ooo | 0 ~ 377 | Output Relay |
| B | M | ddd | 0 ~ 9999 | Internal Bit Memory |
| B | T | ddd | 0 ~ 255 | Timer Bit Memory |
| B | C | ddd | 0 ~ 255 | Counter Bit Memory |
| W | TV | ddd | 0 ~ 255 | Timer Register |
| W | CV | ddd | 0 ~ 199 | Counter Register |
| W | D | ddd | 0 ~ 9999 | Data Register |
| W | CV2 | ddd | 200 ~ 255 | Counter Register (Double Word) |
| W | SD | ddd | 8000 ~ 9999 | Special Data Register |

## Wiring Diagram:

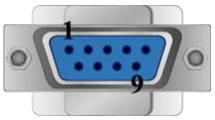
**The following is the view from the soldering point of a cable.**

9P D-Sub to 8P Mini-DIN: Ex, Ex1s, Ex1n, Ex2n series

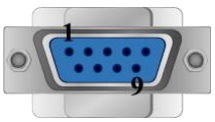
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD |
| 3 TX | 7 TX | | 7 RXD |
| 5 GND | 5 GND | | 6 GND |
|  |  | |  |

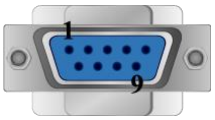
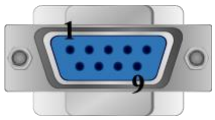
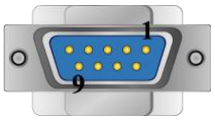
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 7 RXD |
| 5 GND | | | 6 GND |
|  | | |  |

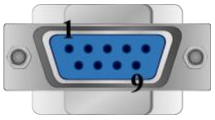
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 7 RXD |
| 5 GND | | | 6 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD |
| 3 TX | 4 TX | 7 TX | 7 RXD |
| 5 GND | 5 GND | 5 GND | 6 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 2 TXD |
| 6 TX | | | 7 RXD |
| 5 GND | | | 6 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Oct/26/2011 | |

# LoXin

Website: http://www.loxin-china.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LoXin | | |
| PLC I/F | RS-485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

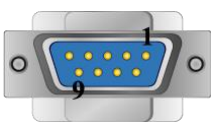
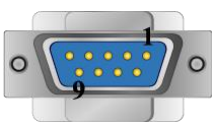
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Battery_Unit | D | 0 | |
| W | Insulator_Unit | D | 0 | |
| W | Switch_Unit | D | 0 | |

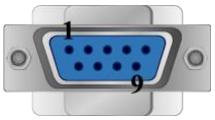
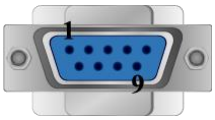
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

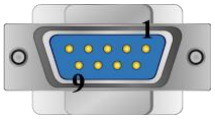
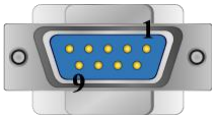
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

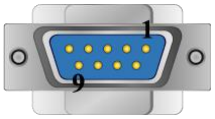
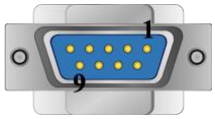
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

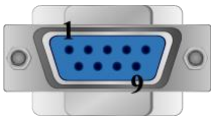
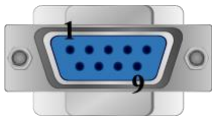
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/16/2008 | |

# LS GLOFA Cnet

Supported Series: LS GLOFA GM6/GM7 CPU port. G7L-CUEB / G6L-CUEB / G4L-CUEA / G3L-CUEA Cnet module

Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS GLOFA Cnet | | |
| PLC I/F | RS232 | RS232/RS485 2W/4W | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | 0~31 | |

## PLC Setting:

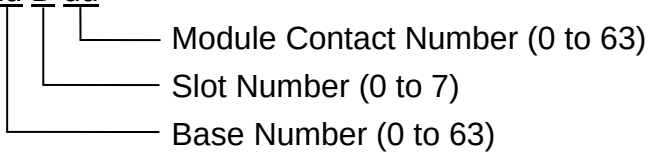
| | |
|---|---|
| Communication mode | 9600,N,8,1 (default), Cnet protocol |
| Communication module | Applicable mode: 1 dedicated communication |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MX | DDDDD | 0 ~ 32767 | Internal Relay |
| B | IX | ddDdd | 0 ~ 63763 | Input |
| B | QX | ddDdd | 0 ~ 63763 | Output |
| W | MW | DDDDD | 0 ~ 32767 | Data Register |
| DW | MD | DDDDD | 0 ~ 16383 | Double Word |

Device explanation:

IX and QX format: dd D dd

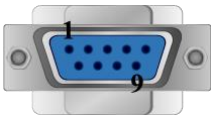
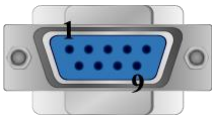
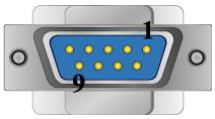


## Wiring Diagram:

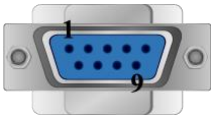
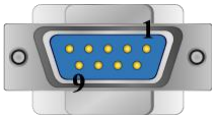
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub:

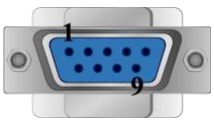
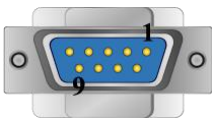
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 7 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

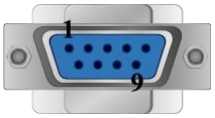
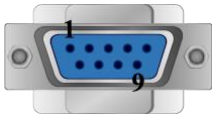
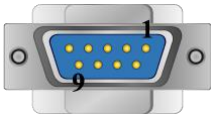
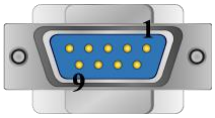
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

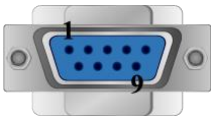
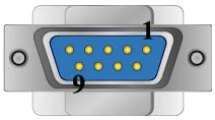
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 7 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

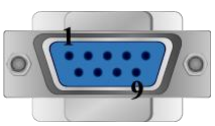
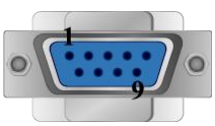
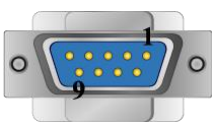
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 7 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

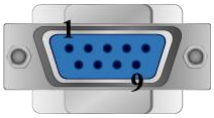
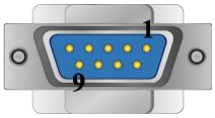
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: Communication Module (G7L-CUEB / G6L-CUEB / G4L-CUEA / G3L-CUEA Cnet RS232)

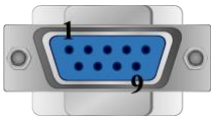
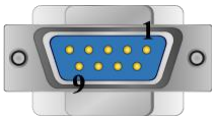
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 CD | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | |
| | | | 6 DSR | short |
|  |  | |  | |

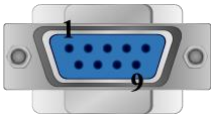
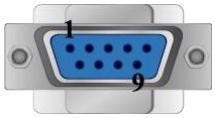
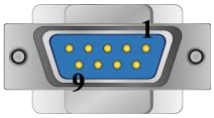
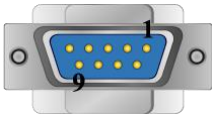
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 CD | short |
| | | | 7 RTS | |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

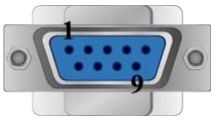
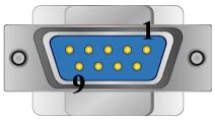
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 CD | short |
| | | | 7 RTS | |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 CD | short |
| | | | 7 RTS | |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  |  |  |  | |

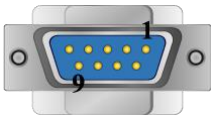
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 CD | short |
| | | | 7 RTS | |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

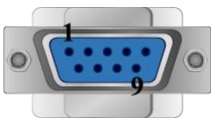
**The following is the view from the soldering point of a cable.**

Communication Module (G7L-CUEC / G6L-CUEC / G4L-CUEA / G3L-CUEA Cnet RS422)

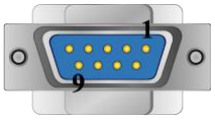
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

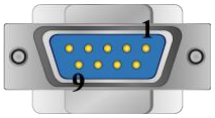
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS422 terminal |
|---|---|---|---|
| 7 RX- | | | SDB |
| 6 RX+ | | | SDA |
| 9 TX- | | | RDB |
| 8 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

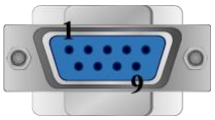
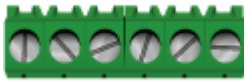
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | RS422 terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.80 | Jun/08/2010 | |

# LS GLOFA FEnet (Ethernet)

Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS GLOFA FEnet (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 2004 | | |
| PLC sta. no. | 0 | 0~31 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MX | DDDDDD | 0 ~ 131056 | Internal Relay |
| B | IX | ddDdd | 0 ~ 63763 | Input |
| B | QX | ddDdd | 0 ~ 63763 | Output |
| W | MW | DDDD | 0 ~ 8191 | Data Register |
| DW | MD | DDDD | 0 ~ 4095 | Double Word |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/02/2009 | Driver released. |

# LS GLOFA GM3467 (LOADER)

Supported Series: LS GLOFA series GM3, GM4, GM6, GM7 CPU port.

Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS GLOFA GM3467 (LOADER) | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

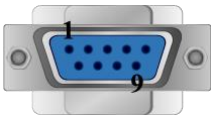
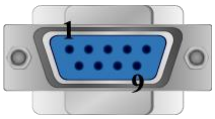
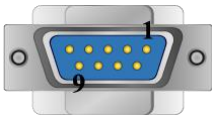
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MX | DDDDDD | 0 ~ 524272 | |
| B | IX | ddDdd | 0 ~ 63763 | 00.0.0 ~ 63.7.63 (dd.D.dd) |
| B | QX | ddDdd | 0 ~ 63763 | 00.0.0 ~ 63.7.63 (dd.D.dd) |
| W | IW | HHH | 0 ~ 273 | |
| W | QW | HHH | 0 ~ 273 | |
| W | MW | DDDDD | 0 ~ 32767 | |
| W | MD | DDDDD | 0 ~ 16383 | |

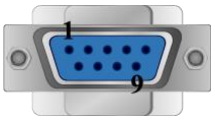
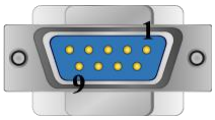
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

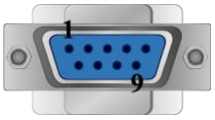
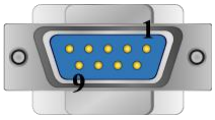
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | LS GLOFA series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

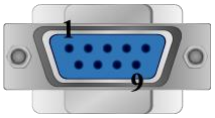
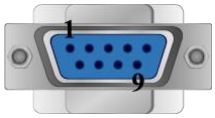
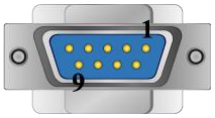
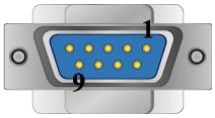
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | LS GLOFA series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

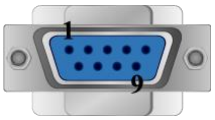
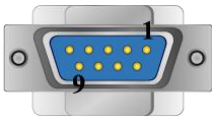
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | LS GLOFA series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | LS GLOFA series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | LS GLOFA series RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Mar/08/2010 | |

# LS MASTER-K Cnet

Supported Series: LS MASTER-K series: K80S, K200S, K300S, and K1000S

Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS MASTER-K Cnet | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 38400 | 9600, 19200, 38400 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | 0-31 | Must match the PLC port setting. |

| | |
|---|---|
| Online simulator | YES |

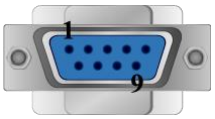
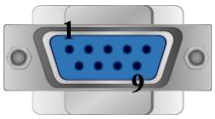
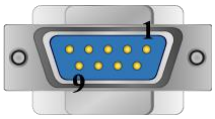
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDh | 0 ~ 255f | I/O Relay (P) |
| B | KW_Bit | DDDh | 0 ~ 255f | Keep Relay (K) |
| B | MW_Bit | DDDh | 0 ~ 255f | Auxiliary Relay (M) |
| B | LW_Bit | DDDh | 0 ~ 255f | Link Relay (L) |
| B | FW_Bit | DDDh | 0 ~ 255f | Special Relay (F) |
| B | DW_bit | DDDDh | 0 ~ 9999f | D_bit |
| W | MW | DDD | 0 ~ 255 | Word type for M |
| W | LW | DDD | 0 ~ 255 | Word type for L |
| W | FW | DDD | 0 ~ 255 | Word type for F |
| W | TW | DDD | 0 ~ 255 | Timer Present Value |
| W | CW | DDD | 0 ~ 255 | Counter Present Value |
| W | DW | DDDD | 0 ~ 9999 | Data Register (D) |

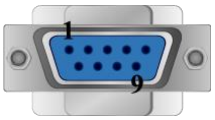
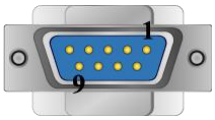
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

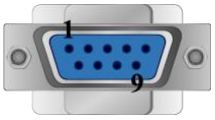
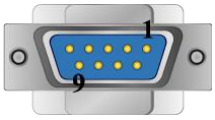
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | CPU Port Cnet I/F RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 7 TX |
| 3 TX | 7 TX | | 4 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

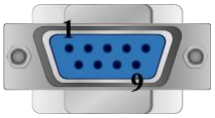
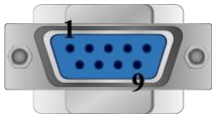
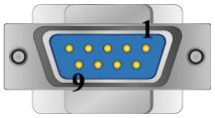
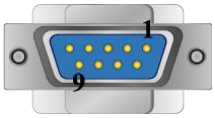
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CPU Port Cnet I/F RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 7 TX |
| 3 TX | | | 4 RX |
| 5 GND | | | 5 GND |
|  | | |  |

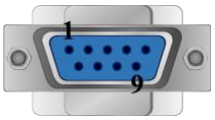
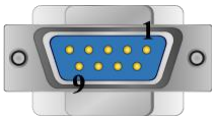
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CPU Port Cnet I/F RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 7 TX |
| 3 TX | | | 4 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | CPU Port Cnet I/F RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 7 TX |
| 3 TX | 4 TX | 7 TX | 4 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | CPU Port Cnet I/F RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 7 TX |
| 6 TX | | | 4 RX |
| 5 GND | | | 5 GND |
|  | | |  |

If connected with Cnet module, please refer to Cnet module document.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/19/2010 | Driver released. |
| V1.10 | May/11/2011 | Added registers: D_bit, M_word, F_word, L_word |

# LS MASTER-K CPU Direct

Supported Series: LS MASTER-K series: K80S, K120S, K200S, K300S, K1000S, K7M.

Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LG MASTER-K CPU Direct | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 38400 | 9600, 19200, 38400 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | 0-31 | Must match the PLC port setting. |

| | |
|---|---|
| Online simulator | YES |

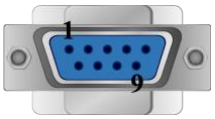
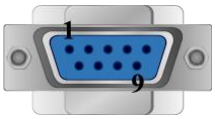
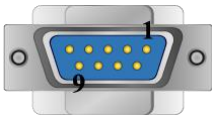
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDh | 0 ~ 255f | I/O Relay (P) |
| B | KW_Bit | DDDh | 0 ~ 255f | Keep Relay (K) |
| B | MW_Bit | DDDh | 0 ~ 255f | Auxiliary Relay (M) |
| B | LW_Bit | DDDh | 0 ~ 255f | Link Relay (L) |
| B | FW_Bit | DDDh | 0 ~ 255f | Special Relay (F) |
| B | DW_bit | DDDDh | 0 ~ 9999f | D_bit |
| W | MW | DDD | 0 ~ 255 | Word type for M |
| W | LW | DDD | 0 ~ 255 | Word type for L |
| W | FW | DDD | 0 ~ 255 | Word type for F |
| W | TW | DDD | 0 ~ 255 | Timer Present Value |
| W | CW | DDD | 0 ~ 255 | Counter Present Value |
| W | DW | DDDD | 0 ~ 9999 | Data Register (D) |

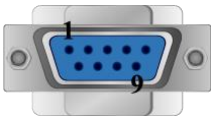
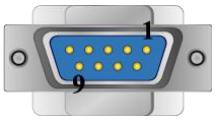
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

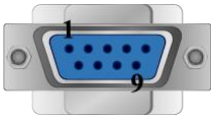
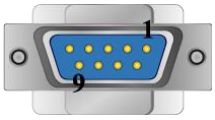
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

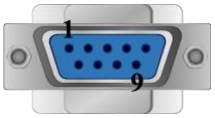
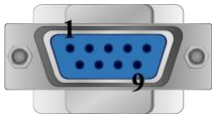
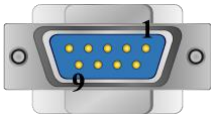
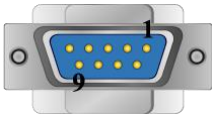
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

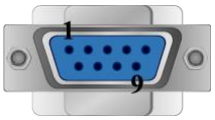
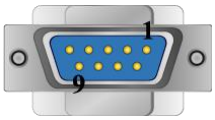
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | May/11/2011 | Added registers: D_bit, M_word, F_word, L_word |
| V1.30 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS MASTER-K MODBUS RTU

Supported Series: LS MASTER-K MODBUS RTU

Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS MASTER-K MODBUS RTU | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | 8 | |
| Parity | Even | Even | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | | |

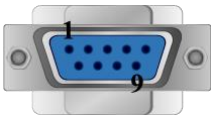
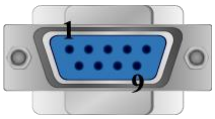
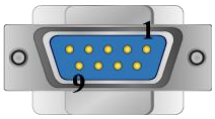
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDDh | 0 ~ 9999f | I/O Relay (P) |
| B | KW_Bit | DDDDh | 0 ~ 9999f | Keep Relay (K) |
| B | MW_Bit | DDDDh | 0 ~ 9999f | Auxiliary Relay (M) |
| B | LW_Bit | DDDDh | 0 ~ 9999f | Link Relay (L) |
| B | FW_Bit | DDDDh | 0 ~ 9999f | Special Relay (F) |
| B | DW_Bit | DDDDh | 0 ~ 9999f | |
| W | MW | DDDD | 0 ~ 9999 | |
| W | LW | DDDD | 0 ~ 9999 | |
| W | FW | DDDD | 0 ~ 9999 | |
| W | TW | DDDD | 0 ~ 9999 | Timer (T) |
| W | CW | DDDD | 0 ~ 9999 | Counter (C) |
| W | SW | DDDD | 0 ~ 9999 | |
| W | DW | DDDD | 0 ~ 9999 | Data Register (D) |
| DW | TD | DDDD | 0 ~ 9999 | |
| DW | CD | DDDD | 0 ~ 9999 | |
| DW | SD | DDDD | 0 ~ 9999 | |
| DW | DD | DDDD | 0 ~ 9999 | |

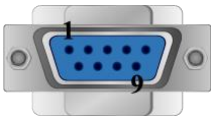
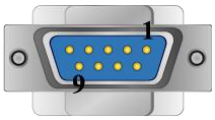
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

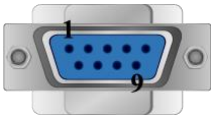
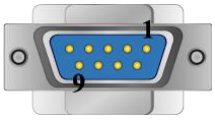
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

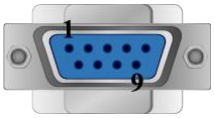
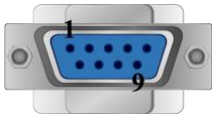
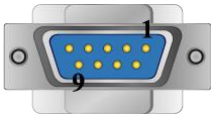
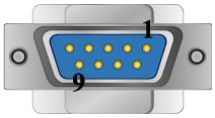
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

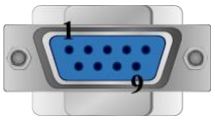
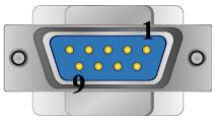
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | May/11/2011 | Added registers: D_bit, M_word, F_word, L_word |
| V1.20 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS MASTER-K10S1

Supported Series: LS MASTER-K10S1

Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS MASTER-K10S1 | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 9600 | | |
| Data bits | 8 | 8 | |
| Parity | None | None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | | |

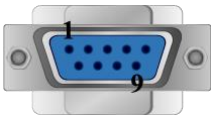
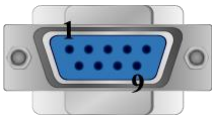
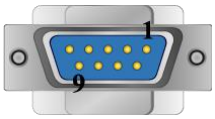
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDh | 0 ~ 255f | I/O Relay (P) |
| B | KW_Bit | DDDh | 0 ~ 255f | Keep Relay (K) |
| B | MW_Bit | DDDh | 0 ~ 255f | Auxiliary Relay (M) |
| B | LW_Bit | DDDh | 0 ~ 255f | Link Relay (L) |
| B | FW_Bit | DDDh | 0 ~ 255f | Special Relay (F) |
| B | TX | DDD | 0 ~ 255 | Timer (T) |
| B | CX | DDD | 0 ~ 255 | Counter (C) |
| W | TW | DDD | 0 ~ 255 | Timer Present Value |
| W | CW | DDD | 0 ~ 255 | Counter Present Value |
| W | DW | DDDD | 0 ~ 9999 | Data Register (D) |

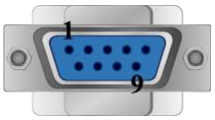
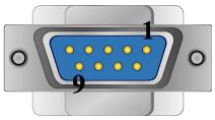
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

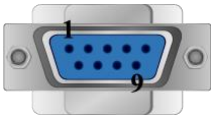
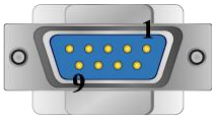
Driver eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

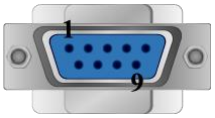
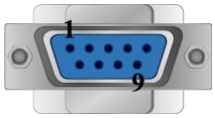
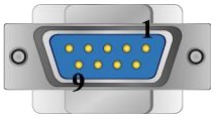
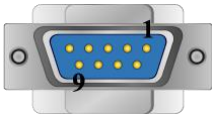
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

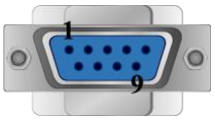
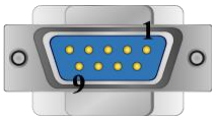
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Sep/08/2009 | Driver released. |
| V1.10 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XBM/XBC Cnet

Supported Series: LS XGB Series XBM/XBC CPU with communication module XGL-CH2A.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XBM/XBC Cnet | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 0-31 | |

## Device Address:

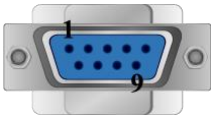
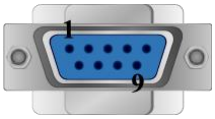
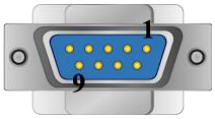
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDDh | 0 ~ 2047f | I/O device Bit |
| B | MW_Bit | DDDDh | 0 ~ 2047f | Internal device Bit |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | Communication device Bit |
| B | KW_Bit | DDDDh | 0 ~ 2559f | Preservation device Bit |
| B | FW_Bit | DDDDh | 0 ~ 2047f | Special device Bit( write available from 1025) |
| B | DW_Bit | DDDDDh | 0 ~ 32767f | Data register_Bit expression (D0000.0) |
| B | UW_Bit | DH.DDh | 0 ~ 7f.31f | XGK-CPUE : hh(0~1f) |
| B | RW_Bit | DDDDDh | 0 ~ 32767f | |
| B | SX | DDDDD | 0 ~ 12799 | Relay for step control Bit |
| B | TX | DDDD | 0 ~ 2047 | Timer device Bit |
| B | CX | DDDD | 0 ~ 2047 | Counter device Bit |
| W | PW | DDDD | 0 ~ 2047 | I/O device_2,048 points |
| W | MW | DDDD | 0 ~ 2047 | Internal device_4,096 points |
| W | LW | DDDDD | 0 ~ 11263 | Communication device_20,480 points |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | KW | DDDD | 0 ~ 2559 | Preservation device_4,096 points |
| W | FW | DDDD | 0 ~ 2047 | Special device_4,096 point |
| W | DW | DDDDD | 0 ~ 32767 | Data register_5120 words |
| W | UW | DH.DD | 0.00 ~ 7f.31 | Analog data register_256 words |
| W | RW | DDDDD | 0 ~ 32767 | |
| W | SW | DDDDD | 0 ~ 127 | Relay for step control |
| W | TW | DDDD | 0 ~ 2047 | Timer current value register_256 words |
| W | CW | DDDD | 0 ~ 2047 | Counter current value register_256 words |
| W | NW | DDDDD | 0 ~ 21503 | Communication data register_3,936 words |
| W | ZW | DDD | 0 ~ 127 | Index register_128 words |

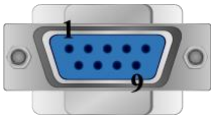
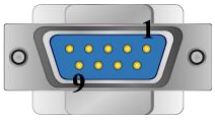
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

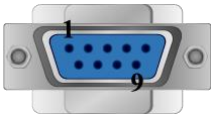
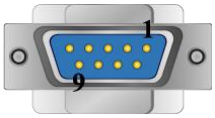
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

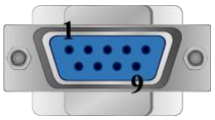
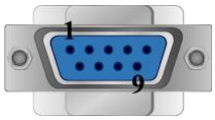
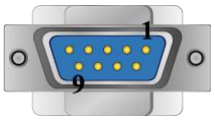
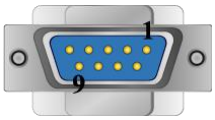
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

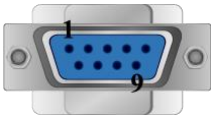
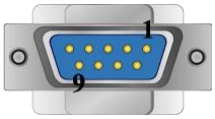
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

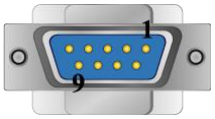
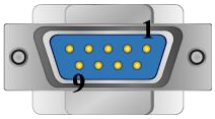
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

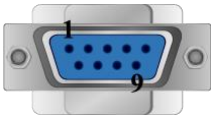
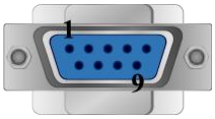
| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

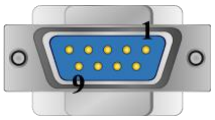
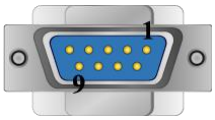
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 485- |
| 2 RX+ | 9 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

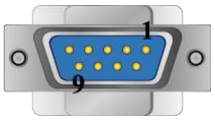
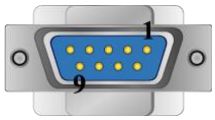
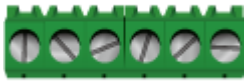
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 485- |
| 6 RX+ | 1 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

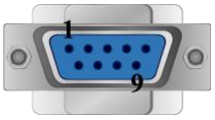
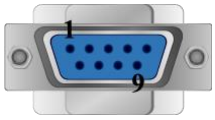
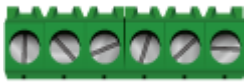
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 485- |
| 2 RX+ | 8 Data+ | | 485+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 485- |
| 2 RX+ | 9 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 485- |
| 2 RX+ | 8 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.50 | Mar/07/2011 | Added registers: P_Bit, M_Bit, L_Bit, K_Bit…etc |
| V1.70 | Jun/28/2012 | Change the way to read/write S_Bit. |
| V1.80 | Mar/10/2014 | Added registers: R_Bit, R |
| V2.00 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XBM/XBC FEnet (Ethernet)

Supported Series: LS XGB series XBM/XBC CPU with XBL-EFMT ethernet module.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XBM/XBC FEnet (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 2004 | | |
| PLC sta. no. | 0 | 0~255 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | FEnet Protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDDh | 0 ~ 2047f | I/O device Bit |
| B | MW_Bit | DDDDh | 0 ~ 2047f | Internal device Bit |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | Communication device Bit |
| B | KW_Bit | DDDDh | 0 ~ 2559f | Preservation device Bit |
| B | FW_Bit | DDDDh | 0 ~ 2047f | Special device Bit( write available from 1025) |
| B | DW_Bit | DDDDDh | 0 ~ 32767f | Data register_Bit expression |
| B | UW_Bit | DH.DDh | 0 ~ 7f.31f | XGK-CPUE : hh(0~1f) |
| B | RW_Bit | DDDDDf | 0 ~32767f | |
| B | SX | DDDDD | 0 ~ 12799 | Relay for step control Bit |
| B | TX | DDDD | 0 ~ 2047 | Timer device Bit |
| B | CX | DDDD | 0 ~ 2047 | Counter device Bit |
| W | PW | DDDD | 0 ~ 2047 | I/O device_2,048 points |
| W | MW | DDDD | 0 ~ 2047 | Internal device_4,096 points |
| W | LW | DDDDD | 0 ~ 11263 | Communication device_20,480 |
| W | KW | DDDD | 0 ~ 2559 | Preservation device_4,096 points |
| W | FW | DDDD | 0 ~ 2047 | Special device_4,096 point |
| W | DW | DDDDD | 0 ~ 32767 | Data register_5120 words |
| W | UW | DH.DD | 0.00 ~ 7f.31 | Analog data register_256 words |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | RW | DDDDD | 0 ~ 32767 | |
| W | SW | DDDDD | 0 ~ 127 | Relay for step control |
| W | TW | DDDD | 0 ~ 2047 | Timer current value register_256 words |
| W | CW | DDDD | 0 ~ 2047 | Counter current value register_256 words |
| W | NW | DDDDD | 0 ~ 21503 | Communication data register_3,936 words |
| W | ZW | DDD | 0 ~ 127 | Index register_128 words |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.50 | Aug/16/2011 | Added registers: P_Bit, M_Bit, L_Bit, K_Bit…etc |
| V1.60 | Jun/28/2012 | Change the way to read/write S_Bit. |
| V1.70 | Mar/10/2014 | Added registers: R_Bit, R |
| V1.80 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XBM/XBC/XGK CPU DIRECT

Supported Series: LS XBM/XBC/XGK CPU RS232 port.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XBM/XBC/XGK CPU DIRECT | | |
| PLC I/F | RS232 | RS232 | |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 1 | |

## Device Address:

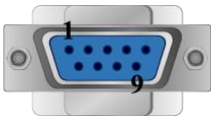
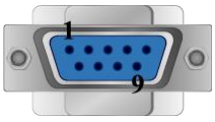
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDDh | 0 ~ 2047f | I/O device Bit |
| B | MW_Bit | DDDDh | 0 ~ 2047f | Internal device Bit |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | Communication device Bit |
| B | KW_Bit | DDDDh | 0 ~ 2559f | Preservation device Bit |
| B | FW_Bit | DDDDh | 0 ~ 2047f | Special device Bit( write available from |
| B | DW_Bit | DDDDDh | 0 ~ 32767f | Data register_Bit expression |
| B | UW_Bit | DH.DDh | 0 ~ 3f.31f | XGK-CPUE : hh(0~1f) |
| B | RW_Bit | DDDDDh | 0 ~ 32767f | |
| B | SX | DDDDD | 0 ~ 12799 | Relay for step control Bit |
| B | TX | DDDD | 0 ~ 2047 | Timer device Bit |
| B | CX | DDDD | 0 ~ 2047 | Counter device Bit |
| W | PW | DDDD | 0 ~ 2047 | I/O device |
| W | MW | DDDD | 0 ~ 2047 | Internal device |
| W | LW | DDDDD | 0 ~ 11263 | Communication device |
| W | KW | DDDD | 0 ~ 2559 | Preservation device |
| W | FW | DDDD | 0 ~ 2047 | Special device( write available |
| W | SW | DDDDD | 0 ~ 127 | Relay for step control |
| W | DW | DDDDD | 0 ~ 32767 | Data register |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | UW | DH.DD | 0.00 ~ 3f.31 | Analog data register XGK-CPUE : hh(0~1f) |
| W | NW | DDDDD | 0 ~ 21503 | Communication data register |
| W | ZW | DDD | 0 ~ 127 | Index register_128 words |
| W | TW | DDDD | 0 ~ 2047 | Timer current value register |
| W | CW | DDDD | 0 ~ 2047 | Counter current value register |
| W | RW | DDDDD | 0 ~ 32767 | |
| W | ZRW | DDDDD | 0 ~ 32767 | |
| W | TSW | DDDD | 0 ~ 2047 | Setup value |
| W | CSW | DDDD | 0 ~ 2047 | Setup value |

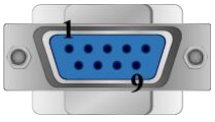
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

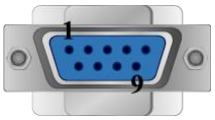
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | XGB RS232 6P Mini-DIN Male |
|---|---|---|---|
| 2 RX | 8 RX | | 6 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 3 GND |
|  |  | |  |

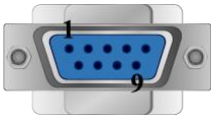
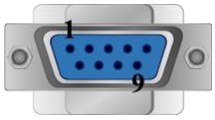
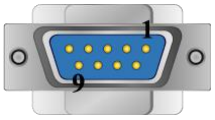
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | XGB RS232 6P Mini-DIN Male |
|---|---|---|---|
| 2 RX | | | 6 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 3 GND |
|  | | |  |

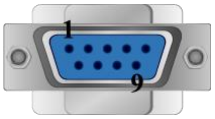
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGB RS232 6P Mini-DIN Male |
|---|---|---|---|
| 2 RX | | | 6 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

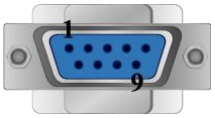
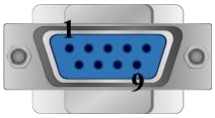
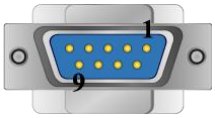
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | XGB RS232 6P Mini-DIN Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 6 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 3 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

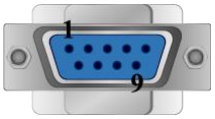
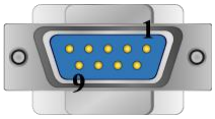
| COM1 RS232 9P D-Sub Female | | | XGB RS232 6P Mini-DIN Male |
|---|---|---|---|
| 9 RX | | | 6 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 3 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

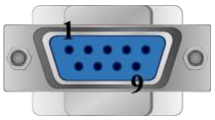
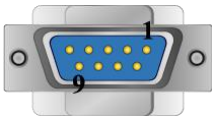
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | XGK RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

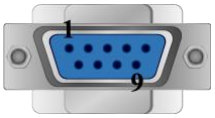
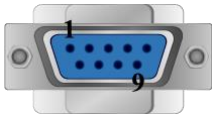
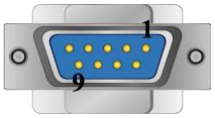
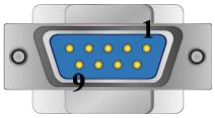
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | XGK RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

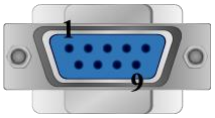
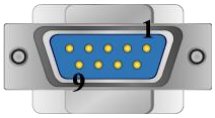
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGK RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | XGK RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGK RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Mar/10/2011 | Added registers: P_Bit, M_Bit, L_Bit, K_Bit…etc |
| V1.60 | Jun/18/2012 | Change the way to read/write S_Bit. |
| V1.70 | Mar/10/2014 | Added registers: R_Bit |
| V1.80 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XEC Cnet

Supported Series: LS XGB Series XEC CPU with communication module XGL-CH2A.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XEC Cnet | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 115200 | 9600 ~ 115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 0 | 0 ~ 32 | |

## Device Address:

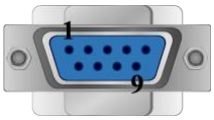
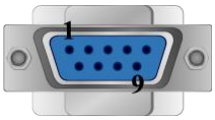
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | AW_Bit | DDDDDDh | 0 ~ 262143f | Automatic variable bit |
| B | IW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | Input device bit |
| B | QW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | Output device bit |
| B | MW_Bit | DDDDDDh | 0 ~ 131071f | Direct variable bit |
| B | RW_Bit | DDDDDh | 0 ~ 32767f | Direct variable bit |
| B | WW_Bit | DDDDDh | 0 ~ 65535f | Direct variable bit |
| B | FW_Bit | DDDDh | 0 ~ 2047f | System flag bit |
| B | KW_Bit | DDDDh | 0 ~ 8399f | Built-in special flag bit |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | High speed link flag bit |
| B | NW_Bit | DDDDDh | 0 ~ 25087f | P2P flag bit |
| B | UW_Bit | DD.DD.DDh | 0 ~ 31.15.31f | Analog flag bit |
| B | AX | DDDDDDD | 0 ~ 4194303 | |
| B | IX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | QX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | MX | DDDDDDD | 0 ~ 2097151 | |
| B | RX | DDDDDD | 0 ~ 524287 | |
| B | WX | DDDDDDD | 0 ~ 1048575 | |
| B | FX | DDDDD | 0 ~ 32767 | |
| B | KX | DDDDDD | 0 ~ 134399 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | LX | DDDDDDD | 0 ~ 1880223 | |
| B | NX | DDDDDD | 0 ~ 401407 | |
| B | UX | DD.DD.DDD | 31.15.511 | |
| W | AW | DDDDDD | 0 ~ 262143 | Automatic variable |
| W | IW | DDD.DD.D | 0 ~ 127.15.3 | Input device |
| W | QW | DDD.DD.D | 0 ~ 127.15.3 | Output device |
| W | MW | DDDDDD | 0 ~ 131071 | Direct variable |
| W | RW | DDDDD | 0 ~ 32767 | Direct variable |
| W | WW | DDDDD | 0 ~ 65535 | Direct variable |
| W | FW | DDDD | 0 ~ 2047 | System flag |
| W | KW | DDDD | 0 ~ 8399 | Built-in special flag |
| W | LW | DDDDD | 0 ~ 11263 | High speed link flag |
| W | NW | DDDDD | 0 ~ 25087 | P2P flag |
| W | UW | DD.DD.DD | 0 ~ 31.15.31 | Analog flag |
| DW | MD | DDDDD | 0 ~ 65535 | |

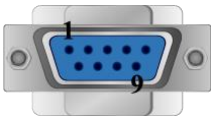
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

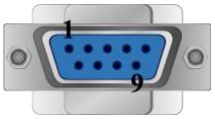
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 Terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TX |
| 3 TX | 7 TX | | RX |
| 5 GND | 5 GND | | SG |
|  |  | |  |

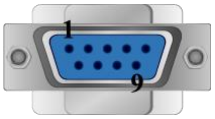
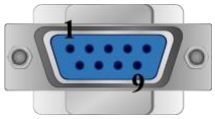
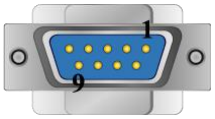
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 2 RX | | | TX |
| 3 TX | | | RX |
| 5 GND | | | SG |
|  | | |  |

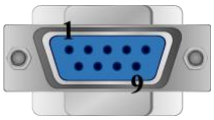
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 2 RX | | | TX |
| 3 TX | | | RX |
| 5 GND | | | SG |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

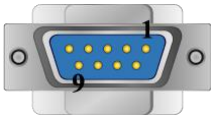
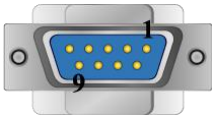
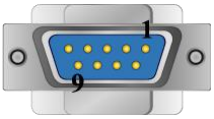
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 Terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TX |
| 3 TX | 4 TX | 7 TX | RX |
| 5 GND | 5 GND | 5 GND | SG |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

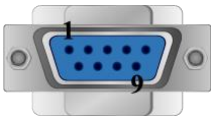
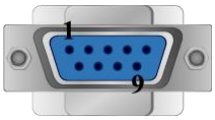
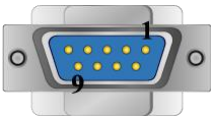
| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 9 RX | | | TX |
| 6 TX | | | RX |
| 5 GND | | | SG |
|  | | |  |

**The following is the view from the soldering point of a cable.**

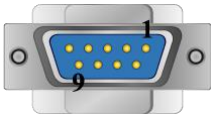
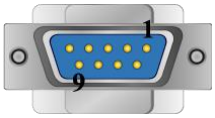
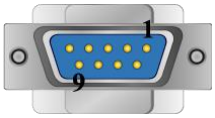
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 485- |
| 2 RX+ | 9 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

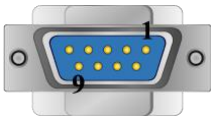
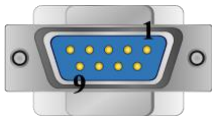
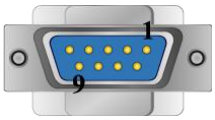
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 485- |
| 6 RX+ | 1 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

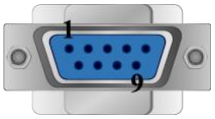
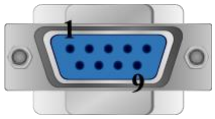
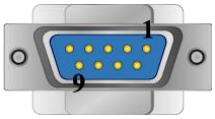
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 485- |
| 2 RX+ | 8 Data+ | | 485+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 485- |
| 2 RX+ | 9 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 485- |
| 2 RX+ | 8 Data+ | | 485+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/27/2012 | Driver released. |
| V1.30 | Sep/18/2014 | 1. UX, IX, QX, MD device types are added.<br>2. Renamed the bit addresses by adding an uppercase letter X. Ex: M->MX.<br>3. Renamed the word addresses by adding an uppercase letter X. Ex: M-> MW. |
| V1.50 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XEC FEnet (Ethernet)

Supported Series: LS XGB Series XEC CPU with XGL-EFMT ethernet module.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XEC FEnet (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 2004 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | AW_Bit | DDDDDh | 0 ~ 16383f | Automatic variable bit |
| B | IW_Bit | DD.DD.Df | 0 ~ 15.15.3f | Input device bit |
| B | QW_Bit | DD.DD.Df | 0 ~ 15.15.3f | Output device bit |
| B | MW_Bit | DDDDh | 0 ~ 8191f | Direct variable bit |
| B | RW_Bit | DDDDDh | 0 ~ 10239f | Direct variable bit |
| B | WW_Bit | DDDDDh | 0 ~ 10239f | Direct variable bit |
| B | FW_Bit | DDDDh | 0 ~ 1023f | System flag bit |
| B | KW_Bit | DDDDh | 0 ~ 4095f | Built-in special flag bit |
| B | LW_Bit | DDDDh | 0 ~ 2047f | High speed link flag bit |
| B | NW_Bit | DDDDh | 0 ~ 5119f | P2P flag bit |
| B | UW_Bit | DD.DD.DDf | 0 ~ 31.15.31f | Analog flag bit |
| B | AX | DDDDDD | 0 ~ 262143 | |
| B | IX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | QX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | MX | DDDDDD | 0 ~ 131071 | |
| B | RX | DDDDDD | 0 ~ 163839 | |
| B | WX | DDDDDD | 0 ~ 163839 | |
| B | FX | DDDDD | 0 ~ 16383 | |
| B | KX | DDDDD | 0 ~ 65535 | |
| B | LX | DDDDD | 0 ~ 32767 | |
| B | NX | DDDDD | 0 ~ 81919 | |
| B | UX | DD.DD.DDD | 0 ~ 31.15.511 | |
| W | AW | DDDDD | 0 ~ 16383 | Automatic variable |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | IW | DDD.DD.D | 0 ~ 15.15.3 | Input device |
| W | QW | DDD.DD.D | 0 ~ 15.15.3 | Output device |
| W | MW | DDDD | 0 ~ 8191 | Direct variable |
| W | RW | DDDDD | 0 ~ 10239 | Direct variable |
| W | WW | DDDDD | 0 ~ 10239 | Direct variable |
| W | FW | DDDD | 0 ~ 1023 | System flag |
| W | KW | DDDD | 0 ~ 4095 | Built-in special flag |
| W | LW | DDDD | 0 ~ 2047 | High speed link flag |
| W | NW | DDDD | 0 ~ 5119 | P2P flag |
| W | UW | DD.DD.DD | 0 ~ 31.15.31 | Analog flag |
| DW | MD | DDDD | 0 ~ 4095 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/28/2012 | Driver released. |
| V1.10 | Mar/22/2014 | |
| V1.20 | Sep/18/2014 | 1. UX, IX, QX, MD device types are added.<br>2. Renamed the bit addresses by adding an uppercase letter X. Ex: M->MX.<br>3. Renamed the word addresses by adding an uppercase letter X. Ex: M-> MW. |
| V1.40 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XEC/XGI CPU DIRECT

Supported Series: LS XEC/XGI CPU RS232 port.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XEC/XGI CPU DIRECT | | |
| PLC I/F | RS232 | RS232 | |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 1 | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

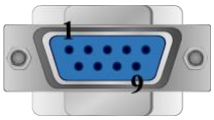
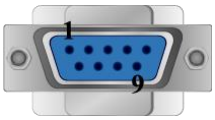
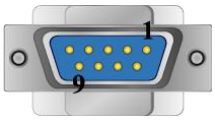
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | AW_Bit | DDDDDDh | 0 ~ 262143f | |
| B | IW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | |
| B | QW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | |
| B | MW_Bit | DDDDDDh | 0 ~ 131071f | |
| B | RW_Bit | DDDDDh | 0 ~ 32767f | |
| B | WW_Bit | DDDDDh | 0 ~ 65535f | |
| B | FW_Bit | DDDDh | 0 ~ 2047f | |
| B | KW_Bit | DDDDh | 0 ~ 8399f | |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | |
| B | NW_Bit | DDDDDh | 0 ~ 25087f | |
| B | UW_Bit | DD.DD.DDh | 0 ~ 31.15.31f | |
| B | AX | DDDDDDD | 0 ~ 4194303 | |
| B | IX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | QX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | MX | DDDDDDD | 0 ~ 2097151 | |
| B | RX | DDDDDD | 0 ~ 524287 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | WX | DDDDDDD | 0 ~ 1048575 | |
| B | FX | DDDDD | 0 ~ 32767 | |
| B | KX | DDDDDD | 0 ~ 134399 | |
| B | LX | DDDDDDD | 0 ~ 1880223 | |
| B | NX | DDDDDD | 0 ~ 401407 | |
| B | UX | DD.DD.DDD | 0 ~ 31.15.511 | |
| W | AW | DDDDDD | 0 ~ 262143 | |
| W | IW | DDD.DD.D | 0 ~ 127.15.3 | |
| W | QW | DDD.DD.D | 0 ~ 127.15.3 | |
| W | MW | DDDDDD | 0 ~ 131071 | |
| W | RW | DDDDD | 0 ~ 32767 | |
| W | WW | DDDDD | 0 ~ 65535 | |
| W | FW | DDDD | 0 ~ 2047 | |
| W | KW | DDDD | 0 ~ 8399 | |
| W | LW | DDDDD | 0 ~ 11263 | |
| W | NW | DDDDD | 0 ~ 25087 | |
| W | UW | DD.DD.DD | 0 ~ 31.15.31 | |
| DW | MD | DDDDD | 0 ~ 65535 | |

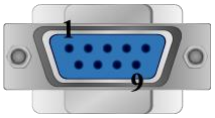
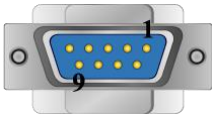
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

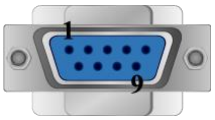
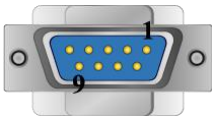
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | XGI CPU RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

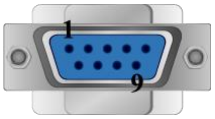
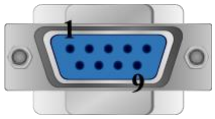
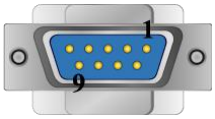
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | XGI CPU RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

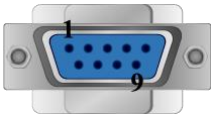
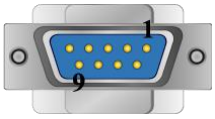
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGI CPU RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | XGI CPU RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGI CPU RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/17/2012 | Driver released. |
| V1.10 | Mar/22/2014 | |
| V1.30 | Sep/18/2014 | 1. UX, IX, QX, MD device types are added.<br>2. Renamed the bit addresses by adding an uppercase letter X. Ex: M->MX.<br>3. Renamed the word addresses by adding an uppercase letter X. Ex: M-> MW. |
| V1.50 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XGI Cnet

Supported Series: LS XGT series XGI CPU series with communication module XGL-CH2A
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XGI Cnet | | |
| PLC I/F | RS232 | RS232/RS485 4W | |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | 0~32 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | AW_Bit | DDDDDDh | 0 ~ 262143f | |
| B | IW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | |
| B | QW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | |
| B | MW_Bit | DDDDDDh | 0 ~ 131071f | |
| B | RW_Bit | DDDDDh | 0 ~ 32767f | |
| B | WW_Bit | DDDDDh | 0 ~ 65535f | |
| B | FW_Bit | DDDDh | 0 ~ 2047f | |
| B | KW_Bit | DDDDh | 0 ~ 8399f | |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | |
| B | NW_Bit | DDDDDh | 0 ~ 25087f | |
| B | UW_Bit | DD.DD.DDh | 0 ~ 31.15.31f | |
| B | AX | DDDDDDD | 0 ~ 4194303 | |
| B | IX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | QX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | MX | DDDDDDD | 0 ~ 2097151 | |
| B | RX | DDDDDD | 0 ~ 524287 | |
| B | WX | DDDDDDD | 0 ~ 1048575 | |
| B | FX | DDDDD | 0 ~ 32767 | |

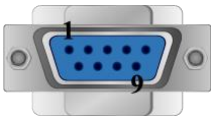
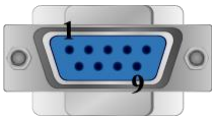
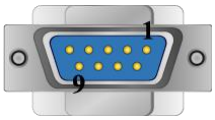
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | KX | DDDDDD | 0 ~ 134399 | |
| B | LX | DDDDDDD | 0 ~ 1880223 | |
| B | NX | DDDDDD | 0 ~ 401407 | |
| B | UX | DD.DD.DDD | 0 ~ 31.15.511 | |
| W | AW | DDDDDD | 0 ~ 262143 | |
| W | IW | DDD.DD.D | 0 ~ 127.15.3 | |
| W | QW | DDD.DD.D | 0 ~ 127.15.3 | |
| W | MW | DDDDDD | 0 ~ 131071 | |
| W | RW | DDDDD | 0 ~ 32767 | |
| W | WW | DDDDD | 0 ~ 65535 | |
| W | FW | DDDD | 0 ~ 2047 | |
| W | KW | DDDD | 0 ~ 8399 | |
| W | LW | DDDDD | 0 ~ 11263 | |
| W | NW | DDDDD | 0 ~ 25087 | |
| W | UW | DD.DD.DD | 0 ~ 31.15.31 | |
| DW | MD | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

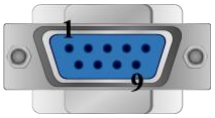
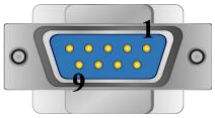
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub:

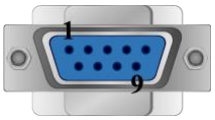
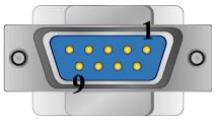
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

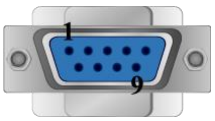
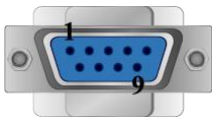
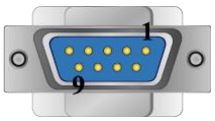
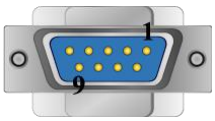
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

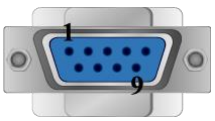
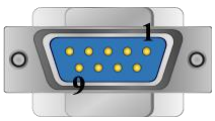
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

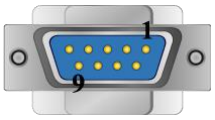
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

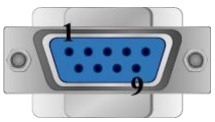
**The following is the view from the soldering point of a cable.**

9P D-Sub to Terminals:

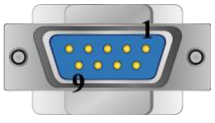
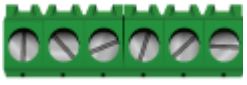
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | XGL-CH2A CH2 5P<br>Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

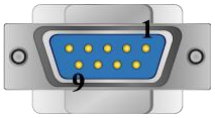
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | XGL-CH2A CH2 5P<br>Terminal |
|---|---|---|---|
| 7 RX- | | | TXD- |
| 6 RX+ | | | TXD+ |
| 9 TX- | | | RXD- |
| 8 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

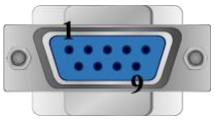
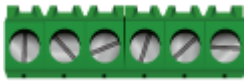
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | XGL-CH2A CH2 5P<br>Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | XGL-CH2A CH2 5P Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | XGL-CH2A CH2 5P Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/23/2012 | Driver released |
| V1.20 | Sep/18/2014 | 1. UX, IX, QX, MD device types are added.<br>2. Renamed the bit addresses by adding an uppercase letter X. Ex: M->MX.<br>3. Renamed the word addresses by adding an uppercase letter X. Ex: M-> MW. |
| V1.30 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XGI FEnet (Ethernet)

Supported Series: LS XGT series XGI CPU with XGL-EFMT ethernet module.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XGI FEnet (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 2004 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | AW_Bit | DDDDDDh | 0 ~ 262143f | |
| B | IW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | |
| B | QW_Bit | DDD.DD.Dh | 0 ~ 127.15.3f | |
| B | MW_Bit | DDDDDDh | 0 ~ 131071f | |
| B | RW_Bit | DDDDDh | 0 ~ 32767f | |
| B | WW_Bit | DDDDDh | 0 ~ 65535f | |
| B | FW_Bit | DDDDh | 0 ~ 2047f | |
| B | KW_Bit | DDDDh | 0 ~ 8399f | |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | |
| B | NW_Bit | DDDDDh | 0 ~ 25087f | |
| B | UW_Bit | DD.DD.DDh | 0 ~ 31.15.31f | |
| B | AX | DDDDDDD | 0 ~ 4194303 | |
| B | IX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | QX | DDD.DD.DD | 0 ~ 127.15.63 | |
| B | MX | DDDDDDD | 0 ~ 2097151 | |
| B | RX | DDDDDD | 0 ~ 524287 | |
| B | WX | DDDDDDD | 0 ~ 1048575 | |
| B | FX | DDDDD | 0 ~ 32767 | |
| B | KX | DDDDDD | 0 ~ 134399 | |
| B | LX | DDDDDDD | 0 ~ 1880223 | |
| B | NX | DDDDDD | 0 ~ 401407 | |
| B | UX | DD.DD.DDD | 0 ~ 31.15.511 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | AW | DDDDDD | 0 ~ 262143 | |
| W | IW | DDD.DD.D | 0 ~ 127.15.3 | |
| W | QW | DDD.DD.D | 0 ~ 127.15.3 | |
| W | MW | DDDDDD | 0 ~ 131071 | |
| W | RW | DDDDD | 0 ~ 32767 | |
| W | WW | DDDDD | 0 ~ 65535 | |
| W | FW | DDDD | 0 ~ 2047 | |
| W | KW | DDDD | 0 ~ 8399 | |
| W | LW | DDDDD | 0 ~ 11263 | |
| W | NW | DDDDD | 0 ~ 25087 | |
| W | UW | DD.DD.DD | 0 ~ 31.15.31 | |
| DW | MD | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/21/2012 | Driver released. |
| V1.20 | Sep/18/2014 | 1. UX, IX, QX, MD device types are added.<br>2. Renamed the bit addresses by adding an uppercase letter X. Ex: M->MX.<br>3. Renamed the word addresses by adding an uppercase letter X. Ex: M-> MW. |
| V1.40 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XGK Cnet

Supported Series: LS XGT series XGK CPU with communication module XGL-CH2A
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XGK Cnet | | |
| PLC I/F | RS232 | RS232/RS485 4W | |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 0~32 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDDh | 0 ~ 2047f | I/O device Bit |
| B | MW_Bit | DDDDh | 0 ~ 2047f | Internal device Bit |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | Communication device Bit |
| B | KW_Bit | DDDDh | 0 ~ 2559f | Preservation device Bit |
| B | FW_Bit | DDDDh | 0 ~ 2047f | Special device Bit( write available from 1025) |
| B | DW_Bit | DDDDDh | 0 ~ 32767f | Data register_Bit expression (D0000.0) |
| B | UW_Bit | DH.DDh | 0 ~ 3f.31f | XGK-CPUE : hh(0~1f) |
| B | SX | DDDDD | 0 ~ 12799 | Relay for step control Bit |
| B | TX | DDDD | 0 ~ 2047 | Timer device Bit |
| B | CX | DDDD | 0 ~ 2047 | Counter device Bit |
| W | PW | DDDD | 0 ~ 2047 | I/O device |
| W | MW | DDDD | 0 ~ 2047 | Internal device |
| W | LW | DDDDD | 0 ~ 11263 | Communication device |
| W | KW | DDDD | 0 ~ 2559 | Preservation device |
| W | FW | DDDD | 0 ~ 2047 | Special device( write available from 1025) |
| W | DW | DDDDD | 0 ~ 32767 | Data register |
| W | UW | DH.DD | 0.00 ~ 3f.31 | Analog data register XGK-CPUE : hh(0~1f) |

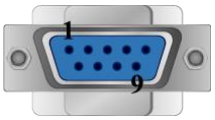
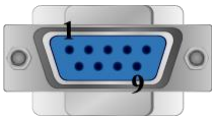
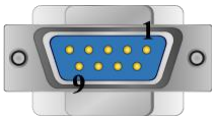
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | RW | DDDDD | 0 ~ 32767 | |
| W | ZRW | DDDDD | 0 ~ 32767 | |
| W | NW | DDDDD | 0 ~ 21503 | Communication data register |
| W | ZW | DDD | 0 ~ 127 | Index register_128 words |
| W | SW | DDDDD | 0 ~ 127 | Relay for step control |
| W | TW | DDDD | 0 ~ 2047 | Timer current value register |
| W | CW | DDDD | 0 ~ 2047 | Counter current value register |

## Wiring Diagram:

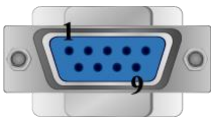
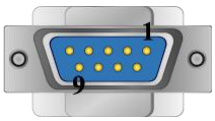
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub:

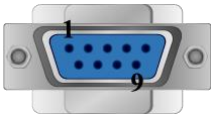
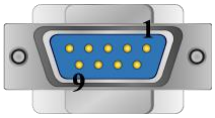
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

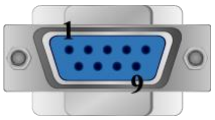
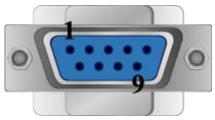
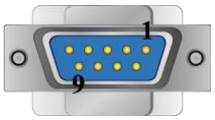
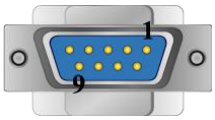
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

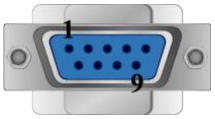
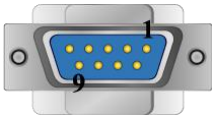
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

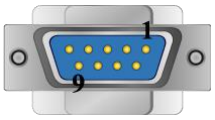
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | XGL-CH2A CH1 RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

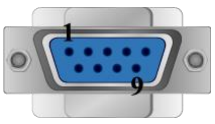
**The following is the view from the soldering point of a cable.**

9P D-Sub to Terminals:

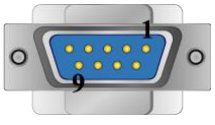
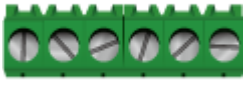
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | XGL-CH2A CH2 5P<br>Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

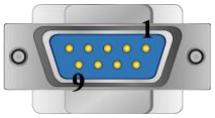
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | XGL-CH2A CH2 5P<br>Terminal |
|---|---|---|---|
| 7 RX- | | | TXD- |
| 6 RX+ | | | TXD+ |
| 9 TX- | | | RXD- |
| 8 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

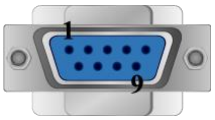
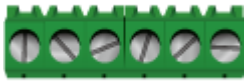
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | XGL-CH2A CH2 5P<br>Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | XGL-CH2A CH2 5P Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | XGL-CH2A CH2 5P Terminal |
|---|---|---|---|
| 1 RX- | | | TXD- |
| 2 RX+ | | | TXD+ |
| 3 TX- | | | RXD- |
| 4 TX+ | | | RXD+ |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Feb /25/2011 | Added registers: P_Bit, M_Bit, L_Bit, K_Bit…etc |
| V1.40 | Jun/20/2012 | Change the way to read/write S_Bit. |
| V1.60 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS XGK FEnet (Ethernet)

Supported Series: LS XGT series XGK CPU with XGL-EFMT ethernet module.
Website: http://www.lgis.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS XGK FEnet (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 2004 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PW_Bit | DDDDh | 0 ~ 2047f | I/O device Bit |
| B | MW_Bit | DDDDh | 0 ~ 2047f | Internal device Bit |
| B | LW_Bit | DDDDDh | 0 ~ 11263f | Communication device Bit |
| B | KW_Bit | DDDDh | 0 ~ 2559f | Preservation device Bit |
| B | FW_Bit | DDDDh | 0 ~ 2047f | Special device Bit( write available from 1025) |
| B | DW_Bit | DDDDDh | 0 ~ 32767f | Data register_Bit expression (D0000.0) |
| B | UW_Bit | DH.DDh | 0 ~ 3f.31f | XGK-CPUE : hh(0~1f) |
| B | SX | DDDDD | 0 ~ 12799 | Relay for step control Bit |
| B | TX | DDDD | 0 ~ 2047 | Timer device Bit |
| B | CX | DDDD | 0 ~ 2047 | Counter device Bit |
| W | PW | DDDD | 0 ~ 2047 | I/O device |
| W | MW | DDDD | 0 ~ 2047 | Internal device |
| W | LW | DDDDD | 0 ~ 11263 | Communication device |
| W | KW | DDDD | 0 ~ 2559 | Preservation device |
| W | FW | DDDD | 0 ~ 2047 | Special device( write available from 1025) |
| W | SW | DDDDD | 0 ~ 127 | Relay for step control |
| W | DW | DDDDD | 0 ~ 32767 | Data register |
| W | UW | DH.DD | 0.00 ~ 3f.31 | Analog data register XGK-CPUE : hh(0~1f) |
| W | NW | DDDDD | 0 ~ 21503 | Communication data register |
| W | ZW | DDD | 0 ~ 127 | Index register_128 words |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | TW | DDDD | 0 ~ 2047 | Timer current value register |
| W | CW | DDDD | 0 ~ 2047 | Counter current value register |
| W | RW | DDDDD | 0 ~ 32767 | |
| W | ZRW | DDDDD | 0 ~ 32767 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Mar/10/2011 | Added registers: P_Bit, M_Bit, L_Bit, K_Bit…etc |
| V1.40 | Jun/19/2012 | Change the way to read/write S_Bit. |
| V1.50 | Feb/10/2015 | Changed the naming method of LS registers. |

# LS Mecapion Metronix AnyPack

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | LS Mecapion Metronix AnyPack | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

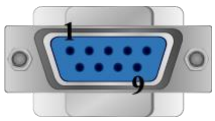
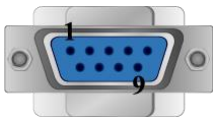
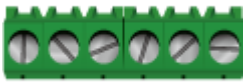
## Device Address:

| Bit/Word | Device Type | Format | Range | Memo |
|---|---|---|---|---|
| B | MX_L16bit | DDDDDdd | 0 ~ 9999915 | MD Low 16bit |
| B | MX_H16bit | DDDDDdd | 0 ~ 9999915 | MD High 16bit |
| DW | MD | DDDD | 0 ~ 9999 | |

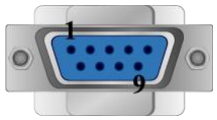
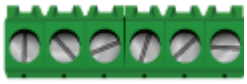
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

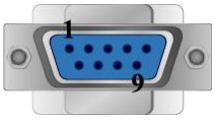
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC RS232 Terminal | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 6 TX | |
| 3 TX | 7 TX | | 5 RX | |
| 5 GND | 5 GND | | 11 GND | short |
| | | | 12 GND | |
|  |  | |  | |

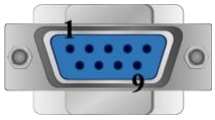
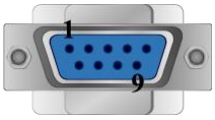
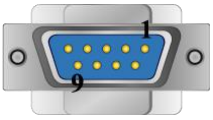
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 Terminal | |
|---|---|---|---|---|
| 2 RX | | | 6 TX | |
| 3 TX | | | 5 RX | |
| 5 GND | | | 11 GND | short |
| | | | 12 GND | |
|  | | |  | |

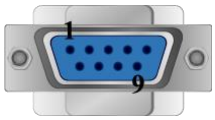
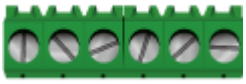
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 Terminal | |
|---|---|---|---|---|
| 2 RX | | | 6 TX | |
| 3 TX | | | 5 RX | |
| 5 GND | | | 11 GND | short |
| | | | 12 GND | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC RS232 Terminal | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 6 TX | |
| 3 TX | 4 TX | 7 TX | 5 RX | |
| 5 GND | 5 GND | 5 GND | 11 GND | short |
| | | | 12 GND | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 Terminal | |
|---|---|---|---|---|
| 9 RX | | | 6 TX | |
| 6 TX | | | 5 RX | |
| 5 GND | | | 11 GND | short |
| | | | 12 GND | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jul/1/2008 | |

# Master-Slave Server

For more information, please refer to User's Manual CH28.

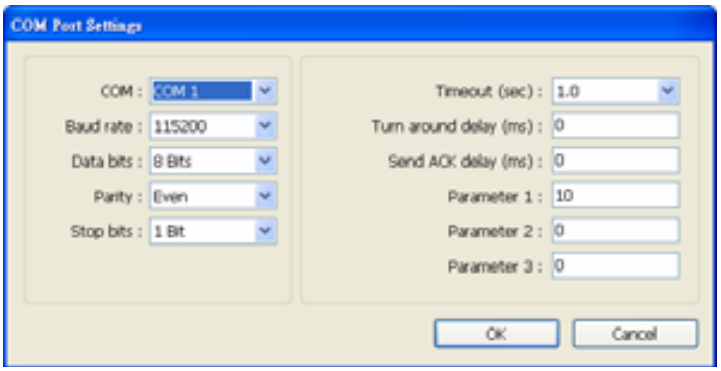
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Master-Slave Server | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | None,Even,Odd,Mark,Space | |
| Stop bits | 1 | 1,2 | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 0 | | |

## FOR MT500 HMI Setting:

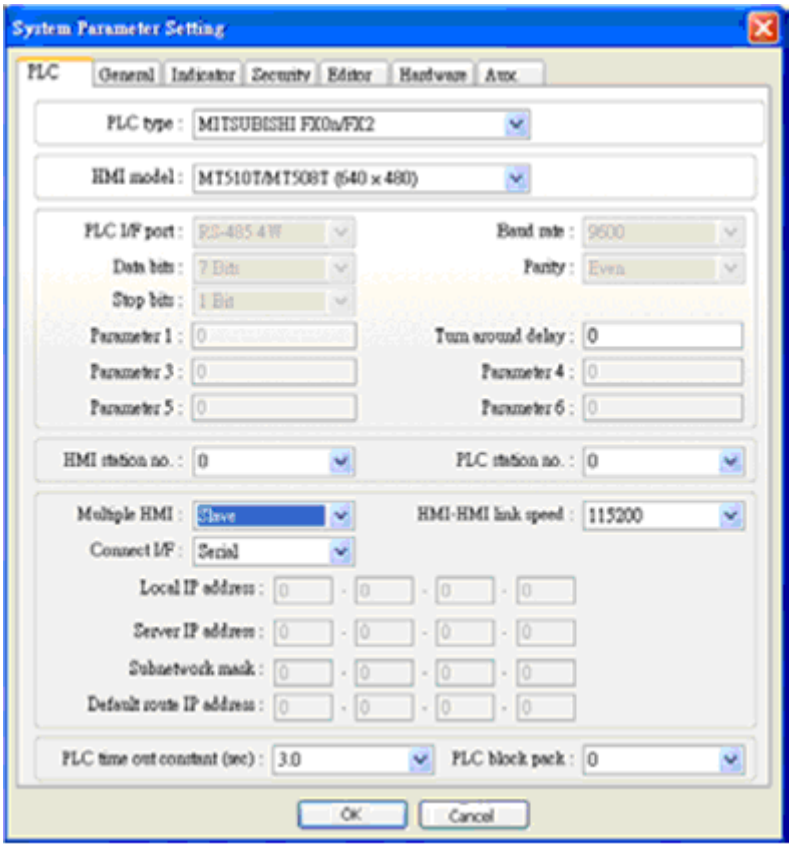
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Master (Master-Slave Protocol) | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | 38400, 115200 | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 0 | | |
| Parameter 1 | MT500 PLC ID | Use PLCAddressView.exe to find PLC ID. | |

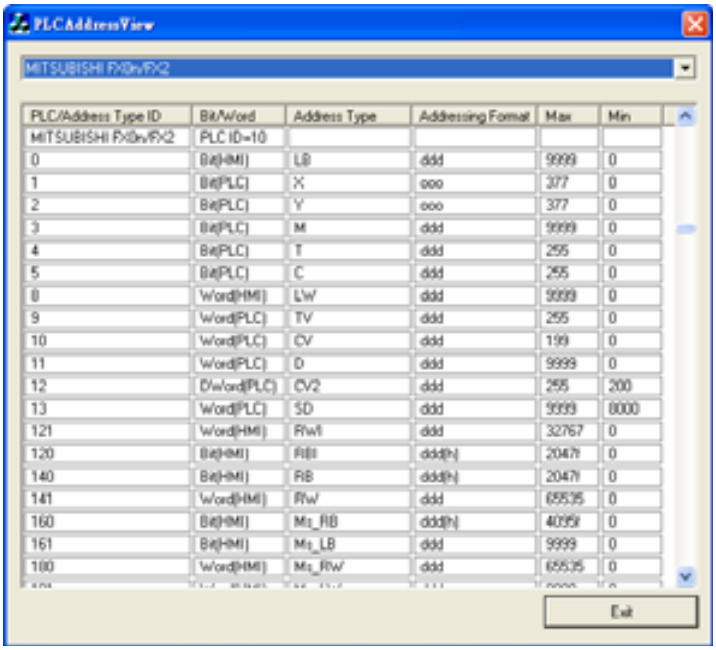
To connect HMI with MT500, MT500 has to be set as [Slave].




## PLC Setting:

| | |
|---|---|
| Communication mode | MT500 Multiple HMI set Slave. |






## Device Address:

| Bit/Word | MT500 | MT8000 | Range | Memo |
|---|---|---|---|---|
| B | Ms_RB | RW_Bit | dddd: 0 ~ 4095<br>(h): 0 ~ f | |
| B | Ms_LB | LB | dddd:0 ~ 9999 | |
| W | Ms_RW | RW | ddddd:0 ~ 65535 | |
| W | Ms_LW | LW | dddd:0 ~ 9999 | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/30/2008 | Driver released. |

# MEGMEET MC Series

Supported Series: MEGMEET MC Series (Modbus RTU Protocol)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MEGMEET MC Series | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600, 19200, 115200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | 0-255 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

## Device Address:

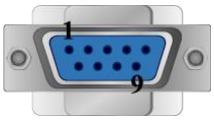
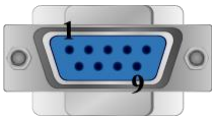
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 377 | 1200~01455 0000~0255 |
| B | Y | OOO | 0 ~ 377 | 0000~0255 |
| B | M | DDDDD | 0 ~ 10239 | 2000~2047 12000~20191 |
| B | SM | DDD | 0 ~ 511 | 4400~4655 30000~30255 |
| B | S | DDDD | 0 ~ 4095 | 6000~7023 31000~34071 |
| B | T_Bit | DDD | 0 ~ 511 | 8000~8255 |
| B | C_Bit | DDD | 0 ~ 306 | 9200~9455 10000~10050 |
| B | D_Bit | DDDDdd | 0 ~ 799915 | |
| B | R_Bit | DDDDDdd | 0 ~ 3276715 | |
| W | D | DDDD | 0 ~ 7999 | 0000~7999 |
| DW | D_Double | DDDD | 0 ~ 7998 | 0000~7999 |
| W | SD | DDD | 0 ~ 255 | 8000~8255 12000~12255 |
| DW | SD_Double | DDD | 0 ~ 510 | 8000~8255 12000~12255 |
| W | Z | DD | 0 ~ 15 | 8500~8515 |
| W | T | DDD | 0 ~ 511 | 9000~9255 11000~11255 |
| W | C | DDD | 0 ~ 199 | 9500~9699 |
| DW | C_Double | DDD | 200 ~ 306 | 9700~10101 |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | R | DDDDD | 0 ~ 32767 | 13000~45767 |
| DW | R_Double | DDDDD | 0 ~ 32766 | 13000~45767 |

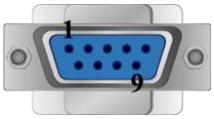
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

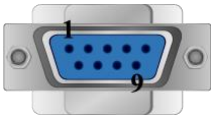
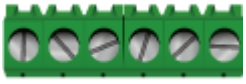
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | MC Series COM1 terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TXD |
| 3 TX | 7 TX | | RXD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

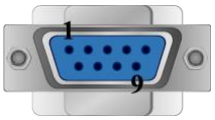
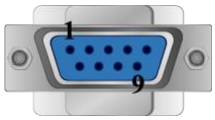
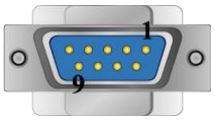
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | MC Series COM1 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

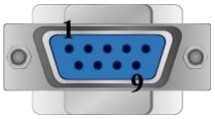
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | MC Series COM1 terminal |
|---|---|---|---|
| 2 RX | | | TXD |
| 3 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | MC Series COM1 terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD |
| 3 TX | 4 TX | 7 TX | RXD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | MC Series COM1 terminal |
|---|---|---|---|
| 9 RX | | | TXD |
| 6 TX | | | RXD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/16/2012 | Driver released. |
| V1.10 | May/06/2014 | Added register: D_Bit |
| V1.20 | May/19/2014 | Added register: R_Bit |

# MEIKONG Metro Safe Server

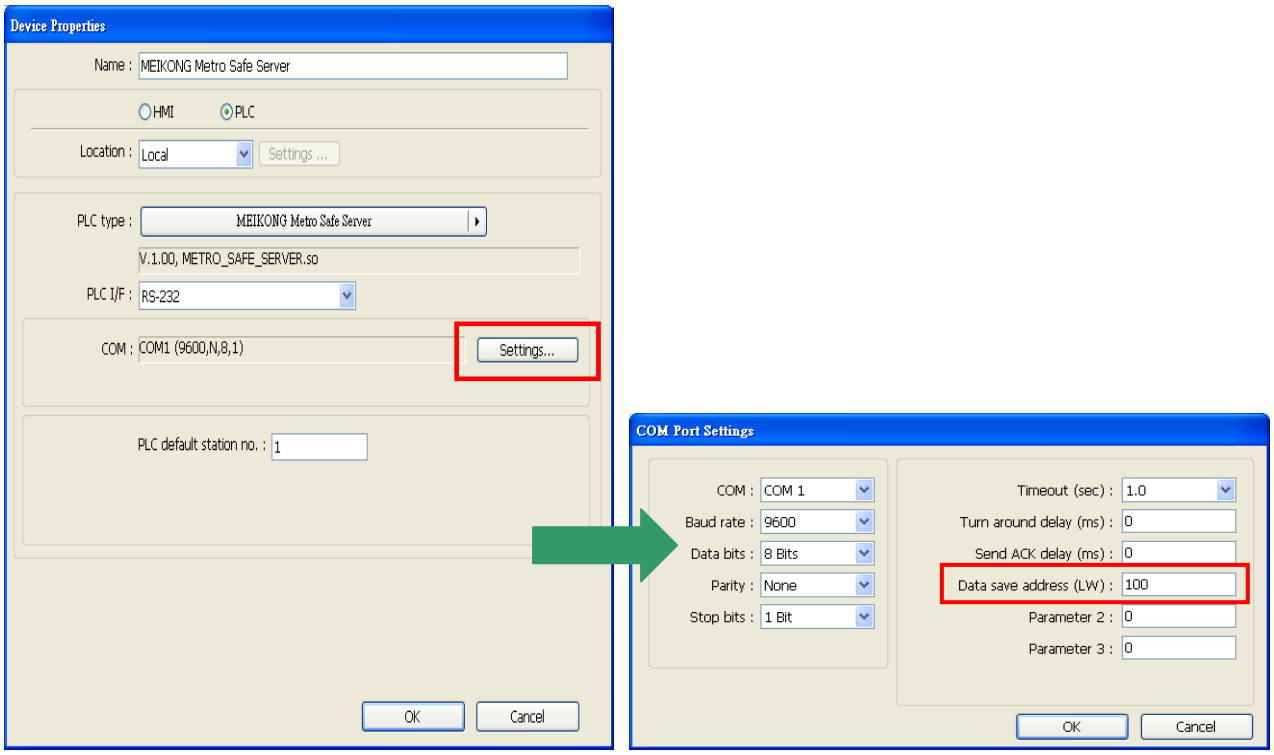
Supported Series: MEIKONG Metro Safe Server

Website: http://www.xiemaowang.com/detail/2079110.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MEIKONG Metro Safe Server | | |
| PLC I/F | RS4852W | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | None | Even,Odd,None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0~252 | |

In COM Port Settings, the data read will be stored in 25 consecutive addresses start from [Data save address (LW)] as shown below. Data will be stored in LW-100 to LW-124.



## Protocol:

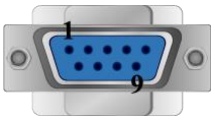
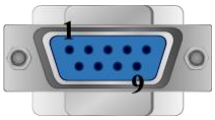
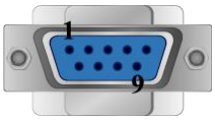
| Byte | Description |
|---|---|
| 0 | AA |
| 1 | E0 |
| 2 | C5 (The first 3 bytes are fixed, which represents the start of the message.) |
| 3 | Address（range 0-252） |
| 4 | Date-Year tens digit |
| 5 | Date-Year unit digit |
| 6 | Date-Month tens digit |
| 7 | Date-Month unit digit |
| 8 | Date-Day tens digit |
| 9 | Date-Day unit digit |
| 10 | Time-Hour tens digit |
| 11 | Time -Hour unit digit |
| 12 | Time -Minute tens digit |
| 13 | Time -Minute unit digit |
| 14 | Time -Second tens digit |
| 15 | Time -Second unit digit |
| 16 | 1-Manual；2-Automatic |
| 17 | The number of slaves. |
| 18 | The sequence number of slave. |
| 19 | Slave status：1-Normal；2-Warning；3-Emergency；4-Disconnected |
| 20 | Backup power：1-normal；2-abnormal voltage；3- disconnect；4-short |
| 21 | 00 |
| 22 | 00 |
| 23 | EE |
| 24 | BB(The last 4 bytes are fixed, which represents the end of the message.) |

## Wiring Diagram:

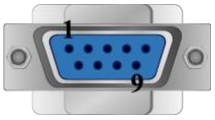
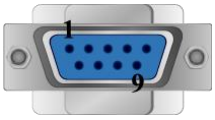
**The following represents the view of HMI & PLC.**

**[RS232]**

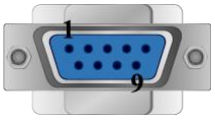
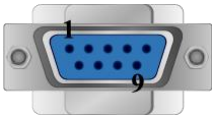
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

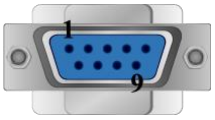
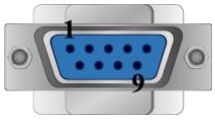
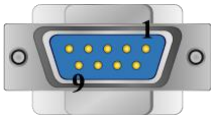
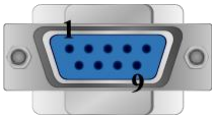
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

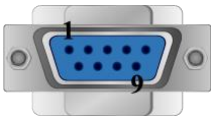
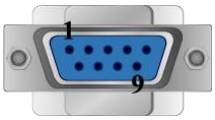
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

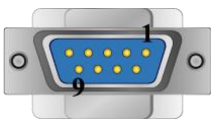
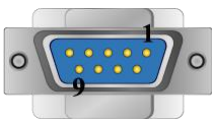
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

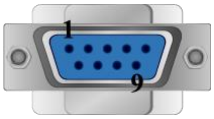
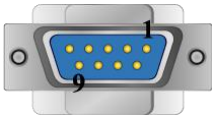
**The following represents the view of HMI & PLC.**

**[RS485 4W]**

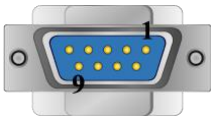
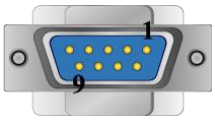
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

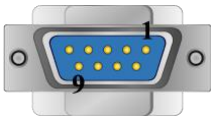
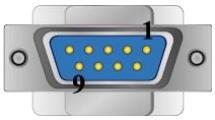
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

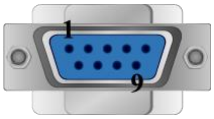
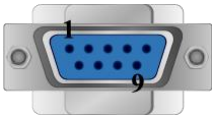
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

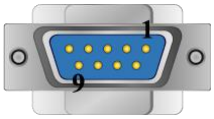
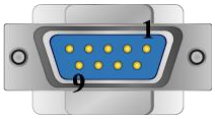
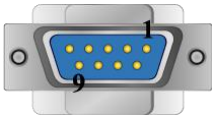
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

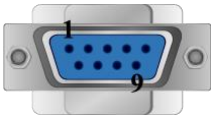
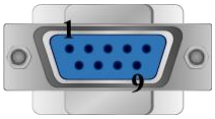
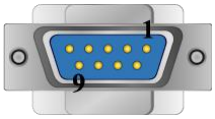
**The following represents the view of HMI & PLC.**

**[RS485 2W]**

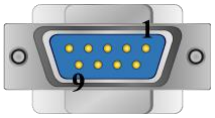
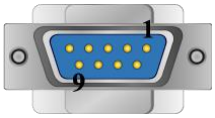
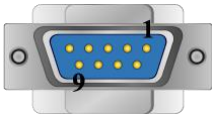
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

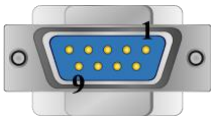
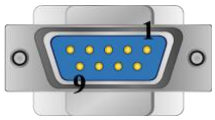
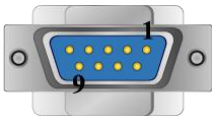
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

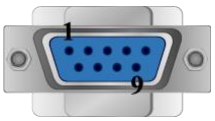
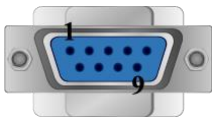
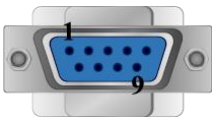
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/24/2012 | Driver released. |

# Memory Map

Memory Map protocol is similar to IBM 3764R communication protocol. EasyBuilder reserves 512 words of data memory to use with this protocol. EasyBuilder must update the values in these words. EasyBuilder uses these words to display data and control parts status on screen. When touch actions are taken, data is sent to the others once, and then update the memory in it. The HMI should always update the data memory.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Memory Map | | |
| PLC I/F | RS232 | RS232, RS485 4W, 2W | RS232 default |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MB | DDDDh | 0 ~ 4095f | |
| W | MW | DDDD | 0 ~ 9999 | |

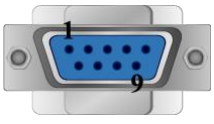
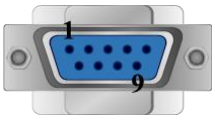
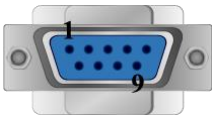
MB and MW share the same data storage.

MW 0 = MB 00000 ~ MB 0000f, MW 1 = MB 00010 ~ MB 0001f

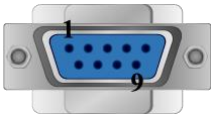
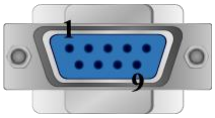
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

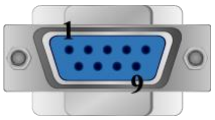
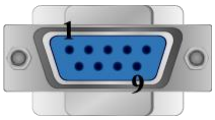
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | HMI COM1 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

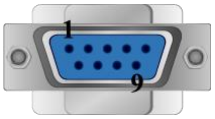
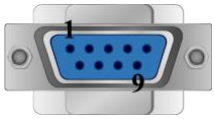
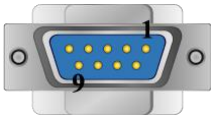
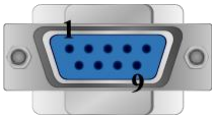
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | HMI COM1 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

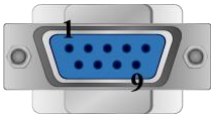
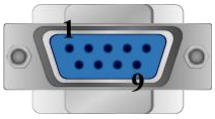
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | HMI COM1 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

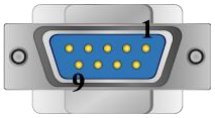
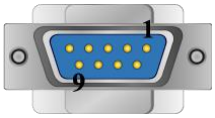
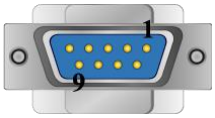
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | HMI COM1 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

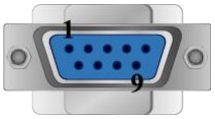
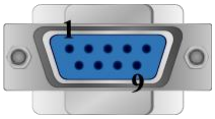
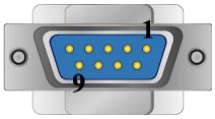
| COM1 RS232 9P D-Sub Female | | | HMI COM1 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

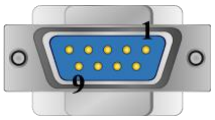
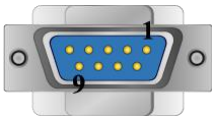
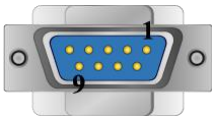
eMT3000 series

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | HMI COM1 RS485 2W<br>9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 1 RX- |
| 2 RX+ | 9 Data+ | | 2 RX+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

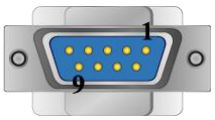
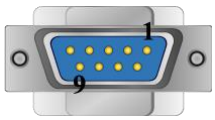
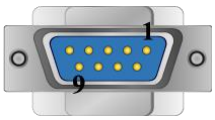
cMT/mTV series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | HMI COM1 RS485 2W<br>9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 1 RX- |
| 6 RX+ | 1 Data+ | | 2 RX+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

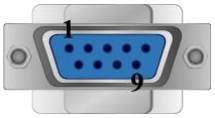
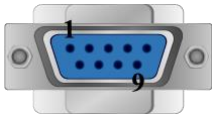
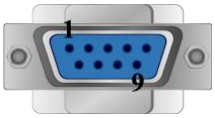
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | HMI COM1 RS485 2W<br>9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 1 RX- |
| 2 RX+ | 8 Data+ | | 2 RX+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

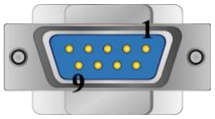
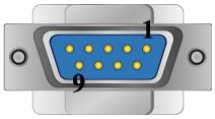
| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | HMI COM1 RS485 2W<br>9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 1 RX- |
| 2 RX+ | 9 Data+ | | 2 RX+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

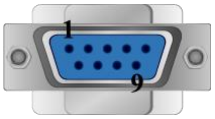
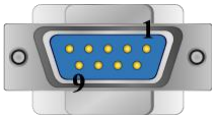
| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | HMI COM1 RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | 1 RX- |
| 2 RX+ | 8 Data+ | | 2 RX+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

**The following is the view from the soldering point of a cable.**

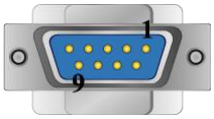
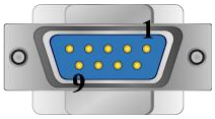
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | HMI COM1 RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 5 GND |
|  | | |  |

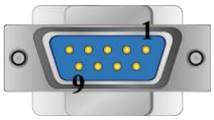
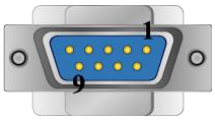
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | HMI COM1 RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | 3 TX- |
| 6 RX+ | | | 4 TX+ |
| 9 TX- | | | 1 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | 5 GND |
|  | | |  |

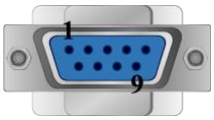
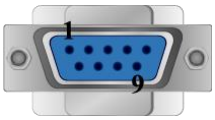
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | HMI COM1 RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | HMI COM1 RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 5 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | HMI COM1 RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | 3 TX- |
| 2 RX+ | | | 4 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 5 GND |
|  | | |  |

## Note:

For Memory map information, please refer to User's Manual "Chapter 31 Memory Map Communication".

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/19/2009 | Driver released. |

# MIKOM MX Series PLC

Support series: MIKOM MX series PLC
Web: http://www.mikom.com.cn/

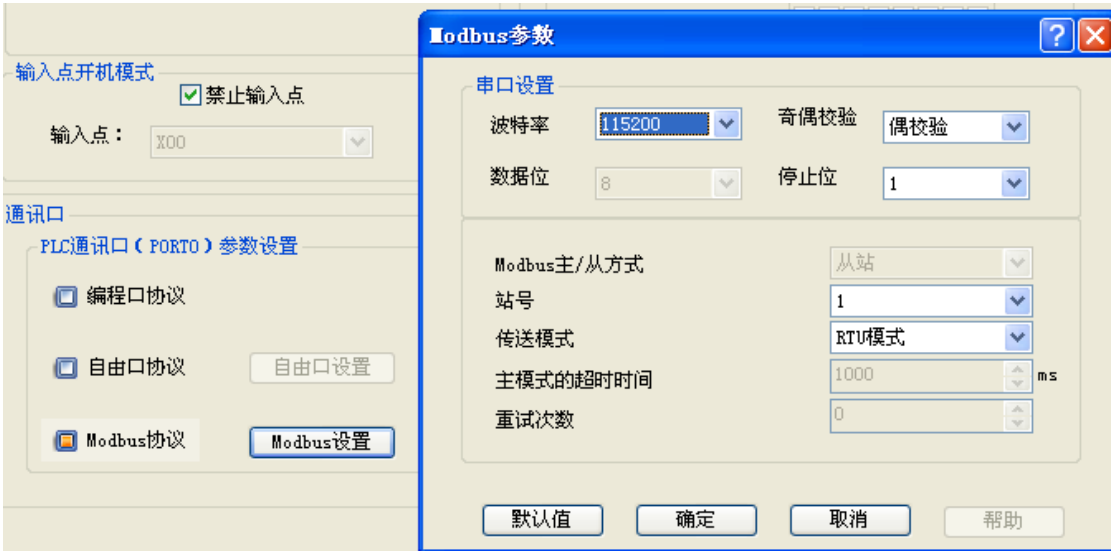
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MIKOM MX Series PLC | | |
| PLC I/F | RS232 | RS232/485/Ethernet | |
| Baud rate | 19200 | 9600~115200 | |
| Data bits | Even | None,Even,Odd | |
| Parity | 8 | 8 | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0~31 | |

| | |
|---|---|
| Online simulator | YES |

## PLC Setting:

PORT 0(RS232 Setting)



PORT 1(RS485 Setting)



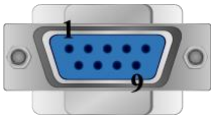
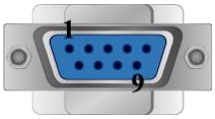

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Y | DDD | 0~777 | Output Relay |
| B | X | DDD | 0~777 | Input Relay |
| B | M | DDDD | 0~4095 | Auxiliary Relay |
| B | SM | DDD | 0-511 | Special Auxiliary Relay |
| B | S | DDDD | 0~1535 | Step Relay |
| B | T | DDD | 0~511 | Timer Relay |
| B | C | DDD | 0~511 | Counter Relay |
| W | D | DDDDD | 0~32767 | Data Register |
| W | SD | DDD | 0~511 | Special Data Register |
| W | Z | DDD | 0~255 | Indexed Addressing Register |
| W | T | DDD | 0~511 | Timer |
| W | C | DDD | 0~199 | Counter |
| W | U0 | DDD | 0~199 | Special Module Register |
| W | U1 | DDD | 0~199 | Special Module Register |
| W | U2 | DDD | 0~199 | Special Module Register |
| W | U3 | DDD | 0~199 | Special Module Register |
| W | U4 | DDD | 0~199 | Special Module Register |
| W | U5 | DDD | 0~199 | Special Module Register |
| W | U6 | DDD | 0~199 | Special Module Register |
| W | U7 | DDD | 0~199 | Special Module Register |
| DW | C-32bit | DDD | 200~511 | 32 Bit Counter |

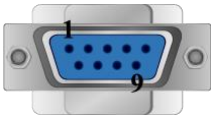
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

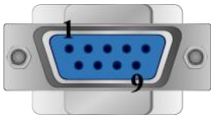
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

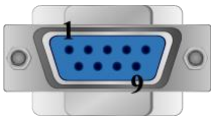
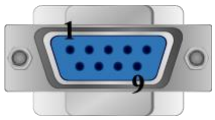
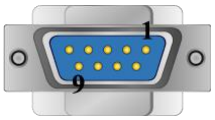
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

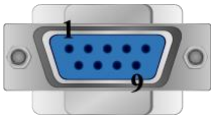
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/3/2012 | Driver released. |

# Mitsubishi A1S/A2N

Supported Series: Mitsubishi A1S/A2N

Website: http://www.mitsubishi-automation.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi A1S/A2N | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

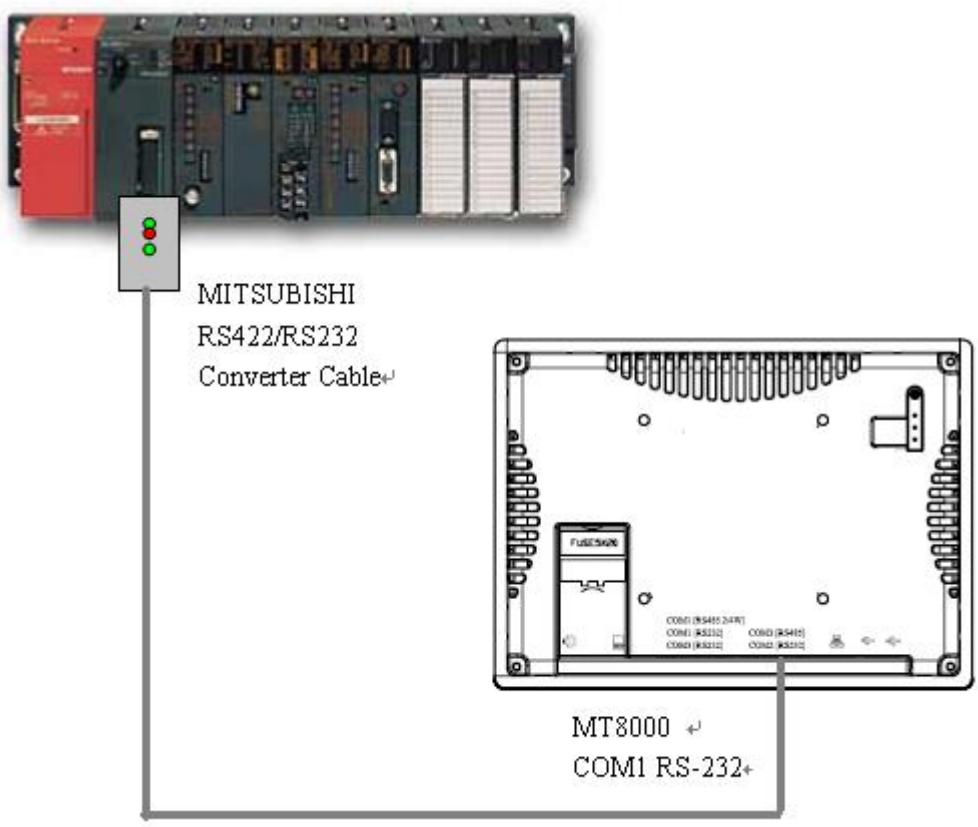
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ ffff | Input Relay |
| B | Y | HHHH | 0 ~ ffff | Output Relay |
| B | M | DDDDD | 0 ~ 65535 | Auxiliary Relay |
| B | B | HHHH | 0 ~ ffff | |
| B | F | DDDDD | 0 ~ 65535 | |
| W | TV | DDDDD | 0 ~ 65535 | Timer Memory |
| W | CV | DDDDD | 0 ~ 65535 | Counter Memory |
| W | D | DDDDD | 0 ~ 65535 | Data Register |
| W | W | HHHH | 0 ~ ffff | |
| W | R | DDDDD | 0 ~ 65535 | |

# Wiring Diagram:

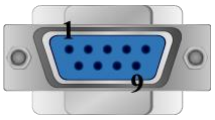
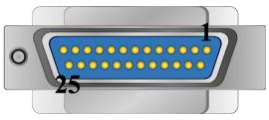
Use the RS422 to RS232 PLC programming cable (shown as follows)

MITSUBISHI AnS CPU

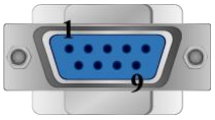
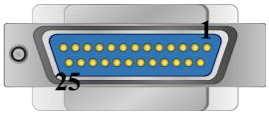



**The following is the view from the soldering point of a cable.**

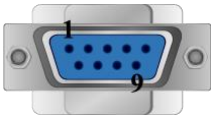
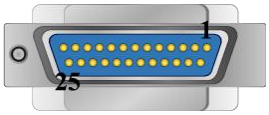
eMT3000 series

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Sep/18/2009 | Driver released. |

# Mitsubishi A2A/A2U/A2AS/A2USH

Supported Series: Mitsubishi A2A,A2U,A2AS,A2USH

Website: http://www.mitsubishi-automation.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi A2A/A2U/A2AS/A2USH | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

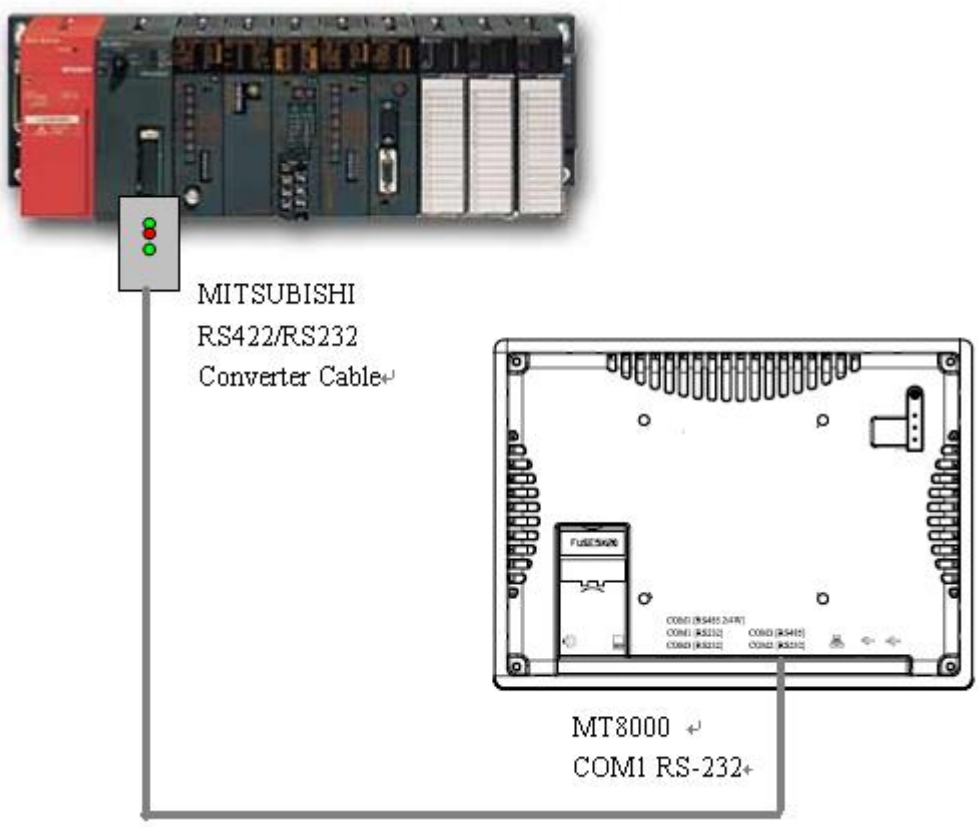
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ 270f | Input Relay |
| B | Y | HHHH | 0 ~ 270f | Output Relay |
| B | M | DDDD | 0 ~ 9999 | Auxiliary Relay |
| B | B | HHHH | 0 ~ ffff | |
| B | F | DDDDD | 0 ~ 65535 | |
| W | TV | DDD | 0 ~ 255 | Timer Memory |
| W | CV | DDD | 0 ~ 255 | Counter Memory |
| W | D | DDDD | 0 ~ 9999 | Data Register |
| W | W | HHHH | 0 ~ ffff | |
| W | R | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

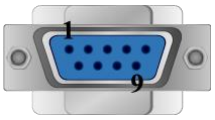
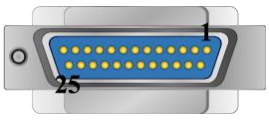
Use the RS422 to RS232 PLC programming cable (shown as follows)

MITSUBISHI AnS CPU

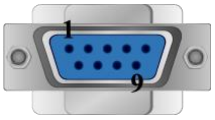
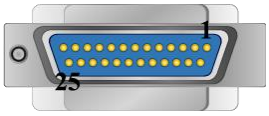



**The following is the view from the soldering point of a cable.**

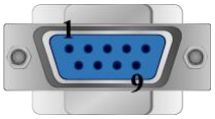
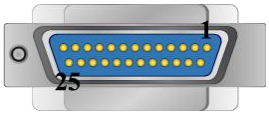
eMT3000 series

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/12/2009 | Driver released. |

# Mitsubishi A2US

Supported Series: Mitsubishi A2US

Website: http://www.mitsubishi-automation.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi A2US | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

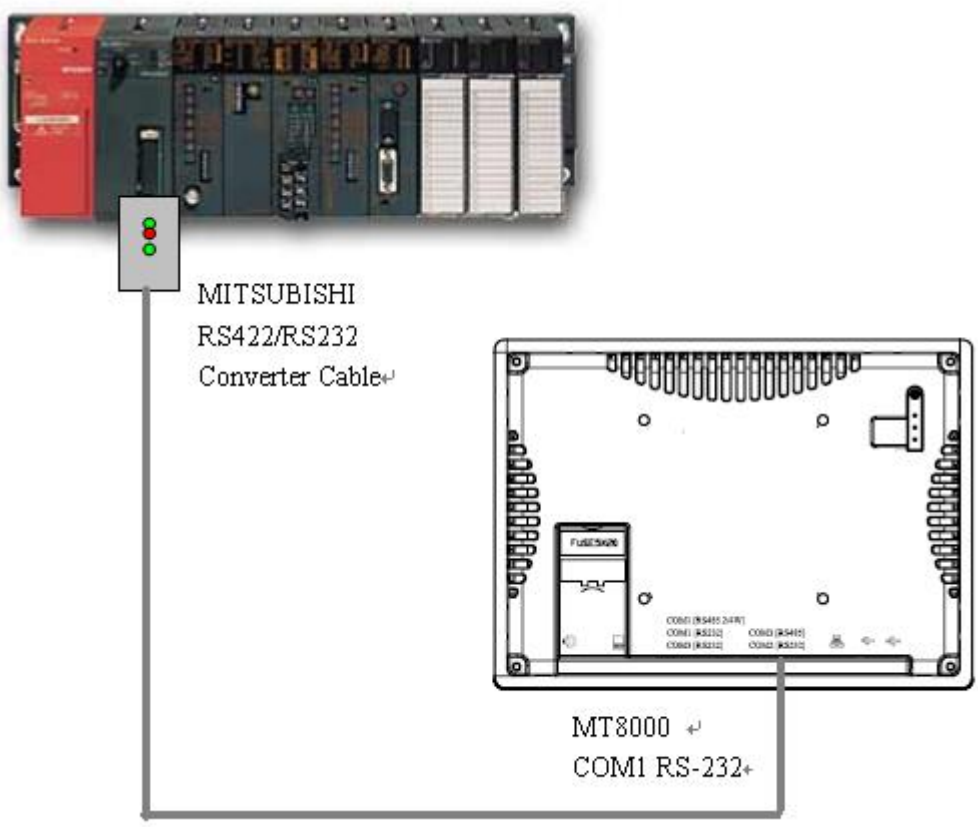
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ 270f | Input Relay |
| B | Y | HHHH | 0 ~ 270f | Output Relay |
| B | M | DDDD | 0 ~ 9999 | Auxiliary Relay |
| W | TV | DDD | 0 ~ 255 | Timer Memory |
| W | CV | DDD | 0 ~ 255 | Counter Memory |
| W | D | DDDD | 0 ~ 9999 | Data Register |

## Wiring Diagram:

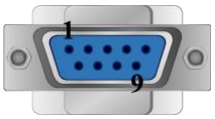
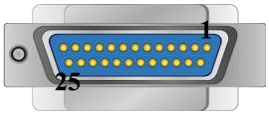
Use the RS422 to RS232 PLC programming cable (shown as follows)

MITSUBISHI AnS CPU

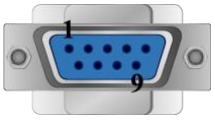
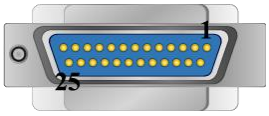



**The following is the view from the soldering point of a cable.**

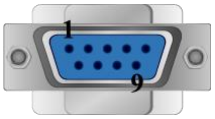
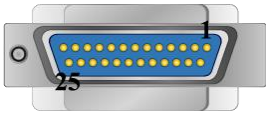
eMT3000 series

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/20/2009 | Driver released. |

# Mitsubishi A3A/A3N/A1SH/A2SH

Supported Series: Mitsubishi A3A,A3N,A1SH,A2SH

Website: http://www.mitsubishi-automation.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi A3A/A3N/A1SH/A2SH | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

Note: This driver is not available for On-line Simulation.

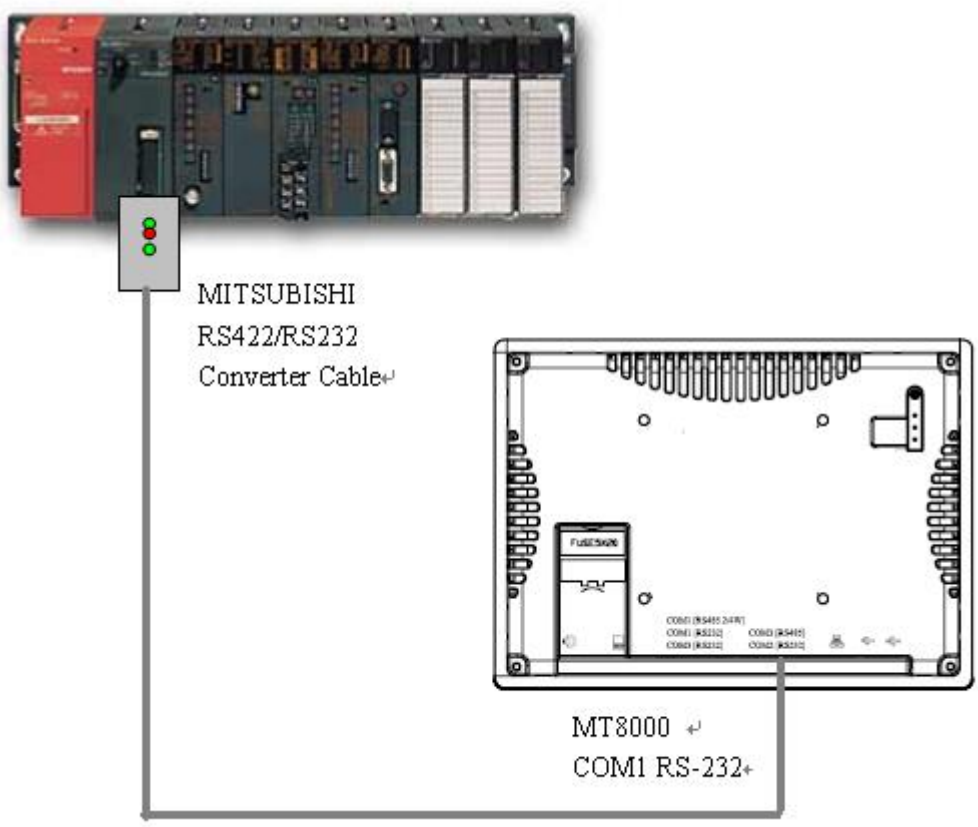
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ ffff | Input Relay |
| B | Y | HHHH | 0 ~ ffff | Output Relay |
| B | M | DDDDD | 0 ~ 65535 | Auxiliary Relay |
| B | B | HHHH | 0 ~ ffff | |
| B | F | DDDDD | 0 ~ 65535 | |
| W | TV | DDDDD | 0 ~ 65535 | Timer Memory |
| W | CV | DDDDD | 0 ~ 65535 | Counter Memory |
| W | D | DDDDD | 0 ~ 65535 | Data Register |
| W | W | HHHH | 0 ~ ffff | |
| W | R | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

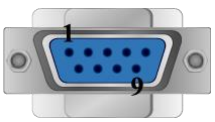
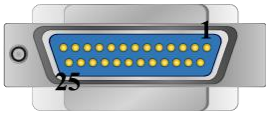
Use the RS422 to RS232 PLC programming cable (shown as follows)

MITSUBISHI AnS CPU

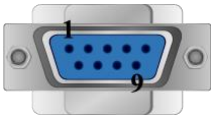
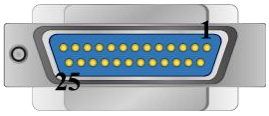



**The following is the view from the soldering point of a cable.**

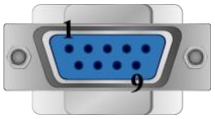
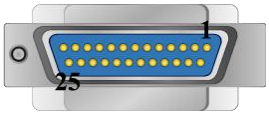
eMT3000 series

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | PLC Programming Converter | | Mitsubishi RS422 25P D-Sub Male |
|---|---|---|---|
| 2 RX | TX | TX+ | 2 RX+ |
| 3 TX | RX | RX+ | 3 TX+ |
| 5 GND | GND | DTR+ | 4 DSR+ |
| 7 RTS | CTS | GND | 7 GND |
| 8 CTS | RTS | TX- | 15 RX- |
| | | RX- | 16 TX- |
| | | DTR- | 17 DSR- |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/20/2009 | Driver released. |

# Mitsubishi AJ71

Supported Series: Mitsubishi A series PLC with AJ71C24 communication module using the Computer Link protocol.

Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi AJ71 | Mitsubishi AJ71 (AnA/AnU CPU), Mitsubishi AJ71 (Format 4) | |
| PLC I/F | RS485 4W | RS485 4W, RS232 | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Computer Link protocol 9600, Even, 8, 1 (default) |
| Mode setting switch | Format 1 |
| Parity check | Enable |
| Sum check | Enable |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ ffff | Input Bits |
| B | Y | HHHH | 0 ~ ffff | Output Bits |
| B | M | DDDDD | 0 ~ 65535 | Internal Relays |
| B | L | DDDDD | 0 ~ 65535 | |
| B | T | DDDDD | 0 ~ 65535 | |
| B | C | DDDDD | 0 ~ 65535 | |
| B | B | HHHH | 0 ~ ffff | |
| B | F | DDDDD | 0 ~ 65535 | |

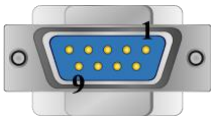
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | TV | DDDDD | 0 ~ 65535 | Timer Preset Value |
| W | CV | DDDDD | 0 ~ 65535 | Counter Preset Value |
| W | D | DDDDD | 0 ~ 65535 | Data Registers |
| W | W | HHHH | 0 ~ ffff | |
| W | R | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

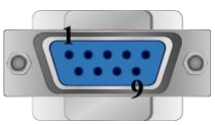
**The following is the view from the soldering point of a cable.**

AJ71C24 RS422

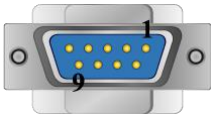
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | AJ71C24 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

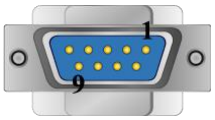
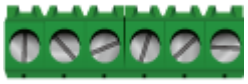
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | AJ71C24 RS422 Terminal |
|---|---|---|---|
| 7 RX- | | | SDB |
| 6 RX+ | | | SDA |
| 9 TX- | | | RDB |
| 8 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

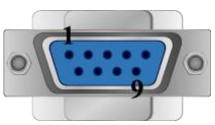
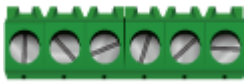
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | AJ71C24 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | AJ71C24 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

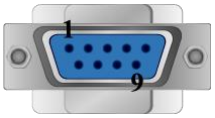
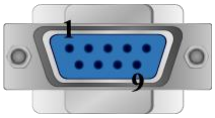
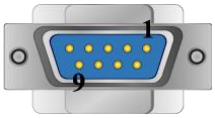
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | AJ71C24 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

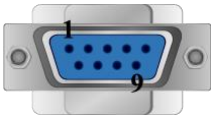
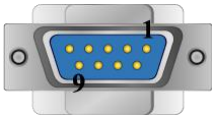
**The following is the view from the soldering point of a cable.**

A1SJ71UC24-R2

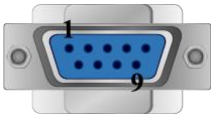
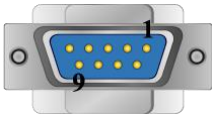
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

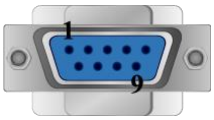
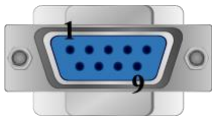
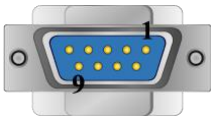
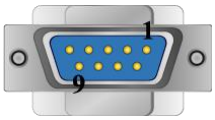
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

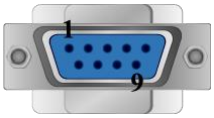
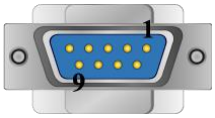
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

<table>
<tr><td>COM1 RS232 9P D-Sub Female</td><td></td><td></td><td colspan="2">RS232 9P D-Sub Male</td></tr>
<tr><td>9 RX</td><td></td><td></td><td colspan="2">3 TXD</td></tr>
<tr><td>6 TX</td><td></td><td></td><td colspan="2">2 RXD</td></tr>
<tr><td>5 GND</td><td></td><td></td><td colspan="2">5 GND</td></tr>
<tr><td colspan="3" rowspan="5"></td><td>1 DCD</td><td rowspan="3">short</td></tr>
<tr><td>4 DTR</td></tr>
<tr><td>6 DSR</td></tr>
<tr><td>7 RTS</td><td rowspan="2">short</td></tr>
<tr><td>8 CTS</td></tr>
<tr><td>
</td><td></td><td></td><td colspan="2">
</td></tr>
</table>

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.60 | Nov/30/2012 | |

# Mitsubishi AJ71 (AnA/AnU CPU)

Supported Series: Mitsubishi AJ71 (AnA/AnU CPU)
Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi AJ71 (AnA/AnU CPU) | | |
| PLC I/F | RS485 4W | RS485 4W, RS232 | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Computer Link protocol 9600, Even, 8, 1 (default) |
| Mode setting switch | Format 1 |
| Parity check | Enable |
| Sum check | Enable |

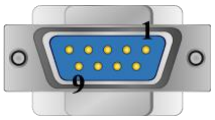
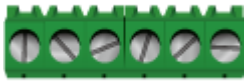
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ ffff | Input Bits |
| B | Y | HHHH | 0 ~ ffff | Output Bits |
| B | M | DDDDD | 0 ~ 65535 | Internal Relays |
| B | T | DDDDD | 0 ~ 65535 | |
| B | C | DDDDD | 0 ~ 65535 | |
| B | B | HHHH | 0 ~ ffff | |
| B | F | DDDDD | 0 ~ 65535 | |
| B | L | DDDDD | 0 ~ 65535 | |
| W | TV | DDDDD | 0 ~ 65535 | Timer Preset Value |
| W | CV | DDDDD | 0 ~ 65535 | Counter Preset Value |
| W | D | DDDDD | 0 ~ 65535 | Data Registers |
| W | W | HHHH | 0 ~ ffff | |
| W | R | DDDDD | 0 ~ 65535 | |

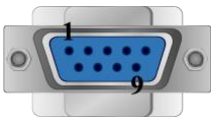
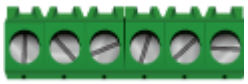
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

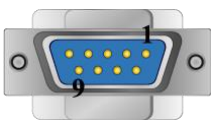
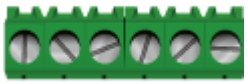
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

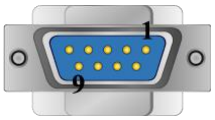
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | RS422 Terminal |
|---|---|---|---|
| 7 RX- | | | SDB |
| 6 RX+ | | | SDA |
| 9 TX- | | | RDB |
| 8 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

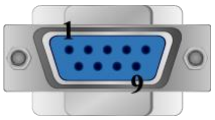
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

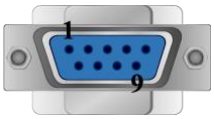
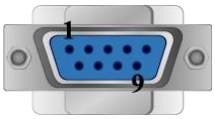
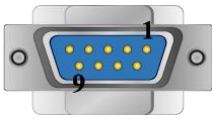
| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

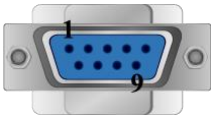
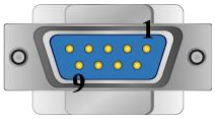
| COM1 RS485 4W<br>9P D-Sub Female | | | RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

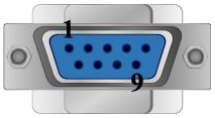
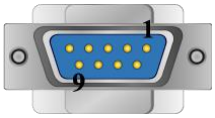
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

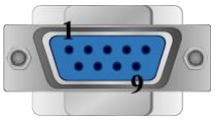
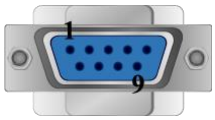
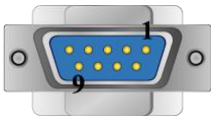
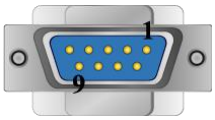
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

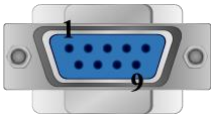
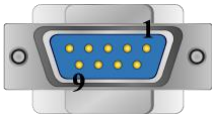
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| | | | | |
|---|---|---|---|---|
| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/31/2011 | Driver released. |

# Mitsubishi AJ71 (Format 4)

Supported Series: Mitsubishi A series PLC with AJ71C24 communication module using the Computer Link protocol.
Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi AJ71 (Format 4) | | |
| PLC I/F | RS485 4W | RS485 4W, RS232 | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Computer Link protocol 9600, Even, 8, 1 (default) |
| Mode setting switch | Format 4 |
| Parity check | Enable |
| Sum check | Enable |

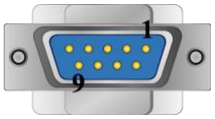
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ ffff | Input Bits |
| B | Y | HHHH | 0 ~ ffff | Output Bits |
| B | M | DDDDD | 0 ~ 65535 | Internal Relays |
| B | T | DDDDD | 0 ~ 65535 | |
| B | C | DDDDD | 0 ~ 65535 | |
| B | B | HHHH | 0 ~ ffff | |
| B | F | DDDDD | 0 ~ 65535 | |
| W | TV | DDDDD | 0 ~ 65535 | Timer Preset Value |
| W | CV | DDDDD | 0 ~ 65535 | Counter Preset Value |
| W | D | DDDDD | 0 ~ 65535 | Data Registers |
| W | W | HHHH | 0 ~ ffff | |
| W | R | DDDDD | 0 ~ 65535 | |

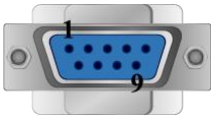
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

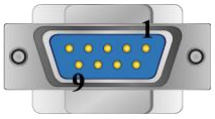
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | AJ71C24 RS422<br>Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

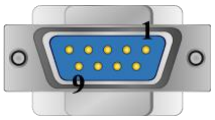
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | AJ71C24 RS422<br>Terminal |
|---|---|---|---|
| 7 RX- | | | SDB |
| 6 RX+ | | | SDA |
| 9 TX- | | | RDB |
| 8 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

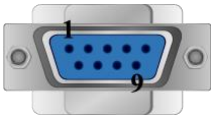
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | AJ71C24 RS422<br>Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | AJ71C24 RS422<br>Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

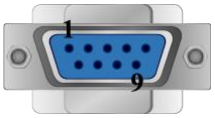
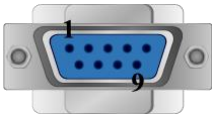
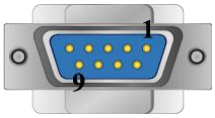
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | AJ71C24 RS422<br>Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

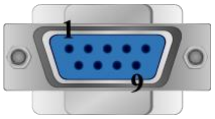
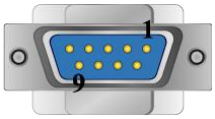
**The following is the view from the soldering point of a cable.**

A1SJ71UC24-R2

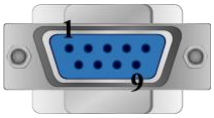
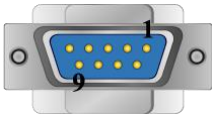
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

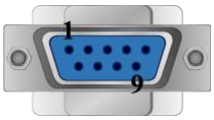
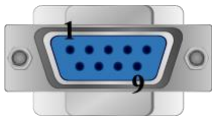
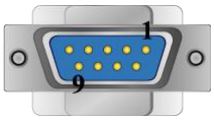
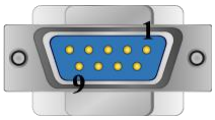
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

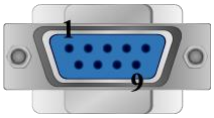
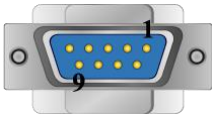
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

<table>
<tr><td>COM1 RS232 9P D-Sub Female</td><td></td><td></td><td colspan="2">RS232 9P D-Sub Male</td></tr>
<tr><td>9 RX</td><td></td><td></td><td colspan="2">3 TXD</td></tr>
<tr><td>6 TX</td><td></td><td></td><td colspan="2">2 RXD</td></tr>
<tr><td>5 GND</td><td></td><td></td><td colspan="2">5 GND</td></tr>
<tr><td colspan="3" rowspan="5"></td><td>1 DCD</td><td rowspan="3">short</td></tr>
<tr><td>4 DTR</td></tr>
<tr><td>6 DSR</td></tr>
<tr><td>7 RTS</td><td rowspan="2">short</td></tr>
<tr><td>8 CTS</td></tr>
<tr><td>
</td><td></td><td></td><td colspan="2">
</td></tr>
</table>

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/08/2010 | |

# Mitsubishi F930GOT Server

Supported Series: F930GOT general-purpose communication Type 1.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | F930GOT Server | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | 9600, 115200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 1 | | |

## Device Address:

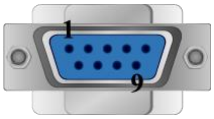
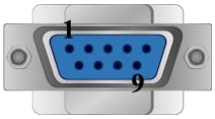
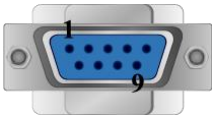
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | RB | DDDD | 0 ~ 2047 | |
| W | RW | DDDDD | 0 ~ 65535 | |

**Note:** In PLC name drop - down menu don't select F930GOT Server.
Please select Local HMI, Device Type=RW.

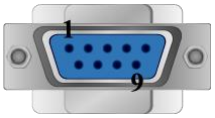
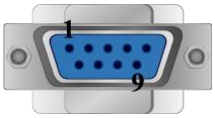
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

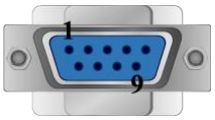
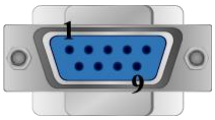
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Micro Computer Board RS232 Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

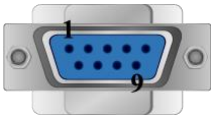
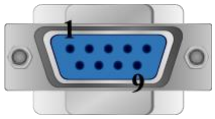
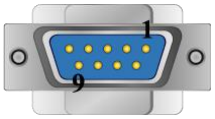
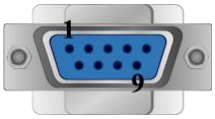
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Micro Computer Board RS232 Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

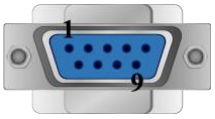
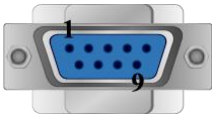
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Micro Computer Board RS232 Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Micro Computer Board RS232 Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Micro Computer Board RS232 Female |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

# Protocol:

**Read Command:**

PC ➔ HMI

| 02 | '0' | Read address | Size | CR |
|---|---|---|---|---|

| 02 | 30 | 30 | 30 | 30 | 30 | 30 | 32 | 0D |
|---|---|---|---|---|---|---|---|---|

Read RW0 1 word (2 bytes) STX = 0x02, '0' = Read command, CR = 0x0D

Read address (hexadecimal)

0 ~ FFFF = RW0 ~ 65535

Size (hexadecimal)

2 ~ FE = 2 ~ 254 bytes = 1 ~ 127 word.

Size must be even.

HMI ➔ PC (response)

| 02 | Data1 | Data2 | ……. | CR |
|---|---|---|---|---|

| 02 | 30 | 30 | 31 | 30 | 0D |
|---|---|---|---|---|---|

RW0 = 0x0010 = 16

**Write Command:**

PC ➔ HMI

| 02 | '1' | Read address | Size | Data1 | Data2 | ……. | CR |
|---|---|---|---|---|---|---|---|

| 02 | 31 | 30 | 30 | 30 | 30 | 30 | 32 | 12 | 34 | 0D |
|---|---|---|---|---|---|---|---|---|---|---|

Write RW0 = 0x1234

Read address (hexadecimal)

0 ~ FFFF = RW0 ~ 65535

Size (hexadecimal)

2 ~ FE = 2 ~ 254 bytes = 1 ~ 127 word.

Size must be even.

HMI ➔ PC (response)

| 06 |
|---|

ACK = 0x06

# Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/14/2009 | Driver released. |

# Mitsubishi FX0S/FX0N/FX1S/FX1N/FX2

Supported Series: Mitsubishi FX0S/FX0N/FX1S/FX1N/FX2/FX3S

Website: http://www.mitsubishi-automation.com

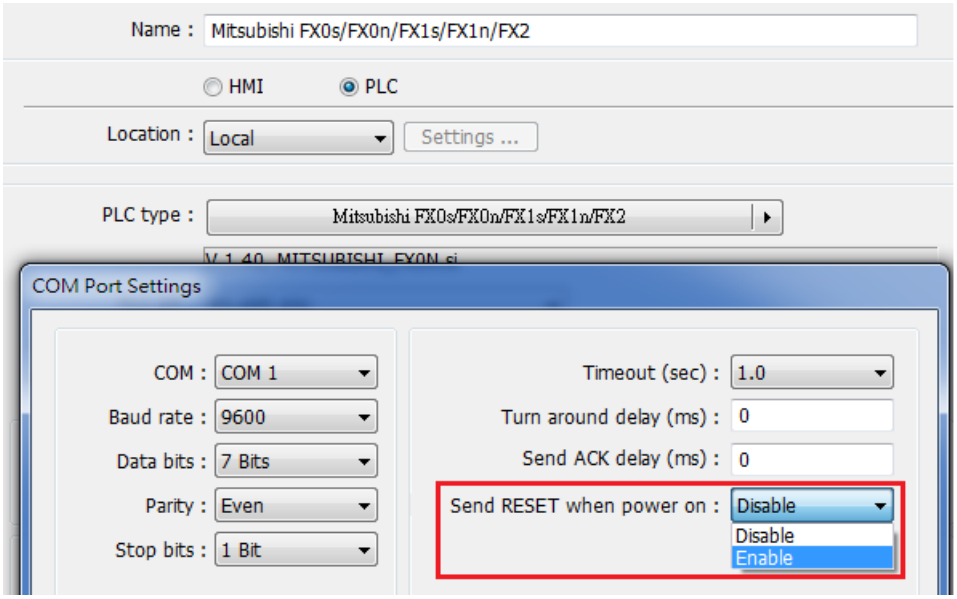
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi FX0S/FX0N/FX1S/FX1N/FX2 | | |
| PLC I/F | RS485 4W | RS232/RS485 | |
| Baud rate | 9600 | 9600/19200/38400/57600/115200 | |
| Data bits | 7 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 0 | 0-255 | |

*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

*[Send RESET when power on] selection is provided in PLC COM Port Settings. If enabled, PLC can be reset when HMI is powered ON.



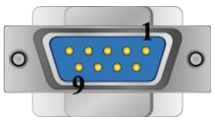
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 377 | Input Relay |
| B | Y | OOO | 0 ~ 377 | Output Relay |
| B | M | DDDD | 0 ~ 9999 | Auxiliary Relay |
| B | T | DDD | 0 ~ 255 | Timer Relay |
| B | C | DDD | 0 ~ 255 | Counter Relay |
| B | SM | DDDD | 8000 ~ 9999 | Special Aux. Relays |
| B | D_Bit | DDDDdd | 0 ~ 999915 | Data Register Bit (D) |
| B | S | DDDD | 0 ~ 4095 | States |
| W | TV | DDD | 0 ~ 255 | Timer Memory |
| W | CV | DDD | 0 ~ 199 | Counter Memory |
| W | D | DDDD | 0 ~ 9999 | Data Register |
| DW | CV2 | DDD | 200 ~ 255 | Counter Memory(D Word) |
| W | SD | DDDD | 8000 ~ 9999 | Special Data Register |

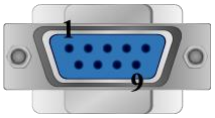
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

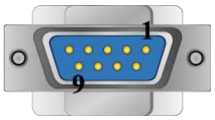
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Port 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

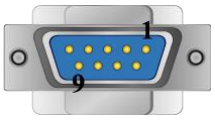
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | RS422 Port 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 7 TX+ |
| 9 TX- | | | 1 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

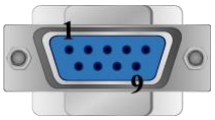
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Port 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Port 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

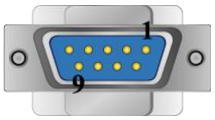
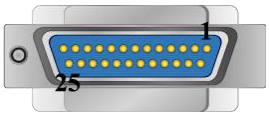
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | RS422 Port 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

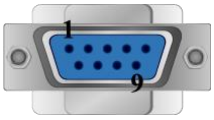
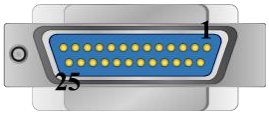
**The following is the view from the soldering point of a cable..**

9P D-Sub to 25P D-Sub:

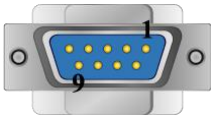
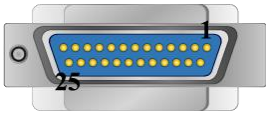
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 Port 25P D-Sub<br>Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TXD- | |
| 2 RX+ | | | 3 TXD+ | |
| 3 TX- | | | 15 RXD- | |
| 4 TX+ | | | 2 RXD+ | |
| 5 GND | | | 7 GND | |
| | | | 4 DSR+ | Short |
| | | | 8 GND | |
| | | | 13 +5V | |
| | | | 17 DSR- | Short |
|  | | |  | |

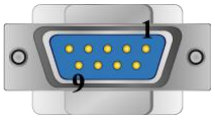
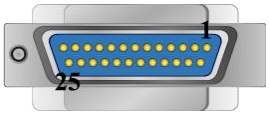
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 16 TXD- | |
| 6 RX+ | | | 3 TXD+ | |
| 9 TX- | | | 15 RXD- | |
| 8 TX+ | | | 2 RXD+ | |
| 5 GND | | | 7 GND | |
| | | | 4 DSR+ | Short |
| | | | 8 GND | |
| | | | 13 +5V | |
| | | | 17 DSR- | Short |
|  | | |  | |

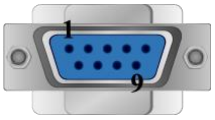
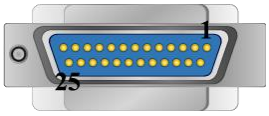
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TXD- | |
| 2 RX+ | | | 3 TXD+ | |
| 3 TX- | | | 15 RXD- | |
| 4 TX+ | | | 2 RXD+ | |
| 5 GND | | | 7 GND | |
| | | | 4 DSR+ | Short |
| | | | 8 GND | |
| | | | 13 +5V | |
| | | | 17 DSR- | Short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TXD- | |
| 2 RX+ | | | 3 TXD+ | |
| 3 TX- | | | 15 RXD- | |
| 4 TX+ | | | 2 RXD+ | |
| 5 GND | | | 7 GND | |
| | | | 4 DSR+ | short |
| | | | 8 GND | |
| | | | 13 +5V | |
| | | | 17 DSR- | short |
|  | | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS422 Port 25P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 16 TXD- | |
| 2 RX+ | | | 3 TXD+ | |
| 3 TX- | | | 15 RXD- | |
| 4 TX+ | | | 2 RXD+ | |
| 5 GND | | | 7 GND | |
| | | | 4 DSR+ | short |
| | | | 8 GND | |
| | | | 13 +5V | |
| | | | 17 DSR- | short |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Oct/26/2011 | |

# Mitsubishi FX232/485BD

Supported Series: Mitsubishi FX0N/FX2/FX2N COM for Communication Module BD FX2N-485-BD, FX2N-232-BD, FX1N-485-BD, FX1N-232-BD & FX3U-485ADP.
Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi FX232/485BD | | |
| PLC I/F | RS232/RS485 | RS232/RS485 2w/4w | in accordance with the BD module |
| Baud rate | 19200 | 9600/19200/38400 | |
| Data bits | 7 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0-15 | |

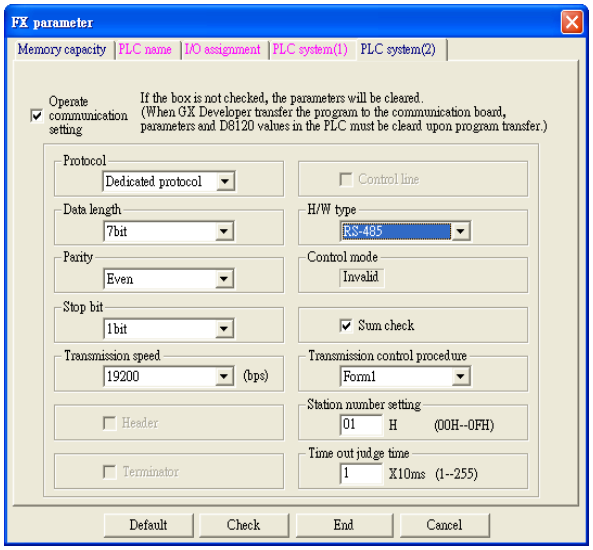
Note: It is recommended to set turn around delay to 8. (For RS485 2W)

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | YES |

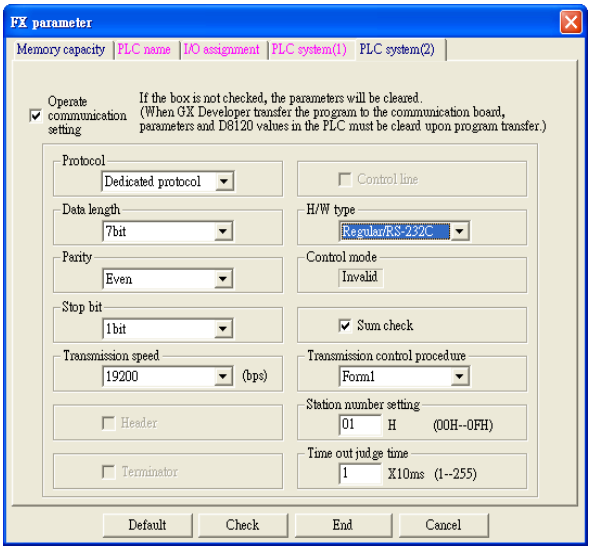
## PLC Setting:

| | |
|---|---|
| Communication mode | Must set PLC station when useing BD Module. |

Register D8120 setting: set b9 and b8 of BFM#0 to 0.




FX2N-485-BD, FX1N-485-BD




FX2N-232-BD, FX1N-232-BD

## Device Address:

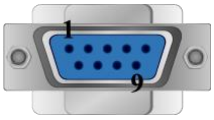
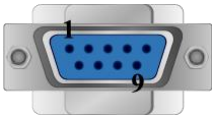
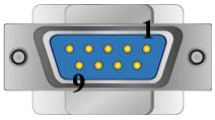
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 377 | Input Relay |
| B | Y | OOO | 0 ~ 377 | Output Relay |
| B | M | DDDD | 0 ~ 7999 | Auxiliary Relay |
| B | T | DDD | 0 ~ 511 | Timer Relay |
| B | C | DDD | 0 ~ 255 | Counter Relay |
| B | SM | DDDD | 8000 ~ 9999 | Special Auxiliary Relay |
| B | D_Bit | DDDDh | 0 ~ 7999f | Data Register Bit |
| B | S | DDDD | 0 ~ 4095 | State Relay |
| W | TV | DDD | 0 ~ 511 | Timer Memory |
| W | CV | DDD | 0 ~ 199 | Counter Memory |
| W | D | DDDD | 0 ~ 7999 | Data Register |
| W | CV2 | DDD | 200 ~ 255 | Counter Memory(D Word) |
| W | SD | DDDD | 8000 ~ 9999 | Special Data Register |
| W | R | DDDDD | 0 ~ 32767 | Extended Register |

## Wiring Diagram:

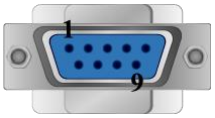
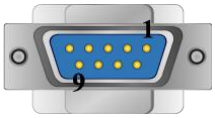
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: Communication Module RS232BD

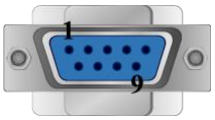
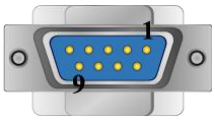
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

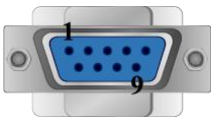
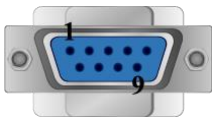
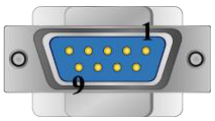
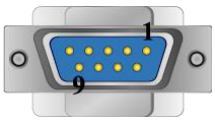
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

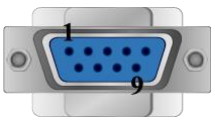
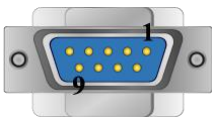
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

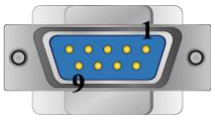
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

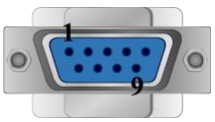
**The following is the view from the soldering point of a cable.**

Communication Module RS485BD: RS485 4W

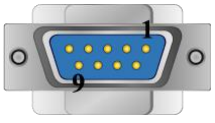
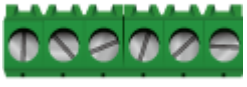
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | 485BD Module 5P<br>Termanal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | SG |
|  | | |  |

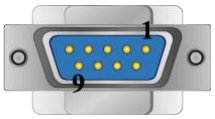
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | 485BD Module 5P<br>Termanal |
|---|---|---|---|
| 7 RX- | | | SDB |
| 6 RX+ | | | SDA |
| 9 TX- | | | RDB |
| 8 TX+ | | | RDA |
| 5 GND | | | SG |
|  | | |  |

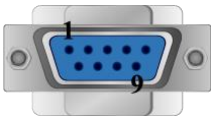
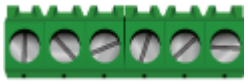
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | 485BD Module 5P<br>Termanal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | SG |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | 485BD Module 5P<br>Termanal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | SG |
|  | | |  |

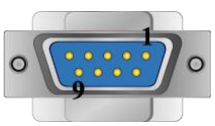
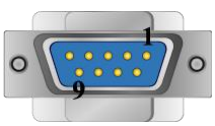
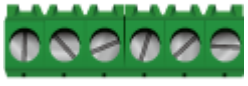
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | 485BD Module 5P<br>Termanal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | SG |
|  | | |  |

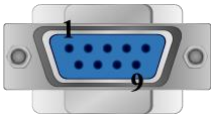
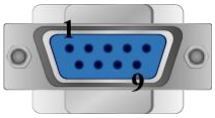
**The following is the view from the soldering point of a cable.**

Communication Module RS485BD: RS485 2W

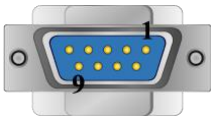
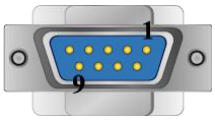
eMT3000 series

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | 485BD Module 5P<br>Termanal | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | SDB | short |
| | | | RDB | |
| 2 RX+ | 9 Data+ | | SDA | short |
| | | | RDA | |
| 5 GND | 5 GND | | SG | |
|  |  | |  | |

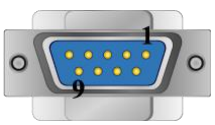
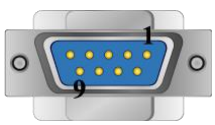
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | Change RS485 terminal | |
|---|---|---|---|---|
| 7 RX- | 4 Data- | | SDB | short |
| | | | RDB | |
| 6 RX+ | 1 Data+ | | SDA | short |
| | | | RDA | |
| 5 GND | 5 GND | | SG | |
|  |  | |  | |

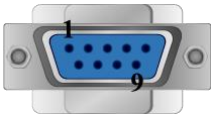
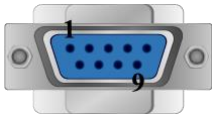
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Change RS485 terminal | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | SDB | short |
| | | | RDB | |
| 2 RX+ | 8 Data+ | | SDA | short |
| | | | RDA | |
| 5 GND | 9 GND | | SG | |
|  |  | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | 485BD Module 5P Termanal | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | SDB | short |
| | | | RDB | |
| 2 RX+ | 9 Data+ | | SDA | short |
| | | | RDA | |
| 5 GND | 5 GND | | SG | |
|  |  | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | 485BD Module 5P Termanal | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | SDB | short |
| | | | RDB | |
| 2 RX+ | 8 Data+ | | SDA | short |
| | | | RDA | |
| 5 GND | 5 GND | | SG | |
|  |  | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Jul/26/2011 | Added registers: D_Bit and S. |
| V1.50 | Sep/10/2012 | Added register: R. |

# Mitsubishi FX2N

Supported Series: Mitsubishi FX2N series PLC
Website http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi FX2N | | |
| PLC I/F | RS485 4W | RS232/RS485 | |
| Baud rate | 19200 | 9600/19200/38400 /57600/115200 | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

| Online simulator | YES | Extend address mode | NO |
|---|---|---|---|

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

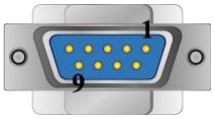
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 377 | Input Relay |
| B | Y | OOO | 0 ~ 377 | Output Relay |
| B | M | DDDD | 0 ~ 7999 | Auxiliary Relay |
| B | T | DDD | 0 ~ 255 | Timer Relay |
| B | C | DDD | 0 ~ 255 | Counter Relay |
| B | SM | DDDD | 8000 ~ 9999 | Special Auxiliary Relay |
| B | D_Bit | DDDDdd | 0 ~ 799915 | Data Register Bit (D) |
| B | S | DDDD | 0 ~ 4095 | State Relay (S) |
| W | TV | DDD | 0 ~ 255 | Timer Memory |
| W | CV | DDD | 0 ~ 199 | Counter Memory |
| W | D | DDDD | 0 ~ 7999 | Data Register |
| DW | CV2 | DDD | 200 ~ 255 | Counter Memory(D Word) |
| W | SD | DDDD | 8000 ~ 9999 | Special Data Register |

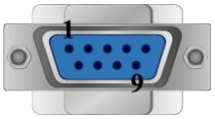
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

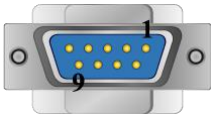
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

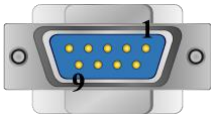
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 7 TX+ |
| 9 TX- | | | 1 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

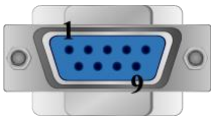
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.60 | Sep/10/2009 | |

# Mitsubishi FX2N-10GM/20GM

Supported Series: Mitsubishi FX2N -10GM/20GM PLC.
Website http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi FX2N-10GM/20GM | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

| Online simulator | YES | Extend address mode | NO |
|---|---|---|---|

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

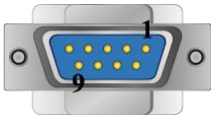
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 103 | Input Relay |
| B | Y | OOO | 0 ~ 103 | Output Relay |
| B | M | DDD | 0 ~ 511 | Auxiliary Relay |
| B | SM | DDDD | 9000 ~ 9175 | Special Auxiliary Relay |
| W | X_W | OOO | 0 ~ 103 | |
| W | Y_W | OOO | 0 ~ 103 | |
| W | M_W | DDD | 0 ~ 511 | |
| W | SM_W | DDDD | 9000 ~ 9175 | |
| W | D | DDDD | 0 ~ 6999 | Data Register |
| W | SD | DDDD | 9000 ~ 9599 | Special Data Register |
| W | V | D | 0 ~ 7 | Index register |
| DW | Z | D | 0 ~ 7 | Index register |

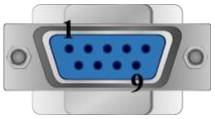
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

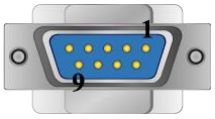
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

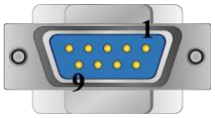
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 7 TX+ |
| 9 TX- | | | 1 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

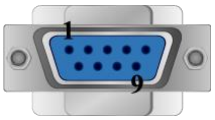
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS422 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS422 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/30/2013 | Driver released. |

# Mitsubishi FX3U (Ethernet)

Supported Series: Mitsubishi FX SERIES, Module: FX3U-ENET.

Website: http://www.mitsubishi-automation.com

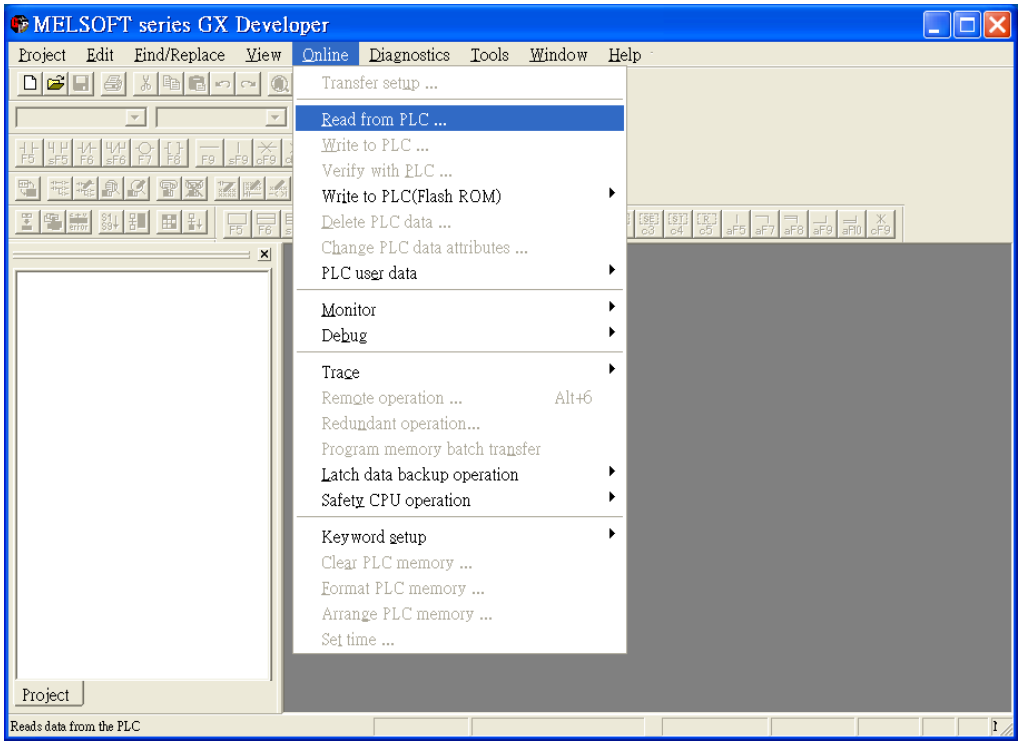
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi FX3U (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 5001(default) | | Refer to Module Setting |
| PLC sta. no. | 0 (default) | | Refer to Module Setting |

## PLC Setting:

Fx3u-ENET module setting:
Before using Ethernet module, use GX Developer / FX Configurator-EN to set the Ethernet module, the FX3u-ENET module setting steps are shown below.

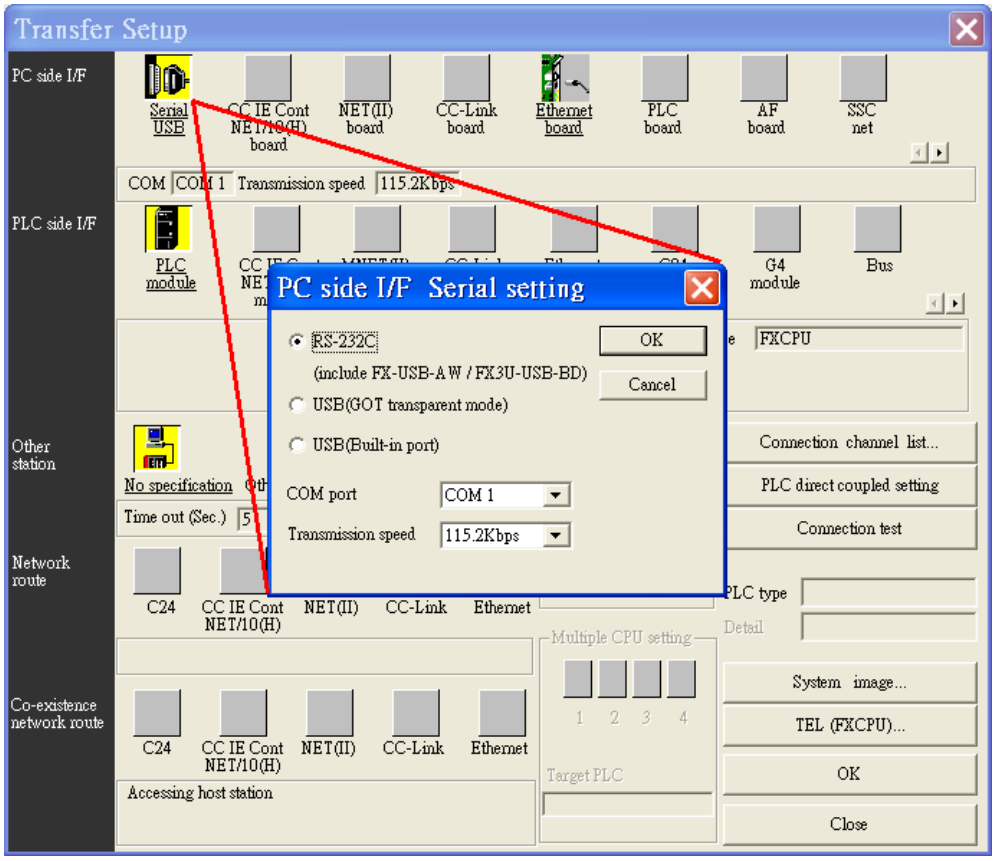
Step1. Open GX Developer, select “Read from PLC” in Online list.



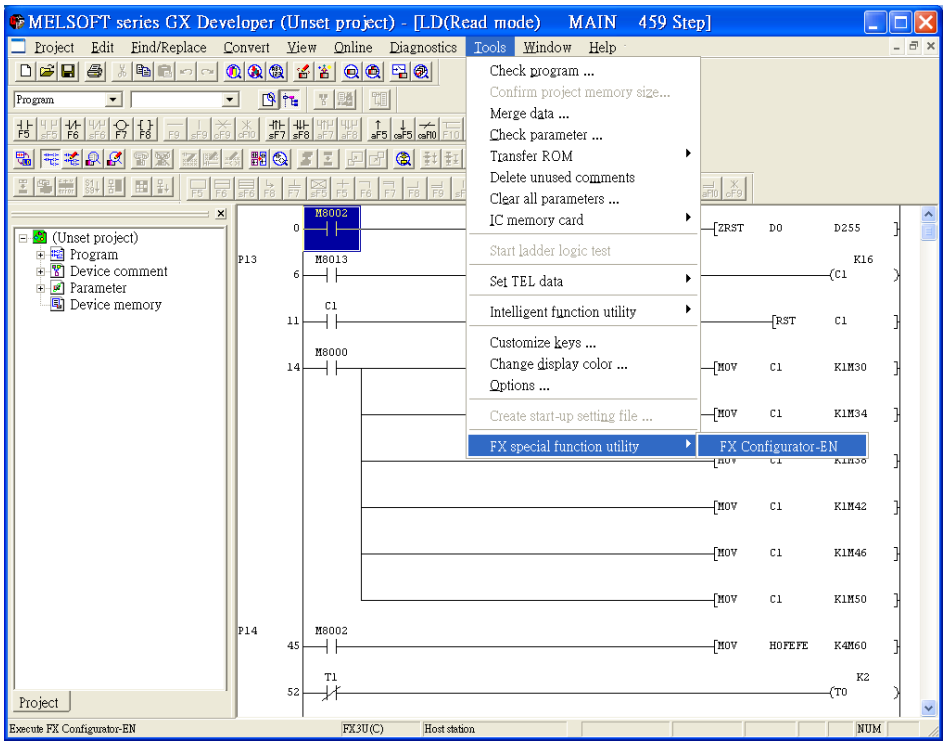
Step2. Select “FXCPU” in PLC series.



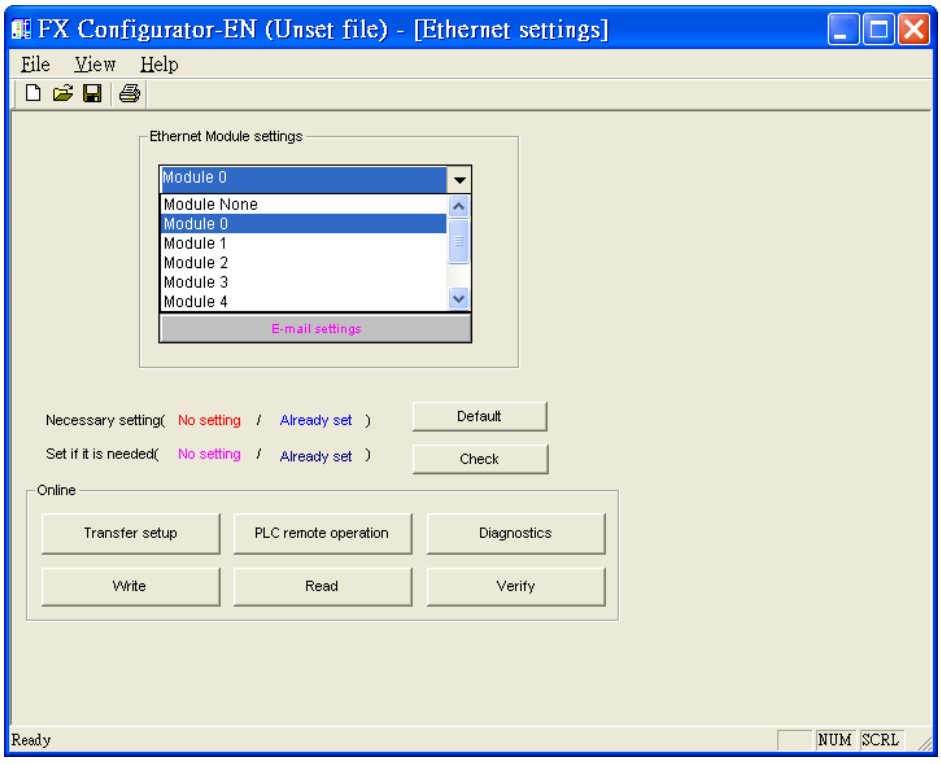

Step3. Connect PLC via serial port for setting IP address first.



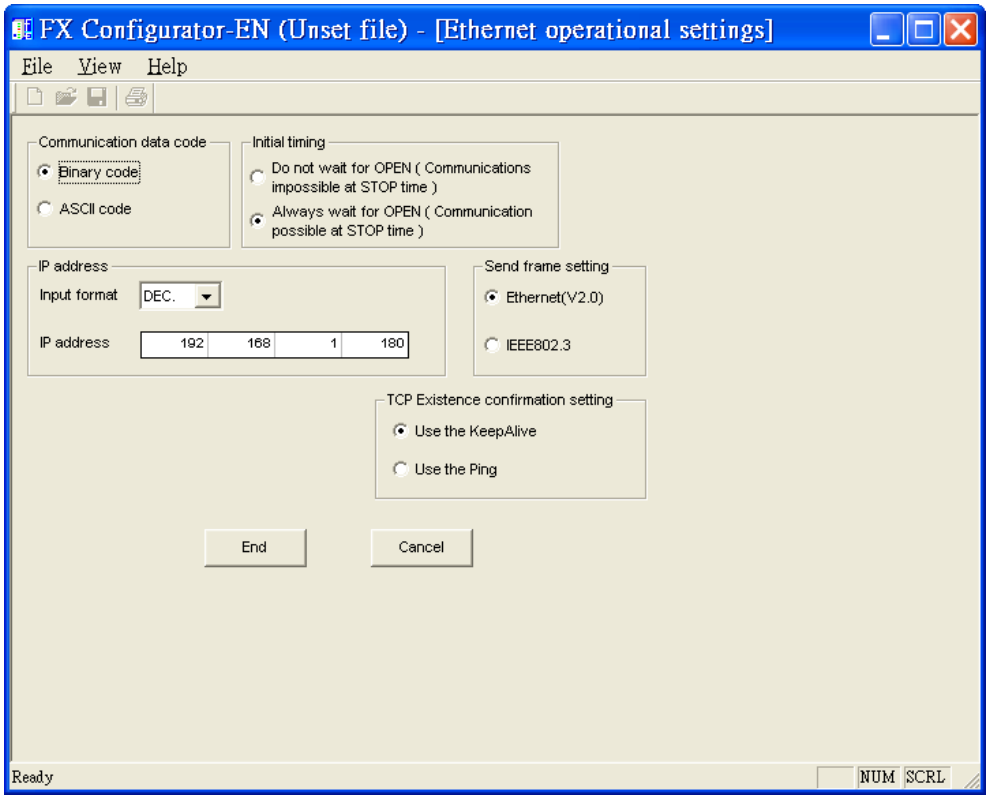
Step4. After finishing the PLC settings, select Tools/FX special function utility/FX Configurator-EN.




Step5. Select “Module 0” in Ethernet Module settings.
(If more than one module needed, please set modules step by step)



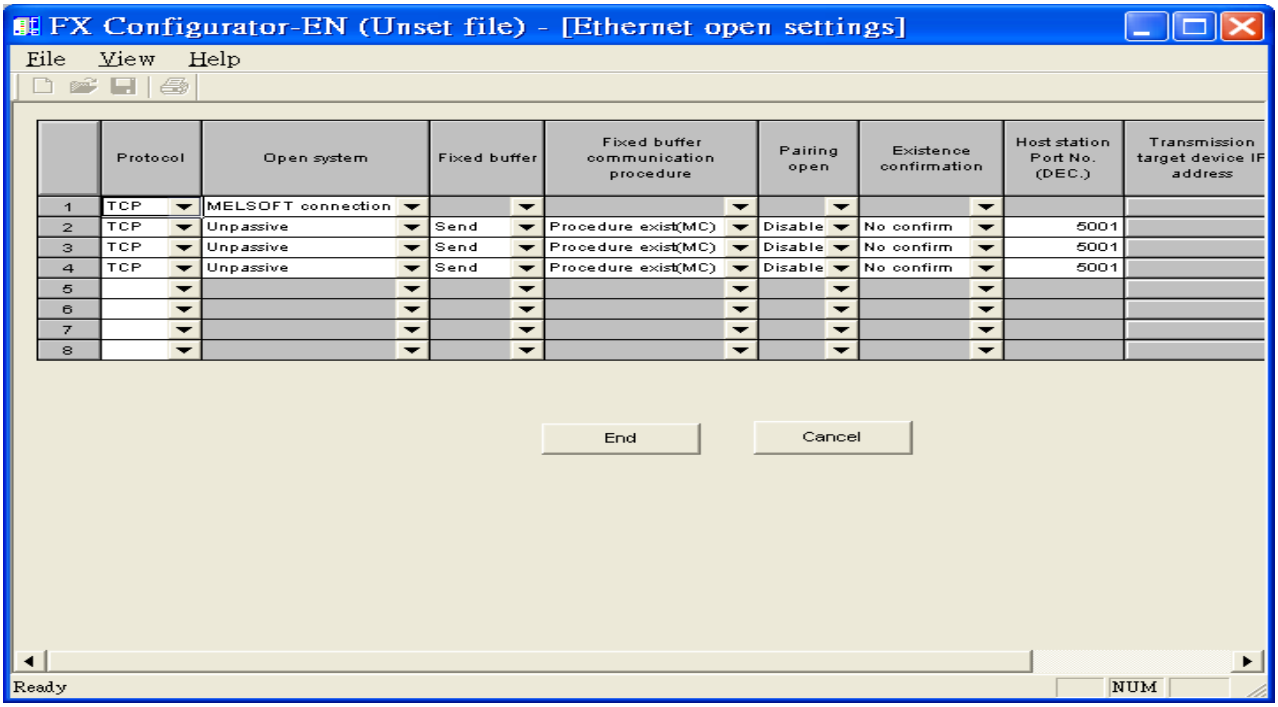
Step6. In Ethernet operational settings, select the related parameters and IP address and then press ”End” to finish setting.



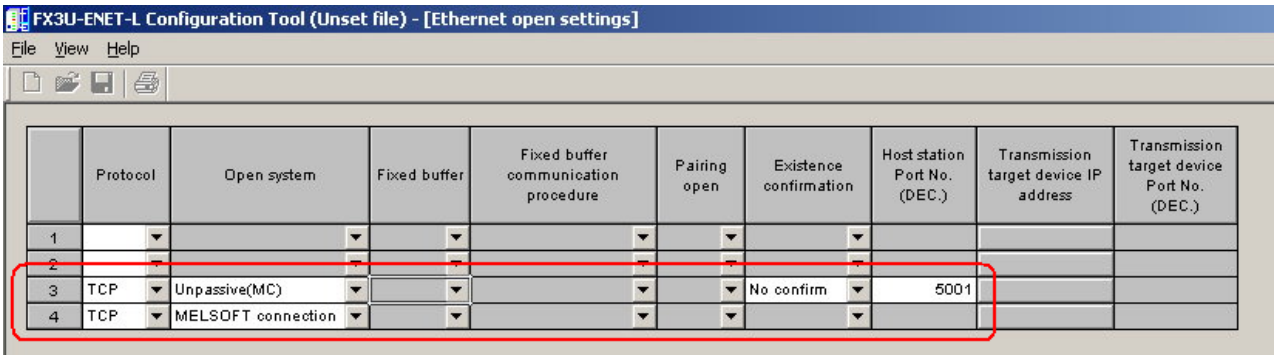

Step7. In Ethernet open settings, press “End” after setting the parameters below.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | TCP | MELSOFT connection | | | | | |
| 2 | TCP | Unpassive | Send | Procedure exist(MC) | Disable | No confirm | 5001 |
| 3 | TCP | Unpassive | Send | Procedure exist(MC) | Disable | No confirm | 5001 |
| 4 | TCP | Unpassive | Send | Procedure exist(MC) | Disable | No confirm | 5001 |

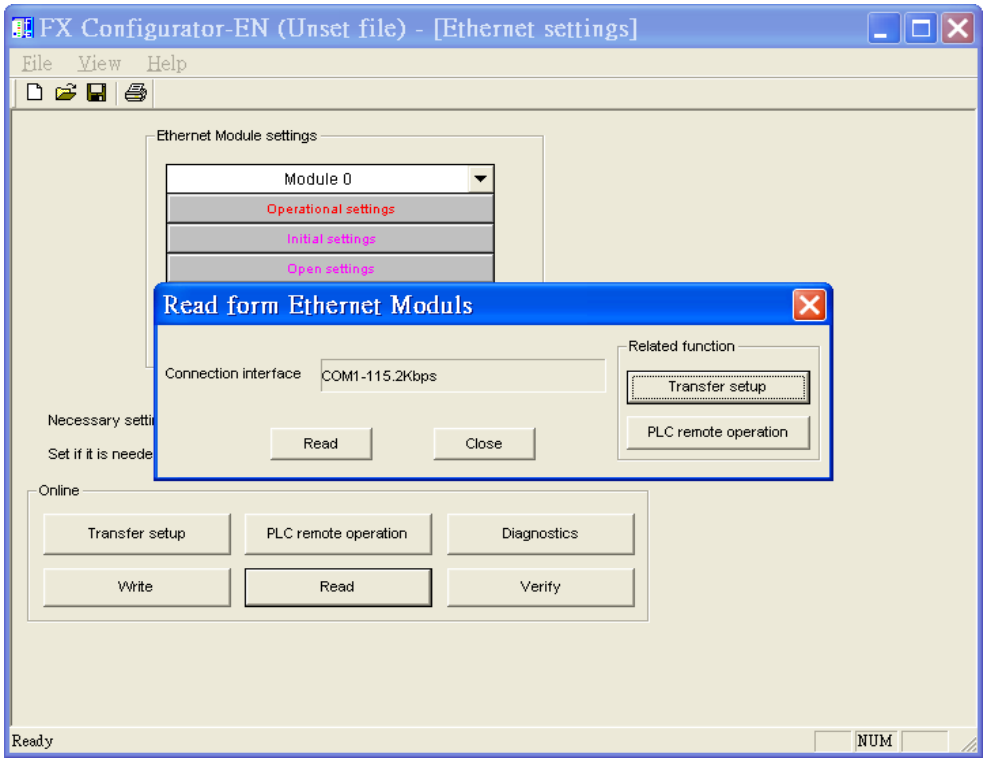
(The first Protocol means using GX Developer to communicate with module, the max. “Fixed buffer communication preocedure” is 4 units.)


FX Configurator-EN (Unset file) - [Ethernet open settings]
File View Help
Protocol
Open system
Fixed buffer
Fixed buffer communication procedure
Pairing open
Existence confirmation
Host station Port No. (DEC.)
Transmission target device IP address
1 TCP MELSOFT connection
2 TCP Unpassive Send Procedure exist(MC) Disable No confirm 5001
3 TCP Unpassive Send Procedure exist(MC) Disable No confirm 5001
4 TCP Unpassive Send Procedure exist(MC) Disable No confirm 5001
5
6
7
8
End
Cancel
Ready
NUM

Or


FX3U-ENET-L Configuration Tool (Unset file) - [Ethernet open settings]
File View Help
Protocol
Open system
Fixed buffer
Fixed buffer communication procedure
Pairing open
Existence confirmation
Host station Port No. (DEC.)
Transmission target device IP address
Transmission target device Port No. (DEC.)
1
2
3 TCP Unpassive(MC) No confirm 5001
4 TCP MELSOFT connection

Step8. After setting the parameters of PLC, restart for Ethernet communication.




## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 571 | Input |
| B | Y | OOO | 0 ~ 571 | Output Relay |
| B | M | DDDD | 0 ~ 7999 | Internal Relay |
| B | T | DDD | 0 ~ 511 | Timer Contacts |
| B | C | DDD | 0 ~ 255 | Counter Contacts |
| B | SM | DDDD | 8000 ~ 8511 | Special Int. Relays |
| B | D_Bit | DDDDDdd | 0 ~ 1799915 | Data Register Bit Access |
| B | S | DDDD | 0 ~ 4095 | Step Relays |
| W | TV | DDD | 0 ~ 511 | Timer Value |
| W | CV | DDD | 0 ~ 199 | Counter Value |
| W | D | DDDD | 0 ~ 7999 | Data Registers |
| W | CV2 | DDD | 200 ~255 | Counter Value |
| W | SD | DDDD | 8000 ~ 8511 | Special Data Registers |
| W | R | DDDDD | 0 ~ 32767 | File Register |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Feb/12/2009 | Driver released. |

# Mitsubishi FX3U/FX3G

Supported Series: Mitsubishi FX3U/FX3UC/FX3G/FX3S.
Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi FX3U/FX3G | | |
| PLC I/F | RS485 4w | RS232 / RS485 2w/4w / USB | |
| Baud rate | 38400 | 9600/19200 | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | Does not apply to this protocol |

| Online simulator | YES (9600 baud rate only) | Extend address mode | NO |
|---|---|---|---|

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

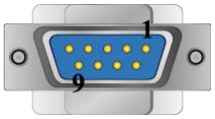
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 764 | Input Relay |
| B | Y | OOO | 0 ~ 764 | Output Relay |
| B | M | DDDD | 0 ~ 7999 | Auxiliary Relay |
| B | T | DDD | 0 ~ 511 | Timer Relay (T) |
| B | C | DDD | 0 ~ 255 | Counter Relay (C) |
| B | SM | DDDD | 8000 ~ 9999 | Special Relay (M) |
| B | D_Bit | DDDDdd | 0 ~ 799915 | Data Register Bit (D) |
| B | S | DDDD | 0 ~ 4095 | State Relay (S) |
| W | TV | DDD | 0 ~ 511 | Timer Memory (T) |
| W | CV | DDD | 0 ~ 199 | Counter Memory (C) |
| W | D | DDDD | 0 ~ 7999 | Data Register (D) |
| DW | CV2 | DDD | 200 ~ 255 | Counter Memory(D Word) |
| W | SD | DDDD | 8000 ~ 9999 | Special Data Register (D) |
| W | R | DDDDD | 0 ~ 32767 | Extended Register (R) |
| W | Z | D | 0 ~ 7 | Index register |

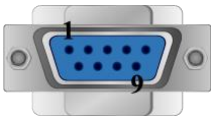
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

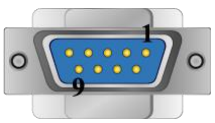
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

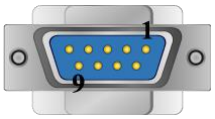
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 7 TX+ |
| 9 TX- | | | 1 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

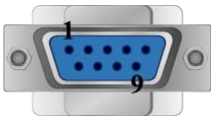
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W<br>9P D-Sub Male | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W<br>9P D-Sub Female | | | RS422 8P Mini-DIN<br>Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.80 | Feb/18/2014 | |

# Mitsubishi L6ADP

Supported Series: Mitsubishi L6ADP CPU RS232 Series Port
Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi L6ADP | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address | NO |
| Pass-Through | YES | | |

*Communications between HMI and PLC in pass-through mode are not supported.
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 2047 | Special Int. Relays |
| B | X | HHHH | 0 ~ 1FFF | Input Relay |
| B | Y | HHHH | 0 ~ 1FFF | Output Relay |
| B | M | DDDD | 0 ~ 8191 | Internal Relay |
| B | L | DDDD | 0 ~ 8191 | Latch Relay |
| B | F | DDDD | 0 ~ 2047 | Annunciator |
| B | V | DDDD | 0 ~ 2047 | Edge Relay |
| B | B | HHHH | 0 ~ 1FFF | Link Relay |
| B | SB | HHH | 0 ~ 7FF | Special Link Relay |
| B | D_Bit | DDDDDDh | 0 ~ 143359F | Data Register bit |
| W | SD | DDDD | 0 ~ 2047 | Special register |
| W | D | DDDDDD | 0 ~ 143359 | Data Register |
| W | W | HHHH | 0 ~ 1FFF | Link Register |
| W | SW | HHH | 0 ~ 7FF | Special Link Register |

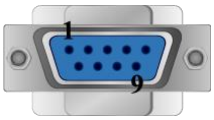
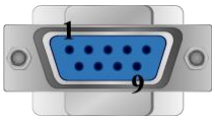
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Z | DD | 0 ~ 19 | Index Register |
| W | C | DDDD | 0 ~ 2047 | Counter |
| W | T | DDDD | 0 ~ 1023 | Timer |

## Wiring Diagram:

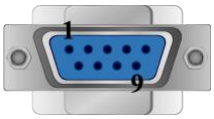
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P Mini-DIN RS232 Port

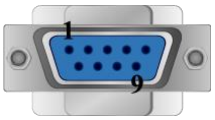
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

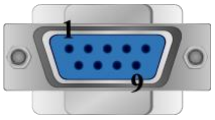
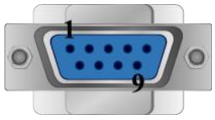
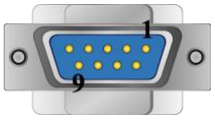
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

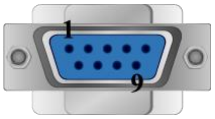
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/19/2013 | Driver released. |

# Mitsubishi MELSEC-Q/L - ASCII Mode (Ethernet)

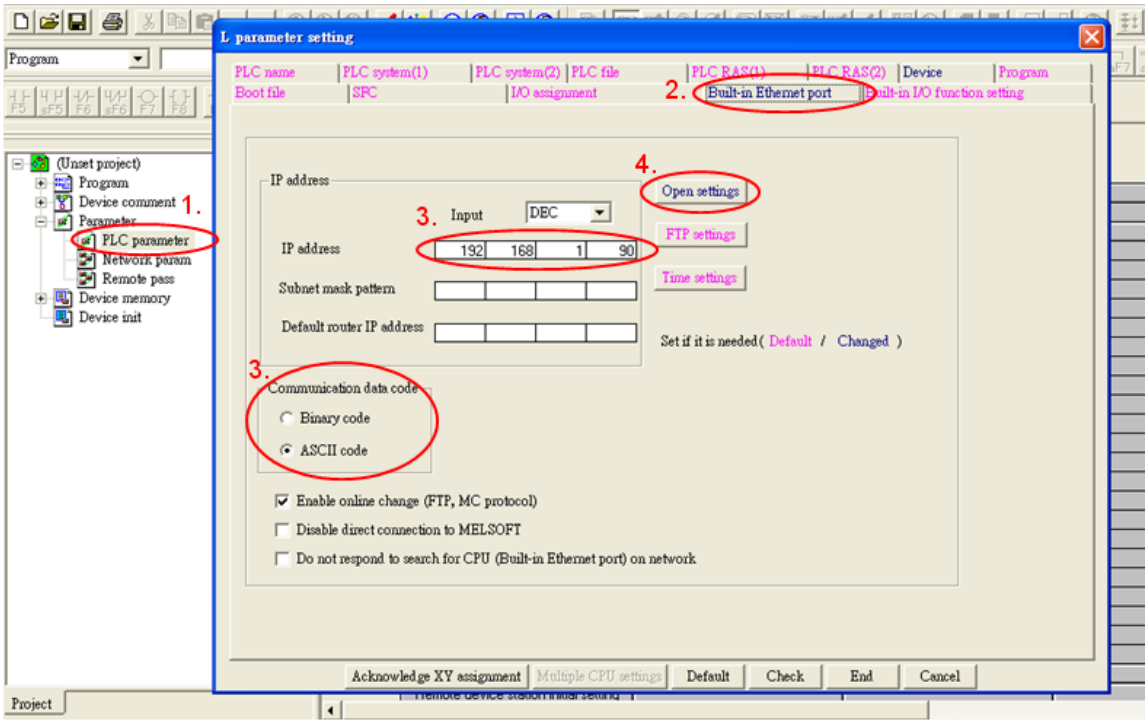
Supported Series: Mitsubishi Q series (Q03UDE, Q04UDEH, Q06UDEH, Q10UDEH, Q13UDEH, Q20UDEH, Q26UDEH), Mitsubishi L series(L02, L26-BT), MELSEC-Q/L protocol application to CPU of Ethernet interface or Ethernet module.
Website: http://www.mitsubishi-automation.com

## HMI Setting:

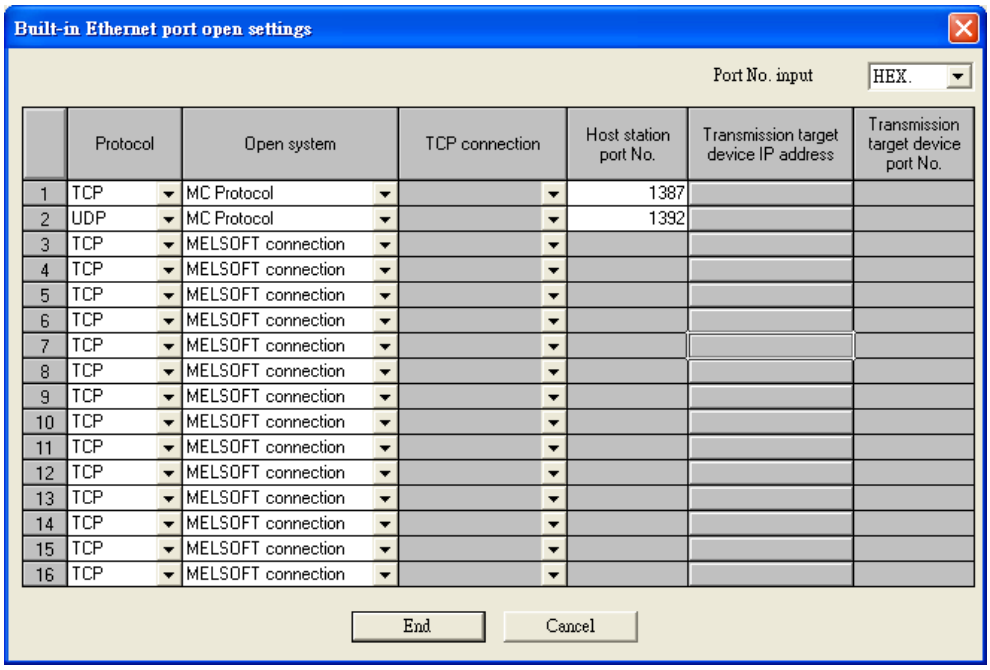
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi MELSEC-Q/L - ASCII Mode (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | Set identically to the PLC setting | | Adviced to set port no. to 4999 |
| Parameter 1 | Networking no. (Set identically to PLC setting) | 0~255 | Q13UDEH has to be set to 0 |
| PLC sta. no. | Set identically to the PLC setting | 255 | Q13UDEH has to be set to 255 |

## PLC Setting:

MITSUBISHI Q/L series Ethernet module setting:
Note: If using QJ71E71 module, please refer to MITSUBISHI QJ71E71 connection guide.



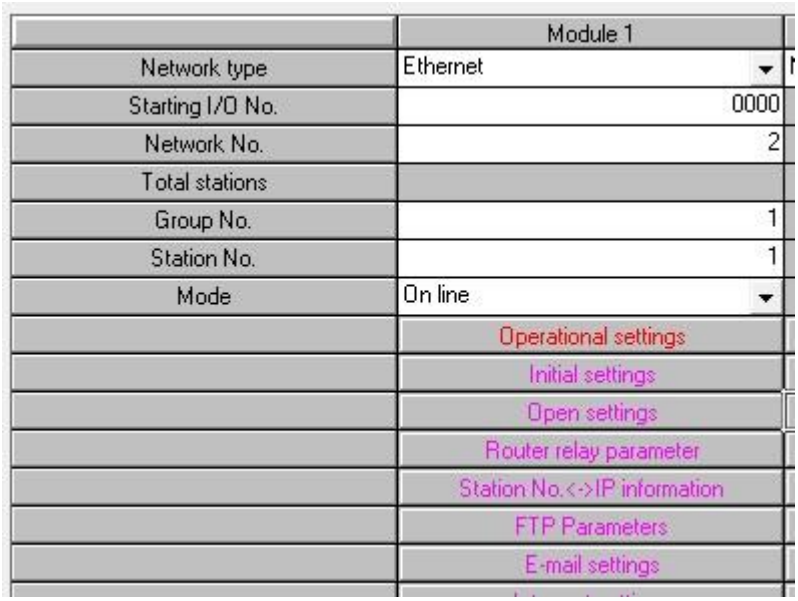

1. Click [PLC parameter].
2. [Built-in Ethernet port].
3. Click [Open settings] and then set the IP address and communication data code
4. Set the MC protocol-TCP Port No.1387 (Hex) and in EasyBuilder, TCP port is 4999 (Dec).



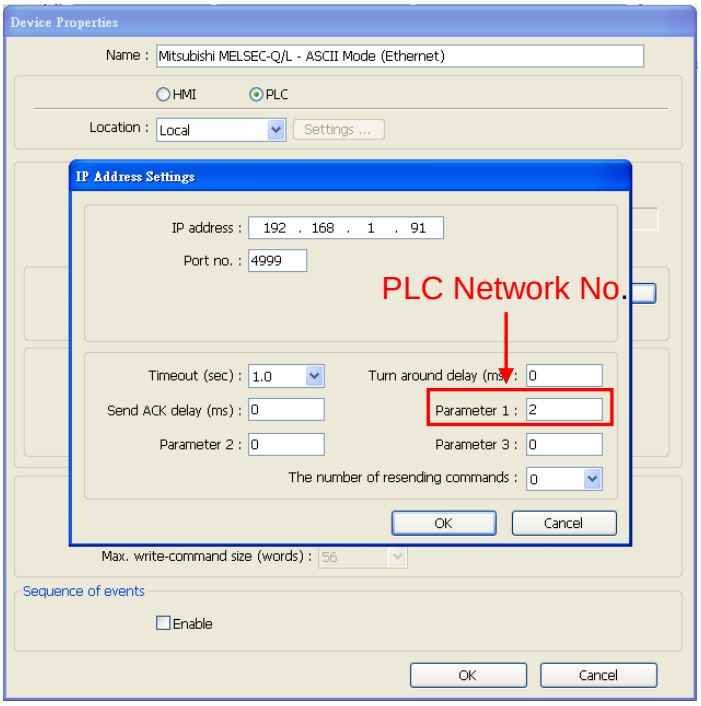
*If not using an ethernet module, skip the following settings.

Note: In EasyBuilder, please fill in [Network No.] in Parameter 1 as PLC setting.

For example below, the Network No. is 2.




Set to 2 for Parameter 1 in EasyBuilder.



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 2047 | Special Relay |
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDDD | 0 ~ 32767 | Latch Relay |
| B | F | DDDDD | 0 ~ 32767 | Annunciator |
| B | V | DDDDD | 0 ~ 32767 | Edge Relay |
| B | B | HHHH | 0 ~ efff | Link Relay |
| B | TS | DDDDD | 0 ~ 25471 | Timer Contact |
| B | TC | DDDDD | 0 ~ 25471 | Timer Coil |
| B | SS | DDDDD | 0 ~ 25471 | Retentive Timer Contact |
| B | SC | DDDDD | 0 ~ 25471 | Retentive Timer Coil |
| B | CS | DDDDD | 0 ~ 25471 | Counter Contact |
| B | CC | DDDDD | 0 ~ 25471 | Counter Coil |
| B | SB | HHHH | 0 ~ 7fff | Special Link Relay |
| B | S | DDDD | 0 ~ 8191 | Step relay |
| B | DX | HHHH | 0 ~ 1fff | Direct Input |
| B | DY | HHHH | 0 ~ 1fff | Direct Output |
| B | D_Bit | DDDDDDh | 0 ~ 999999f | Data Register bit |
| B | SD_bit | DDDDh | 0 ~ 2047f | Special register Bit |
| B | ZR_bit | DDDDDDh | 0 ~ 999999f | File Register Bit |
| B | R_bit | DDDDDh | 0 ~ 32767f | File Register Bit |
| B | SW_bit | HHHh | 0 ~ 7fff | Special Link Register Bit |
| B | W_bit | HHHHHHh | 0 ~ 3fd7fff | Link Register Bit |
| W | SD | DDDD | 0 ~ 2047 | Special register |
| W | D | DDDDDD | 0 ~ 999999 | Data Register |
| W | W | HHHHHH | 0 ~ 3fd7ff | Link Register |
| W | TN | DDDDD | 0 ~ 25471 | Timer Current value |
| W | SN | DDDDD | 0 ~ 25471 | Retentive Timer Current value |
| W | CN | DDDDD | 0 ~ 25471 | Counter Current value |
| W | SW | HHH | 0 ~ 7ff | Special Link Register |
| W | Z | DD | 0 ~ 20 | Index Register |
| W | R | DDDDD | 0 ~ 32767 | File Register |
| W | ZR | DDDDDD | 0 ~ 999999 | File Register |

Note: Each model of CPU is different, it is recommended to refer to MITSUBISHI MELSEC-Q Manual Device List.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jul/10/2012 | Driver released. |

# Mitsubishi MELSEC-Q/L - Binary Mode (Ethernet)

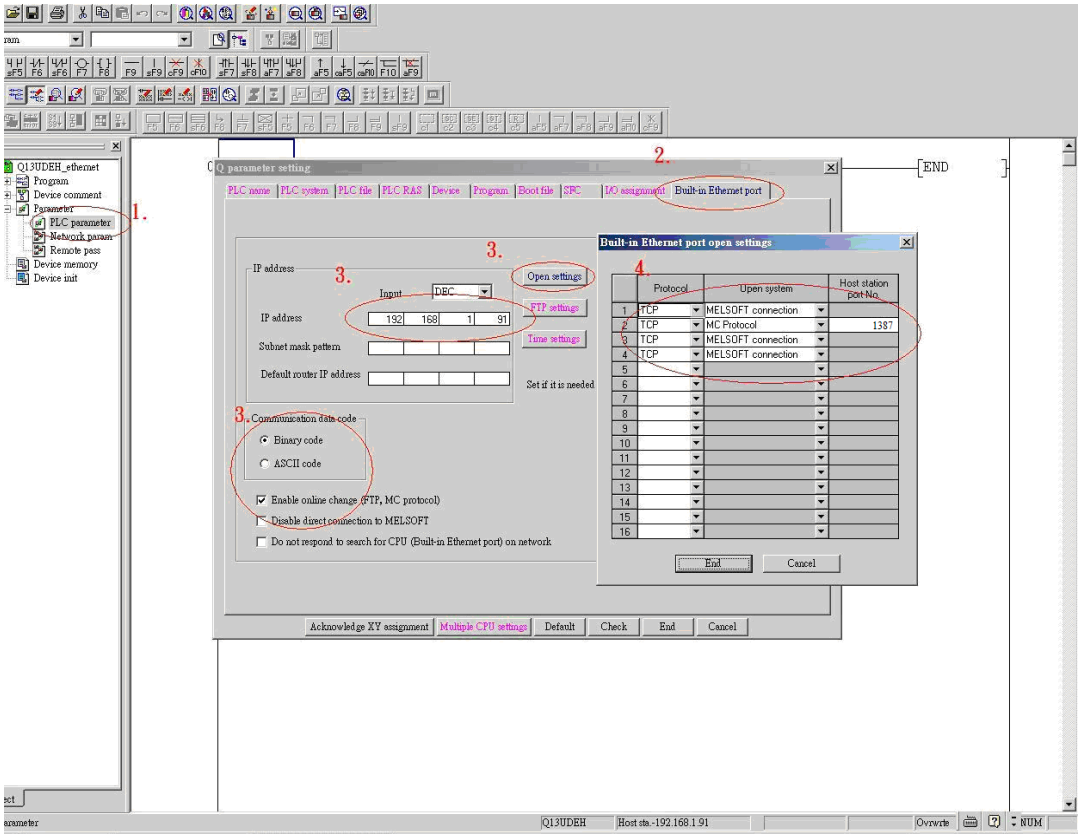
Supported Series: Mitsubishi Q series (Q03UDE, Q04UDEH, Q06UDEH, Q10UDEH, Q13UDEH, Q20UDEH, Q26UDEH), Mitsubishi L series(L02, L26-BT), MELSEC-Q/L protocol application to CPU of Ethernet interface or Ethernet module.
Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi MELSEC-Q/L - Binary Mode (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | Set identically to the PLC setting | | Adviced to set port no. to 4999 |
| Parameter 1 | Networking no. (Set identically to PLC setting) | 0~255 | Q13UDEH has to be set to 0 |
| PLC sta. no. | Set identically to the PLC setting | 255 | Q13UDEH has to be set to 255 |

## PLC Setting:

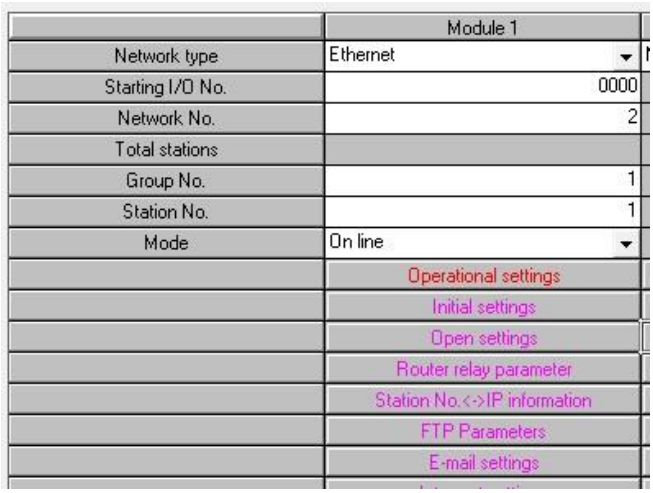
MITSUBISHI Q/L series Ethernet module setting:
Note: If using QJ71E71 module, please refer to MITSUBISHI QJ71E71 connection guide.



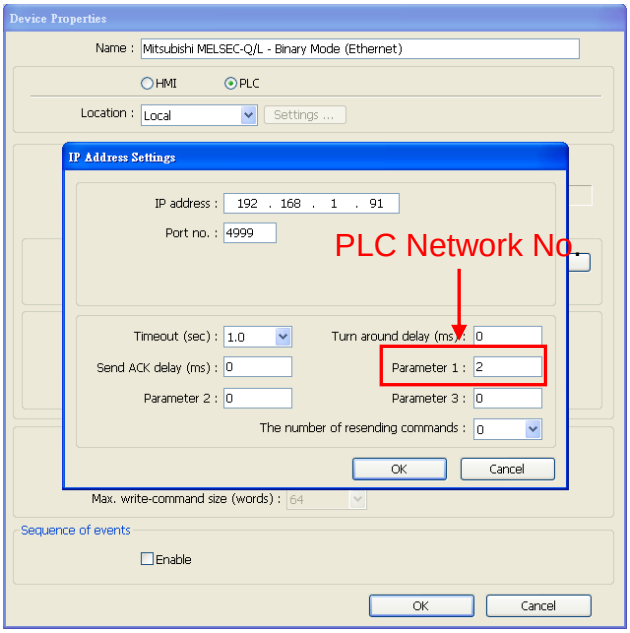

1. Click [PLC parameter].
2. [Built-in Ethernet port].
3. Click [Open settings] and then set the IP address and communication data code
4. Set the MC protocol-TCP Port No.1387 (Hex) and in EasyBuilder, TCP port is 4999 (Dec).

*If not using an ethernet module, skip the following settings.

Note: In EasyBuilder, please fill in [Network No.] in Parameter 1 as PLC setting. For example below, the Network No. is 2.



Set to 2 for Parameter 1 in EasyBuilder.




## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 2047 | Special Relay |
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDDD | 0 ~ 32767 | Latch Relay |
| B | F | DDDDD | 0 ~ 32767 | Annunciator |
| B | V | DDDDD | 0 ~ 32767 | Edge Relay |
| B | B | HHHH | 0 ~ efff | Link Relay |
| B | TS | DDDDD | 0 ~ 25471 | Timer Contact |
| B | TC | DDDDD | 0 ~ 25471 | Timer Coil |
| B | SS | DDDDD | 0 ~ 25471 | Retentive Timer Contact |
| B | SC | DDDDD | 0 ~ 25471 | Retentive Timer Coil |
| B | CS | DDDDD | 0 ~ 25471 | Counter Contact |
| B | CC | DDDDD | 0 ~ 25471 | Counter Coil |
| B | SB | HHHH | 0 ~ 7fff | Special Link Relay |
| B | S | DDDD | 0 ~ 8191 | Step relay |
| B | DX | HHHH | 0 ~ 1fff | Direct Input |
| B | DY | HHHH | 0 ~ 1fff | Direct Output |
| B | D_Bit | DDDDDDDh | 0 ~ 4184063f | Data Register bit |
| B | SD_bit | DDDDh | 0 ~ 2047f | Special register Bit |
| B | ZR_bit | HHHHHHh | 0 ~ 3fd7fff | File Register Bit |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | R_bit | DDDDDh | 0 ~ 32767f | File Register Bit |
| B | SW_bit | HHHh | 0 ~ 7fff | Special Link Register Bit |
| B | W_bit | HHHHHHh | 0 ~ 3fd7fff | Link Register Bit |
| W | SD | DDDD | 0 ~ 2047 | Special register |
| W | D | DDDDDDD | 0 ~ 4184063 | Data Register |
| W | W | HHHHHH | 0 ~ 3fd7ff | Link Register |
| W | TN | DDDDD | 0 ~ 25471 | Timer Current value |
| W | SN | DDDDD | 0 ~ 25471 | Retentive Timer Current value |
| W | CN | DDDDD | 0 ~ 25471 | Counter Current value |
| W | SW | HHH | 0 ~ 7ff | Special Link Register |
| W | Z | DD | 0 ~ 20 | Index Register |
| W | R | DDDDD | 0 ~ 32767 | File Register |
| W | ZR | HHHHHH | 0 ~ 3fd7ff | File Register |

Note: Each model of CPU is different, it is recommended to refer to MITSUBISHI MELSEC-Q Manual Device List.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Jan/14/2011 | |

# Mitsubishi MR J3/J4 A

Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi MR J3/J4 A | | |
| PLC I/F | RS485 4W | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Parity | Even | | |
| Data bits | 8 | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | 0~31 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | EIP | DD | 0 ~ 31 | External input pin status read *3 |
| B | EOP | DD | 0 ~ 31 | External output pin status read *3 |
| W | PA | DD | 1 ~ 32 | Basic Setting *4 |
| W | PB | DD | 1 ~ 64 | Gain / Filter Setting *4 |
| W | PC | DD | 1 ~ 80 | Extension Setting *4 |
| W | PD | DD | 1 ~ 48 | Input / Output Setting *4 |
| W | Status | DD | 0 ~ 41 | Amplifier Status *1 |
| W | Alarm | D | 0 ~ 6 | Alarm |
| W | Alarm_T | D | 0 ~ 6 | Alarm Time (Hour) *2 |
| W | Mode | D | 1 ~ 4 | Write Only, Mode Setting *2 |
| W | Speed | D | 0 ~ 1 | Write Only, Set Current Speed *2 |
| W | Acc | D | 0 ~ 1 | Write Only, Set Acceleration *2 |
| W | Rotation | D | 0 ~ 1 | Write Only, Rotation Direction *2 |
| W | End | D | 0 ~ 1 | Write Only, End *2 |
| W | M_dist | D | 0 ~ 1 | Write Only, Moving Distance *2 |
| W | Rot_P | D | 0 ~ 1 | Write Only, Rotation Position *2 |
| W | P_start | D | 0 ~ 1 | Write Only, Start Positioning *2 |
| W | Cur_Alarm | D | 0 ~ 1 | Current Alarm |
| W | PE | DD | 1 ~ 64 | Extension Setting 2 *4 |
| W | PF | DD | 1 ~ 48 | Extension Setting 3 *4 |

Note1： Status information

| Address | Item |
|---|---|
| 0 | Cumulative feedback pulses |
| 1 | Servo motor speed |
| 2 | Droop pulse |
| 3 | Cumulative cmd. Pulses |
| 4 | Command pulse frequency |
| 5 | Analog speed command voltage |
| 6 | Analog torque command voltage |
| 7 | Regenerative load ratio |
| 8 | Effective load ratio |
| 9 | Peak load ratio |
| 10 | Instantaneous torque |
| 11 | Within one-revolution position |
| 12 | ABS conter |
| 13 | Load inertia moment ratio |
| 14 | Bus voltage |
| 15 | Load-side cumulative feedback pulses |
| 16 | Load-side droop pulses |
| 17 | Load-side encoder information 1 |
| 18 | Load-side encoder information 2 |
| 22 | Motor thermistor temperature |
| 23 | Motor-side cumu.feedback pulses(before gear) |
| 24 | Electrical angle |
| 30 | Motor-side / load –side position deviation |
| 31 | Motor-side / load –side speed diviation |
| 32 | Encoder inside temperature |
| 33 | Setting time |
| 34 | Oscillation detection frequency |
| 35 | Number of tough drive operations |
| 40 | Unit power consumption |
| 41 | Unit total power consumption |

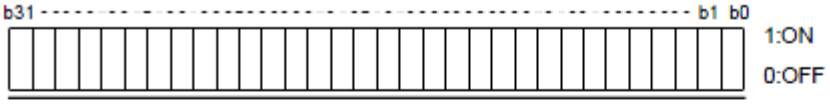
Note2： represents the write-only registers. The usage of this kind of registers is to run Jog Mode and Positioning Mode.

Note3：represents the read-only registers.

Note4：The data in address 1~XX is written to RAM, and the data in address 1001~10XX is written to ROM.

EIP:

The ON/OFF statuses of the input pins are sent back.




Command of each bit is transmitted to the master station as hexadecimal data.

| bit | CN1 connector pin |
|---|---|
| 0 | 43 |
| 1 | 44 |
| 2 | 42 |
| 3 | 15 |
| 4 | 19 |
| 5 | 41 |
| 6 | 16 |
| 7 | 17 |

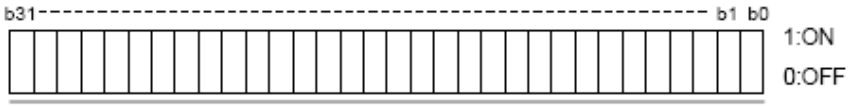
| bit | CN1 connector pin |
|---|---|
| 8 | 18 |
| 9 | 45 |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |

| bit | CN1 connector pin |
|---|---|
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | |
| 21 | |
| 22 | |
| 23 | |

| bit | CN1 connector pin |
|---|---|
| 24 | |
| 25 | |
| 26 | |
| 27 | |
| 28 | |
| 29 | |
| 30 | |
| 31 | |

EOP:

The slave station sends back the ON/OFF statuses of the output pins.




Command of each bit is transmitted to the master station as hexadecimal data.

| bit | CN1 connector pin |
|---|---|
| 0 | 49 |
| 1 | 24 |
| 2 | 23 |
| 3 | 25 |
| 4 | 22 |
| 5 | 48 |
| 6 | 33 |
| 7 | |

| bit | CN1 connector pin |
|---|---|
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |

| bit | CN1 connector pin |
|---|---|
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | |
| 21 | |
| 22 | |
| 23 | |

| bit | CN1 connector pin |
|---|---|
| 24 | |
| 25 | |
| 26 | |
| 27 | |
| 28 | |
| 29 | |
| 30 | |
| 31 | |

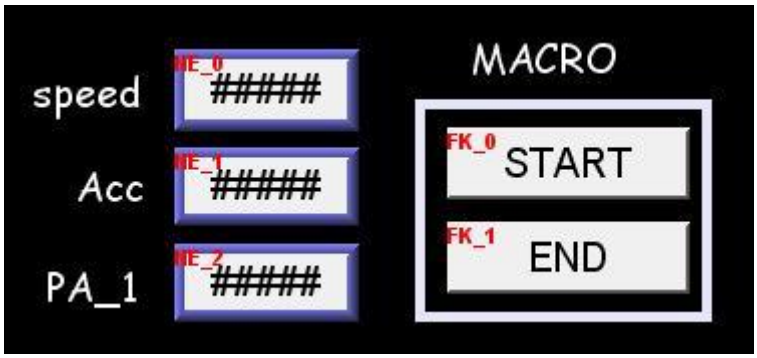
## How to use EasyBuilder8000/Easy BuilderPro to run Jog and Positioning Mode

*Jog Mode

To run Jog Mode, please follow the steps listed sequentially:

(1) Set Jog Mode
(2) Set rotation speed
(3) Set acceleration
(4) Set forward / reverse rotation direction
(5) End

The following shows how to run the steps above using Macro in EasyBuilder8000/Easy BuilderPro.




On the editing window of EasyBuilder8000/Easy BuilderPro, the write address of “speed” is set to Local HMI LW0 (the address can be user-defined), and set “Acc” (Acceleration) to LW1.
To run Jog Mode, the communication with the device must be continuous which only allows an interval less than 0.5 seconds, otherwise the motor will be locked. Therefore, in this example, only one register PA_1 is set to read device value.

Macro Demonstration:
a. Start Macro

```
macro_command main()
short speed
short acc
short mode
mode = 1    // This represents Jog Mode.

SetData(mode, "MITSUBISHI MR J3 A", Mode, 1, 1)    // Set driver mode to Jog.

GetData(speed, "Local HMI", LW, 0, 1)    // Save LW0 value to speed.
SetData(speed, "MITSUBISHI MR J3 A", Speed, 0, 1) // Set motor operating speed.
```

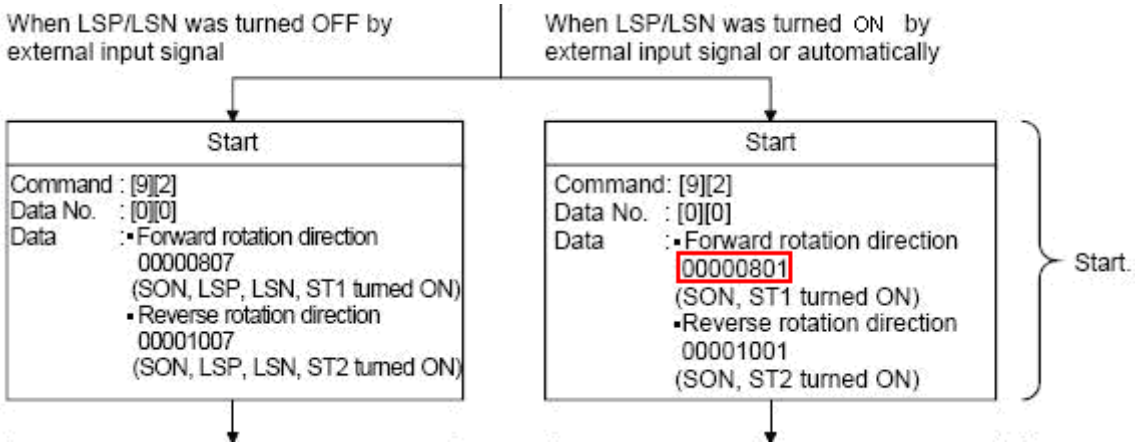
GetData(acc, "Local HMI", LW, 1, 1) //
SetData(acc, "MITSUBISHI MR J3 A", Acc, 0, 1) // Set motor acceleration.

short motion
motion = 0x0801 // Special code, see Note 1.

SetData(motion, "MITSUBISHI MR J3 A", Rotation, 0, 1) // Rotate.

end macro_command

Note 1. Original Factory Manual:



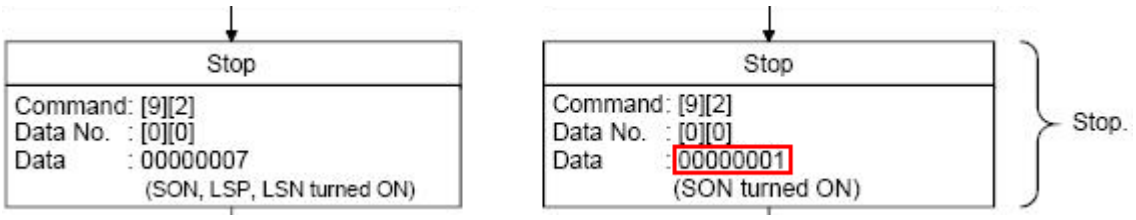

b. End Macro
macro_command main()

short stop
stop = 1 // See Note 2.

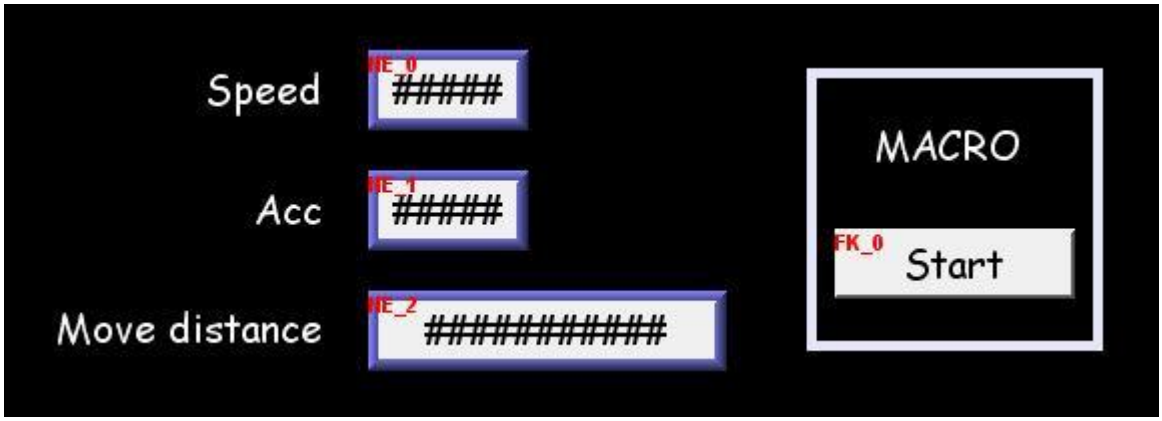
SetData(stop, "MITSUBISHI MR J3 A", End, 1, 1)

end macro_command

Note 2. Original Factory Manual:



*Positioning Mode




On the editing window of EasyBuilder8000/Easy BuilderPro, the write address of “Speed” is set to Local HMI LW2 (the address can be user-defined), and set “Acc” (Acceleration) to LW3, “Move distance” to LW4 (DW format).

Macro Demonstration:

```
macro_command main()

short mode
mode = 0x2    // Positioning Mode
SetData(mode, "MITSUBISHI MR J3 A", Mode, 1, 1)

short speed
GetData(speed, "Local HMI", LW, 2, 1)
SetData(speed, "MITSUBISHI MR J3 A", Speed, 0, 1)

short acc
GetData(acc, "Local HMI", LW, 3, 1)
SetData(acc, "MITSUBISHI MR J3 A", Acc, 0, 1)

short dist
GetData(dist, "Local HMI", LW, 4, 1)
SetData(dist, "MITSUBISHI MR J3 A", M_dist, 0, 1)

short rot_P
rot_P = 1             // Set to    0: Forward Rotation    1: Reverse Rotation
SetData(rot_P, "MITSUBISHI MR J3 A", Rot_P, 0, 1)

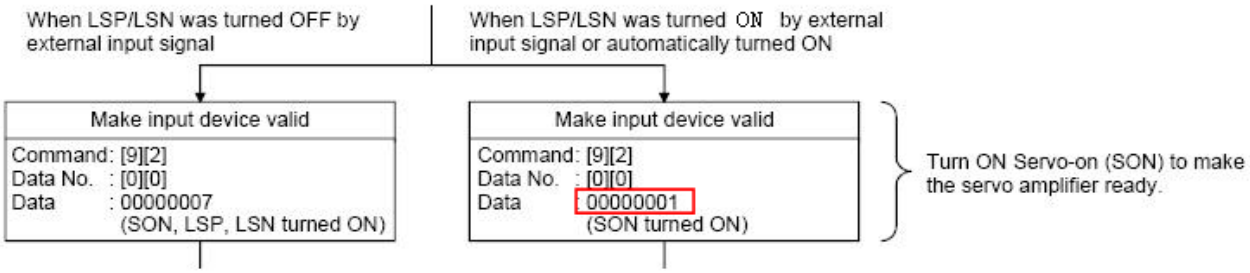
short rotat
rotat = 1     // See Note 3.
```

SetData(rotat, "MITSUBISHI MR J3 A", Rotation, 0, 1)

SetData(rot_P, "MITSUBISHI MR J3 A", P_start, 0, 1) // Start Positioning.

end macro_command

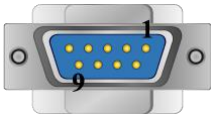
Note 3. Original Factory Manual




## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

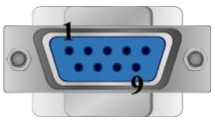
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | CN3 RS485 4W RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

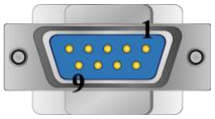




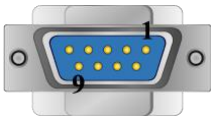
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | CN3 RS485 4W RJ45 Male |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 5 TX+ |
| 9 TX- | | | 6 RX- |
| 8 TX+ | | | 3 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

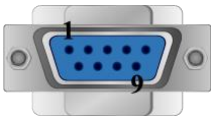
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | CN3 RS485 4W RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | CN3 RS485 4W RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | CN3 RS485 4W RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 5 TX+ |
| 3 TX- | | | 6 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 7 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Sep/01/2011 | Driver released. |
| V1.10 | Jan/13/2012 | Added register: EIP and EOP. |
| V1.40 | Apr/14/2014 | Support MRJ4 |

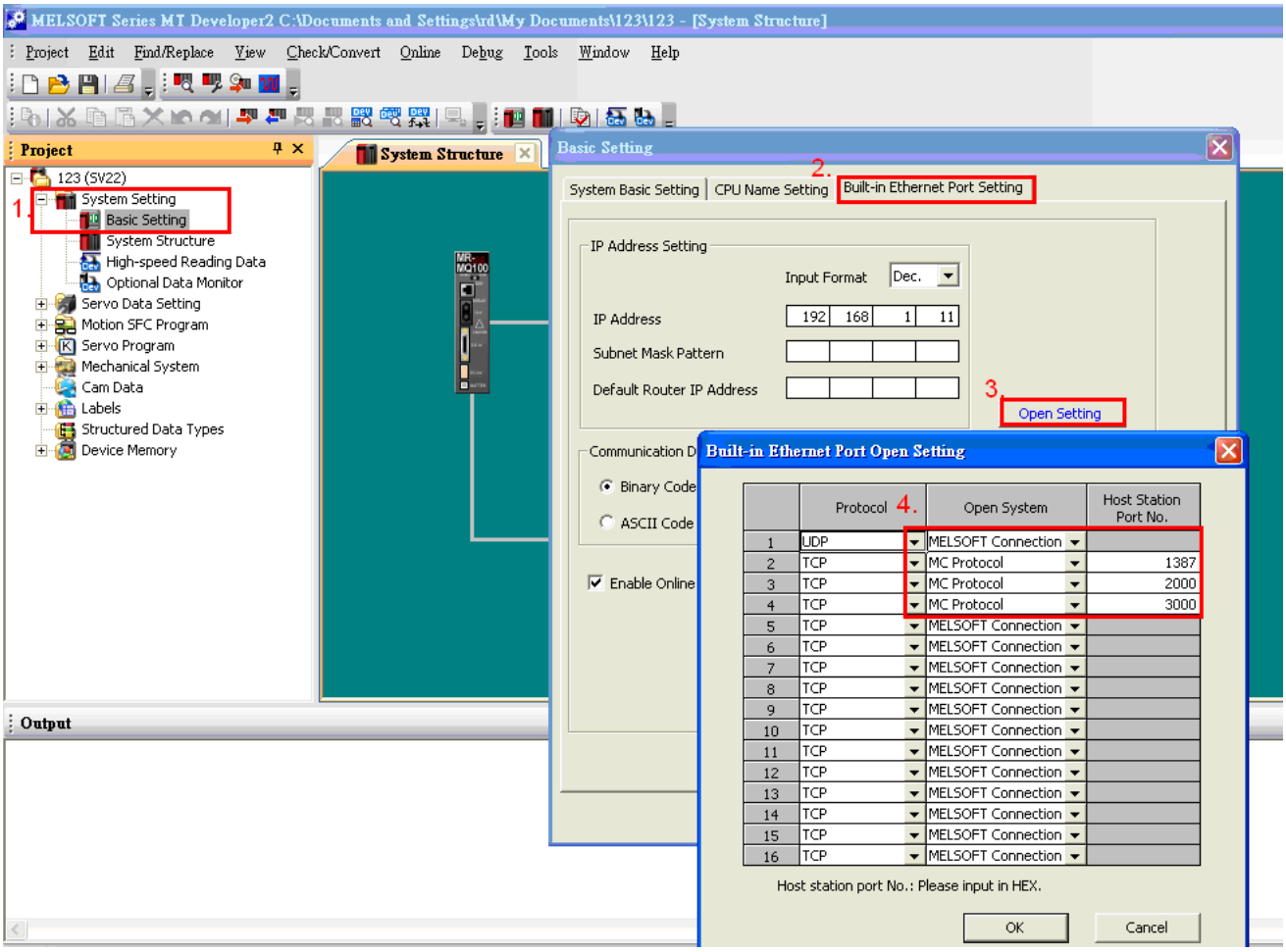
# Mitsubishi MR-MQ100 (Ethernet)

Supported Series: Mitsubishi MR-MQ100-Ethernet
Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi MR-MQ100 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | Set identically to the PLC setting | | Adviced to set port no. to 4999 |
| Parameter1 | 1 | | Network No. |
| PLC sta. no. | 255 | | |

## PLC Setting:



1. Click [Basic Setting].
2. [Built-in Ethernet Port Setting].
3. Click [Open Setting] and then set the IP address and communication data code.
4. Set the MC Protocol-TCP Port No. (Hex)

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 2255 | Special Relay |
| B | X | HHHH | 0 ~ 1fff | Input |
| B | Y | HHHH | 0 ~ 1fff | Output |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | F | DDDDD | 0 ~ 32767 | Annunciator |
| B | B | HHHH | 0 ~ efff | Link Relay |
| B | D_Bit | DDDDDDDh | 0 ~ 4184063f | |
| W | SD | DDDD | 0 ~ 2255 | Special Register |
| W | D | DDDDDDD | 0 ~ 4184063 | Data Register |
| W | W | HHHHHH | 0 ~ 3fd7ff | Link Register |
| W | # | DDDDD | 0 ~ 12287 | Motion Register |

Note: ddd: Decimal, hhh: Hexadecimal, ooo: Octal.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jun/08/2011 | Added register: D_Bit |

# Mitsubishi Q00/Q00UJ/Q01/QJ71

Supported Series: Mitsubishi Q series PLC with QJ71C24 communication module, Q00, Q00J, Q00UJ, Q01, Q02H, Q06H, Q12H, Q25H, Q12PH, Q25PH CPU port.

Website: http://www.mitsubishi-automation.com

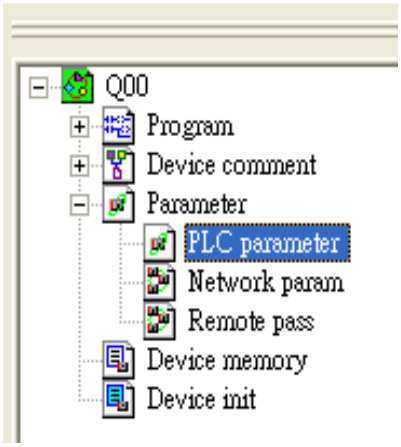
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi Q00/Q00UJ/Q01/QJ71 | | |
| PLC I/F | RS232 | RS485 2W/4W, RS232 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

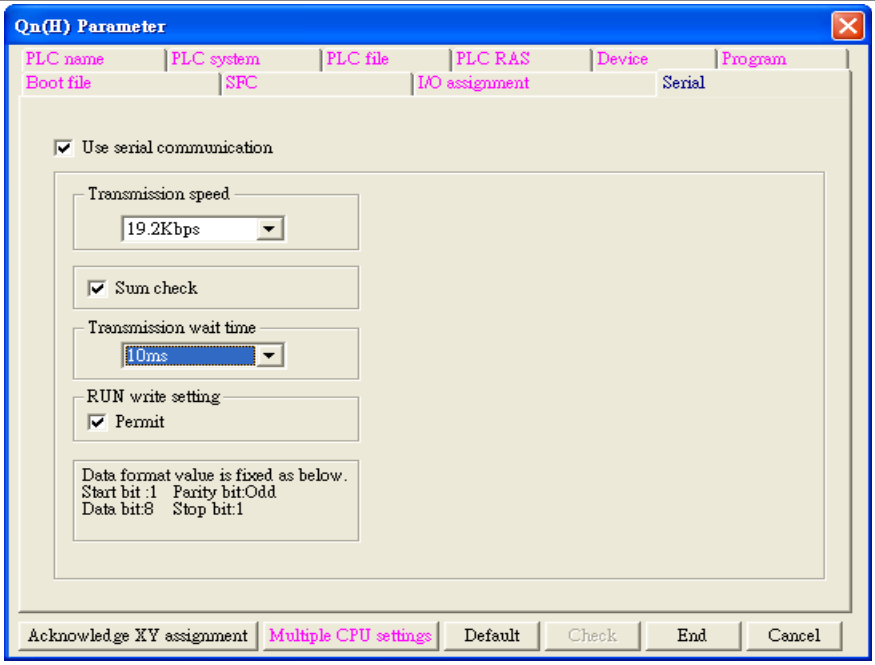
| | | | |
|---|---|---|---|
| Online simulator | Yes | Extend address mode | NO |

## PLC Setting:

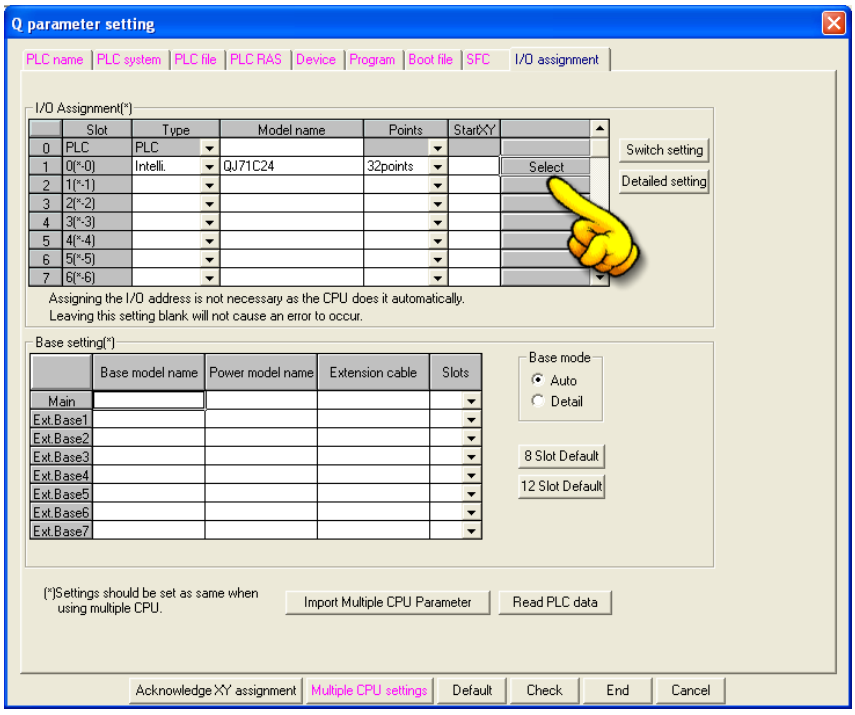
Q00, Q01 CPU port setting:

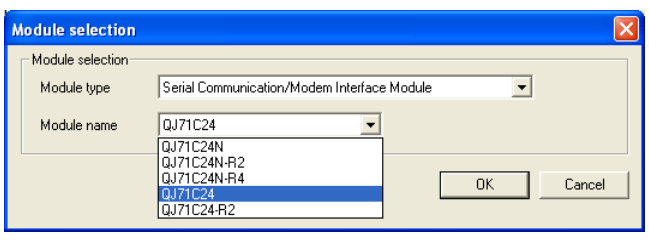


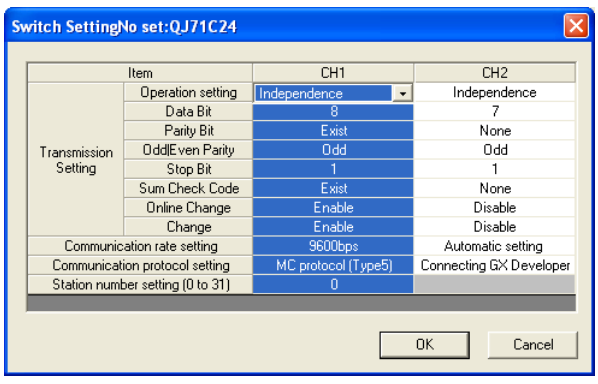

1. In GX Developer “PLC data list” click [PLC parameter].
2. In “PLC parameter” go to [Serial] page.
3. Select [Use serial communication].
4. Set [Transmission speed] to 9600~115200.
5. Select [Sum check].
6. Set [Transmission wait time] to 10ms.
7. Permit [RUN write setting].
8. Click [End] to close the dialog.
9. Write the PLC Parameter to PLC.
10. Reset PLC, the parameter will be actived.




QJ71 setting:



## Device Address:

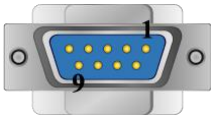
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDD | 0 ~ 8191 | Latch Relay |
| B | F | DDDD | 0 ~ 2047 | Annunciator |
| B | V | DDDD | 0 ~ 2047 | Edge Relay |
| B | B | HHHH | 0 ~ efff | Link Relay |
| B | TC | DDDD | 0 ~ 2047 | Timer Coil |
| B | SS | DDDD | 0 ~ 2047 | Retentive Timer Contact |
| B | SC | DDDD | 0 ~ 2047 | Retentive Timer Coil |
| B | CS | DDDD | 0 ~ 1023 | Counter Contact |
| B | CC | DDDD | 0 ~ 1023 | Counter Coil |
| B | SB | HHH | 0 ~ 7ff | Special Link Relay |
| B | S | DDDD | 0 ~ 8191 | Step Relay |
| B | DX | HHHH | 0 ~ 1fff | Direct Input |
| B | DY | HHHH | 0 ~ 1fff | Direct Output |
| B | TS | DDDD | 0 ~ 2047 | Timer Contact |
| B | SM | DDDD | 0 ~ 2047 | |
| B | D_Bit | DDDDDDDh | 0 ~ 4212735f | |
| B | W_Bit | HHHHh | 0 ~ 2ffff | |
| B | ZR_Bit | HHHHHh | 0 ~ fe7fff | |
| B | ZR_Dec_Bit | DDDDDDDh | 0 ~ 1042431f | |
| W | W | HHHH | 0 ~ 2fff | Link Register |
| W | TN | DDDD | 0 ~ 2047 | Timer Current Value |
| W | SN | DDDD | 0 ~ 2047 | Retentive Timer Current Value |
| W | CN | DDDD | 0 ~ 1023 | Counter Current Value |
| W | R | FFDDDDD | 0 ~ 3132767 | File Register (FF:File No. 0~31) (DDDDD:0~32767) |
| W | SW | HHH | 0 ~ 7ff | Special Link Register |
| W | Z | DD | 0 ~ 15 | Index Register |
| W | ZR | HHHHH | 0 ~ fe7a5 | File Register |
| W | ZR_decimal_addr | DDDDDDD | 0 ~ 1042341 | |
| W | D | DDDDDDD | 0 ~ 4212735 | Data Register |
| W | SD | DDDD | 0 ~ 2047 | |

## Wiring Diagram:

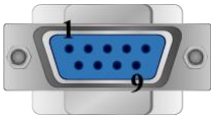
**The following is the view from the soldering point of a cable.**

QJ71C24 CH.2 RS422 Terminal

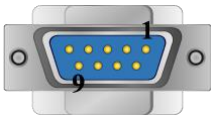
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | QJ71C24 CH.2 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

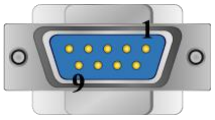
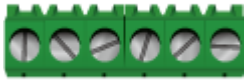
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | QJ71C24 CH.2 RS422 Terminal |
|---|---|---|---|
| 7 RX- | | | SDB |
| 6 RX+ | | | SDA |
| 9 TX- | | | RDB |
| 8 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

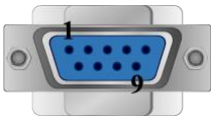
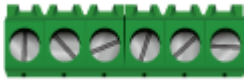
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | QJ71C24 CH.2 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | QJ71C24 CH.2 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

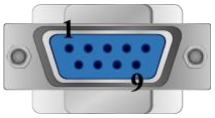
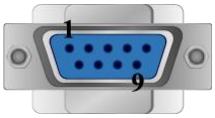
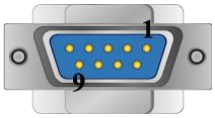
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | QJ71C24 CH.2 RS422 Terminal |
|---|---|---|---|
| 1 RX- | | | SDB |
| 2 RX+ | | | SDA |
| 3 TX- | | | RDB |
| 4 TX+ | | | RDA |
| 5 GND | | | GND |
|  | | |  |

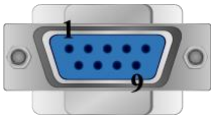
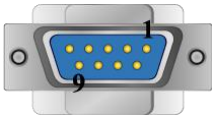
**The following is the view from the soldering point of a cable.**

QJ71C24 CH.2 RS232

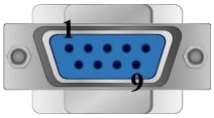
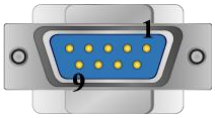
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | QJ71C24 CH.1 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

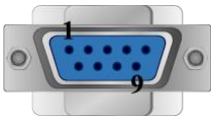
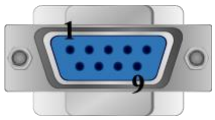
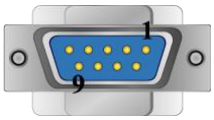
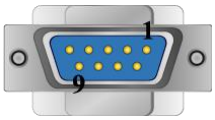
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | QJ71C24 CH.1 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

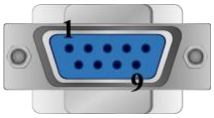
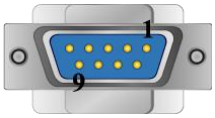
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | QJ71C24 CH.1 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | QJ71C24 CH.1 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

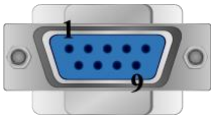
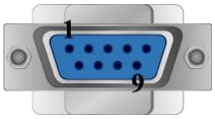
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | QJ71C24 CH.1 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

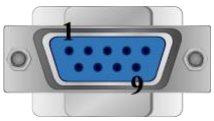
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P Mini-DIN: Q00, Q01 CPU port RS232

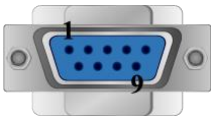
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

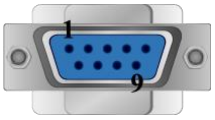
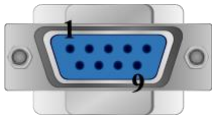
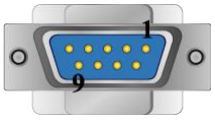
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

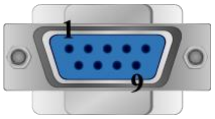
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

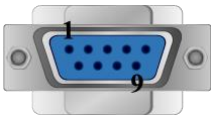
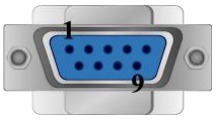
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

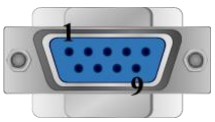
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P Mini-DIN: Q00UJ CPU port RS232

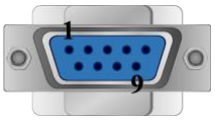
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 4 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  |  | |  | |

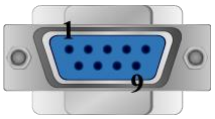
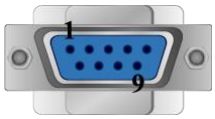
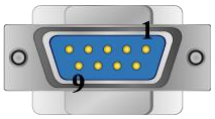
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

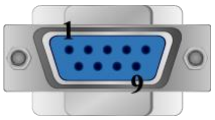
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 4 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.80 | Jun/08/2011 | Added register: D_Bit |
| V1.90 | Sep/23/2011 | Fixed bit communication incorrect. |
| V2.00 | Nov/12/2012 | Added register: ZR_decimal_addr.<br>Supports extended address range of device types M,D,R,ZR. |
| V2.30 | Nov/07/2014 | Added register: ZR_Bit, ZR_Dec_Bit |
| V2.50 | Jan/09/2015 | 1.Extended the range of B device type to 0x1FFF.<br>2.Added register: W_Bit |

# Mitsubishi Q00J

Supported Series: Mitsubishi Q00J CPU

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi Q00J | | |
| PLC I/F | RS232 | | CPU port |
| Baud rate | 115200 | 9600,19200,38400, 57600,115200 | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | | | |

| Online simulator | NO | Extend address mode | NO |
|---|---|---|---|

*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 1023 | |
| B | X | HHH | 0 ~ 7ff | |
| B | Y | HHH | 0 ~ 7ff | |
| B | M | DDDDD | 0 ~ 61439 | |
| B | L | DDDD | 0 ~ 2047 | |
| B | F | DDDD | 0 ~ 1023 | |
| B | V | DDDD | 0 ~ 1023 | |
| B | B | HHH | 0 ~ 7ff | |
| B | SB | HHH | 0 ~ 3ff | |
| B | D_Bit | DDDDDDDh | 0 ~ 4212735f | |
| W | SD | DDDD | 0 ~ 1023 | |
| W | D | DDDDDDD | 0 ~ 4212735 | |
| W | W | HHH | 0 ~ 7ff | |
| W | SW | HHH | 0 ~ 3ff | |

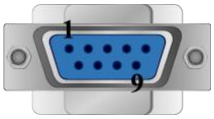
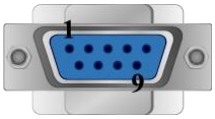
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Z | D | 0 ~ 9 | |
| W | C | DDD | 0 ~ 511 | |
| W | T | DDD | 0 ~ 511 | |

## Wiring Diagram:

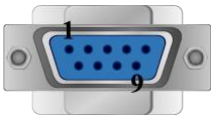
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P Mini-DIN: Q00 CPU port RS232

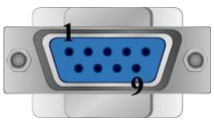
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

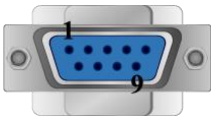
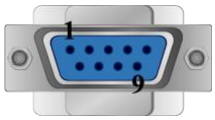
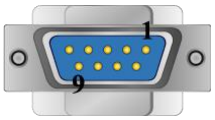
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

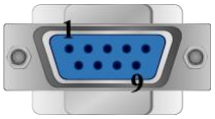
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT8-Mitsubishi-Q-3M cable can connect MT8000 with Mitsubishi Q series directly.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Jun/08/2011 | Added register D_bit |
| V1.30 | Nov/12/2012 | Supports extended address range of device types M , D. |

# Mitsubishi Q00U/Q01U/Q02U/QnUD/QnUDH

Supported Series: Mitsubishi Q00U, Q01U, Q02U, Q03UD, Q04UDH, Q06UDH, Q10UDH, Q13UDH, Q20UDH, Q26UDH, Q00UJ CPU.

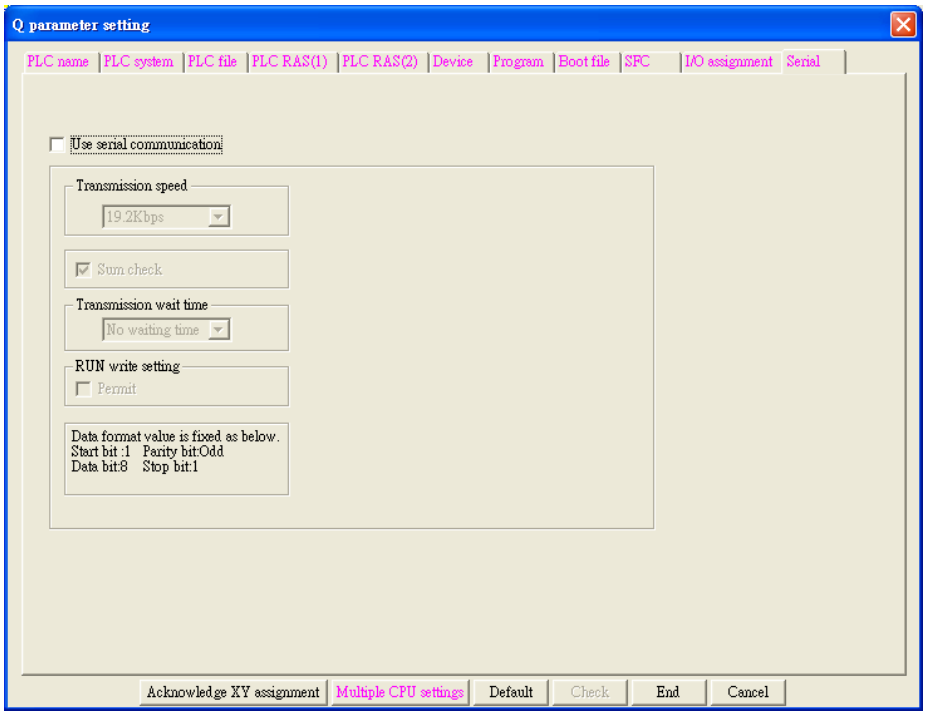
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi Q00U/Q01U/Q02U/QnUD/QnUDH | | |
| PLC I/F | RS232 | RS485 4W, RS232 | CPU port direct connect |
| Baud rate | 115200 | 115200 only | 9600,19200,38400,57600,115200<br>For Q00UJ, only 9600 is available |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | No | | |

| | | | |
|---|---|---|---|
| Online simulator | NO | Extend address mode | NO |

## PLC Setting:

Please do not select [Use Serial Communication]. If this is selected the communication method will be the same as QJ71, please refer to Mitsubishi Q00/Q00UJ/Q01/QJ71 driver.



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 2047 | |
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDDD | 0 ~ 32767 | Latch Relay |
| B | F | DDDDD | 0 ~ 32767 | Annunciator |
| B | V | DDDDD | 0 ~ 32767 | Edge Relay |
| B | B | HHHH | 0 ~ efff | Link Relay |
| B | SB | HHHH | 0 ~ 7fff | Special Link Relay |
| B | TC | DDDDD | 0 ~ 2047 | Timer Coil |
| B | CC | DDDDD | 0 ~ 1023 | Counter Coil |
| B | D_Bit | DDDDDDDh | 0 ~ 4212735f | |
| B | W_Bit | HHHHHHh | 0 ~ 4047fff | |
| B | ZR_Bit | HHHHHh | 0 ~ fe7fff | |
| B | ZR_Dec_Bit | DDDDDDDh | 0 ~ 1042431f | |
| W | SD | DDDD | 0 ~ 2047 | |
| W | D | DDDDDDD | 0 ~ 4212735 | Data Register |
| W | W | HHHHHH | 0 ~ 4047ff | Link Register |
| W | SW | HHHH | 0 ~ 6dff | Special Link Register |
| W | Z | DD | 0 ~ 19 | Index Register |
| W | R | FFDDDDD | 0 ~ 3132767 | File Register (FF:File No. 0~31) (DDDDD:0~32767) |
| W | ZR | HHHHHH | 0 ~ fe7ff | File Register |
| W | ZR_decimal_addr | DDDDDDD | 0 ~ 1042341 | |
| W | C | DDDDD | 0 ~ 25471 | Counter Current Value |
| W | T | DDDDD | 0 ~ 25471 | Timer Current Value |

## Note:

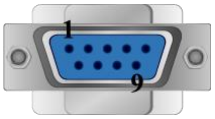
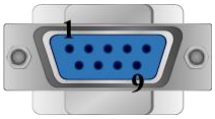
EasyBuilder doesn’t support MITSUBISHI Q02U CPU to do on-line simulation on PC. When using Q02U driver, HMI needs 10 seconds to initiate PLC Q02U driver. Before the completion of initiation, it is recommended not to write data to PLC, this could cause “PLC no response”； Incorrect wiring or data could cause PLC to be locked. If PLC is locked, please restart PLC or reinstall PLC module.

## Wiring Diagram:

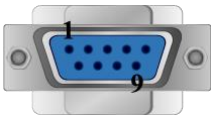
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P Mini-DIN: Q02 CPU port RS232

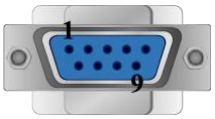
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 4 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  |  | |  | |

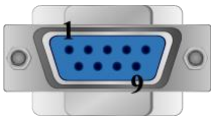
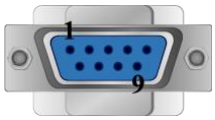
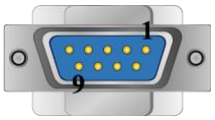
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

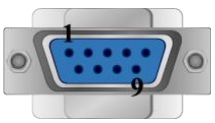
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS<br>6 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 4 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 RTS<br>6 CTS | short |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS<br>6 CTS | short |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.60 | Jun/08/2011 | Added register D_bit |
| V2.10 | Nov/21/2012 | Supports extended address range of device types M,D,R,ZR. |
| V2.30 | Nov/07/2014 | Added register: ZR_Bit, ZR_Dec_Bit |
| V2.40 | Jan/09/2015 | 1.Extended the range of B device type to 0x1FFF.<br>2.Added register: W_Bit |

# Mitsubishi Q00UJ/QnU/QnUD/QnUDH/QnUDEH/L (mini USB)

Supported Series: Mitsubishi Q00UJ, Q00U, Q01U, Q02U, Q03UDE, Q03UD, Q04UDEH, Q04UDH, Q06UDEH, Q06UDH, Q10UDEH, Q10UDH, Q13UDEH, Q13UDH, Q20UDEH, Q20UDH, Q26UDEH, Q26UDH, L02, L26-BT USB Port.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi Q00UJ/QnU/QnUD/QnUDH/QnUDEH/L (mini USB) | | |
| PLC I/F | USB | | CPU port direct connect |

* X Series HMI not supported

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 2047 | |
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDD | 0 ~ 8191 | Latch Relay |
| B | F | DDDD | 0 ~ 2047 | Annunciator |
| B | V | DDDD | 0 ~ 2047 | Edge Relay |
| B | B | HHHH | 0 ~ 1fff | Link Relay |
| B | SB | HHH | 0 ~ 7ff | Special Link Relay |
| B | D_Bit | DDDDDDDh | 0 ~ 4212735f | |
| B | ZR_Bit | HHHHh | 0 ~ fffff | |
| B | ZR_Dec_Bit | DDDDDh | 0 ~ 65535f | |
| W | SD | DDDD | 0 ~ 2047 | |
| W | D | DDDDDDD | 0 ~ 4212735 | Data Register |
| W | W | HHHH | 0 ~ 1fff | Link Register |
| W | SW | HHH | 0 ~ 7ff | Special Link Register |
| W | Z | DD | 0 ~ 19 | Index Register |
| W | R | FFDDDDD | 0 ~ 132767 | File Register (FF:File No. 0~31) (DDDDD:0~32767) |
| W | ZR | HHHH | 0 ~ ffff | File Register |
| W | ZR_decimal_addr | DDDDD | 0 ~ 65535 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | C | DDDD | 0 ~ 1023 | Counter Current Value |
| W | T | DDDD | 0 ~ 2047 | Timer Current Value |

## Note:

EasyBuilder doesn't support MITSUBISHI Q02U CPU to do on-line simulation on PC. When using Q02U driver, HMI needs 10 seconds to initiate PLC Q02U driver. Before the completion of initiation, it is recommended not to write data to PLC, this could cause "PLC no response"； Incorrect wiring or data could cause PLC to be locked. If PLC is locked, please restart PLC or reinstall PLC module.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Jun/08/2011 | Added register D_bit |
| V1.50 | Nov/12/2012 | Supports extended address range of device types M,D,R,ZR. |
| V1.60 | Nov/07/2014 | Added register: ZR_Bit, ZR_Dec_Bit |

# Mitsubishi Q02/02H

Supported Series; Mitsubishi Q02/Q02H CPU port.

Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi Q02/02H | | |
| PLC I/F | RS232 | RS485 4W, RS232 | |
| Baud rate | 115200 | 115200 only | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDDD | 0 ~ 32767 | Latch Relay |
| B | F | DDDDD | 0 ~ 32767 | Annunciator |
| B | V | DDDDD | 0 ~ 32767 | Edge Relay |
| B | B | HHHH | 0 ~ 7fff | Link Relay |
| B | TC | DDDDD | 0 ~ 23087 | Timer Coil |
| B | SS | DDDDD | 0 ~ 23087 | Retentive Timer Contact |
| B | SC | DDDDD | 0 ~ 23087 | Retentive Timer Coil |
| B | CS | DDDDD | 0 ~ 23087 | Counter Contact |
| B | CC | DDDDD | 0 ~ 23087 | Counter Coil |

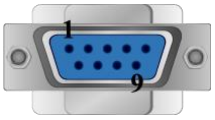
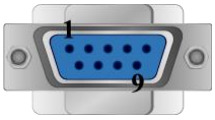
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SB | HHH | 0 ~ 7ff | Special Link Relay |
| B | S | DDDD | 0 ~ 8191 | Step Relay |
| B | DX | HHHH | 0 ~ 1fff | Direct Input |
| B | DY | HHHH | 0 ~ 1fff | Direct Output |
| B | TS | DDDD | 0 ~ 2047 | Timer Contact |
| B | D_Bit | DDDDDDDh | 0 ~ 4212735f | |
| B | ZR_Bit | HHHHHh | 0 ~ fe7fff | |
| B | ZR_Dec_Bit | DDDDDDDh | 0 ~ 1042431f | |
| W | W | HHHH | 0 ~ 657f | Link Register |
| W | TN | DDDDD | 0 ~ 23087 | Timer Current Value |
| W | SN | DDDDD | 0 ~ 23087 | Retentive Timer Current Value |
| W | CN | DDDDD | 0 ~ 23087 | Counter Current Value |
| W | R | FFDDDDD | 0 ~ 3132767 | File Register (FF:File No. 0~31) (DDDDD:0~32767) |
| W | SW | HHH | 0 ~ 7ff | Special Link Register |
| W | Z | DD | 0 ~ 15 | Index Register |
| W | ZR | HHHHH | 0 ~ fe7ff | File Register |
| W | ZR_decimal_addr | DDDDDDD | 0 ~ 1042431 | |
| W | D | DDDDDDD | 0 ~ 4212735 | Data Register |

## Wiring Diagram:

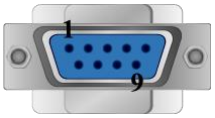
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P Mini-DIN: Q02 CPU port RS232

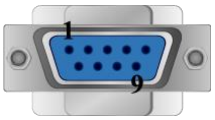
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 4 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  |  | |  | |

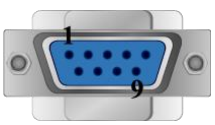
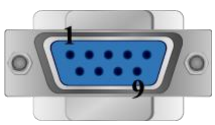
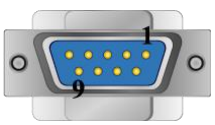
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS<br>6 CTS | short |
|  | | |  | |

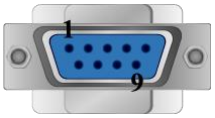
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS<br>6 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 4 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 RTS<br>6 CTS | short |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.60 | Jun/08/2011 | Added register D_bit |
| V1.80 | Nov/12/2012 | Supports extended address range of device types M,D,R,ZR. |
| V2.00 | Nov/07/2014 | Added register: ZR_Bit, ZR_Dec_Bit |

# Mitsubishi Q06H

Supported Series: Mitsubishi Q06H CPU port.

Website: http://www.mitsubishi-automation.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi Q06H | | |
| PLC I/F | RS232 | RS485 4W, RS232 | |
| Baud rate | 115200 | 115200 only | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDDD | 0 ~ 32767 | Latch Relay |
| B | F | DDDDD | 0 ~ 32767 | Annunciator |
| B | V | DDDDD | 0 ~ 32767 | Edge Relay |
| B | B | HHHH | 0 ~ 7fff | Link Relay |
| B | TC | DDDDD | 0 ~ 23087 | Timer Coil |
| B | SS | DDDDD | 0 ~ 23087 | Retentive Timer |
| B | SC | DDDDD | 0 ~ 23087 | Retentive Timer Coil |
| B | CS | DDDDD | 0 ~ 23087 | Counter Contact |
| B | CC | DDDDD | 0 ~ 23087 | Counter Coil |

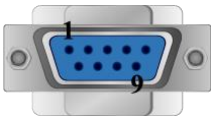
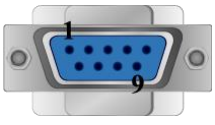
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SB | HHH | 0 ~ 7ff | Special Link Relay |
| B | S | DDDD | 0 ~ 8191 | Step Relay |
| B | DX | HHHH | 0 ~ 1fff | Direct Input |
| B | DY | HHHH | 0 ~ 1fff | Direct Output |
| B | TS | DDDD | 0 ~ 2047 | Timer Contact |
| B | D_Bit | DDDDDDDh | 0 ~ 4212735f | |
| B | ZR_Bit | HHHHHh | 0 ~ fe7fff | |
| B | ZR_Dec_Bit | DDDDDDDh | 0 ~ 1042431f | |
| W | W | HHHH | 0 ~ 657f | Link Register |
| W | TN | DDDDD | 0 ~ 23087 | Timer Current Value |
| W | SN | DDDDD | 0 ~ 23087 | Retentive Timer |
| W | CN | DDDDD | 0 ~ 23087 | Counter Current |
| W | R | FFDDDDD | 0 ~ 3132767 | File Register (FF:File No. 0~31) (DDDDD:0~32767) |
| W | SW | HHH | 0 ~ 7ff | Special Link Register |
| W | Z | DD | 0 ~ 15 | Index Register |
| W | ZR | HHHHH | 0 ~ fe7ff | File Register |
| W | ZR_decimal_addr | DDDDDDD | 0 ~ 1042431 | |
| W | D | DDDDD | 0 ~ 25983 | Data Register |

## Wiring Diagram:

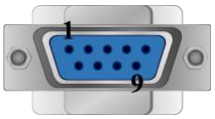
**The following is the view from the soldering point of a cable.**

9P D-Sub to 6P Mini-DIN : Q02 CPU port RS232

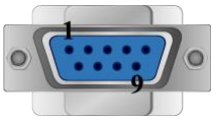
eMT3000 series

<table>
<tr><td>COM1 RS232 9P D-Sub Female</td><td>COM3 RS232 9P D-Sub Female</td><td></td><td colspan="2">RS232 6P Mini-DIN Female socket</td></tr>
<tr><td>2 RX</td><td>8 RX</td><td></td><td colspan="2">3 TXD</td></tr>
<tr><td>3 TX</td><td>7 TX</td><td></td><td colspan="2">4 RXD</td></tr>
<tr><td>5 GND</td><td>5 GND</td><td></td><td colspan="2">5 GND</td></tr>
<tr><td colspan="3" rowspan="2"></td><td>1 RTS</td><td rowspan="2">short</td></tr>
<tr><td>6 CTS</td></tr>
<tr><td></td><td></td><td></td><td colspan="2"></td></tr>
</table>

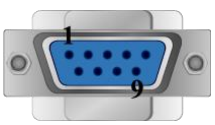
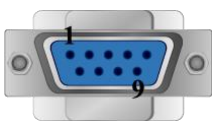
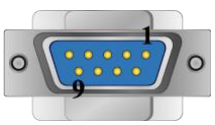
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

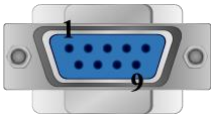
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 4 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 6P Mini-DIN Female socket | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 4 RXD | |
| 5 GND | | | 5 GND | |
| | | | 1 RTS | short |
| | | | 6 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.60 | Jun/08/2011 | Added register D_bit |
| V1.80 | Nov/12/2012 | Supports extended address range of device types M,D,R,ZR. |
| V2.00 | Nov/07/2014 | Added register: ZR_Bit, ZR_Dec_Bit |

# Mitsubishi QJ71E71 (Ethernet)

Supported Series ; Mitsubishi Q type, MELSEC-Q series PLC (Q00J, Q00, Q01, Q02, Q02H, Q06H, Q12H, Q25H, Q12PH, Q25PH) QJ71E71-100 Ethernet module.

Website: http://www.mitsubishi-automation.com

## HMI Setting:

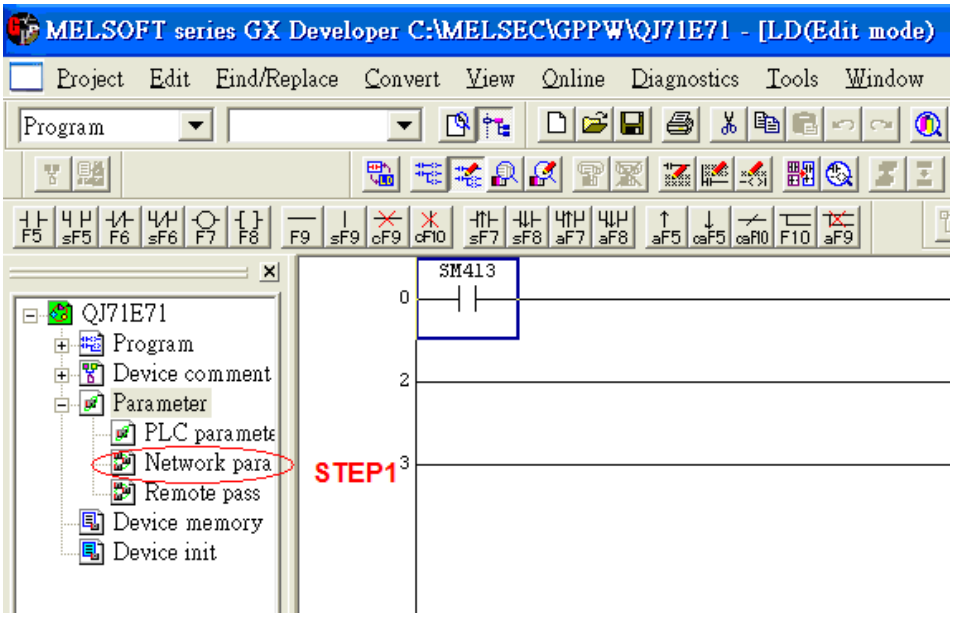
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Mitsubishi QJ71E71 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 5002 | | |
| PLC sta. no. | 2 | 1~99 | |

**Note:** MITSUBISHI QJ71E71 only supports PLC Network No. 1.
If PLC Network No. is not 1, please use “MISTSUBISHI MELSEC-Q(Ethernet)” driver and fill in the Network No. in Parameter 1. Please refer to MISTSUBISHI MELSEC-Q(Ethernet) for further information.

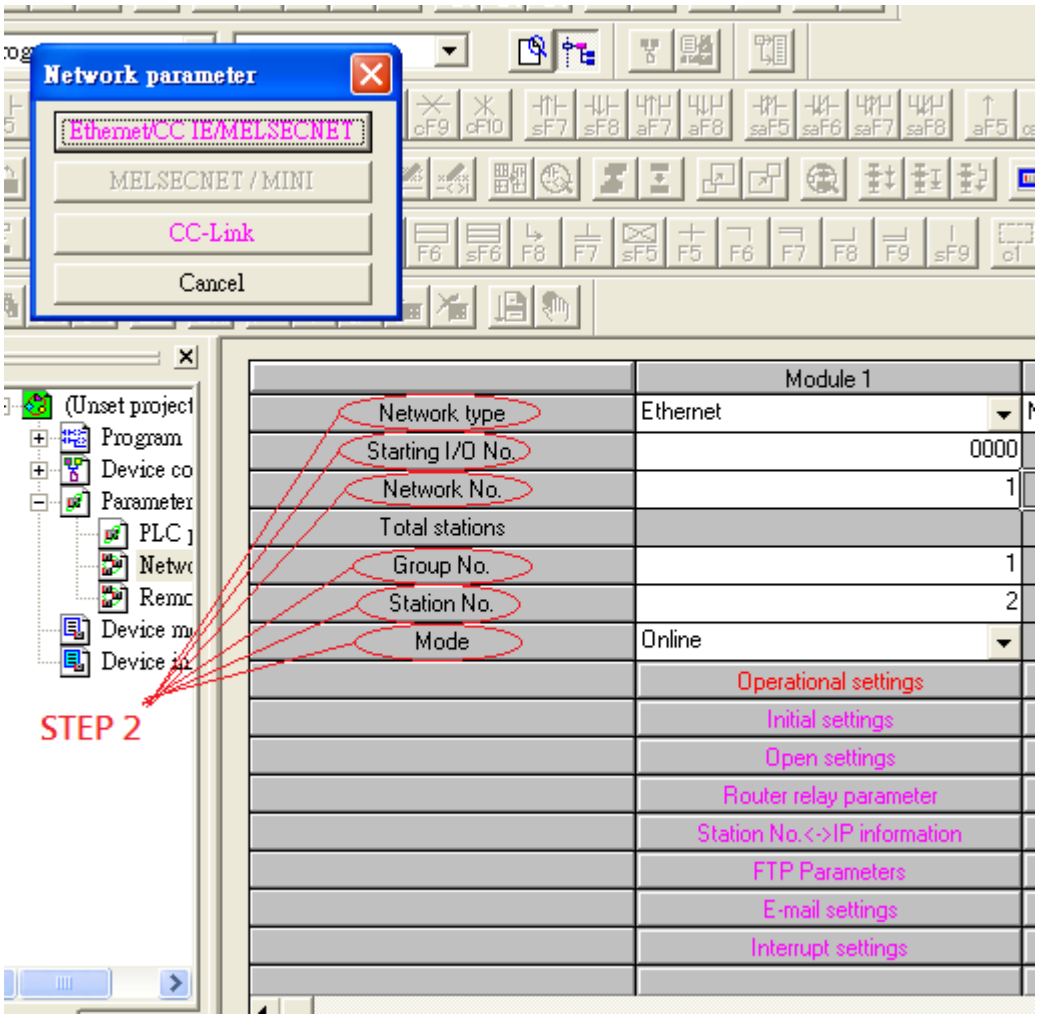
## PLC Setting:

QJ71E71-100 Ethernet module settings:

1. Use USB or RS232 of Q-CPU for setting PLC parameters.

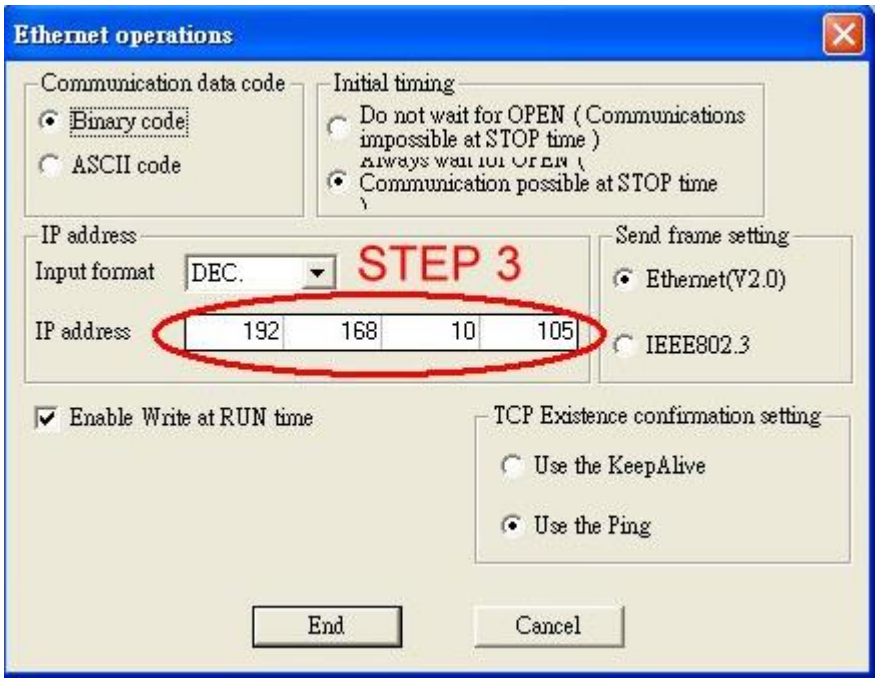


2. Click [Operational settings] to set IP information.

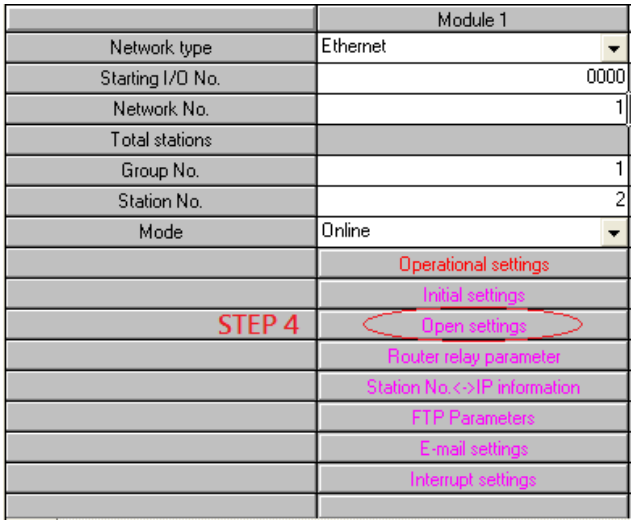



| | Module 1 |
|---|---|
| Network type | Ethernet |
| Starting I/O No. | 0000 |
| Network No. | 1 |
| Total stations | |
| Group No. | 1 |
| Station No. | 2 |
| Mode | Online |
| | Operational settings |
| | Initial settings |
| | Open settings |
| | Router relay parameter |
| | Station No.<->IP information |
| | FTP Parameters |
| | E-mail settings |
| | Interrupt settings |

3. Select Ethernet (2.0) for communicating with HMI.

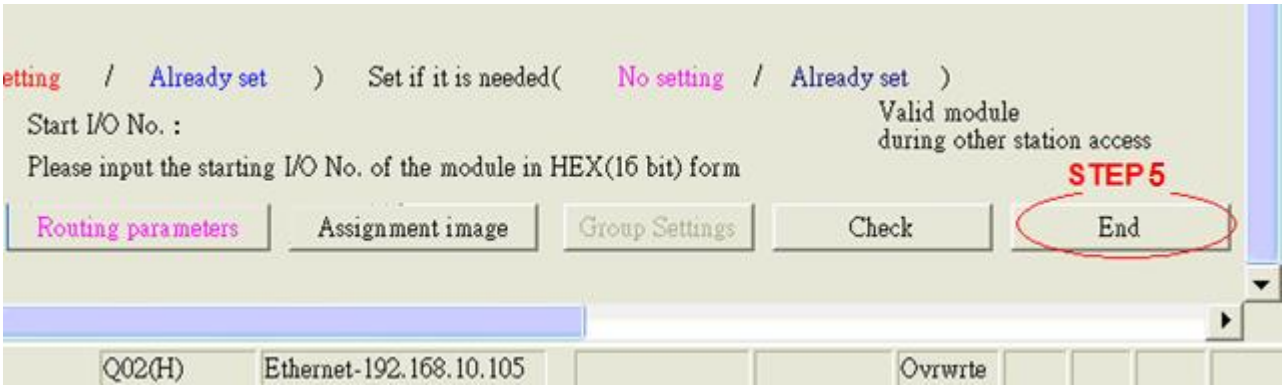



4. Click [Open settings] to set the system.

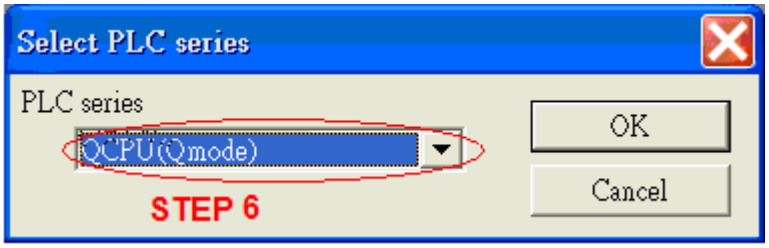



| | Protocol | Open system | Fixed buffer | Fixed buffer communication procedure | Pairing open | Existence confirmation | Host station Port No. | Transmission target device IP address | Transmission target device Port No. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | TCP | MELSOFT connection | | | | | | | |
| 2 | TCP | MELSOFT connection | | | | | | | |
| 3 | TCP | MELSOFT connection | | | | | | | |
| 4 | TCP | MELSOFT connection | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |

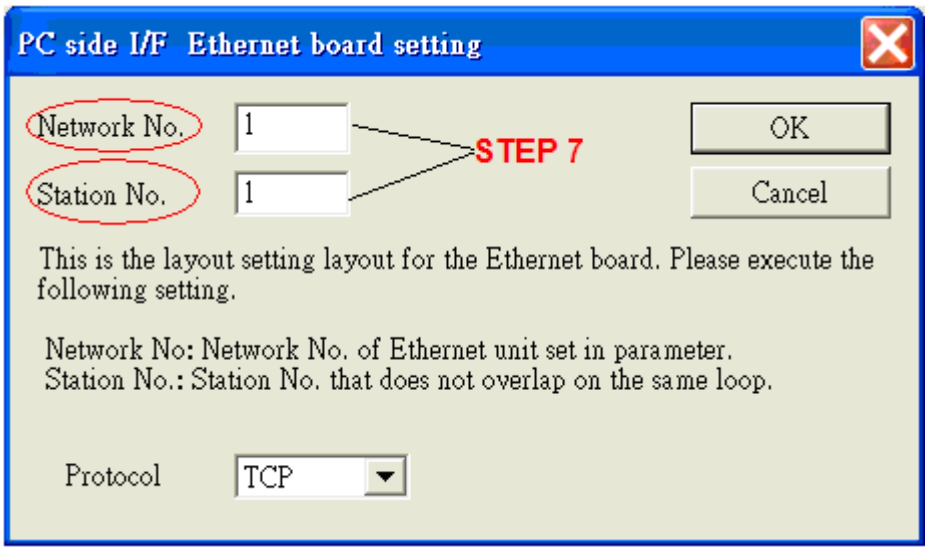
5. Press [END] to finish settings.



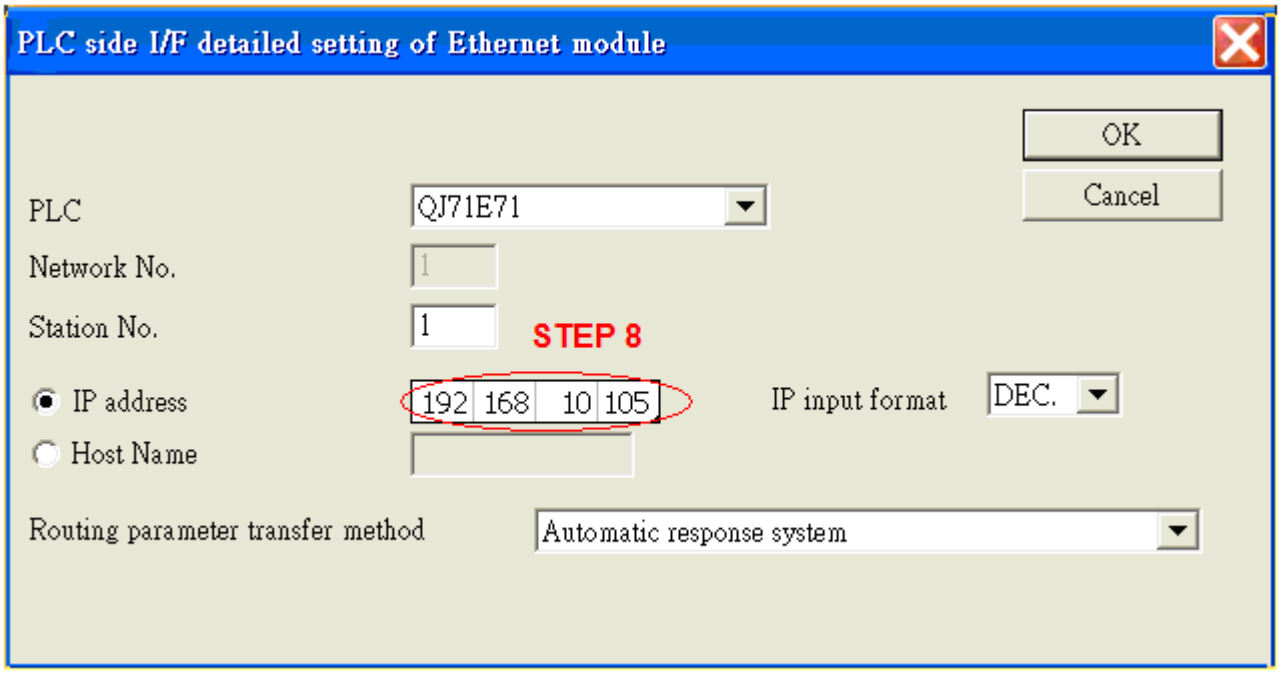

6. Restart PLC software and select [READ FROM PLC], select [QCPU(Qmode)] and press [OK].



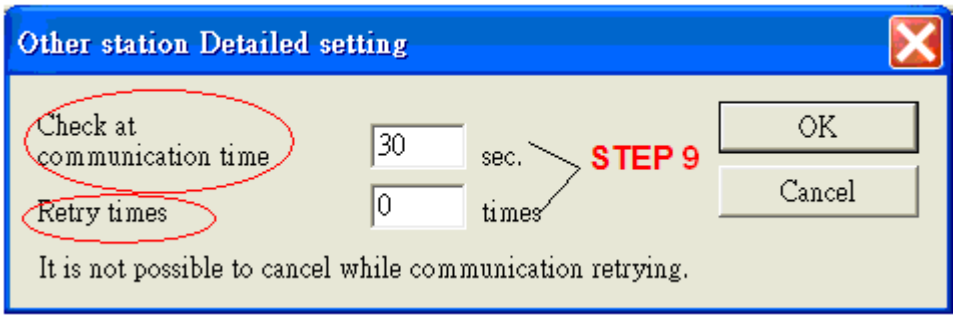

7. In [PC side I/F Ethernet board setting] set Network No. and Station No. (Station No.1 is PC Station No. not Ethernet module Station No., ranged from 2~64, the Network No. can not be the same as that of PC)



8. Select “Ethernet module” in PLC Side I/F to set QJ71E71 IP address.(IP address = Network Parameter IP address)




9. For “Other station”, click [Other station(Single network)”] for setting [Check at communication time] and [Retry times].




10. After finishing the settings above, click [Connection test] for testing the communication and sending the PLC program.

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SM | DDDD | 0 ~ 2047 | |
| B | X | HHHH | 0 ~ 1fff | Input Relay |
| B | Y | HHHH | 0 ~ 1fff | Output Relay |
| B | M | DDDDD | 0 ~ 61439 | Internal Relay |
| B | L | DDDD | 0 ~ 8191 | Latch Relay |
| B | F | DDDD | 0 ~ 2047 | Annunciator |
| B | V | DDDD | 0 ~ 2047 | Edge Relay |
| B | B | HHHH | 0 ~ 1fff | Link Relay |
| B | TS | DDDD | 0 ~ 2047 | Timer Contact |
| B | TC | DDDD | 0 ~ 2047 | Timer Coil |
| B | SS | DDDD | 0 ~ 2047 | Retentive Timer Contact |
| B | SC | DDDD | 0 ~ 2047 | Retentive Timer Coil |
| B | CS | DDDD | 0 ~ 1023 | Counter Contact |
| B | CC | DDDD | 0 ~ 1023 | Counter Coil |
| B | SB | HHH | 0 ~ 7ff | Special Link Relay |
| B | S | DDDD | 0 ~ 8191 | Step Relay |
| B | DX | HHHH | 0 ~ 1fff | Direct Input |
| B | DY | HHHH | 0 ~ 1fff | Direct Output |
| B | D_Bit | DDDDDDDh | 0 ~ 4212735f | |
| B | ZR_Bit | HHHHHh | 0 ~ fe7fff | |
| B | ZR_Dec_Bit | DDDDDDDh | 0 ~ 1042431f | |
| W | SD | DDDD | 0 ~ 2047 | |
| W | D | DDDDDDD | 0 ~ 4212735 | Data Register |
| W | W | HHHH | 0 ~ 1fff | Link Register |
| W | TN | DDDD | 0 ~ 2047 | Timer Current Value |
| W | SN | DDDD | 0 ~ 2047 | Retentive Timer Current Value |
| W | CN | DDDD | 0 ~ 1023 | Counter Current Value |
| W | SW | HHH | 0 ~ 7ff | Special Link Register |
| W | Z | DD | 0 ~ 15 | Index Register |
| W | R | FFDDDDD | 0 ~ 3132767 | File Register (FF:File No. 0~31) (DDDDD:0~32767) |
| W | ZR | HHHHH | 0 ~ fe7ff | File Register |
| W | ZR_decimal_addr | DDDDDDD | 0 ~ 1042341 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.20 | Jun/08/2011 | Added register: D_bit |
| V2.30 | Nov/12/2012 | Supports extended address range of device types M,D,Z,ZR. |
| V2.50 | Nov/07/2014 | Added register: ZR_Bit, ZR_Dec_Bit |

# MODBUS ASCII

Supported Series: MODBUS ASCII CONTROLLER

Website: http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS ASCII | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600/19200/38400/ 57600/115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus ASCII protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register (read only) |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| W | 6x | DDDDD | 1 ~ 65535 | |

Modbus RTU function code:

| | | |
|---|---|---|
| 0x | 0x01 Read coil | 0x05 write single coil |
| 1x | 0x02 Read discrete input | N/A for write operation |
| 3x | 0x04 Read input register | N/A for write operation |
| 4x | 0x03 Read holding register | 0x10 write multiple registers |

3xbit is equivalent to 3x

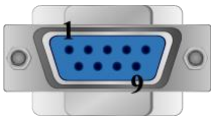
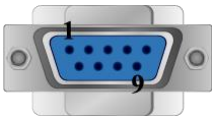
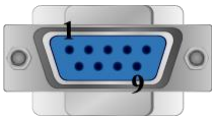
4xbit is equivalent to 4x

## Wiring Diagram:

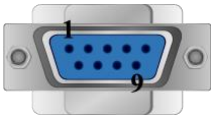
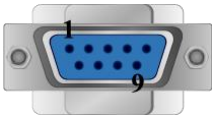
**The following is the view from the soldering point of a cable.**

Modbus ASCII Controller : RS232

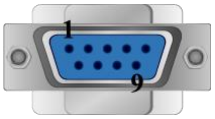
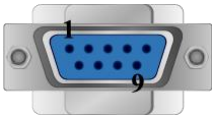
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

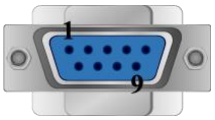
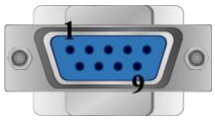
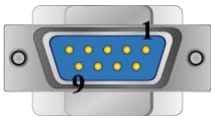
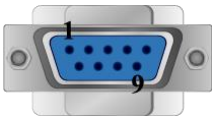
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

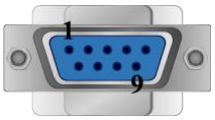
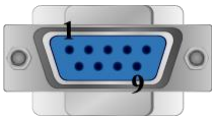
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

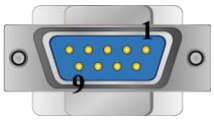
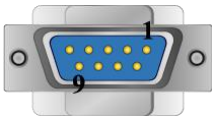
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

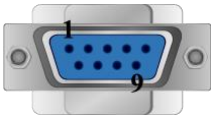
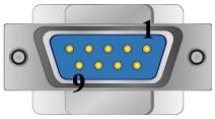
**The following is the view from the soldering point of a cable.**

Modbus ASCII Controller : RS485 4W

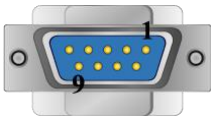
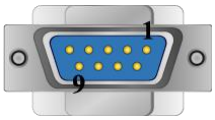
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

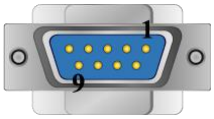
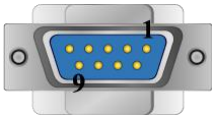
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

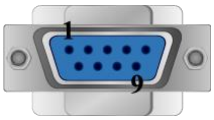
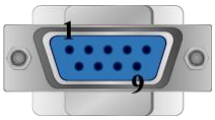
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

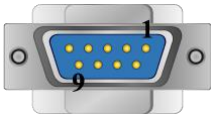
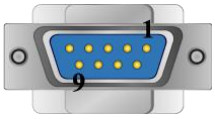
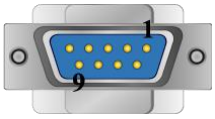
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

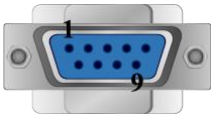
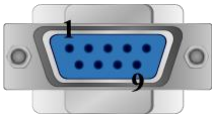
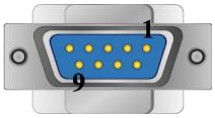
**The following is the view from the soldering point of a cable.**

Modbus ASCII Controller : RS485 2W

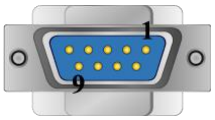
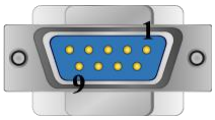
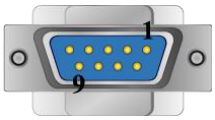
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

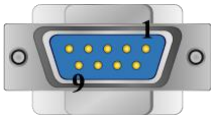
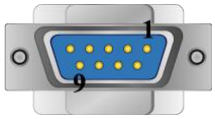
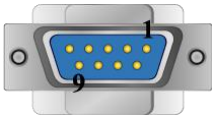
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

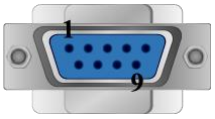
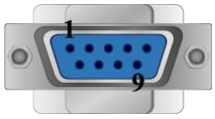
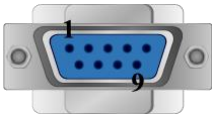
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Apr/17/2009 | |

# MODBUS ASCII Server

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS ASCII Server | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 1-31 | HMI Modbus Station No. |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus ASCII protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | LB | dddd | 0 ~ 9998 | Mapping to 0x/1x 1 ~ 9999 |
| W | LW | dddd | 0 ~ 9998 | Mapping to 3x/4x 1 ~ 9999 |
| W | RW | ddddd | 0 ~ 55536 | Mapping to 3x/4x 10000 ~ 65536 |

LB0 = 0x0001, LB1 = 0x0002, LW0 = 3x0001, LW1 = 3x0002
Modbus RTU Server doesn't support function code 06(preset single register), please use function code 16(0x10, preset multiple registers).

Modbus Server Function Code:

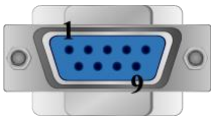
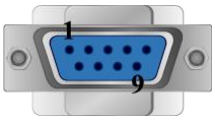
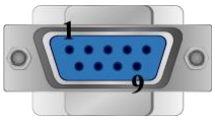
| | | |
|---|---|---|
| 0x | 0x01 Read coil | 0x05 write single coil |
| 0x_multi_coils | 0x01 Read coil | 0x0f write multiple coils |
| 1x | 0x02 Read discrete input | N/A for write operation |
| 3x | 0x04 Read input register | N/A for write operation |
| 4x | 0x03 Read holding register | 0x10 write multiple registers |

## Wiring Diagram:

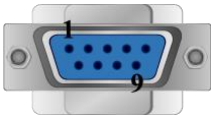
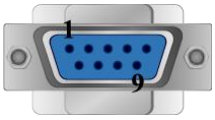
**The following is the view from the soldering point of a cable.**

RS232

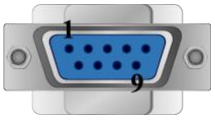
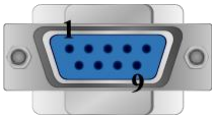
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

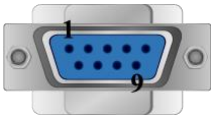
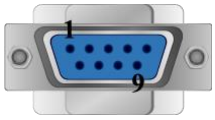
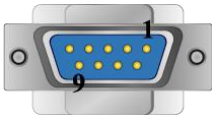
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

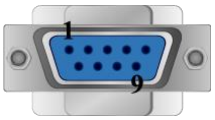
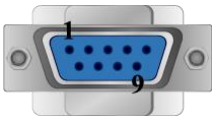
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

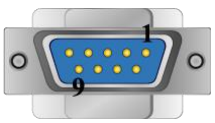
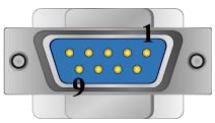
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

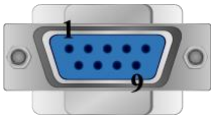
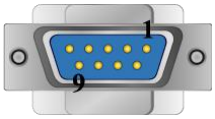
**The following is the view from the soldering point of a cable.**

RS485 4W

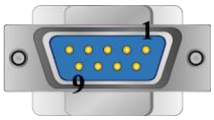
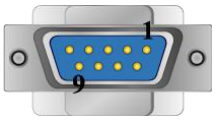
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

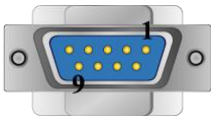
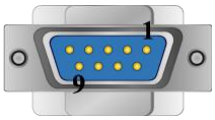
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

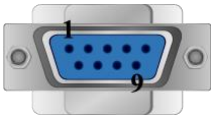
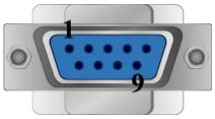
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

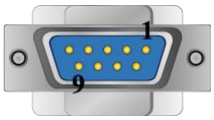
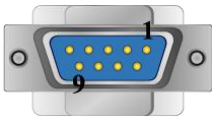
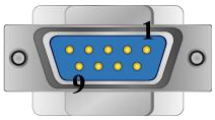
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

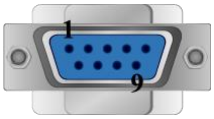
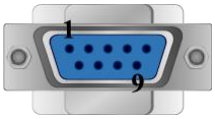
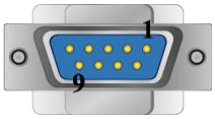
**The following is the view from the soldering point of a cable.**

RS485 2W

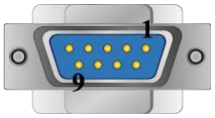
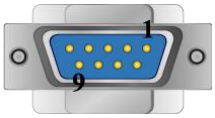
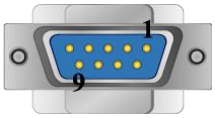
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

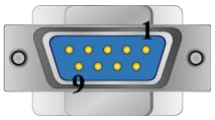
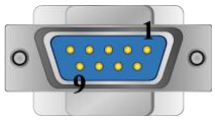
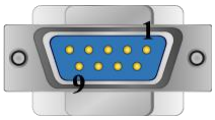
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

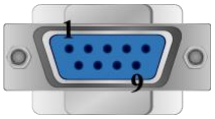
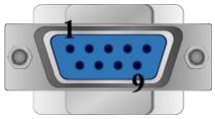
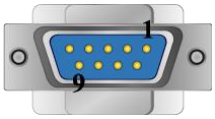
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

Note: Setting more than one Modbus ASCII Server in HMI Device List is of no effect.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Feb/19/2009 | Driver released |

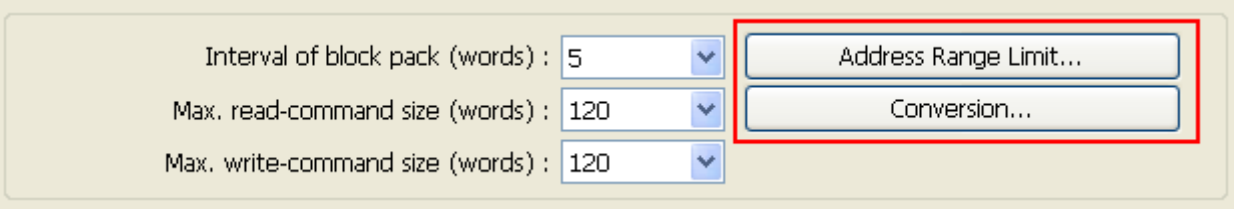
# MODBUS RTU

Supported Series : MODBUS RTU CONTROLLER
Website : http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS RTU | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |




**[Address Range Limit]**
The address range of 0x, 1x, and 0x_multi_coils device types can be set.
**[Conversion]**
The 3x_Double and 4x_Double address types are added. If [ABCD ->CDAB] check box is selected, please select 3x_Double and 4x_Double address types.

## PLC Setting:

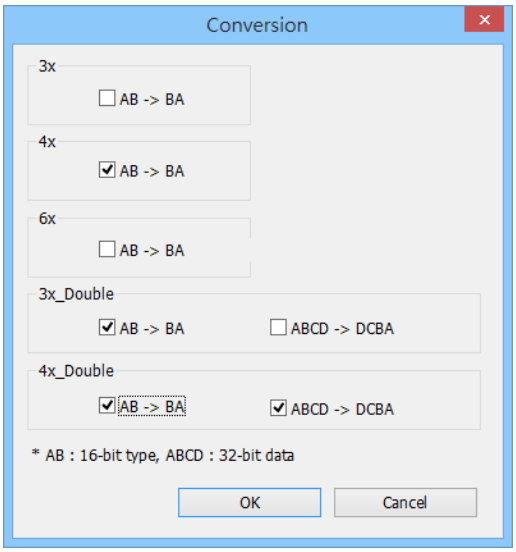
| | |
|---|---|
| Communication mode | Modbus RTU protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 0x_single_bit | DDDDD | 1 ~ 65535 | *Note4 |
| B | 1x_single_bit | DDDDD | 1 ~ 65535 | *Note4 |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 6x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register (read only) |
| W | 3x_MAX1W | DDDDD | 1 ~ 65535 | Display 32 bits *Note1 |
| DW | 3x_MAX2W | DDDDD | 1 ~ 65535 | *Note1 |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| W | 4x_MAX1W | DDDDD | 1 ~ 65535 | Display 32 bits *Note1 |
| DW | 4x_MAX2W | DDDDD | 1 ~ 65535 | *Note1 |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |
| W | 3x_Double | DDDDD | 1 ~ 65535 | *Note2 |
| W | 4x_Double | DDDDD | 1 ~ 65535 | *Note2 |
| W | 4x_32Bit | DDDDD | 1 ~ 65535 | Output Registerv *Note1 |
| W | 0x_single_coil | DDDDD | 1 ~ 65535 | *Note3 |

Note1: MAX1W and 4X_32Bit read/write 1 word for each package and display a 32-bits value, whereas MAX2W reads/write 2 words for each package.

Note2: Go the [System Parameter Settings] -> [Device Properties] and click [Conversion] to set the data format of device types 3x, 4x, 6x, 3x_double, 4x double.



Note3: Read/write a Bit at a time. Value 0 and 1 are used to represent ON or OFF status where 0 means set OFF and 1 means set ON.

Note4: The number of bits to read can be set in Macro, therefore, it is recommended to use 0x address type for functions such as GetData() and SetData(), in order to increase reading speed.

To read/write multiple 0x address type in macro, use 0x_multi_coils to increase write speed.

## NOTE:

Address type “5x” is mapping to Hold Reg. The communication protocol of 5x is almost the same as “4x” except that “5x” swaps double word.

If 4x contains the following information:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0201 | | 0x0403 | | 0x0605 | | |

For 5x, it will be:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0102 | | 0x0304 | | 0x0506 | | |

Modbus RTU function code:

| | | |
|---|---|---|
| 0x | 0x01 Read coil | 0x05 write single coil |
| 0x_multi_coils | 0x01 Read coil | 0x0f write multiple coils |
| 1x | 0x02 Read discrete input | N/A for write operation |
| 3x | 0x04 Read input register | N/A for write operation |
| 4x | 0x03 Read holding register | 0x10 write multiple registers |
| 5x | 0x03 Read holding register | 0x10 write multiple registers |

(Note: reverse word order in double word format)

3xbit is equivalent to 3x

4xbit is equivalent to 4x

| | | |
|---|---|---|
| 6x | 0x03 Read holding register | 0x06 write single register |

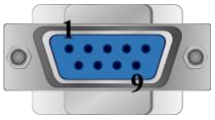
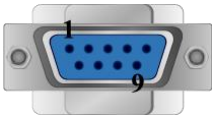
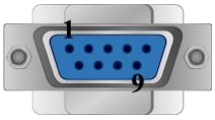
(Note: 6x is limited to device of one word only)

| | | |
|---|---|---|
| 0x_single_coil | 0x01 Read coil | 0x05 write single coil |

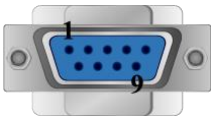
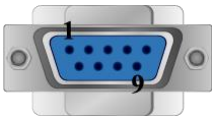
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

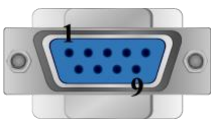
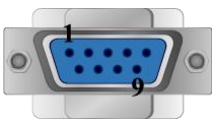
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

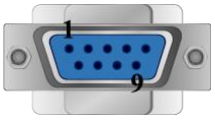
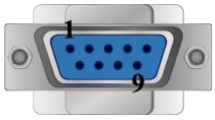
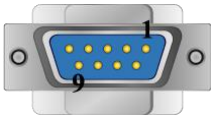
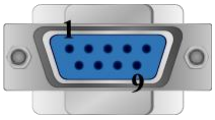
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

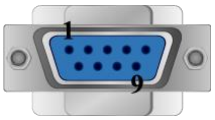
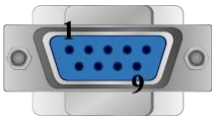
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

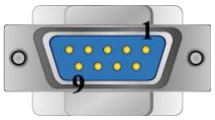
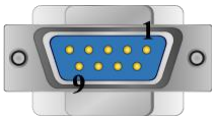
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

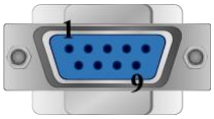
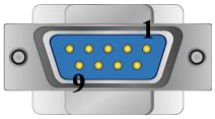
| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub FeMale | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

**The following is the view from the soldering point of a cable.**

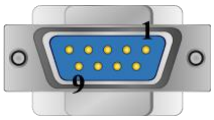
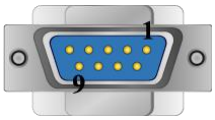
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

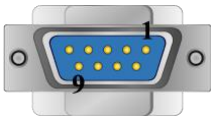
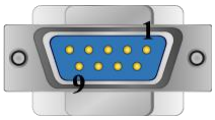
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

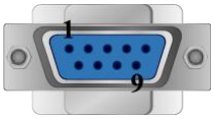
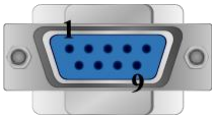
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

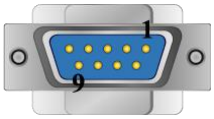
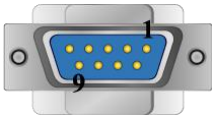
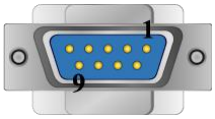
| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

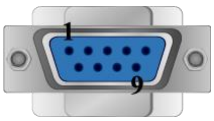
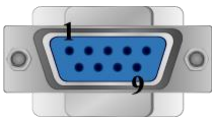
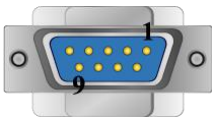
| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

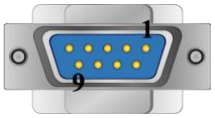
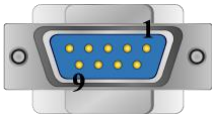
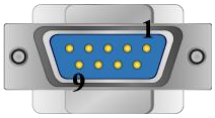
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

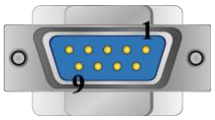
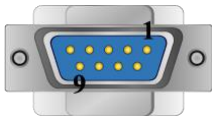
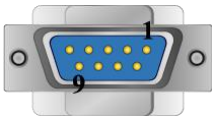
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

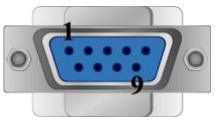
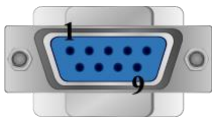
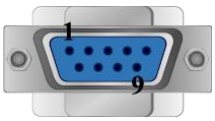
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.90 | May/05/2010 | Fixed when receiving data over 8 bytes from MODBUS RTU, LW-9570 fails to calculate correctly. |
| V2.50 | Dec/03/2014 | Add device types : 0x_single_bit |

# MODBUS RTU (0x/1x Range Adjustable)

Supported Series : MODBUS RTU CONTROLLER
Website : http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS RTU (0x/1x Range Adjustable) | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0-255 | |

| | |
|---|---|
| Online simulator | YES |
| Extend address mode | YES |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 6x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register (read only) |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |
| W | 4x_32Bit* | DDDDD | 1 ~ 65535 | Output Register |

4x_32Bit will only read / write 2 words for each package, for continuous addresses, it will be divided into several packages.

## NOTE:

Address type “5x” is mapping to Hold Reg. The communication protocol of “5x” is almost the same as “4x” except that “5x” swaps double words.

If 4x contains the following information:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0201 | | 0x0403 | | 0x0605 | | |

For 5x, it will be:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0102 | | 0x0304 | | 0x0506 | | |

Modbus RTU function code:

0x 0x01 Read coil 0x05 Write single coil

0x_multi_coils 0x01 Read coil 0x0f Write multiple coils

1x 0x02 Read discrete input N/A for writing operation

3x 0x04 Read input register N/A for writing operation

4x 0x03 Read holding register 0x10 Write multiple registers

5x 0x03 Read holding register 0x10 Write multiple registers

(Note: reverse word order in double words format)

3xbit is equivalent to 3x

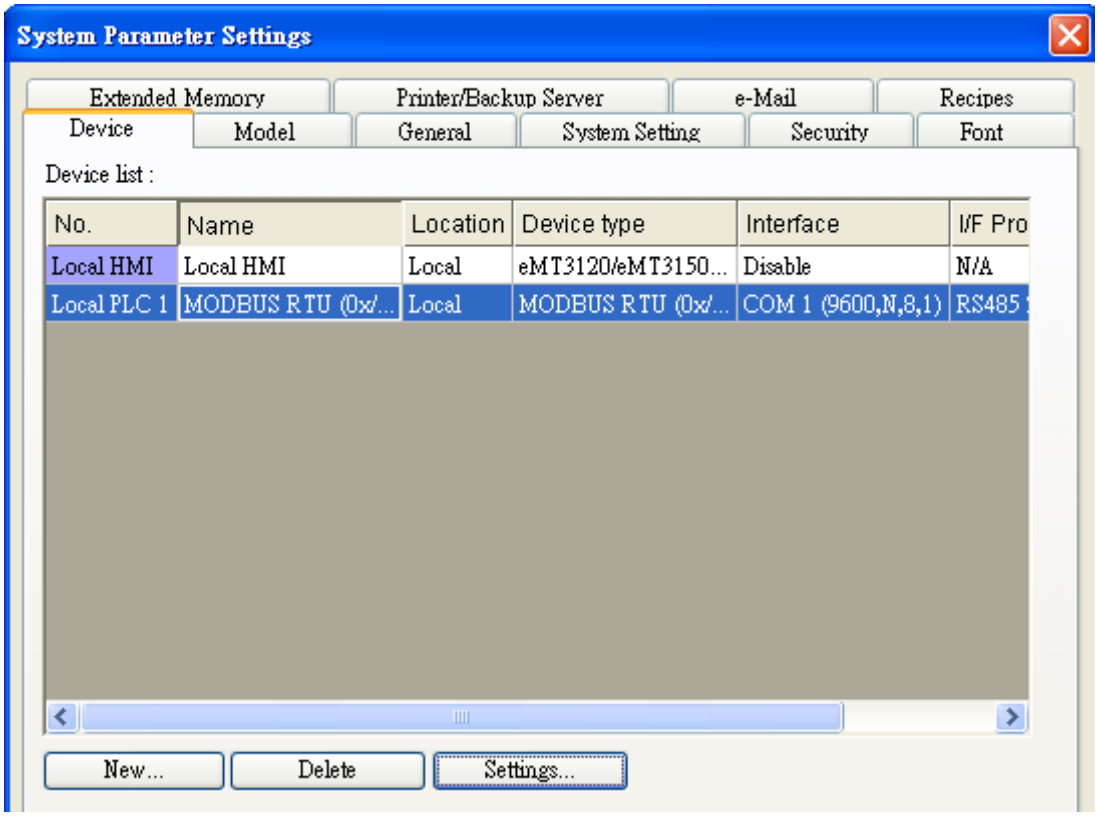
4xbit is equivalent to 4x

6x 0x03 Read holding register 0x06 Write single register

(Note: 6x is limited to device of one word only)

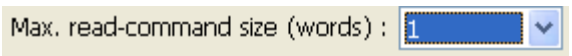
## Setting Instructions:

1. Go to [System Parameter Settings] ，click [New] to add a new device -Modbus RTU (0x 1x range adjustable)，as shown below:

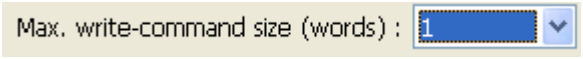



2. After adding Modbus RTU (0x 1x Range Adjustable) driver, [Add Address Range Limit] button will be enabled as below. Users can set maximum read/write command size here.

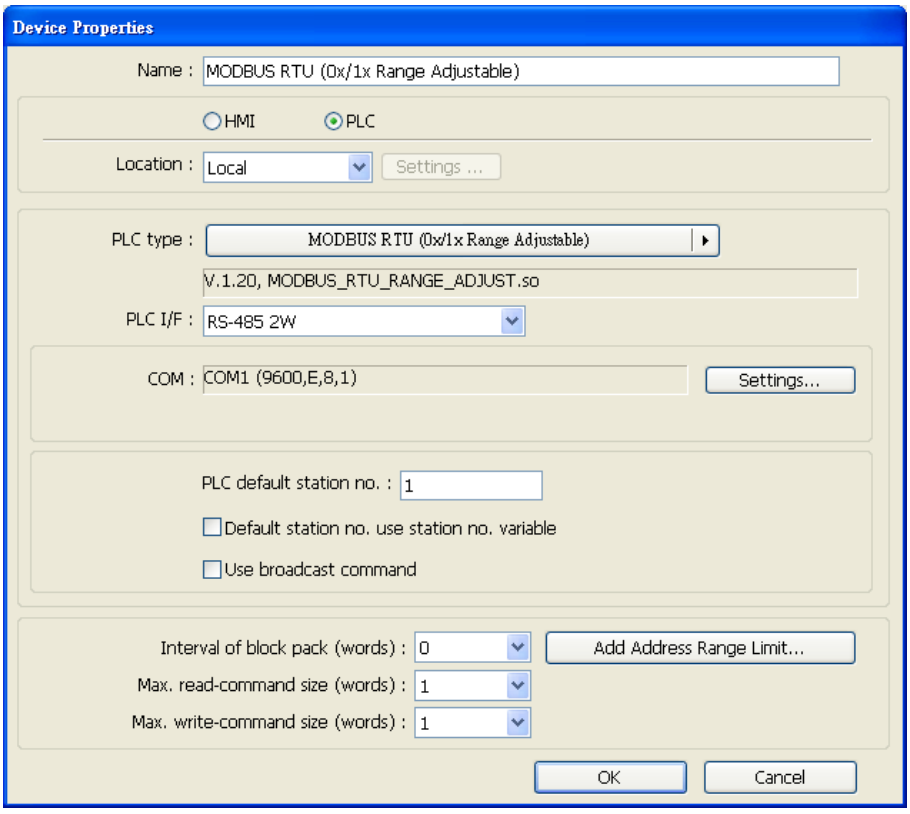
   - Max.read-command size (words): Pull down to select PLC reading range.



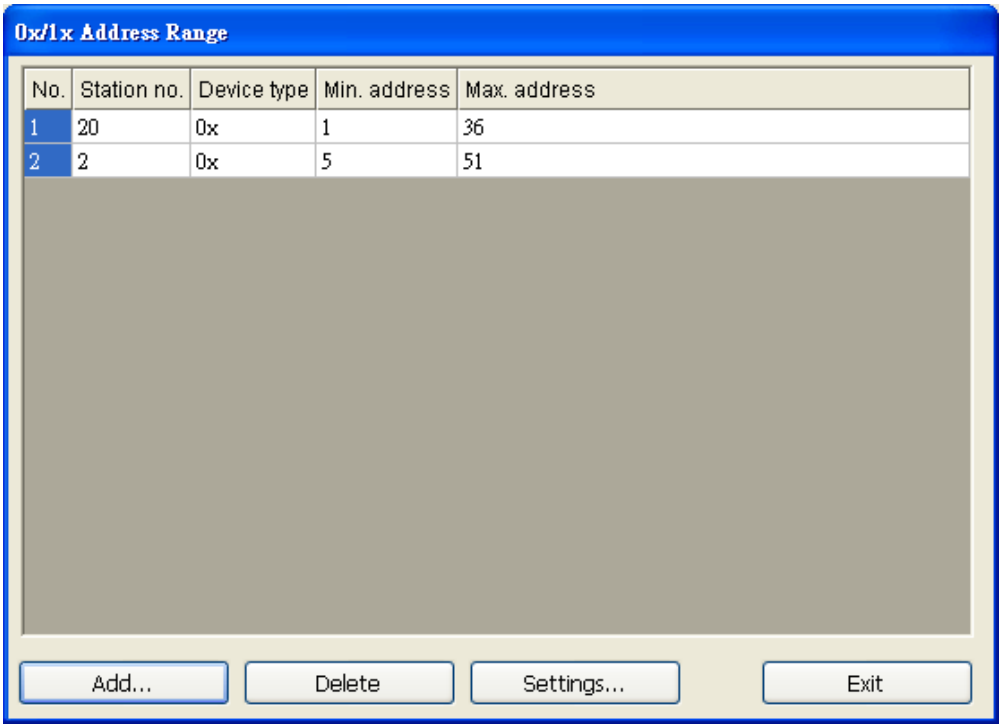

   - Max.write-command size (words): Pull down to select PLC writing range.



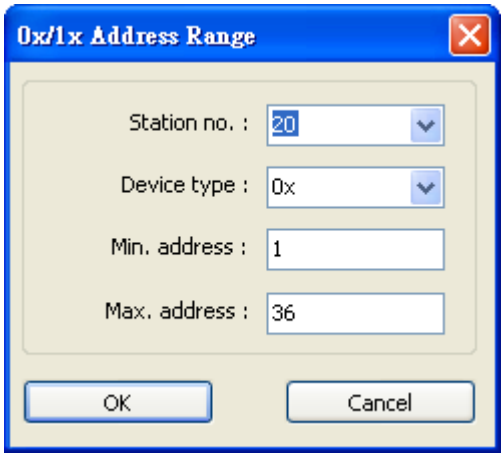

Note: Setting [Add Address Range Limit] is enabled only when bit address is not a multiple of 16bit.




3. Click [Add Address Range Limit] button, Users can define 0x , 1x and 0x_multi_coils address range in [0x 1x Address Range] dialog box, referring to bit range of the device used.

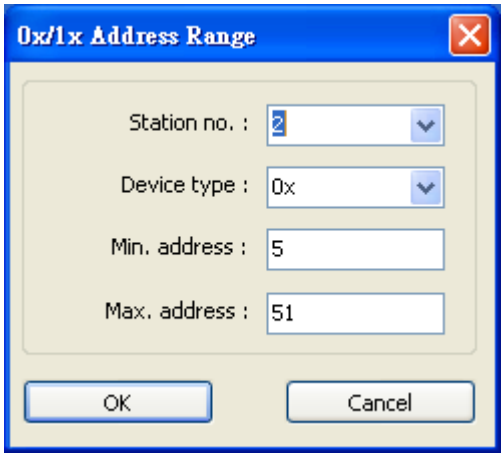


Add：Set [Station No.], [Device Type], [Min. Address], [Max. Address] then click [OK] to finish adding as below:




Delete：The selected items will be deleted.

Settings：Set [Station No.], [Device Type], [Min. Address], [Max. Address] then click [OK] to finish adding as below:

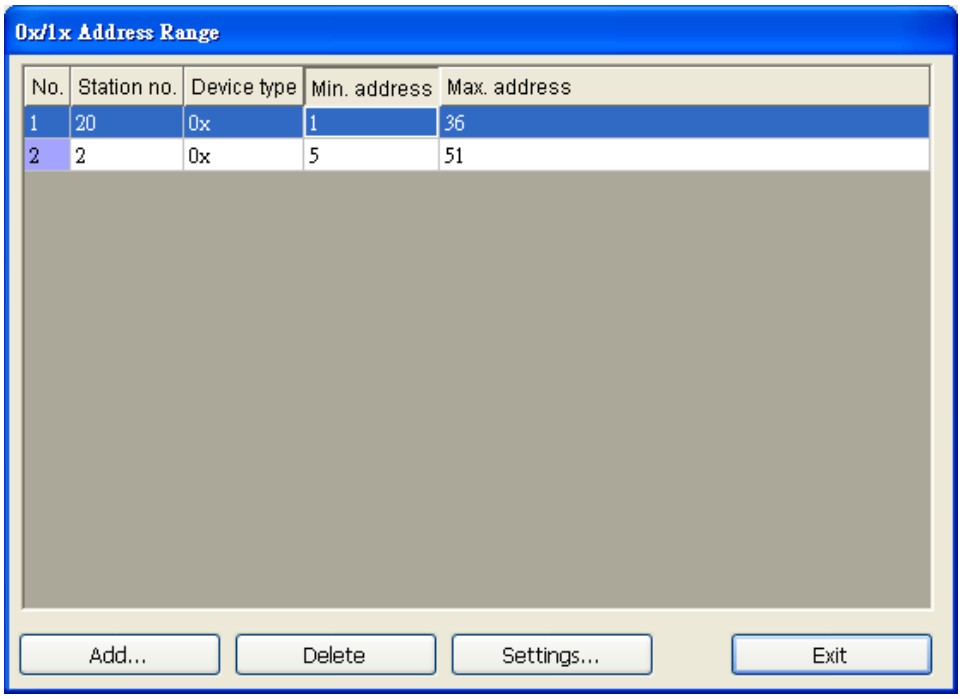



Example：

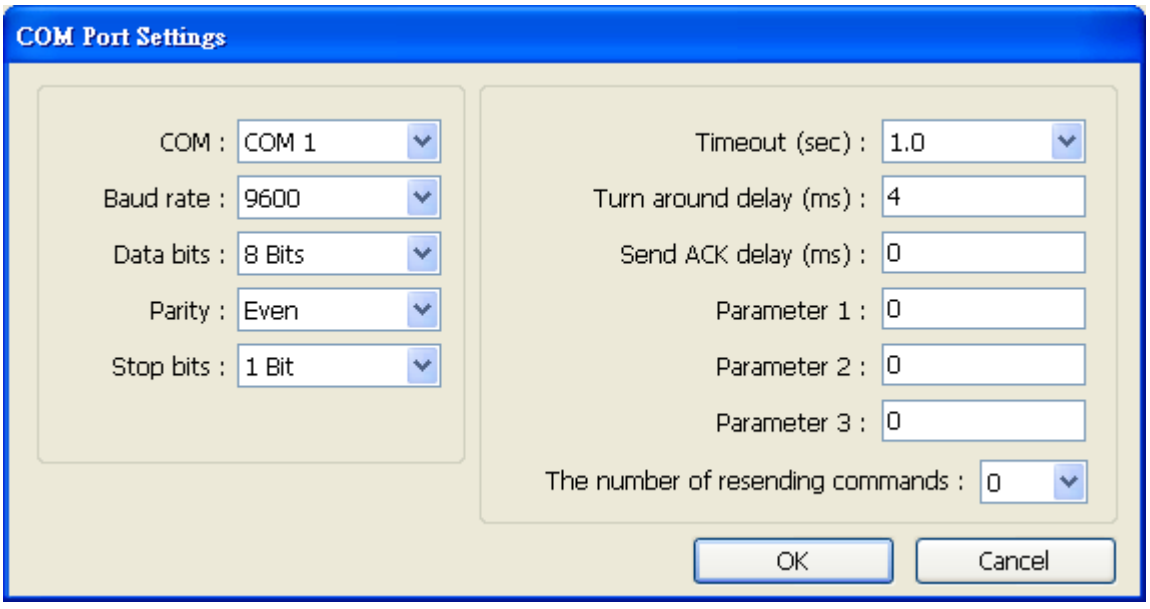
Take D2 and D8 of SCON as example, the settings depend on bit range of different PLC types. Set [Station No.] and address first.

For D2, set [Station No.] to **20**, [Device Type] **0x**, [Max. Address] **36**.

For D8, set [Station No.] to **2**, [Device Type] **0x**, [Max. Address] **51**.




Note: If communicating with a RS-485 2W PLC, the [Turn around delay] setting may need to be adjusted according to the reply speed of the device. Please click [Settings] in [Device Properties], and set the [Turn around delay (ms)] parameter as shown:



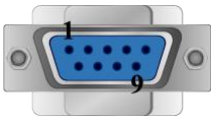
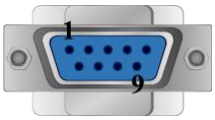
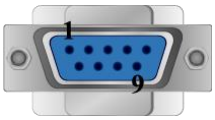

After completing all settings above, the communication is enabled.

## Wiring Diagram:

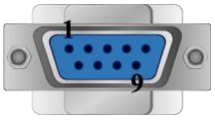
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS232

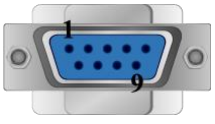
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

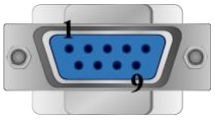
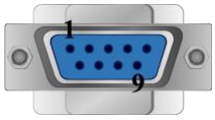
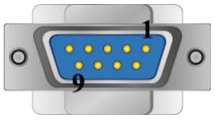
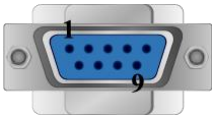
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

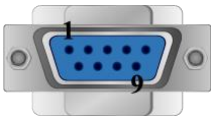
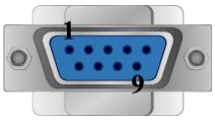
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

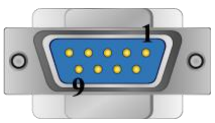
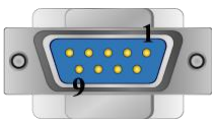
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

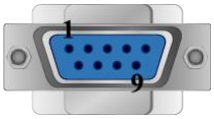
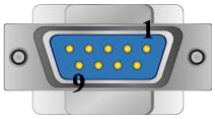
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS485 4W

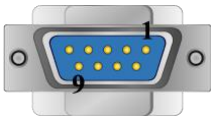
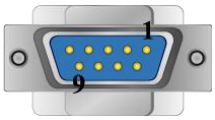
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

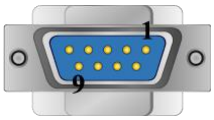
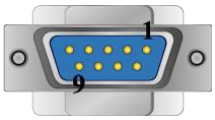
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

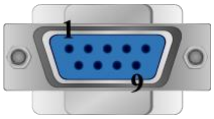
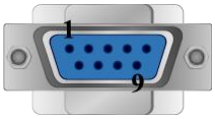
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

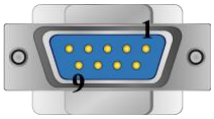
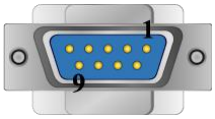
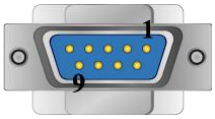
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

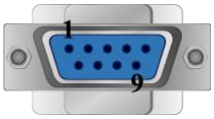
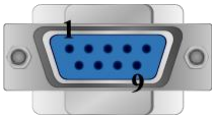
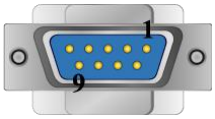
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS485 2W

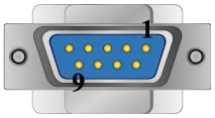
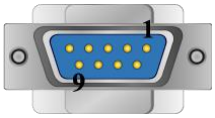
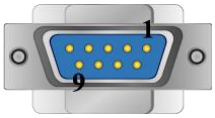
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

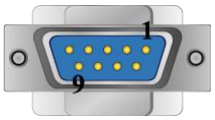
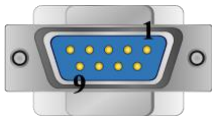
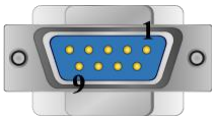
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

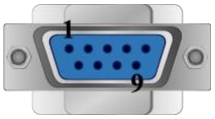
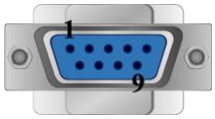
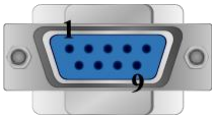
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Aug/25/2010 | |
| V1.20 | Mar/2/2012 | Allow modifying the Minimum address of 0x、1x Address Range. |

# MODBUS RTU (Adjustable)

Supported Series : MODBUS RTU CONTROLLER
Website : http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS RTU (Adjustable) | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600/19200/38400/57600/115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0-255 | |

| | |
|---|---|
| Online simulator | YES |
| Extend address mode | YES |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register (read only) |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| W | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| DW | 5x (32-bit) | DDDDD | 1 ~ 65535 | 4x double word |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |

## NOTE:

Address type “5x” is mapping to Hold Reg. The communication protocol of “5x” is almost the same as “4x” except that “5x” swaps double words.

If 4x contains the following information:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0201 | | 0x0403 | | 0x0605 | | |

For 5x, it will be:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0102 | | 0x0304 | | 0x0506 | | |

Modbus RTU function code:

0x 0x01 Read coil 0x05 Write single coil

0x_multi_coils 0x01 Read coil 0x0f Write multiple coils

1x 0x02 Read discrete input N/A for writing operation

3x 0x04 Read input register N/A for writing operation

4x 0x03 Read holding register 0x10 Write multiple registers

5x 0x03 Read holding register 0x10 Write multiple registers

(Note: reverse word order in double words format)

3xbit is equivalent to 3x

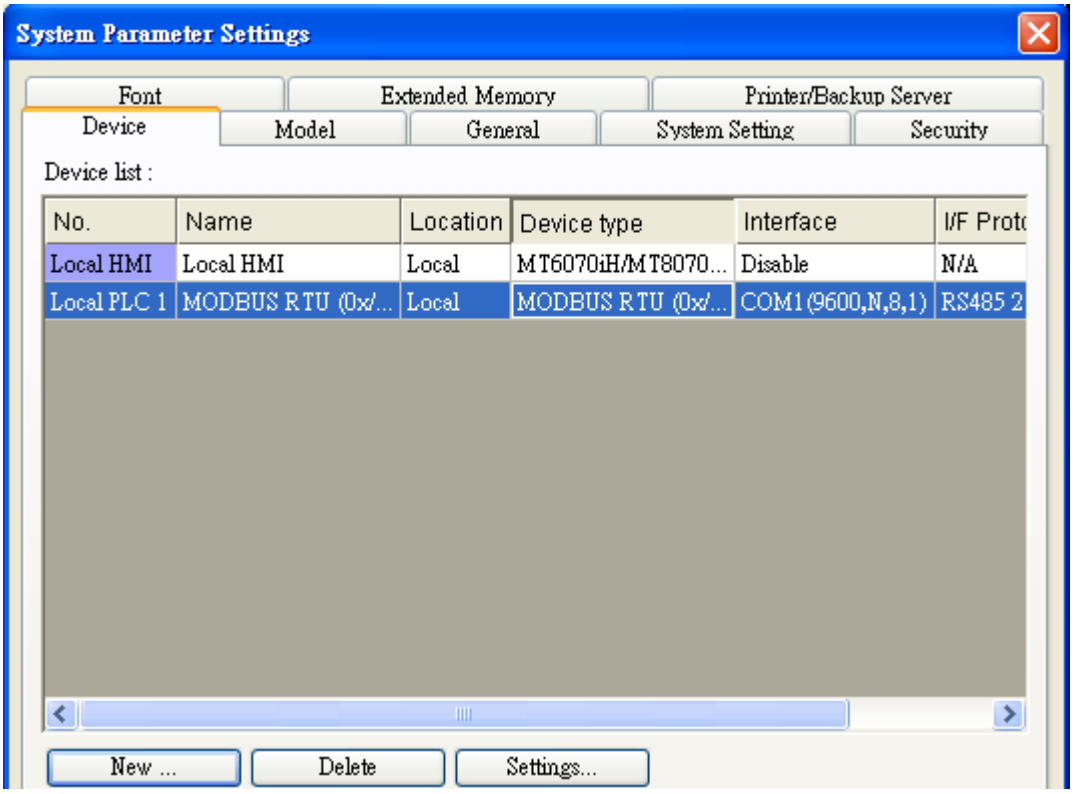
4xbit is equivalent to 4x

6x 0x03 Read holding register 0x06 Write single register

(Note: 6x is limited to device of one word only)

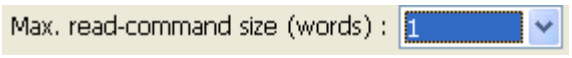
## Setting Instructions:

1. Go to [System Parameter Settings] ，click [New] to add a new device - MODBUS RTU (Adjustable)，as shown below:

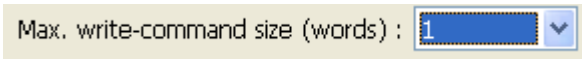



2. After adding MODBUS RTU (Adjustable) driver, [Add Address Range Limit] button will be enabled as below. Users can set maximum read/write command size here.

   - Max.read-command size (words): Pull down to select PLC reading range.



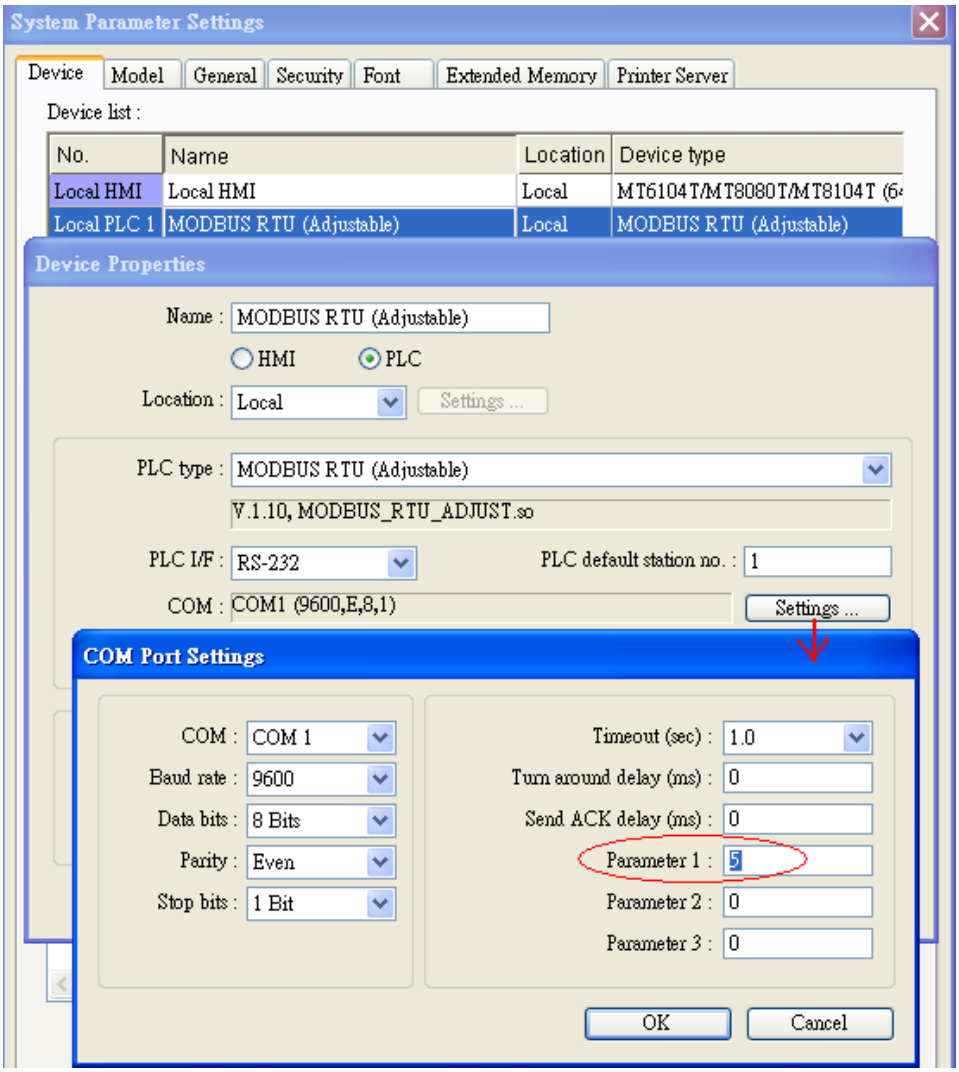

   - Max.write-command size (words): Pull down to select PLC writing range.



## Note:

MODBUS RTU (adjustable) usage

Users can decide the address range via setting value on Parameter 1. For example, when users set 5 to Parameter 1, the address range will be 5 ~ 65535.

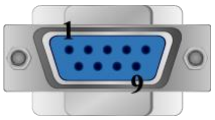
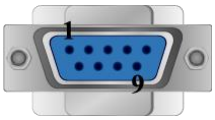
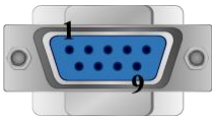


## Wiring Diagram:

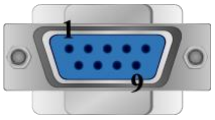
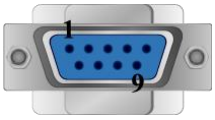
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS232

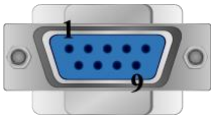
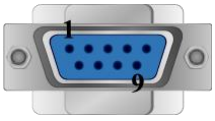
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

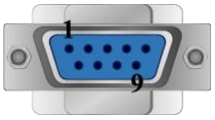
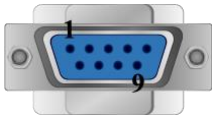
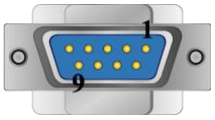
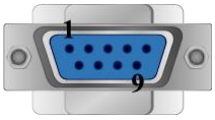
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

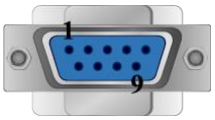
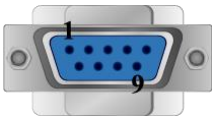
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

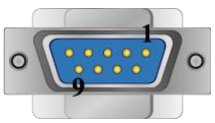
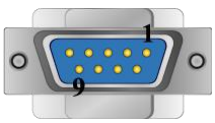
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

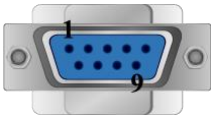
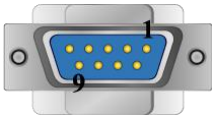
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS485 4W

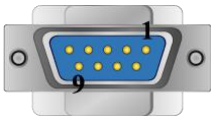
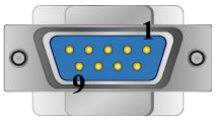
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

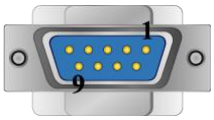
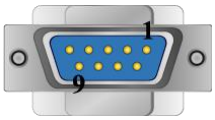
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

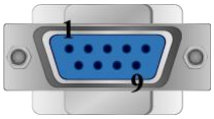
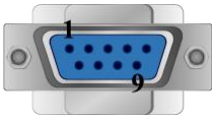
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

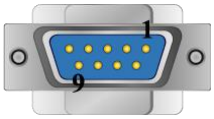
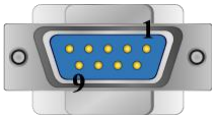
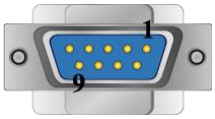
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

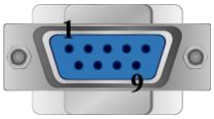
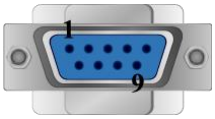
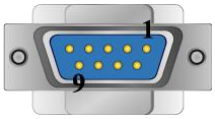
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS485 2W

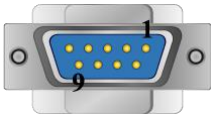
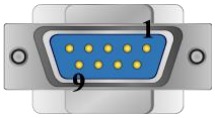
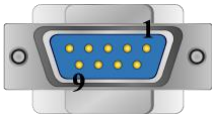
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

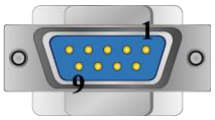
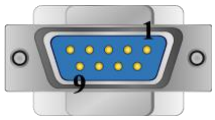
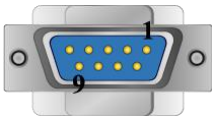
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

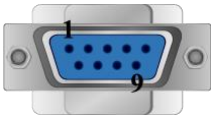
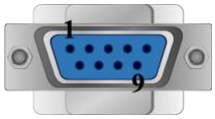
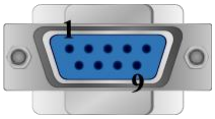
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Jun/14/2011 | |

# MODBUS RTU (zero-based addressing)

Supported Series : MODBUS RTU CONTROLLER

Website : http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS RTU (zero-based addressing) | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 0 ~ 65535 | Output bit |
| B | 1x | DDDDD | 0 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 0 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 0 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 0 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 0 ~ 65535 | Input Register (read only) |
| W | 4x | DDDDD | 0 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 0 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 0 ~ 65535 | 4x single word write |

## NOTE:

Address type “5x” is mapping to Hold Reg. The communication protocol of 5x is almost the same as “4x” except that “5x” swaps double words.

If 4x contains the following information:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0201 | | 0x0403 | | 0x0605 | | |

For 5x, it will be:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0102 | | 0x0304 | | 0x0506 | | |

Modbus RTU function code:

0x 0x01 Read coil 0x05 write single coil

0x_multi_coils 0x01 Read coil 0x0f write multiple coils

1x 0x02 Read discrete input N/A for write operation

3x 0x04 Read input register N/A for write operation

4x 0x03 Read holding register 0x10 write multiple registers

5x 0x03 Read holding register 0x10 write multiple registers

(Note: reverse word order in double word format)

3xbit is equivalent to 3x

4xbit is equivalent to 4x

6x 0x03 Read holding register 0x06 write single register

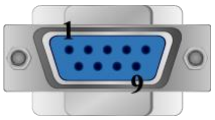
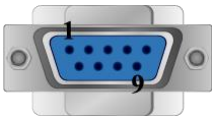
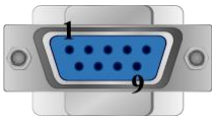
(Note: 6x is limited to device of one word only)

## Wiring Diagram:

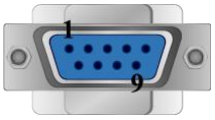
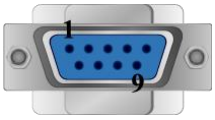
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS232

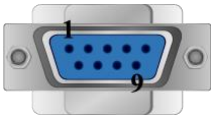
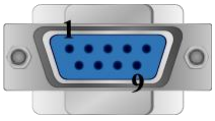
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

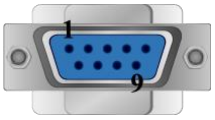
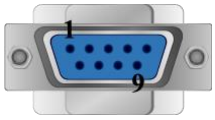
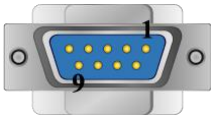
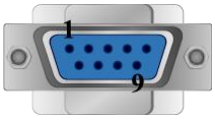
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

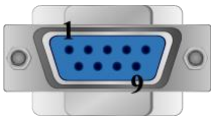
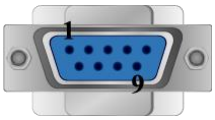
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS<br>CTS | short |
|  |  |  |  | |

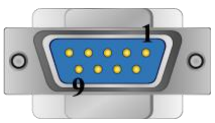
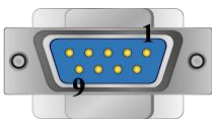
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS<br>CTS | short |
|  | | |  | |

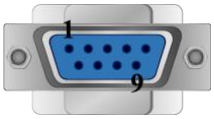
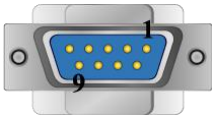
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS485 4W

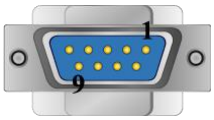
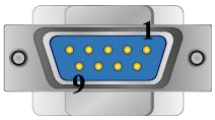
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

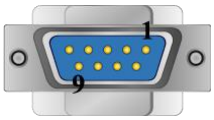
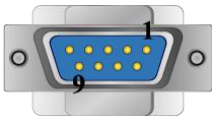
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

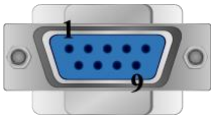
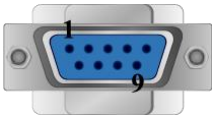
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

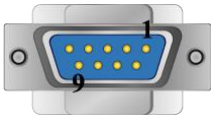
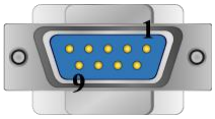
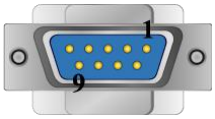
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

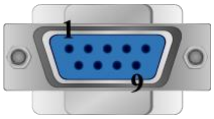
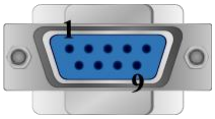
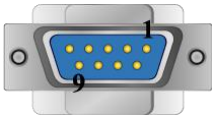
**The following is the view from the soldering point of a cable.**

MODBUS RTU CONTROLLER : RS485 2W

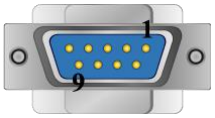
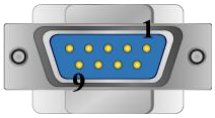
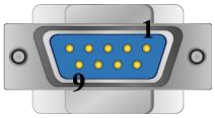
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

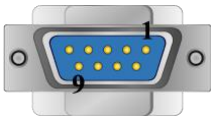
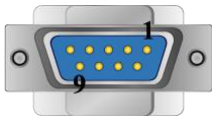
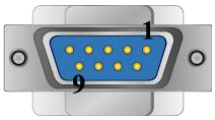
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

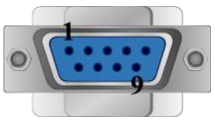
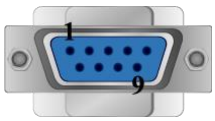
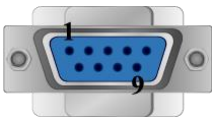
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Aug/26/2009 | |

# MODBUS Server (COM/Ethernet)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS Server (COM/Ethernet) | | |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600~115200<br>Ethernet | Ethernet supports UDP or TCP/IP protocol |
| Data bits | 8 | 8 | |
| Parity | Even | Even, Odd, | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 1-31 | HMI Modbus Station No. |
| Port no. | | 502 | |

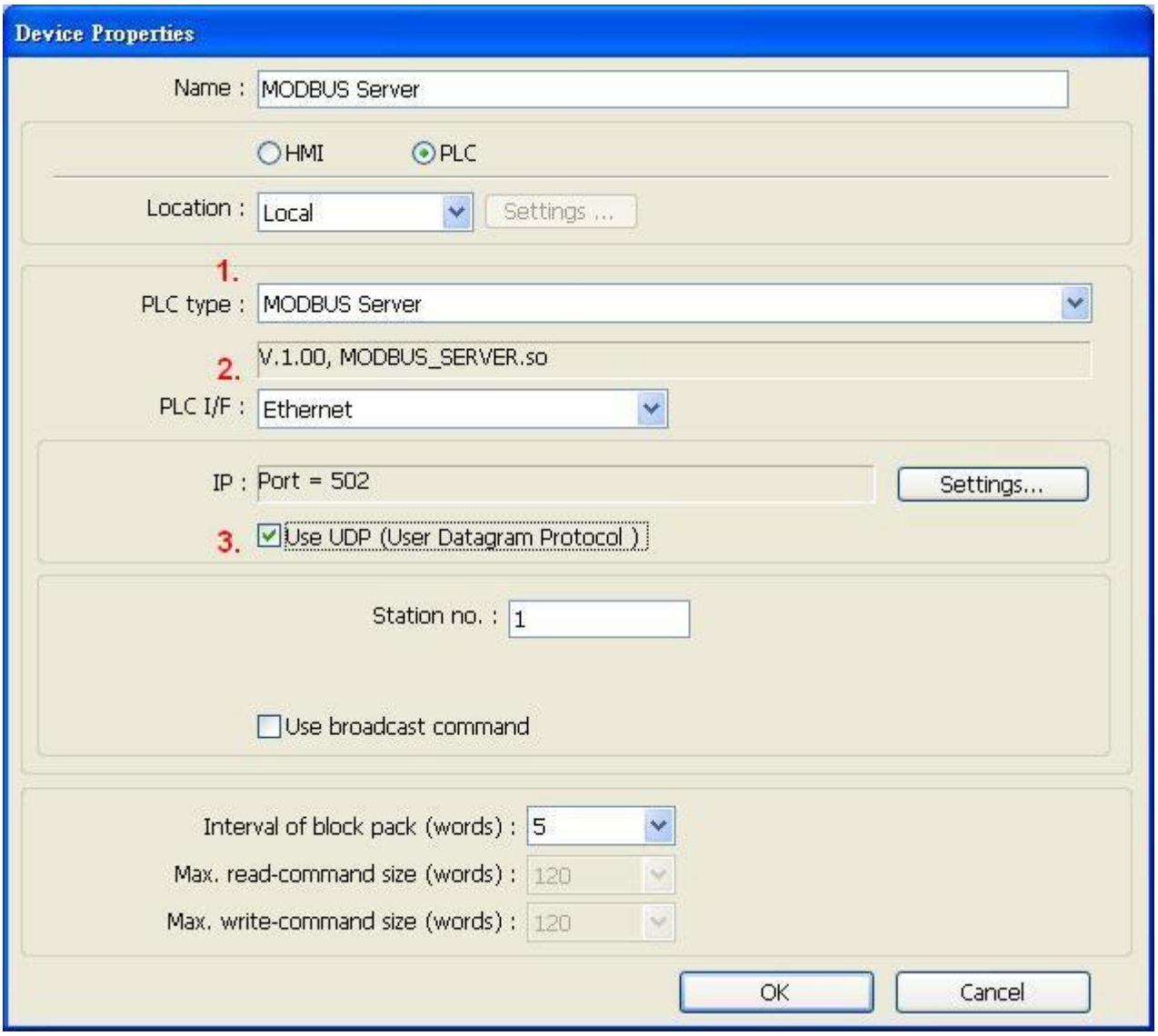
| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

## Modbus Server UDP Protocol Setting:

MODBUS Server (Ethernet) supports UDP communication protocol. To use UDP mode, go to [System Parameter Settings] in editing software, in [Device list] click [New], for [PLC type] select “Modbus Server”, [PLC I/F] set to [Ethernet], and select [Use UDP (User Datagram Protocol)] to finish setting.




Modbus Server Port No. can be changed by clicking [Settings].

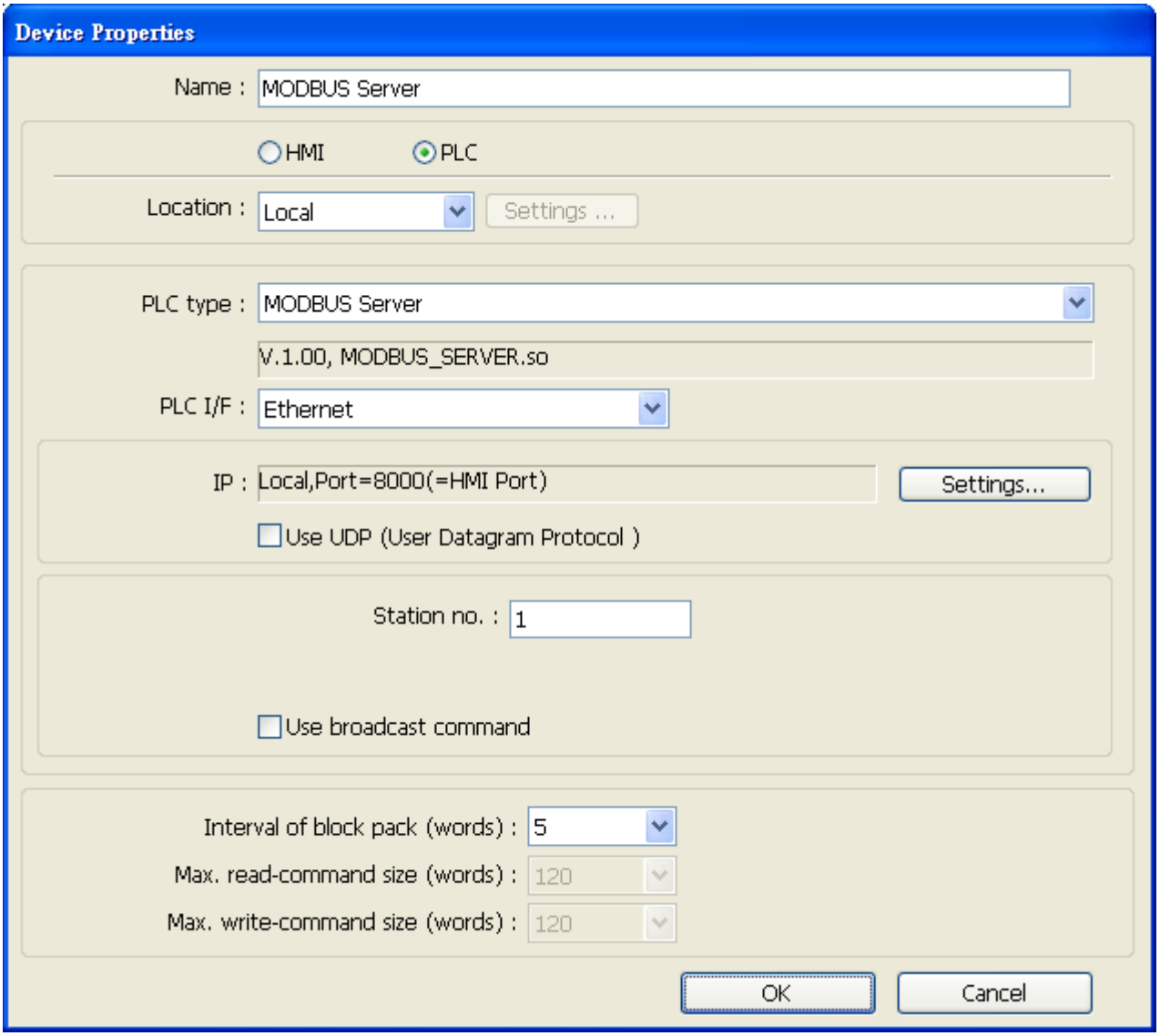
Modbus Server Port No. can not be set identically to HMI Port No. When doing so, the warning message below will be shown requesting users to change setting.



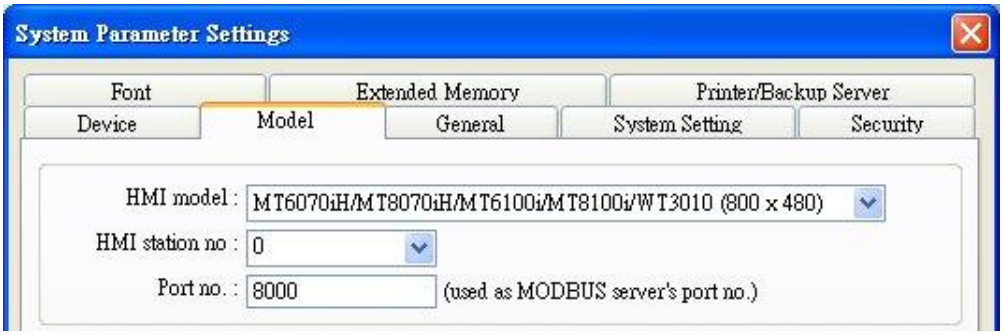

Note:
A maximum of 64 Clients can be connected simultaneously.
Modbus Server Port No. can't be identical to HMI Port No.

## Modbus Server TCP/IP Protocol Setting:

MODBUS Server (Ethernet) supports TCP/IP communication protocol. Go to [System Parameter Settings] in editing software, in [Device list] click [New], for [PLC type] select “Modbus Server”, [PLC I/F] set to [Ethernet] to finish setting.

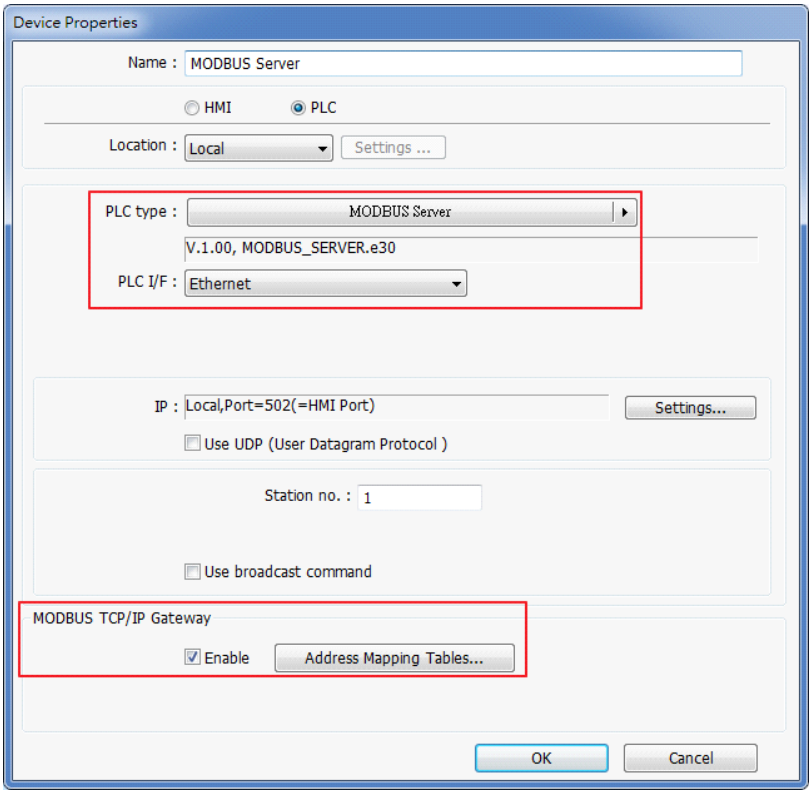



For Modbus Server TCP/IP, HMI Port No. is the same as Modbus Server Port No. To change Prot No. go to [System Parameter Settings] / [Model], the default Port No. is “8000”, and it is allowed to change Modbus Server Port No. here.



# MODBUS TCP/IP Gateway:

By adding MODBUS Server with [Ethernet] interface, the [MODBUS TCP/IP Gateway] feature can be enabled by selecting the [Enable] check box.

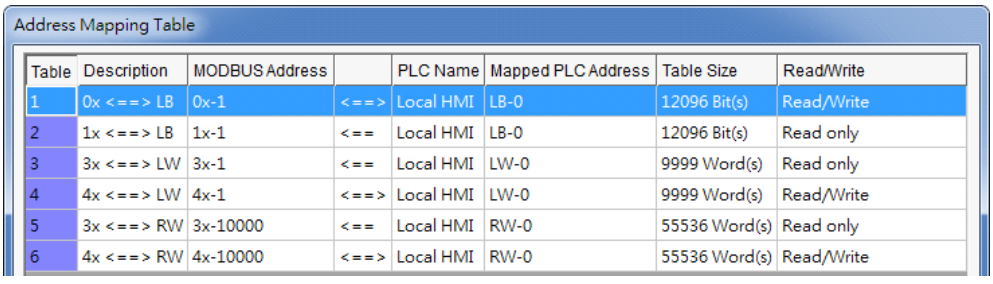



Note the following two points when enabling the [MODBUS TCP/IP Gateway]:

a. The original mapping between the MODBUS Server and the HMI address will be canceled.

b. The SCADA cannot read from or write in the addresses defined in different Address Mapping Table at one time.

For more information about this, see “Chapter37 MODBUS TCPIP Gateway”.




| Table | Description | MODBUS Address | | PLC Name | Mapped PLC Address | Table Size | Read/Write |
|---|---|---|---|---|---|---|---|
| 1 | 0x <==> LB | 0x-1 | <==> | Local HMI | LB-0 | 12096 Bit(s) | Read/Write |
| 2 | 1x <==> LB | 1x-1 | <== | Local HMI | LB-0 | 12096 Bit(s) | Read only |
| 3 | 3x <==> LW | 3x-1 | <== | Local HMI | LW-0 | 9999 Word(s) | Read only |
| 4 | 4x <==> LW | 4x-1 | <==> | Local HMI | LW-0 | 9999 Word(s) | Read/Write |
| 5 | 3x <==> RW | 3x-10000 | <== | Local HMI | RW-0 | 55536 Word(s) | Read only |
| 6 | 4x <==> RW | 4x-10000 | <==> | Local HMI | RW-0 | 55536 Word(s) | Read/Write |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | LB | dddd | 0 ~ 9998 | Mapping to 0x/1x 1 ~ 9999 |
| W | LW | dddd | 0 ~ 9998 | Mapping to 3x/4x 1 ~ 9999 |
| W | RW | ddddd | 0 ~ 55536 | Mapping to 3x/4x 10000 ~ 65536 |

LB0 = 0x0001, LB1 = 0x0002, LW0 = 3x0001, LW1 = 3x0002

Modbus Server Function Code:

| | | |
|---|---|---|
| 0x | 0x01 Read coil | 0x05 write single coil |
| 0x_multi_coils | 0x01 Read coil | 0x0f write multiple coils |
| 1x | 0x02 Read discrete input | N/A for write operation |
| 3x | 0x04 Read input register | N/A for write operation |
| 4x | 0x03 Read holding register | 0x10 write multiple registers |

Modbus Server Error Code:

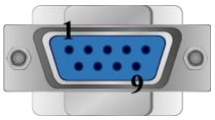
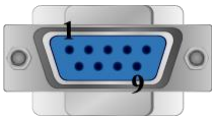
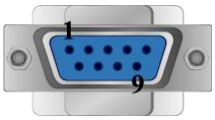
| Error Code | Definition | Condition |
|---|---|---|
| 01 | Incorrect function code | The function code is not supported. |
| 02 | Incorrect read address | The read address is not within the range. |
| 03 | Incorrect data | The data read is incorrect, for example, the data length is 0. |

## Wiring Diagram:

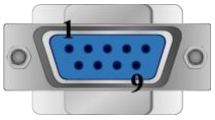
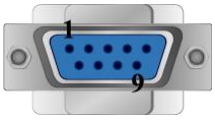
**The following is the view from the soldering point of a cable.**

MODBUS SERVER : RS232

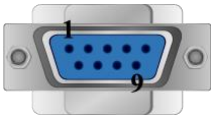
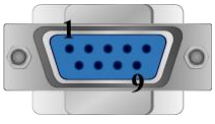
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

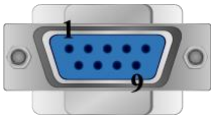
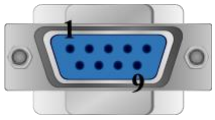
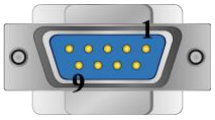
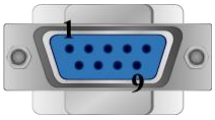
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

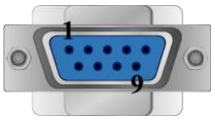
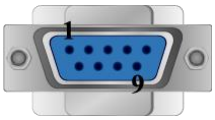
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

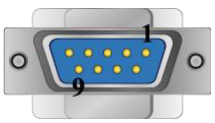
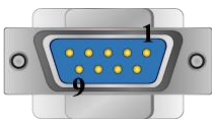
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

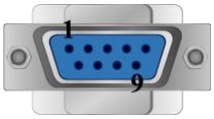
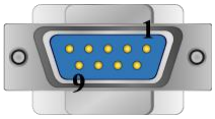
**The following is the view from the soldering point of a cable.**

MODBUS SERVER : RS485 4W

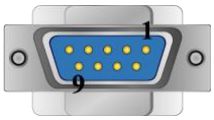
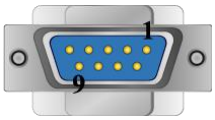
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

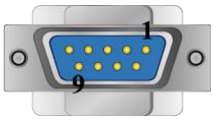
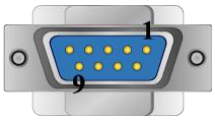
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

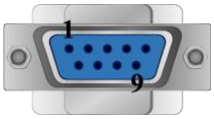
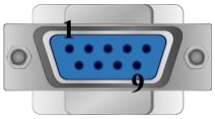
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

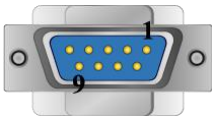
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

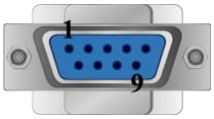
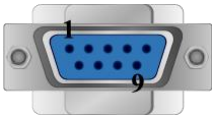
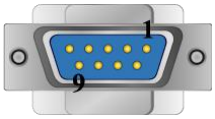
**The following is the view from the soldering point of a cable.**

MODBUS SERVER : RS485 2W

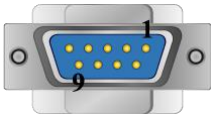
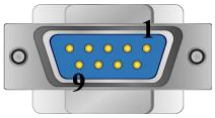
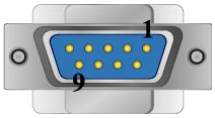
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

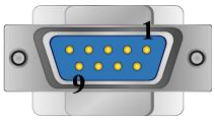
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

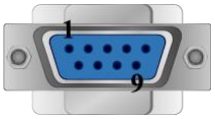
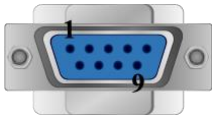
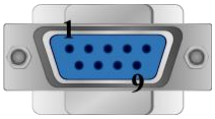
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

**MODBUS SERVER : Ethernet**

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Note: Setting more than one Modbus Server in HMI Device List is of no effect.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/30/2008 | Driver released |

# MODBUS TCP/IP

Supported Series: Modbus RTU TCP/IP device.

Website: http://www.modbus.org

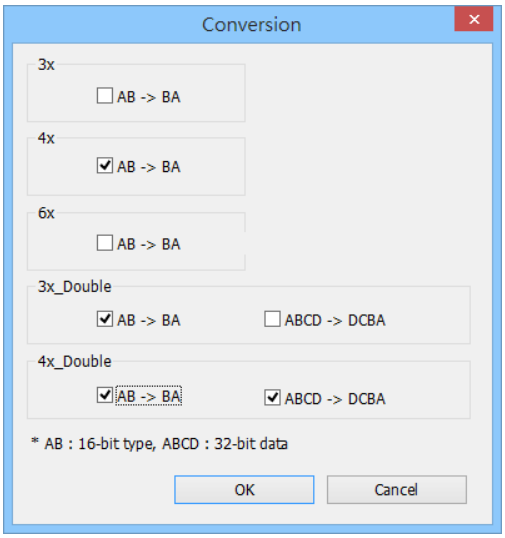
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS TCP/IP | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0~255 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_bit | DDDDDdd | 100 ~ 6553515 | Input Register bit(read only) |
| B | 4x_bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 6x_bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |
| DW | 3x_Double | DDDDD | 1 ~ 65535 | *Note1 |
| DW | 4X_Double | DDDDD | 1 ~ 65535 | *Note1 |
| W | 4x string central europe | DDDDD | 1 ~ 65535 | Convert the Central Europe ASCII to Unicode. |
| W | 4x string central europe (rev) | DDDDD | 1 ~ 65535 | |

Note1: Go the [System Parameter Settings] -> [Device Properties] and click [Conversion] to set the data format of device types 3x, 4x, 6x, 3x_double, 4x double.




## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.50 | Aug/26/2009 | |

# MODBUS TCP/IP (0x/1x Range Adjustable)

Supported Series : Modbus RTU TCP/IP device.
Website : http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS TCP/IP (0x/1x Range Adjustable) | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0~255 | |

| | |
|---|---|
| Online simulator | YES |
| Extend address mode | YES |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 6x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register (read only) |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |
| W | 4x string central europe rev | DDDDD | 1 ~ 65535 | |

## NOTE:

Address type “5x” is mapping to Hold Reg. The communication protocol of “5x” is almost the same as “4x” except that “5x” swaps double words.

If 4x contains the following information:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0201 | | 0x0403 | | 0x0605 | | |

For 5x, it will be:

| Address | 1 | 2 | 3 | 4 | 5 | 6 | ... |
|---|---|---|---|---|---|---|---|
| Data in word | 0x1 | 0x2 | 0x3 | 0x4 | 0x5 | 0x6 | |
| Data | 0x0102 | | 0x0304 | | 0x0506 | | |

Modbus RTU function code:

0x 0x01 Read coil 0x05 Write single coil

0x_multi_coils 0x01 Read coil 0x0f Write multiple coils

1x 0x02 Read discrete input N/A for writing operation

3x 0x04 Read input register N/A for writing operation

4x 0x03 Read holding register 0x10 Write multiple registers

5x 0x03 Read holding register 0x10 Write multiple registers

(Note: reverse word order in double words format)

3xbit is equivalent to 3x

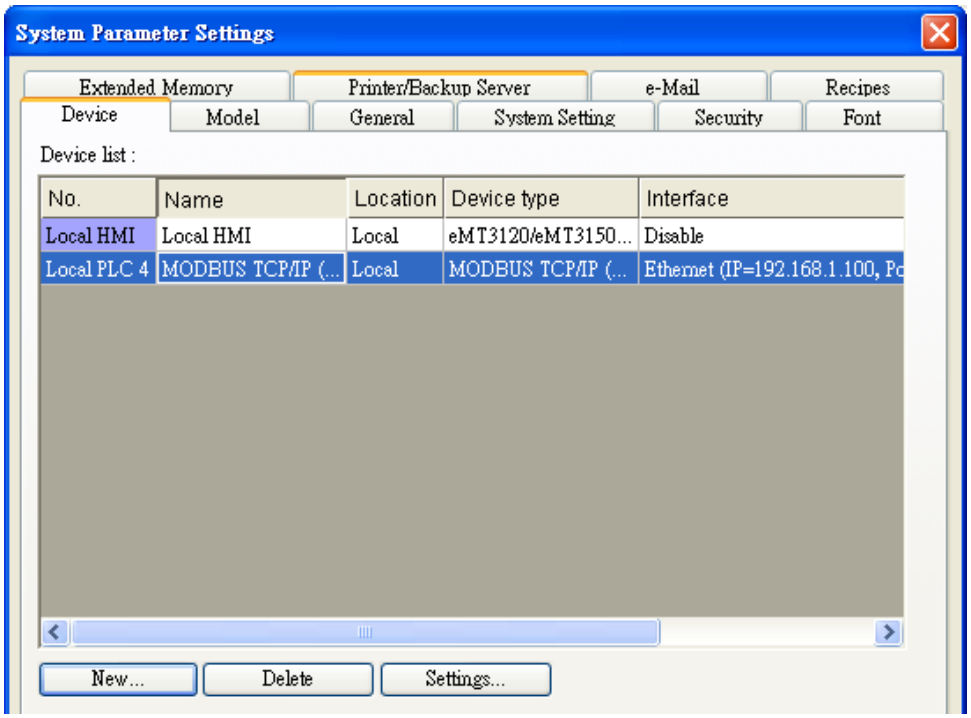
4xbit is equivalent to 4x

6x 0x03 Read holding register 0x06 Write single register

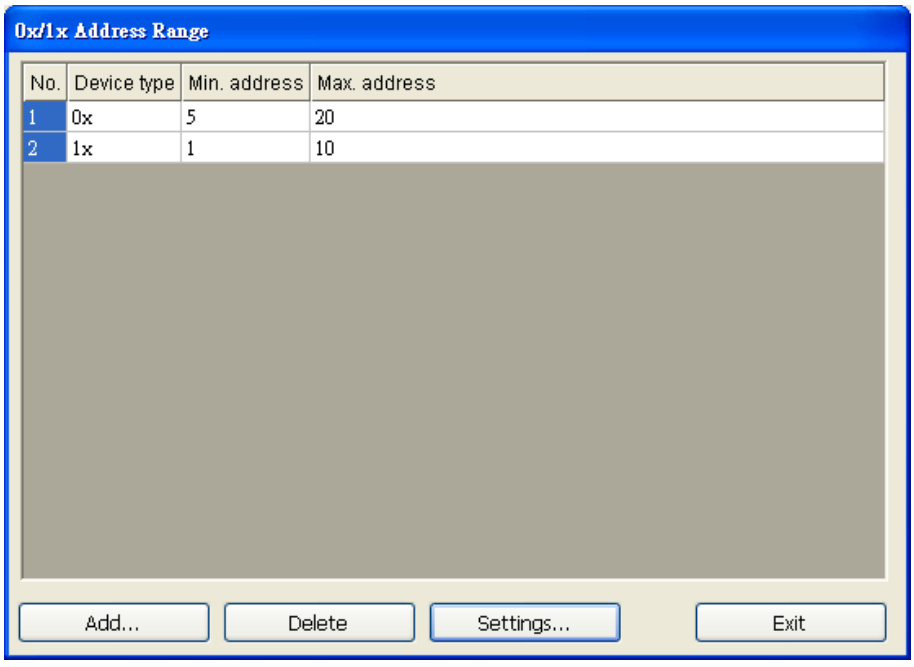
(Note: 6x is limited to device of one word only)

## Setting Instructions:

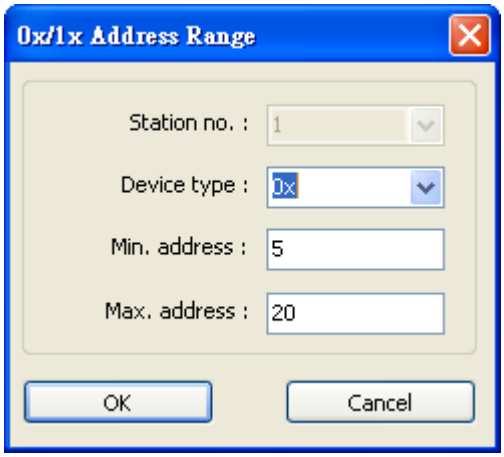
1. Go to [System Parameter Settings] ，click [New] to add a new device -MODBUS TCP/IP (0x/1x Range Adjustable)，as shown below:




2. Click [Add Address Range Limit] button, Users can define 0x and 1x address range in [0x 1x Address Range] dialog box, referring to bit range of the device used.

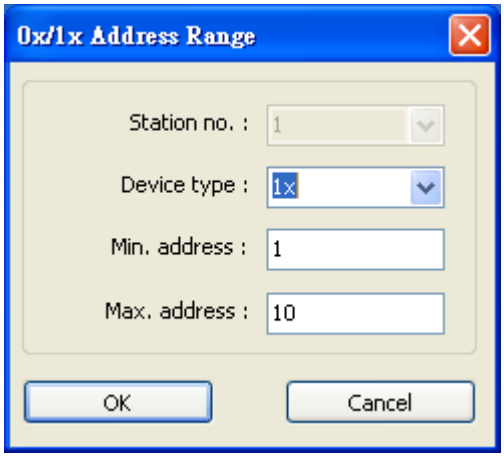


Add：Set [Station No.], [Device Type], [Max. Address] then click [OK] to finish adding as below:




Delete：The selected items will be deleted.

Settings：Set [Station No.], [Device Type], [Max. Address] then click [OK] to finish adding as below:

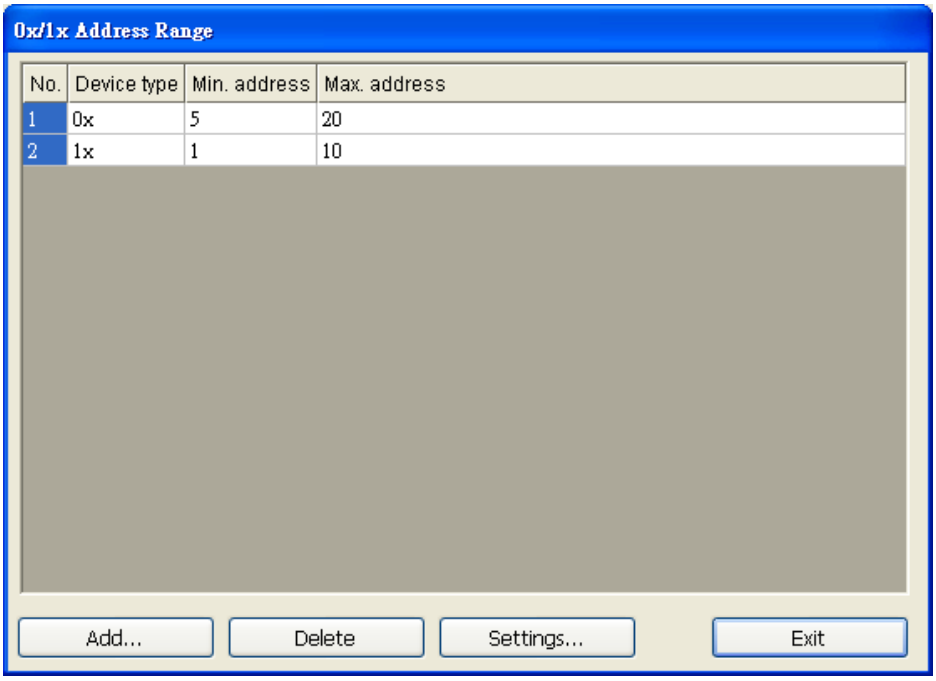


Example：

Take 0x and 1x as example, the settings depend on bit range of different PLC types.

For 0x, [Device Type] **0x**, [Min. Address]**5**,[Max. Address] **20**.

For 1x, [Device Type] **0x**, [Min. Address]**1,**[Max. Address] **10**.




After completing all settings above, the communication is enabled.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | NOV/2/2011 | Driver released. |
| V1.10 | MAR/14/2012 | Allow modifying the Minimum address of 0x、1x Address Range. |

# MODBUS TCP/IP (zero-based addressing)

Supported Series : Modbus RTU TCP/IP device.

Website: http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS TCP/IP (zero-based addressing) | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0~255 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 0 ~ 65535 | Output bit |
| B | 1x | DDDDD | 0 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 0 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 0 ~ 6553515 | Output Register bit |
| B | 6x_Bit | DDDDDdd | 0 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 0 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 0 ~ 65535 | Input Register |
| W | 4x | DDDDD | 0 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 0 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 0 ~ 65535 | 4x single word write |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Aug/27/2009 | |

# MODBUS TCP/IP 32Bit

Supported Series: Modbus RTU TCP/IP device.

Website: http://www.modbus.org

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | MODBUS TCP/IP 32Bit | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0~255 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 6x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 1 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x single word write |
| W | 4x_32Bit* | DDDDD | 1 ~ 65535 | |

4x_32Bit will only read / write 2 words for each package, for continuous addresses, it will be divided into several packages.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Aug/27/2009 | Driver released. |

# Moeller XC-CPU101

Supported Series: MOELLER XC100/200 series

Website: http://www.moeller.net

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Moeller XC-CPU101 | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | 4800 ~ 57600 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

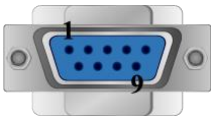
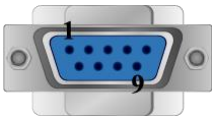
## Device Address:

| Bit/Word | Device type | Format | Range | Note |
|---|---|---|---|---|
| B | QX | DDo | 0 ~ 157 | |
| B | IX | DDo | 0 ~ 157 | |
| W | MW | DDDD | 0 ~ 4095 | |
| W | QW | DD | 0 ~ 15 | |
| W | IW | DD | 0 ~ 15 | |

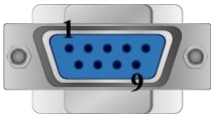
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

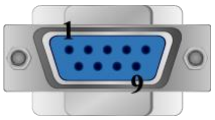
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | 8 RX | | 5 TD |
| 3 TX | 7 TX | | 8 RD |
| 5 GND | 5 GND | | 4 GND |
|  |  | |  |

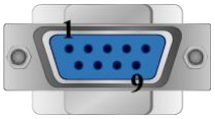
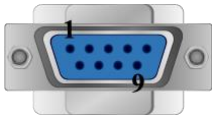
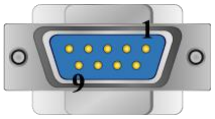
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 5 TD |
| 3 TX | | | 8 RD |
| 5 GND | | | 4 GND |
|  | | |  |

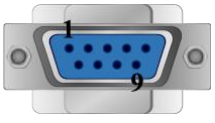
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 5 TD |
| 3 TX | | | 8 RD |
| 5 GND | | | 4 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 5 TD |
| 3 TX | 4 TX | 7 TX | 8 RD |
| 5 GND | 5 GND | 5 GND | 4 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P RJ45 Male |
|---|---|---|---|
| 9 RX | | | 5 TD |
| 6 TX | | | 8 RD |
| 5 GND | | | 4 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/01/2010 | Driver released. |

# motrona CT-150

Supported Series: motrona CT-150
Website: http://motrona.net/index.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | motrona CT-150 | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 9600 | 1200 ~ 38400 | |
| Data bits | 7 | Even,Odd,None | |
| Parity | Even | 7,8 | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 11 | 11 ~ 99 | The station number must not contain 0. |

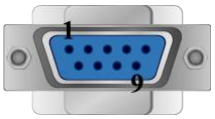
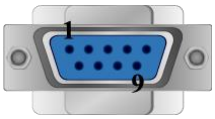
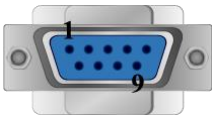
## Device Address:

| Bit/Word | Device type | Format | Range | Note |
|---|---|---|---|---|
| W | An | D | 4 ~ 8 | |
| W | Bn | D | 1 ~ 9 | |
| W | Cn | DD | 0 ~ 99 | |
| W | An_32Bit | D | 4 ~ 8 | |
| W | Bn_32Bit | D | 1 ~ 9 | |
| W | Cn_32Bit | DD | 0 ~ 99 | |
| W | ERR_CNT | D | 0 | |
| W | LV_VAL | D | 0 | |
| W | PRTMARK_ERR | D | 0 | |
| W | BAT_CNT | D | 0 | |
| W | WASTE_CNT | D | 0 | |
| W | LINE_SPD | D | 0 | |
| W | ACT_CUT_LEN | D | 0 | |
| W | ACT_CUT_ERR_M | D | 0 | |
| W | ACT_CUT_ERR_L | D | 0 | |

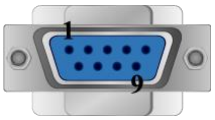
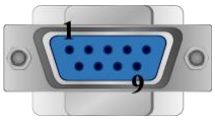
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

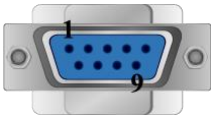
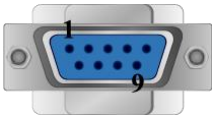
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

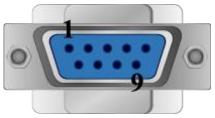
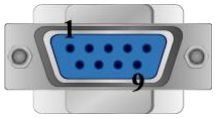
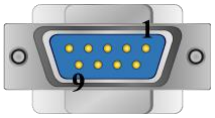
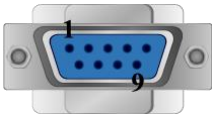
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

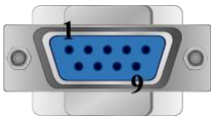
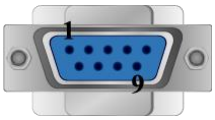
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/11/2012 | Driver released. |
| V1.10 | Jun/20/2014 | Device types are added<br>32 bit address: An_32Bit, Bn_32Bit, Cn_32Bit<br>Parameter address: ERR_CNT, LV_VAL, PRTMARK_ERR, BAT_CNT, WASTE_CNT, LINE_SPD, ACT_CUT_LEN, ACT_CUT_ERR_M, ACT_CUT_ERR_L |

# motrona CT15012B

Supported Series: motrona CT15012B
Website: http://motrona.net/index.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | motrona CT15012B | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 11 | | |

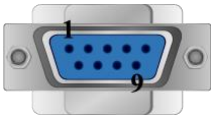
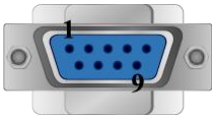
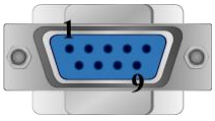
## Device Address:

| Bit/Word | Device type | Format | Range | Note |
|---|---|---|---|---|
| W | Cn | DD | 0 ~ 99 | |

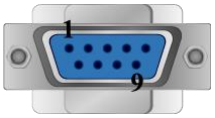
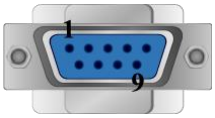
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

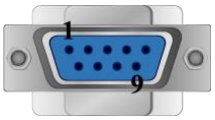
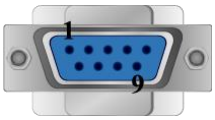
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

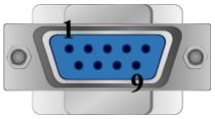
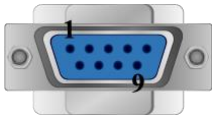
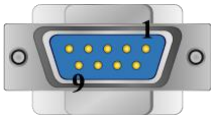
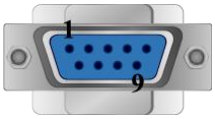
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

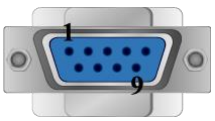
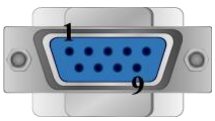
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 8P RJ45 Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/19/2012 | Driver released. |

# motrona MC700

Supported Series: motrona MC700
Website: http://motrona.net/index.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | motrona MC700 | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 7 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 11 | | |

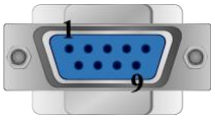
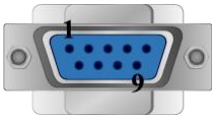
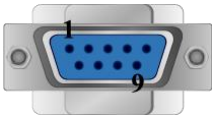
## Device Address:

| Bit/Word | Device type | Format | Range | Note |
|---|---|---|---|---|
| W | ERCD | HHHH | 0 ~ FFFF | |

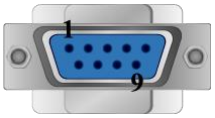
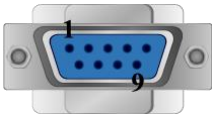
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

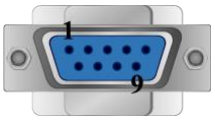
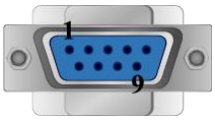
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

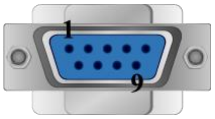
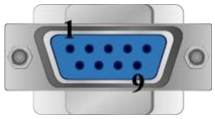
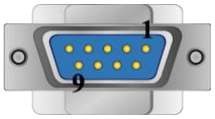
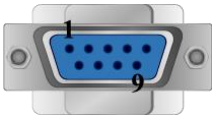
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

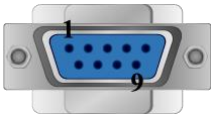
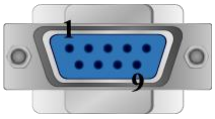
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/19/2012 | Driver released. |

# Nanjing CIGU Controller (for i-Series only)

Website: http://www.cigu.org.cn/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Nanjing CIGU Controller | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

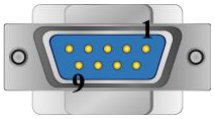
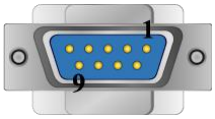
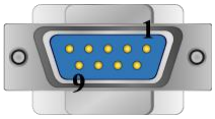
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | 4x | DDD | 1 ~ 107 | |

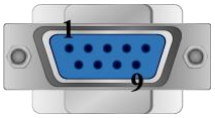
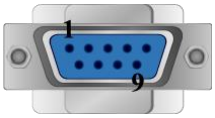
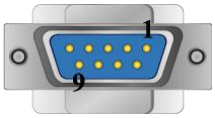
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

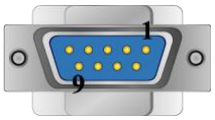
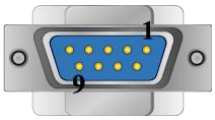
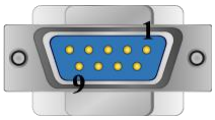
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 7 D- |
| 2 RX+ | 9 Data+ | | 8 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

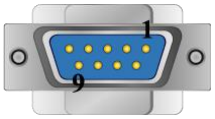
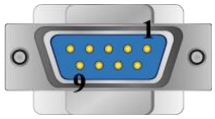
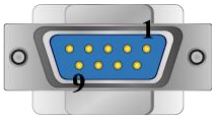
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 7 D- |
| 6 RX+ | 1 Data+ | | 8 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

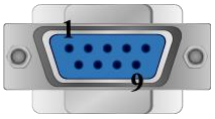
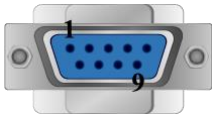
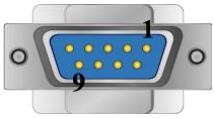
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 7 D- |
| 2 RX+ | 8 Data+ | | 8 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 7 D- |
| 2 RX+ | 9 Data+ | | 8 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 7 D- |
| 2 RX+ | 8 Data+ | | 8 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jan/15/2014 | Driver released. |

# Nanotec Stepper Motor

Supported Series: Nanotec Stepper Motor
Website: http://en.nanotec.com/start.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Nanotec Stepper Motor | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 115200 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

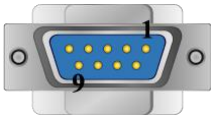
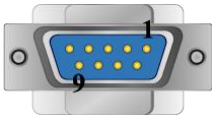
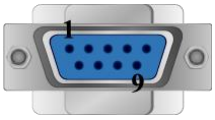
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | A1 ~ A14 | DD | 1 ~ 32 | |
| W | B1 ~ B17 | D | 1 | |
| W | B18 | DD | 1 ~ 32 | |
| W | B19 ~ B24 | D | 1 | |
| W | B25 ~ B26 | DD | 1 ~ 8 | |
| W | B27 ~ B46 | D | 1 | |
| W | C1 ~ C6 | D | 1 | |
| W | D1 ~ D13 | D | 1 | |
| W | E1 ~ E6 | D | 1 | |
| W | F1 ~ F41 | D | 1 | |
| W | G1 | D | 1 | |
| W | G2 | DD | 1 ~ 10 | |
| W | G3 ~ G5 | DD | 1 ~ 7 | |
| W | H1 ~ H10 | D | 1 | |
| W | J1 ~ J6 | D | 1 | |

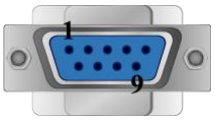
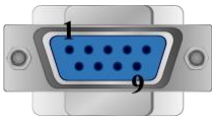
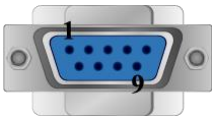
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

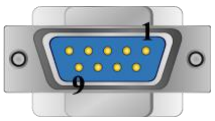
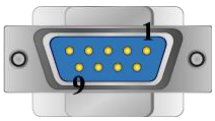
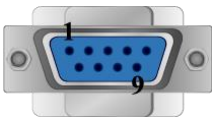
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Female | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 7 Out - | short |
| | | | 9 In - | |
| 2 RX+ | 9 Data+ | | 2 Out + | short |
| | | | 4 In + | |
| 5 GND | 5 GND | | 8 GND | |
|  |  | |  | |

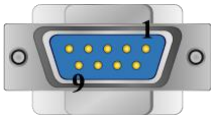
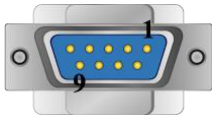
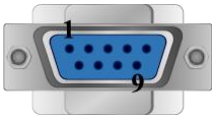
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female | |
|---|---|---|---|---|
| 7 RX- | 4 Data- | | 7 Out - | short |
| | | | 9 In - | |
| 6 RX+ | 1 Data+ | | 2 Out + | short |
| | | | 4 In + | |
| 5 GND | 5 GND | | 8 GND | |
|  |  | |  | |

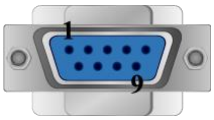
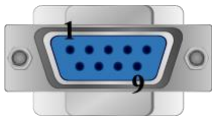
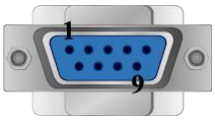
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Female | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 7 Out - | short |
| | | | 9 In - | |
| 2 RX+ | 8 Data+ | | 2 Out + | short |
| | | | 4 In + | |
| 5 GND | 9 GND | | 8 GND | |
|  |  | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Female | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 7 Out - | short |
| | | | 9 In - | |
| 2 RX+ | 9 Data+ | | 2 Out + | short |
| | | | 4 In + | |
| 5 GND | 5 GND | | 8 GND | |
|  |  | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Female | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 7 Out - | short |
| | | | 9 In - | |
| 2 RX+ | 8 Data+ | | 2 Out + | short |
| | | | 4 In + | |
| 5 GND | 5 GND | | 8 GND | |
|  |  | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/24/2012 | Driver released. |

# ODVA EtherNet/IP Explicit Messaging

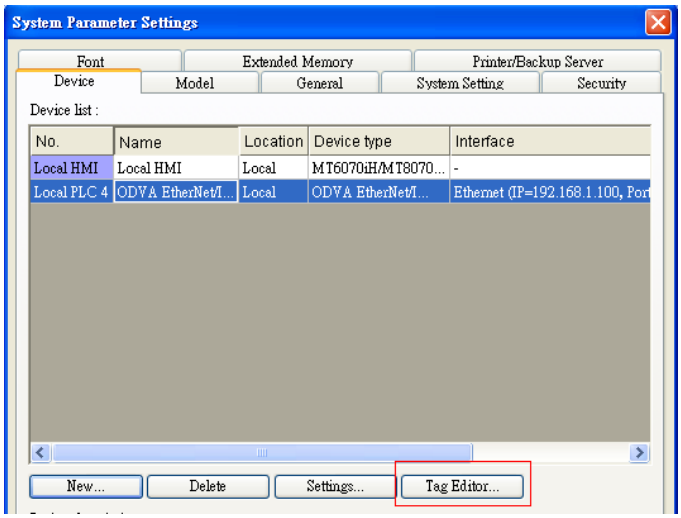
Supported Series: Crevis EtherNet/IP NA-9188

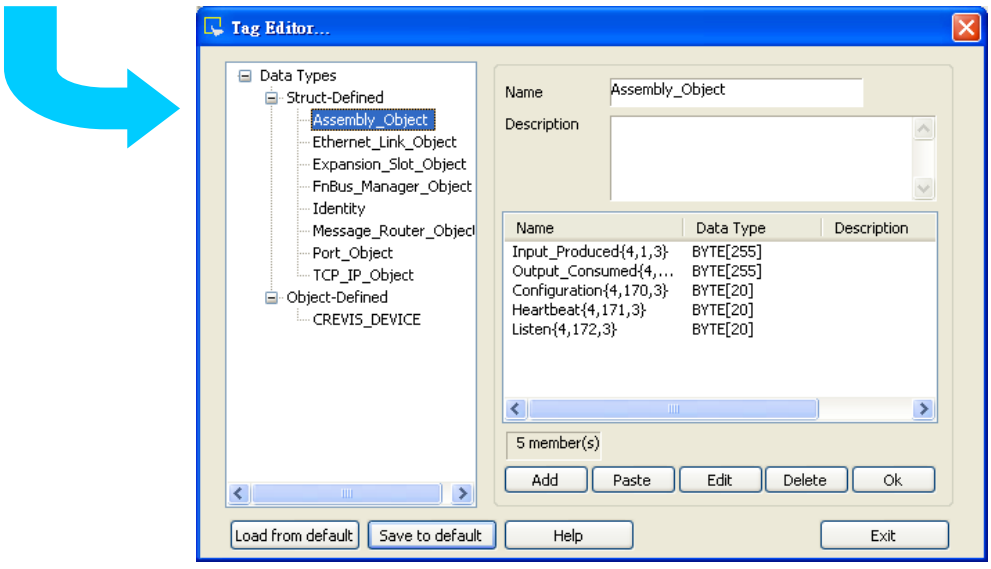
Website: http://www.crevis.co.kr/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | ODVA EtherNet/IP Explicit Messaging | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| PLC sta. no. | 0 | | |

Please click [Tag Editor] when adding this driver to initiate tag information. To edit address tag, please see the factory manual.



**The following is an example of how to add Vendor ID in Tag Editor. See *3.2.3 Identity Object* in factory manual for the detail of this ID.**

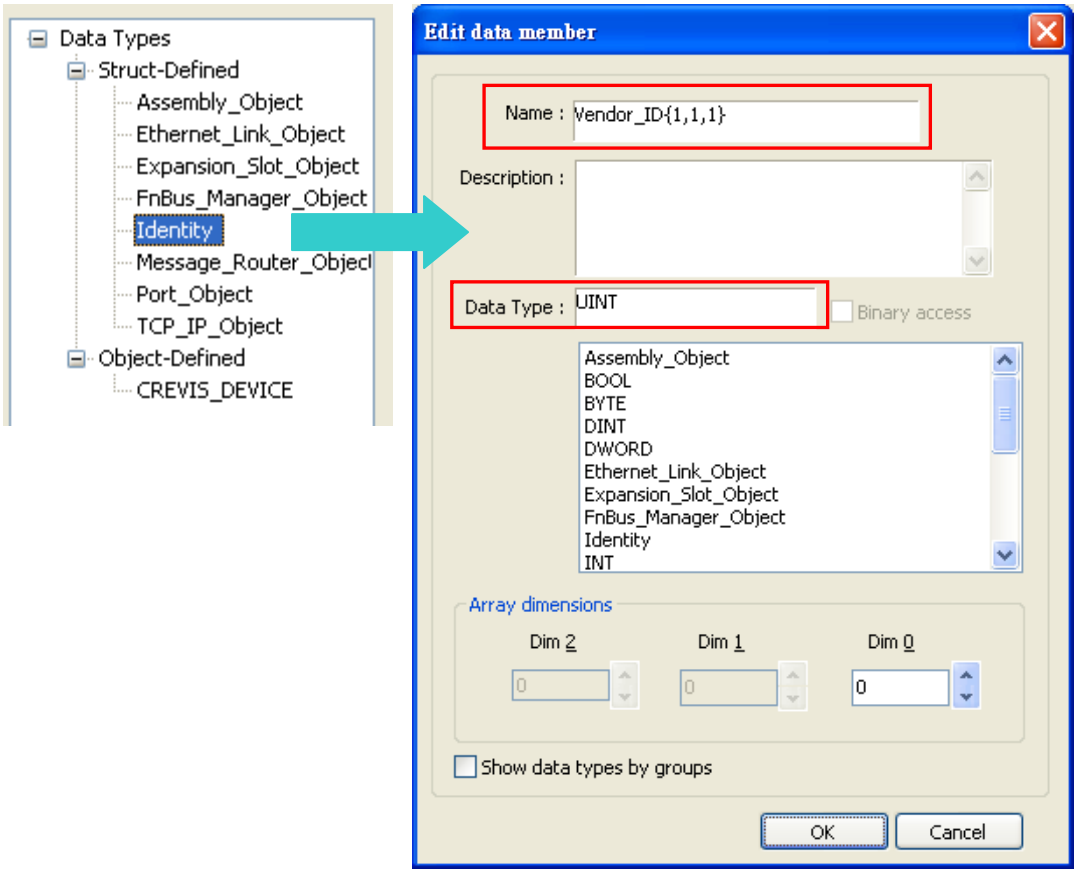
### 3.2. Identity Object

Class Code: $01_{HEX}$

#### 3.2.3. Instance Attributes

| Instance ID | Attribute ID | Access Rule | Name | Data Type | Value |
|---|---|---|---|---|---|
| 1 | 1 | Get | Vendor ID | UINT | $741_{DEC}$ (Crevis Co., Ltd) |
| | 2 | Get | Device Type | UINT | $0C_{HEX}$ (Communications Adapter) |
| | 3 | Get | Product Code | UINT | $512_{DEC}$ (NA-9188) |
| | 4 | Get | Revision<br>- Major<br>- Minor | Structure of:<br>USINT<br>USINT | <br>1 ~ 9<br>1 ~ 255 |

Under Struct-Defined select Identity to add Vendor_ID. {1,1,1} represents {**Class code** , **Instance ID** , **Attribute ID**}. Enter “UINT” in Data Type field according to the factory manual. When finished, this data member can be found in Identity Object.



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CIO_Bit | DDDDDdd | 0 ~ 3276715 | Channel I/O (CIO) |
| B | W_Bit | DDDDDdd | 0 ~ 3276715 | Work Area (WR) |
| B | H_Bit | DDDDDdd | 0 ~ 3276715 | Holding Area (HR) |
| B | A_Bit | DDDDDdd | 0 ~ 3276715 | Auxiliary Relay (AR) (Read only) |
| B | D_Bit | DDDDDdd | 0 ~ 3276715 | Data Memory (DM) |
| B | T_Bit | DDDDDdd | 0 ~ 3276715 | Timer (TIM) |
| B | C_Bit | DDDDDdd | 0 ~ 3276715 | Counter (CNT) |
| B | C_Flag | DDDD | 0 ~ 4095 | |
| B | T_Flag | DDDD | 0 ~ 4095 | |
| B | EM0_Bit ~ EMC_Bit | DDDDDdd | 0 ~ 3276715 | Extend Memory |
| W | CIO | DDDDD | 0 ~ 32767 | Channel I/O (CIO) |
| W | W | DDDDD | 0 ~ 32767 | Work Area (WR) |
| W | H | DDDDD | 0 ~ 32767 | Holding Area (HR) |
| W | A | DDDDD | 0 ~ 32767 | Auxiliary Relay (AR) (Read only) |
| W | C | DDDDD | 0 ~ 32767 | Counter (CNT) |
| W | T | DDDDD | 0 ~ 32767 | Timer (TIM) |
| W | D | DDDDD | 0 ~ 32767 | Data Memory (DM) |
| W | EM0 ~ EMC | DDDDD | 0 ~ 32767 | Extend Memory |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/29/2013 | Driver released. |

# OMRON C/CQM1 Series

Supported Series: OMRON C, CPM, CPL, CQM Series (Host Link Protocol)
Website: http://oeiweb.omron.com/oei/Products-PLC.htm

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON C/CQM1 Series | | |
| PLC I/F | RS232 | RS232, RS422, RS485 | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 7 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 2 | 1 or 2 | |
| PLC sta. no. | 0 | 0-31 | Host Link Station No. |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## PLC Setting:

| | |
|---|---|
| Communication mode | Host Link Protocol / PLC must be set to monitor mode |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IR | DDDDdd | 0 ~ 409515 | I/O and Internal Relay |
| B | HR | DDDDdd | 0 ~ 409515 | Hold Relay |
| B | LR | DDDDdd | 0 ~ 409515 | Link Relay |
| B | IR (Force Set/Reset) | DDDDdd | 0 ~ 409515 | |
| B | HR (Force Set/Reset) | DDDDdd | 0 ~ 409515 | |
| B | LR (Force Set/Reset) | DDDDdd | 0 ~ 409515 | |
| B | AR | DDDDdd | 0 ~ 409515 | Auxiliary Relay |
| W | AR_W | DDDD | 0 ~ 4095 | |
| W | IR_W | DDDD | 0 ~ 4095 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | HR_W | DDDD | 0 ~ 4095 | |
| W | LR_W | DDDD | 0 ~ 4095 | |
| W | TC | DDD | 0 ~ 255 | |
| W | DM | DDDD | 0 ~ 9999 | Data Register |

## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

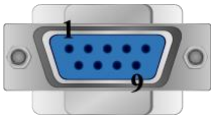
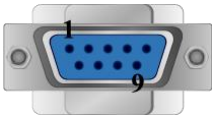
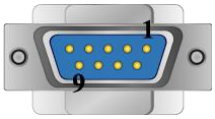
CPU Port (CPM2A,CQM1/1H,C200H/HS/ALPHA series)

Communication Module:

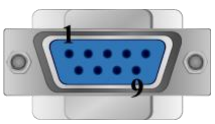
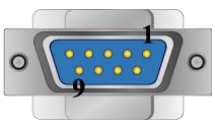
CPM1-CIF01 adapter (for CPM1/CPM1A/CPM2A series, CQM1/CQM1H series)

CPM1H-SCB41 communication module (for CQM1H-CPU51/61)

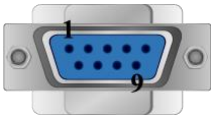
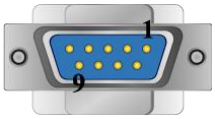
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 SD | |
| 3 TX | 7 TX | | 3 RD | |
| 5 GND | 5 GND | | 9 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  |  | |  | |

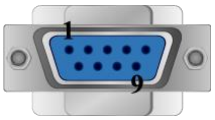
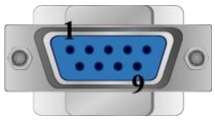
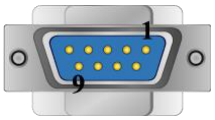
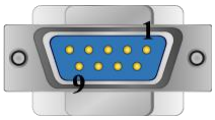
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

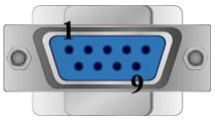
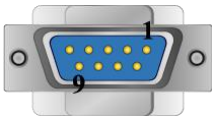
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS<br>5 CS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 SD | |
| 3 TX | 4 TX | 7 TX | 3 RD | |
| 5 GND | 5 GND | 5 GND | 9 GND | |
| | | | 4 RS<br>5 CS | short |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

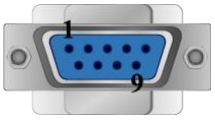
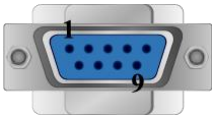
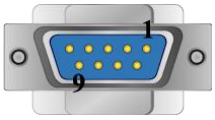
| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 SD | |
| 6 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS<br>5 CS | short |
|  | | |  | |

**The following is the view from the soldering point of a cable.**

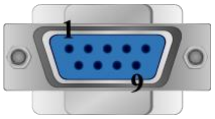
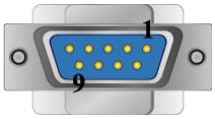
C200h-LK201,3G2A6-LK201 communication module

C200HW-COM02/03/04/05/06 communication module

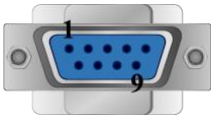
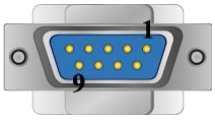
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 SD | |
| 3 TX | 7 TX | | 3 RD | |
| 5 GND | 5 GND | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  |  | |  | |

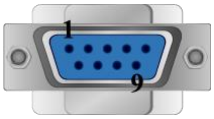
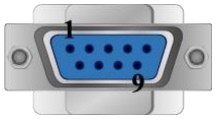
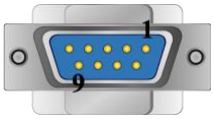
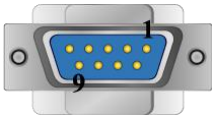
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

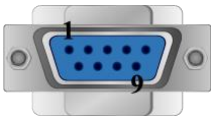
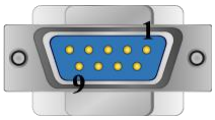
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 SD | |
| 3 TX | 4 TX | 7 TX | 3 RD | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 SD | |
| 6 TX | | | 3 RD | |
| 5 GND | | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.80 | Apr/14/2010 | |

# OMRON CJ/CS/CP

Supported Series: OMRON CP1E,CP1L, CP1H, CJ1M, CJ2M, CJ1H, CJM1G, CS1H and CS1G. (Host Link Protocol FINS command), this driver supports Extend Addressing Mode.

Website: http://oeiweb.omron.com/oei/Products-PLC.htm

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON CJ/CS/CP | | |
| PLC I/F | RS232 | RS232, RS422, RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 7 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 2 | 1 or 2 | |
| PLC sta. no. | 0 | 0-31 | Host Link Station No. |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | YES |
| Broadcast command | NO | | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## PLC Setting:

| | |
|---|---|
| Communication mode | Host Link Protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CIO_Bit | DDDDDdd | 0 ~ 3276715 | Channel I/O (CIO) |
| B | W_Bit | DDDDDdd | 0 ~ 3276715 | Work Area (WR) |
| B | H_Bit | DDDDDdd | 0 ~ 3276715 | Holding Area (HR) |
| B | D_Bit | DDDDDdd | 0 ~ 3276715 | Data Memory (DM) |
| B | A_Bit | DDDDDdd | 0 ~ 3276715 | Auxiliary Relay (AR) |
| B | T_Bit | DDDDDdd | 0 ~ 3276715 | Timer (TIM) |
| B | C_Bit | DDDDDdd | 0 ~ 3276715 | Counter (CNT) |

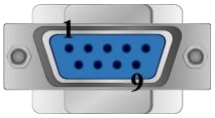
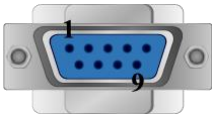
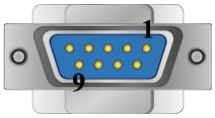
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | C_flag | DDDD | 0 ~ 4095 | |
| B | T_flag | DDDD | 0 ~ 4095 | |
| B | LR_Bit | DDDdd | 0 ~ 19915 | |
| B | EM0_Bit ~ EMC_Bit | DDDDDdd | 0 ~3276715 | Extend Memory |
| W | T | DDDDD | 0 ~ 32767 | Timer (TIM) |
| W | H | DDDDD | 0 ~ 32767 | Holding Area (HR) |
| W | D | DDDDD | 0 ~ 32767 | Data Memory (DM) |
| W | A | DDDDD | 0 ~ 32767 | Auxiliary Relay (AR) |
| W | W | DDDDD | 0 ~ 32767 | Work Area (WR) |
| W | C | DDDDD | 0 ~ 32767 | Counter (CNT) |
| W | CIO | DDDDD | 0 ~ 32767 | Channel I/O (CIO) |
| W | EM0 ~ EMC | DDDDD | 0 ~ 32767 | Extend Memory |
| W | LR | DDD | 0 ~ 199 | |

## Wiring Diagram:

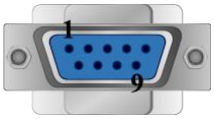
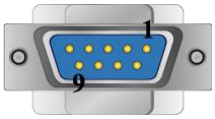
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub:

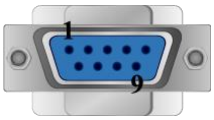
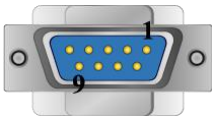
eMT3000 series

<table>
<tr><td>COM1 RS232 9P D-Sub Female</td><td>COM3 RS232 9P D-Sub Female</td><td></td><td colspan="2">RS232 9P D-Sub Male</td></tr>
<tr><td>2 RX</td><td>8 RX</td><td></td><td colspan="2">2 SD</td></tr>
<tr><td>3 TX</td><td>7 TX</td><td></td><td colspan="2">3 RD</td></tr>
<tr><td>5 GND</td><td>5 GND</td><td></td><td colspan="2">9 GND</td></tr>
<tr><td colspan="3" rowspan="2"></td><td>4 RS</td><td rowspan="2">short</td></tr>
<tr><td>5 CS</td></tr>
<tr><td></td><td></td><td></td><td colspan="2"></td></tr>
</table>

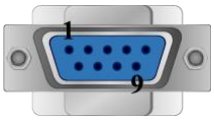
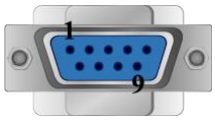
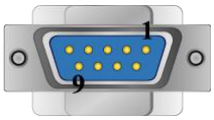
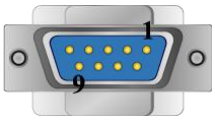
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

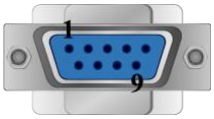
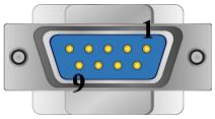
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 SD | |
| 3 TX | 4 TX | 7 TX | 3 RD | |
| 5 GND | 5 GND | 5 GND | 9 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  |  |  |  | |

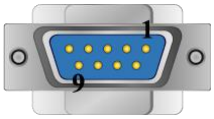
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 SD | |
| 6 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS<br>5 CS | short |
|  | | |  | |

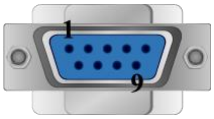
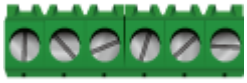
**The following is the view from the soldering point of a cable.**

CP1H/CP1L CP1W-CIF11 RS485 4W : 9P D-Sub to Termainals:

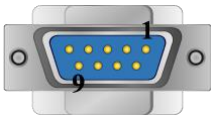
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | CP1W-CIF11 RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | SDA |
| 2 RX+ | | | SDB |
| 3 TX- | | | RDA |
| 4 TX+ | | | RDB |
| 5 GND | | | FG |
|  | | |  |

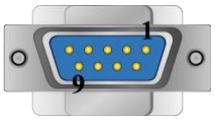
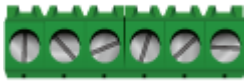
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | CP1W-CIF11 RS485 4W Terminal |
|---|---|---|---|
| 7 RX- | | | SDA |
| 6 RX+ | | | SDB |
| 9 TX- | | | RDA |
| 8 TX+ | | | RDB |
| 5 GND | | | FG |
|  | | |  |

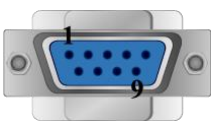
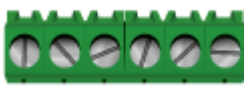
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | CP1W-CIF11 RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | SDA |
| 2 RX+ | | | SDB |
| 3 TX- | | | RDA |
| 4 TX+ | | | RDB |
| 5 GND | | | FG |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | CP1W-CIF11 RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | SDA |
| 2 RX+ | | | SDB |
| 3 TX- | | | RDA |
| 4 TX+ | | | RDB |
| 5 GND | | | FG |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | CP1W-CIF11 RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | SDA |
| 2 RX+ | | | SDB |
| 3 TX- | | | RDA |
| 4 TX+ | | | RDB |
| 5 GND | | | FG |
|  | | |  |

CP1W-CIF11: SW1 ON, others OFF.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.90 | Feb/01/2011 | Added registers: LR, LR_Bit |
| V2.00 | Dec/05/2012 | Added register: EM_Bit |

# OMRON CJ/CS/CP (Ethernet - FINS/TCP)

Supported Series: OMRON CJ Series, CS Series, CP Series +Ethernet Module. (Ethernet FINS)

Website: http://oeiweb.omron.com/oei/Products-PLC.htm

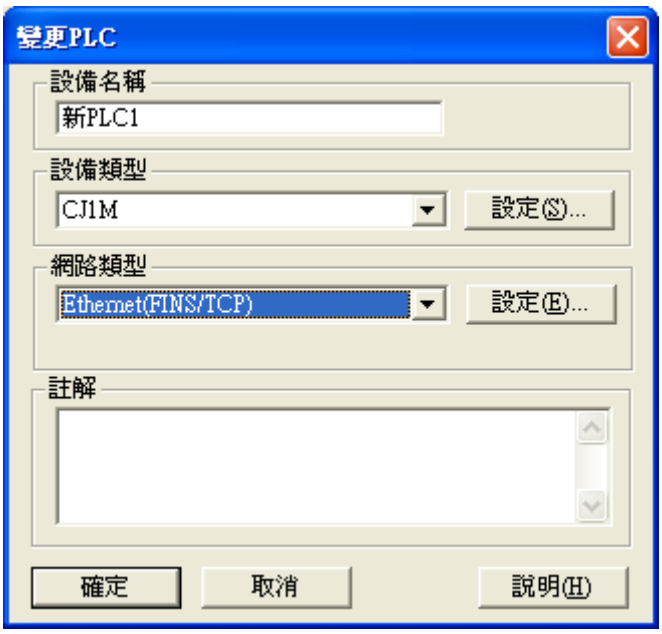
*On initialization, switch from RUN MODE to MONITOR MODE.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON CJ/CS/CP (Ethernet - FINS/TCP) | | |
| PLC I/F | Ethernet | | |
| Port no. | 9600 | | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| Communication mode | Ethernet (FINS/TCP) protocol |
|---|---|



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CIO_Bit | DDDDDdd | 0 ~ 3276715 | Channel I/O (CIO) |
| B | W_Bit | DDDDDdd | 0 ~ 3276715 | Work Area (WR) |
| B | H_Bit | DDDDDdd | 0 ~ 3276715 | Holding Area (HR) |
| B | A_Bit | DDDDDdd | 0 ~ 3276715 | Auxiliary Relay (AR) (Read only) |
| B | D_Bit | DDDDDdd | 0 ~ 3276715 | Data Memory (DM) |
| B | T_Bit | DDDDDdd | 0 ~ 3276715 | Timer (TIM) |
| B | C_Bit | DDDDDdd | 0 ~ 3276715 | Counter (CNT) |
| B | C_Flag | DDDD | 0 ~ 4095 | |
| B | T_Flag | DDDD | 0 ~ 4095 | |
| B | EM0_Bit ~ EMC_Bit | DDDDDdd | 0 ~ 3276715 | Extend Memory |
| W | CIO | DDDDD | 0 ~ 32767 | Channel I/O (CIO) |
| W | W | DDDDD | 0 ~ 32767 | Work Area (WR) |
| W | H | DDDDD | 0 ~ 32767 | Holding Area (HR) |
| W | A | DDDDD | 0 ~ 32767 | Auxiliary Relay (AR) (Read only) |
| W | C | DDDDD | 0 ~ 32767 | Counter (CNT) |
| W | T | DDDDD | 0 ~ 32767 | Timer (TIM) |
| W | D | DDDDD | 0 ~ 32767 | Data Memory (DM) |
| W | EM0 ~ EMC | DDDDD | 0 ~ 32767 | Extend Memory |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.80 | Dec/05/2012 | Added register: EM_Bit |

# OMRON E5CN/E5EZ/E5ZN

Supported Series: OMRON E5CN series temperature controller with communication options. E5EN/CN/GN/EZ/ZN series.

Website: http://oeiweb.omron.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON E5CN | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | 9600/19200/38400/ 57600/115200 | |
| Data bits | 7 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 2 | 1,2 | |
| PLC sta. no. | 0 | 0-99 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Status_CH1 | DD | 0 ~ 31 | Page40 |
| B | Status_CH2 | DD | 0 ~ 31 | |
| DW | C0 | HHHH | 0 ~ 270f | Read only (Hex) Page34 |
| DW | C1 | HHHH | 0 ~ 270f | Read/Write (Hex) Page35 |
| DW | C2 | HHHH | 0 ~ 270f | Read/Write (Hex) Page35 |
| DW | C3 | HHHH | 0 ~ 270f | Read/Write (Hex) Page36 |
| W | Code00_00 | H | 0 | Communications writing OFF (disabled) |
| W | Code00_01 | H | 0 | Communications writing ON(enabled) |
| W | Code01_00 | H | 0 | Run |
| W | Code01_01 | H | 0 | Stop |

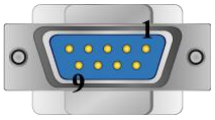
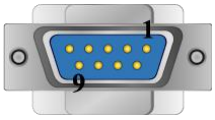
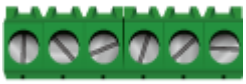
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Code02_00 | H | 0 | Multi-SP Set point 0 |
| W | Code02_01 | H | 0 | Multi-SP Set point 1 |
| W | Code02_02 | H | 0 | Multi-SP Set point 2 |
| W | Code02_03 | H | 0 | Multi-SP Set point 3 |
| W | Code03_00 | H | 0 | AT cancel |
| W | Code03_01 | H | 0 | AT execute |
| W | Code04_00 | H | 0 | Write mode (Backup) |
| W | Code04_01 | H | 0 | Write mode (Ram) |
| W | Code05_00 | H | 0 | Save RAM data |
| W | Code06_00 | H | 0 | Software reset |
| W | Code07_00 | H | 0 | Move to setup area 1 |
| W | Code08_00 | H | 0 | Move to protect level |
| W | Code01_10 | H | 0 | |
| W | Code01_11 | H | 0 | |
| W | Code01_F0 | H | 0 | |
| W | Code01_F1 | H | 0 | |
| W | Code02_10 | H | 0 | |
| W | Code02_11 | H | 0 | |
| W | Code02_F0 | H | 0 | |
| W | Code02_F1 | H | 0 | |
| W | Code03_10 | H | 0 | |
| W | Code03_11 | H | 0 | |
| W | Code03_F0 | H | 0 | |
| W | Code03_F1 | H | 0 | |
| W | Code09_00 | H | 0 | |
| W | Code09_01 | H | 0 | |
| W | Code09_10 | H | 0 | |
| W | Code09_11 | H | 0 | |
| W | Code09_F0 | H | 0 | |
| W | Code09_F1 | H | 0 | |
| W | Code0A_00 | H | 0 | |
| W | Code0B_00 | H | 0 | |
| W | Code0C_00 | H | 0 | |
| W | Code0C_01 | H | 0 | |
| W | Code0C_02 | H | 0 | |
| W | Code0C_0F | H | 0 | |
| W | Code0C_10 | H | 0 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Code0C_11 | H | 0 | |
| W | Code0C_12 | H | 0 | |
| W | Code0C_1F | H | 0 | |
| W | Code0C_F0 | H | 0 | |
| W | Code0C_F1 | H | 0 | |
| W | Code0C_F2 | H | 0 | |
| W | Code0C_FF | H | 0 | |

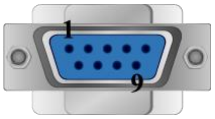
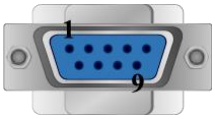
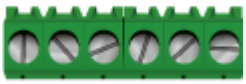
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

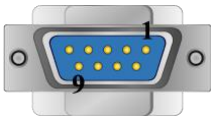
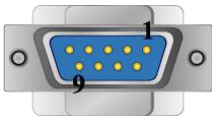
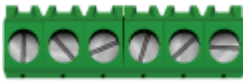
eMT3000 series

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | OMRON E5CN<br>Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 12 B |
| 2 RX+ | 9 Data+ | | 11 A |
| 5 GND | 5 GND | | GND |
|  |  | |  |

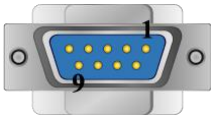
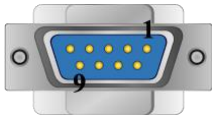
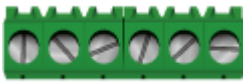
cMT/mTV series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | OMRON E5CN<br>Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 12 B |
| 6 RX+ | 1 Data+ | | 11 A |
| 5 GND | 5 GND | | GND |
|  |  | |  |

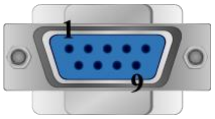
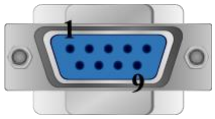
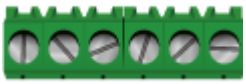
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | OMRON E5CN Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 12 B |
| 2 RX+ | 8 Data+ | | 11 A |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | OMRON E5CN Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 12 B |
| 2 RX+ | 9 Data+ | | 11 A |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | OMRON E5CN Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 12 B |
| 2 RX+ | 8 Data+ | | 11 A |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Note:

For communication with OMRON E5EZ, please set communication settings to 9600, E, 7, 2, station no. 1.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.21 | Dec/21/2010 | |

# OMRON Ethernet

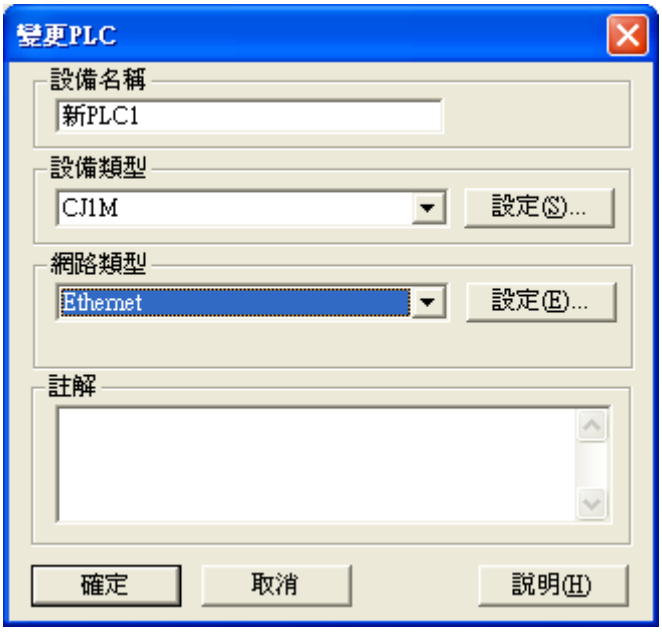
Supported Series: OMRON CJ Series, CS Series, CP Series +Ethernet Module. (Ethernet FINS)
Website: http://oeiweb.omron.com/oei/Products-PLC.htm
*On initialization, switch from RUN MODE to MONITOR MODE.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON Ethernet | | |
| PLC I/F | Ethernet (UDP) | | |
| Port no. | 9600 | | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| Communication mode | Ethernet (UDP) protocol |
|---|---|



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CIO_Bit | DDDDDdd | 0 ~ 3276715 | Channel I/O (CIO) |
| B | W_Bit | DDDDDdd | 0 ~ 3276715 | Work Area (WR) |
| B | H_Bit | DDDDDdd | 0 ~ 3276715 | Holding Area (HR) |
| B | A_Bit | DDDDDdd | 0 ~ 3276715 | Auxiliary Relay (AR) (Read only) |
| B | D_Bit | DDDDDdd | 0 ~ 3276715 | Data Memory (DM) |
| B | T_Bit | DDDDDdd | 0 ~ 3276715 | Timer (TIM) |
| B | C_Bit | DDDDDdd | 0 ~ 3276715 | Counter (CNT) |
| B | C_Flag | DDDD | 0 ~ 4095 | |
| B | T_Flag | DDDD | 0 ~ 4095 | |
| W | CIO | DDDDD | 0 ~ 32767 | Channel I/O (CIO) |
| W | W | DDDDD | 0 ~ 32767 | Work Area (WR) |
| W | H | DDDDD | 0 ~ 32767 | Holding Area (HR) |
| W | A | DDDDD | 0 ~ 32767 | Auxiliary Relay (AR) (Read only) |
| W | C | DDDDD | 0 ~ 32767 | Counter (CNT) |
| W | T | DDDDD | 0 ~ 32767 | Timer (TIM) |
| W | D | DDDDD | 0 ~ 32767 | Data Memory (DM) |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/4/2012 | Driver released. |

# OMRON Ethernet (FINS/TCP)

Supported Series: Non OMRON PLC . (Ethernet FINS)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON Ethernet (FINS/TCP) | | |
| PLC I/F | Ethernet | | |
| Port no. | 9600 | | |
| PLC sta. no. | 0 | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Ethernet (FINS/TCP) protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CIO_Bit | DDDDDdd | 0 ~ 3276715 | Channel I/O (CIO) |
| B | W_Bit | DDDDDdd | 0 ~ 3276715 | Work Area (WR) |
| B | H_Bit | DDDDDdd | 0 ~ 3276715 | Holding Area (HR) |
| B | A_Bit | DDDDDdd | 0 ~ 3276715 | Auxiliary Relay (AR) (Read only) |
| B | D_Bit | DDDDDdd | 0 ~ 3276715 | Data Memory (DM) |
| B | T_Bit | DDDDDdd | 0 ~ 3276715 | Timer (TIM) |
| B | C_Bit | DDDDDdd | 0 ~ 3276715 | Counter (CNT) |
| B | C_Flag | DDDD | 0 ~ 4095 | |
| B | T_Flag | DDDD | 0 ~ 4095 | |
| W | CIO | DDDDD | 0 ~ 32767 | Channel I/O (CIO) |
| W | W | DDDDD | 0 ~ 32767 | Work Area (WR) |
| W | H | DDDDD | 0 ~ 32767 | Holding Area (HR) |
| W | A | DDDDD | 0 ~ 32767 | Auxiliary Relay (AR) (Read only) |
| W | C | DDDDD | 0 ~ 32767 | Counter (CNT) |
| W | T | DDDDD | 0 ~ 32767 | Timer (TIM) |
| W | D | DDDDD | 0 ~ 32767 | Data Memory (DM) |
| W | EM0 ~ EMC | DDDDD | 0 ~ 32767 | Extend Memory |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/26/2011 | Driver released. |

# OMRON EtherNet/IP (NJ Series)

Supported Series: OMRON EtherNet/IP NJ Series PLC
Website: http://oeiweb.omron.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON EtherNet/IP (NJ Series) | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| PLC sta. no. | 1 | | |

| On-line simulator | Yes | Multi-HMI connect | Yes |
|---|---|---|---|

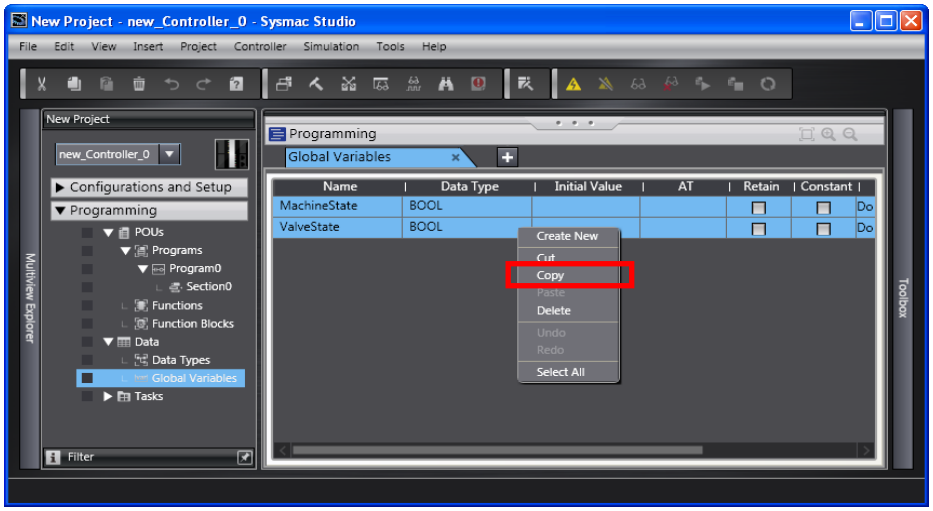
## Instructions:

Note:

1. To edit a Tag, if Struct data type is used, add the corresponding data type in Tag Editor > Struct-Defined first.
2. In Sysmac Studio, set Network Publish to Publish Only to read the Tag correctly.

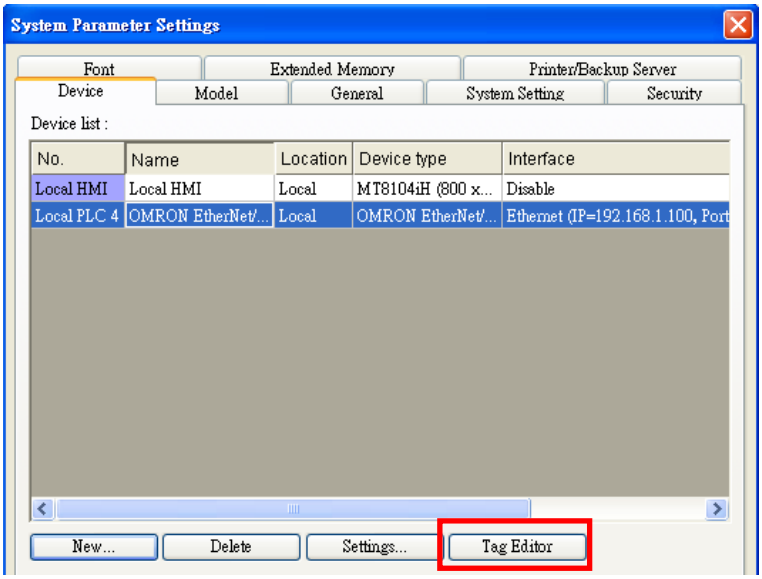
**Copy and Paste Tag in Sysmac Studio**

1 Launch Sysmac Studio, in the project select **Global Variables** and click Ctrl + C or click the right mouse button and select **Copy**.

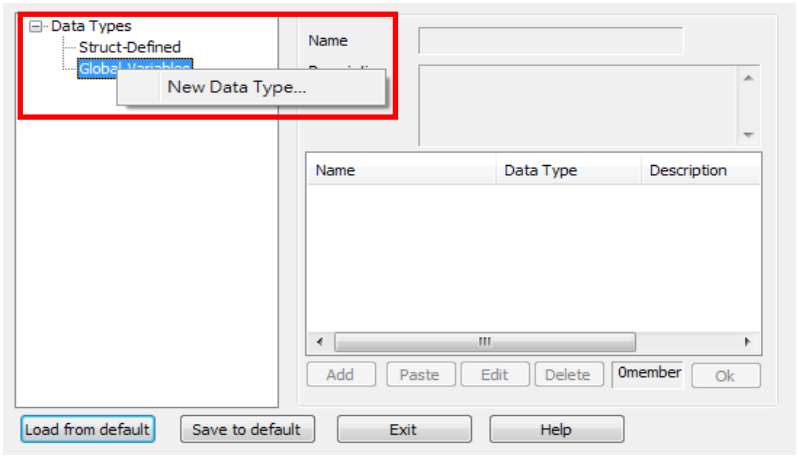



2 Launch EasyBuilder, in System Parameter Settings add **Omron EtherNet/IP (NJ series)**.

3 Click **Tag Editor**.

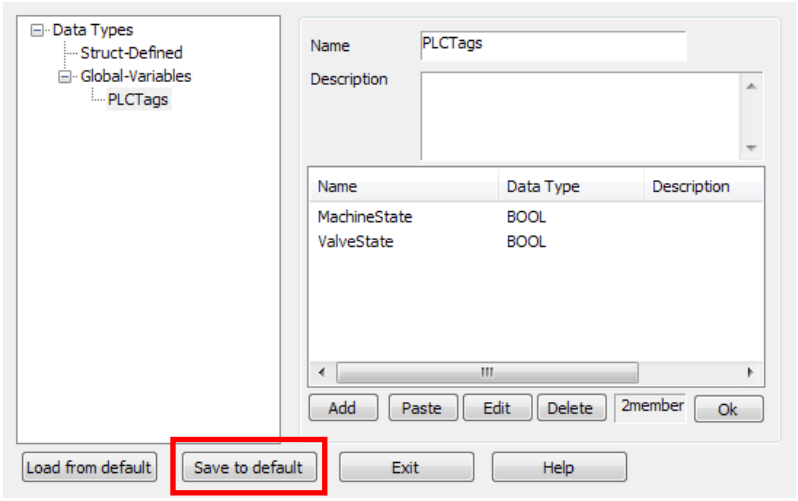



4 Right-click **Global-Variables** and select **New Data Type**. In Name box enter **PLCTags**.



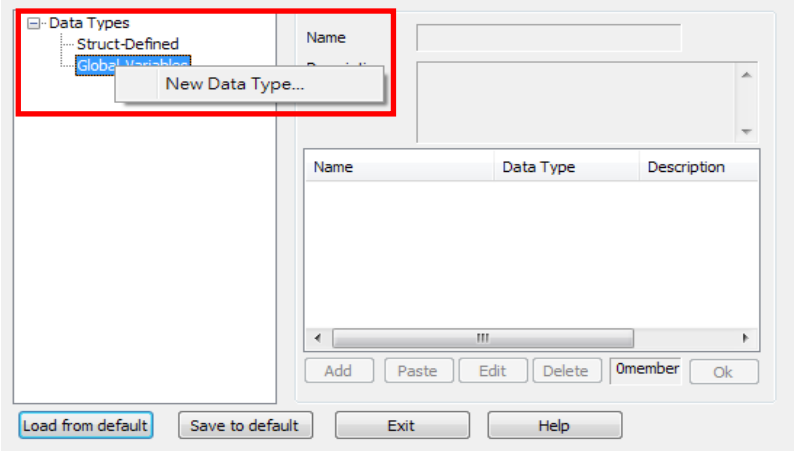

5 Click **Paste** on the dialog box and press Ctrl+V or click the right mouse button and select **Paste** and then click **OK**.

6 Click **Save to default** to save the tags.



## Edit Tag Manually

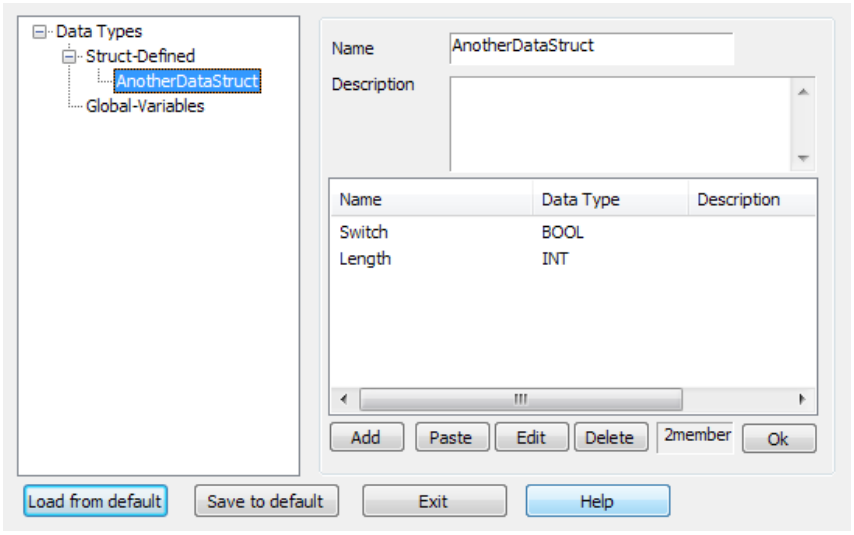
1. In EasyBuilder > System Parameter Settings, add **Omron EtherNet/IP (NJ series).**
2. Click **Tag Editor**
3. Right-click **Global-Variables** and select **New Data Type**. In Name box enter **PLCTags**.




4. Click **Add** on the dialog box and enter the Tag manually, and then click **OK**.
5. Click **Save to default** to save the tags.

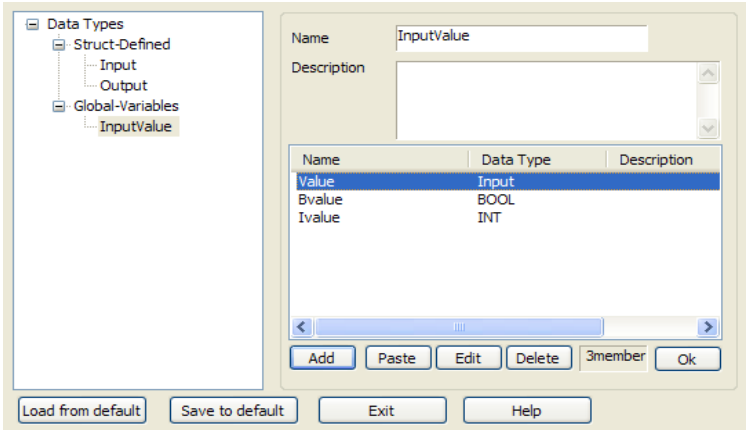
## Use Struct-Defined Data Type

1. Under **Struct-Defined** create **AnotherDataStruct** which includes two members, Switch and Length, as shown in the following figure.



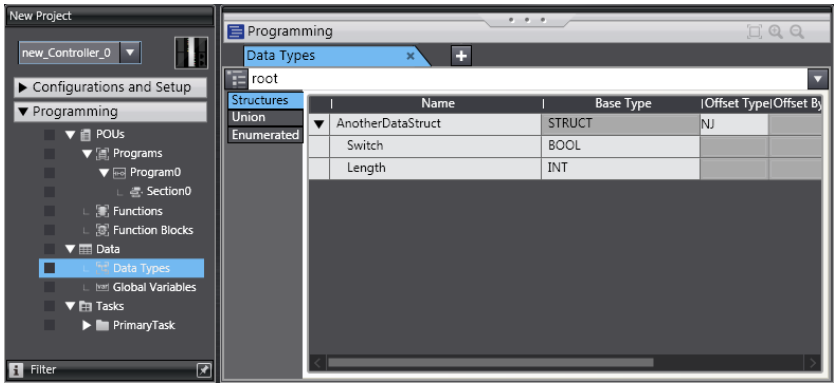

Add the members by copy and paste or enter them manually, and then click **OK**.

**2** In the Tag under Global Variables add a member, enter a name (in the example enter Value). Enter Input in Data Type. When finished, click **Save to default**.

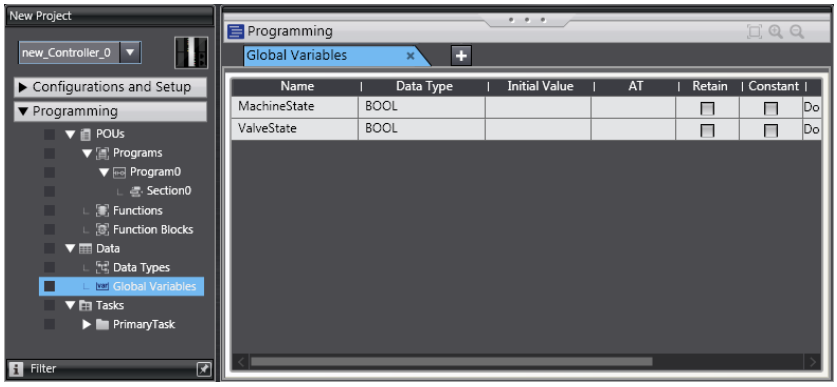



**Settings in Tag Editor**

- Address data is divided into Struct-Defined and Global-Variables.
  Struct-Defined defines the Struct data type used in Global-Variables. Go to Sysmac Studio > Programming > Data > Data Types > Structures as shown in the following figure.




  Global-Variables maps to Omron Sysmac Studio > Programming > Data > Global Variables, as shown in the following figure.




- The supported data types: BOOL, SINT, BYTE, USINT, INT, WORD, UINT, DINT, REAL, UDINT, DWORD. The listed data types support one-dimensional array.

## Support Device Type:

| S7-1200 data type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Byte | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| SInt | 16-bit BCD, Hex, Binary, Signed | 8-bit |
| USInt | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| Array | Word array for ASCII input and ASCII display | Length=word |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/14/2012 | Driver released. |

# OMRON Host Link

Supported Series: OMRON C, CPM, CPL, CQM Series (Host Link Protocol)
Website: http://oeiweb.omron.com/oei/Products-PLC.htm

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OMRON Host Link | | |
| PLC I/F | RS232 | RS232, RS422, RS485 | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 7 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 2 | 1 or 2 | |
| PLC sta. no. | 0 | 0-31 | Host Link Station No. |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Host Link Protocol |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IR | DDDDdd | 0 ~ 409515 | I/O and Internal Relay |
| B | HR | DDDDdd | 0 ~ 409515 | Hold Relay |
| B | LR | DDDDdd | 0 ~ 409515 | Link Relay |
| B | IR (Force Set/Reset) | DDDDdd | 0 ~ 409515 | |
| B | HR (Force Set/Reset) | DDDDdd | 0 ~ 409515 | |
| B | LR (Force Set/Reset) | DDDDdd | 0 ~ 409515 | |
| B | AR | DDDDdd | 0 ~ 409515 | Auxiliary Relay |
| W | AR_W | DDDD | 0 ~ 4095 | |
| W | IR_W | DDDD | 0 ~ 4095 | |
| W | HR_W | DDDD | 0 ~ 4095 | |
| W | LR_W | DDDD | 0 ~ 4095 | |
| W | TC | DDD | 0 ~ 255 | |
| W | DM | DDDD | 0 ~ 9999 | Data Register |

## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

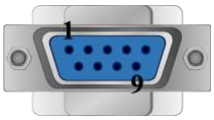
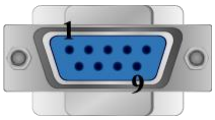
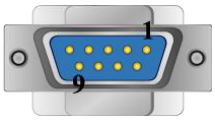
CPU Port (CPM2A,CQM1/1H,C200H/HS/ALPHA series)

Communication Module:

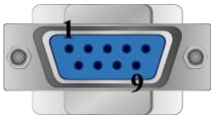
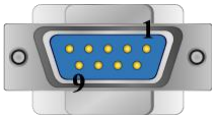
CPM1-CIF01 adapter (for CPM1/CPM1A/CPM2A series, CQM1/CQM1H series)

CPM1H-SCB41 communication module (for CQM1H-CPU51/61)

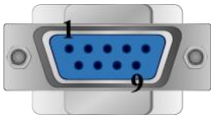
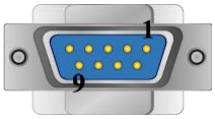
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 SD | |
| 3 TX | 7 TX | | 3 RD | |
| 5 GND | 5 GND | | 9 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  |  | |  | |

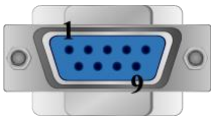
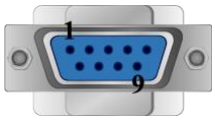
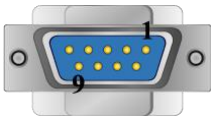
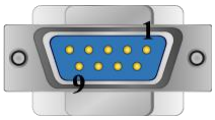
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

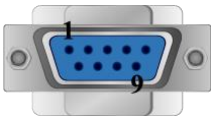
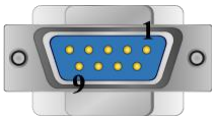
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS<br>5 CS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 SD | |
| 3 TX | 4 TX | 7 TX | 3 RD | |
| 5 GND | 5 GND | 5 GND | 9 GND | |
| | | | 4 RS<br>5 CS | short |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

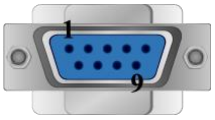
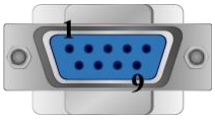
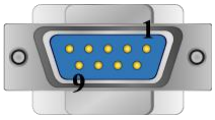
| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 SD | |
| 6 TX | | | 3 RD | |
| 5 GND | | | 9 GND | |
| | | | 4 RS<br>5 CS | short |
|  | | |  | |

**The following is the view from the soldering point of a cable.**

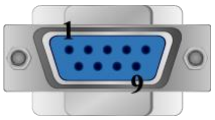
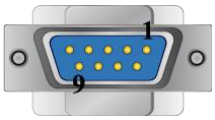
C200h-LK201,3G2A6-LK201 communication module

C200HW-COM02/03/04/05/06 communication module

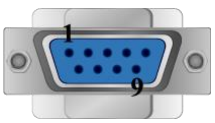
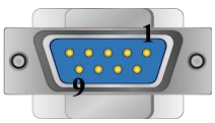
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 SD | |
| 3 TX | 7 TX | | 3 RD | |
| 5 GND | 5 GND | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  |  | |  | |

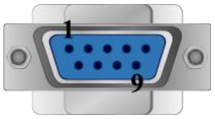
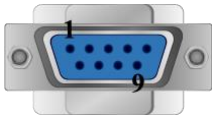
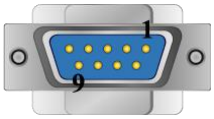
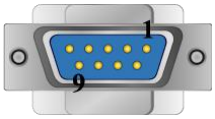
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

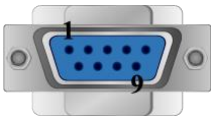
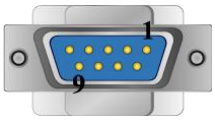
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 SD | |
| 3 TX | | | 3 RD | |
| 5 GND | | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 SD | |
| 3 TX | 4 TX | 7 TX | 3 RD | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 SD | |
| 6 TX | | | 3 RD | |
| 5 GND | | | 7 GND | |
| | | | 4 RS | short |
| | | | 5 CS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | OCT/21/2010 | |

# OuHua OHJX

Website: http://www.ohjx.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | OuHua OHJX | | |
| PLC I/F | RS-232 | | |
| Baud rate | 9600 | 9600,19200 | |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

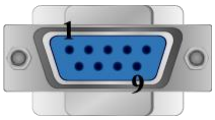
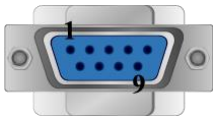
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | R100 | Dh | 0 ~ 1f | |
| B | R101 | Dh | 0 ~ 1f | |
| B | R102 | Dh | 0 ~ 1f | |
| B | R103 | Dh | 0 ~ 1f | |
| B | R104 | Dh | 0 ~ 1f | |
| B | R105 | Dh | 0 ~ 1f | |
| B | R106 | Dh | 0 ~ 1f | |
| B | R107 | Dh | 0 ~ 1f | |
| B | R108 | Dh | 0 ~ 1f | |
| B | R109 | Dh | 0 ~ 1f | |
| B | R110 | Dh | 0 ~ 1f | |
| B | R210 | Dh | 0 ~ 1f | |
| B | R310 | Dh | 0 ~ 1f | |
| W | SV | DDDD | 0 ~ 9999 | |
| W | EV | DDDDD | 0 ~ 65535 | |
| W | DT | DDDDD | 0 ~ 9999 | |
| W | LD | DDDD | 0 ~ 8447 | |
| W | WX | DDDD | 0 ~ 9999 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | WY | DDDD | 0 ~ 9999 | |
| W | WR | DDDD | 0 ~ 9999 | |
| W | WL | DDDD | 0 ~ 9999 | |
| W | FL | DDDDD | 0 ~ 99999 | |

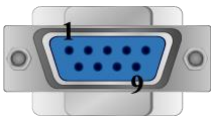
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

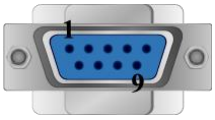
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | 4P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TX | |
| 3 TX | 7 TX | | 2 RX | |
| 5 GND | 5 GND | | 1 GND | short |
| | | | 4 GND | |
|  |  | |  | |

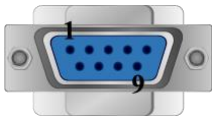
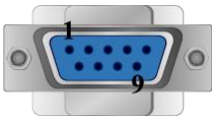
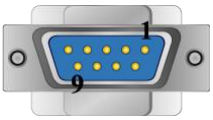
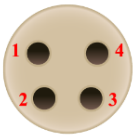
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | 4P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TX | |
| 3 TX | | | 2 RX | |
| 5 GND | | | 1 GND | short |
| | | | 4 GND | |
|  | | |  | |

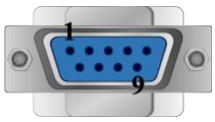
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | 4P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 3 TX | |
| 3 TX | | | 2 RX | |
| 5 GND | | | 1 GND | short |
| | | | 4 GND | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | 4P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX | |
| 3 TX | 4 TX | 7 TX | 2 RX | |
| 5 GND | 5 GND | 5 GND | 1 GND | short |
| | | | 4 GND | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | 4P Mini-DIN Female socket | |
|---|---|---|---|---|
| 9 RX | | | 3 TX | |
| 6 TX | | | 2 RX | |
| 5 GND | | | 1 GND | short |
| | | | 4 GND | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/22/2011 | Driver released. |

# Panasonic FP

Supported Series: NAIS (Matsushita) FP series include FP-X, FP-Σ, FP0, FP1, FP2, FP2SH, FP10SH and FP3 Ethernet support FP-X with AFPX-COM5.
Website:http://pewa.panasonic.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Panasonic FP | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 9600 | 9600, 19200, 38400, | |
| Data bits | 8 | 7 or 8 | |
| Parity | Odd | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 1 | 0-255 | Must match the PLC port setting.<br>FP3 must set to 0. |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDh | 0 ~ 9999f | Input (X) |
| B | Y | DDDDh | 0 ~ 9999f | Output (Y) |
| B | R | DDDDh | 0 ~ 9999f | Internal Relay (R) |
| B | L | DDDD | 0 ~ 9999 | Link Relay (L) |
| B | L_Bit | DDDDh | 0 ~ 9999f | |
| B | T | DDDD | 0 ~ 9999 | Timer (T) |
| B | C | DDDD | 0 ~ 9999 | Counter (C) |
| W | SV | DDDD | 0 ~ 9999 | Timer/Counter Set Value (SV) |
| W | EV | DDDDD | 0 ~ 65535 | Timer/Counter Elapse Value (EV) |
| W | DT | DDDDD | 0 ~ 99999 | Data Register (DT) |
| W | LD | DDDD | 0 ~ 8447 | Link Register (LD) |
| W | WX | DDDD | 0 ~ 9999 | Input (WX) (read only) |
| W | WY | DDDD | 0 ~ 9999 | Output (WY) |
| W | WR | DDDD | 0 ~ 9999 | Internal Relay (WR) |

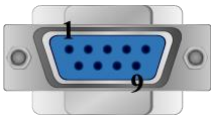
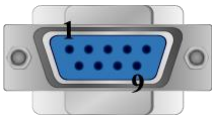
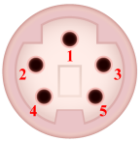
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | WL | DDDD | 0 ~ 9999 | Link Relay (WL) |
| W | FL | DDDDD | 0 ~ 99999 | File Register (FL) |

## Wiring Diagram:

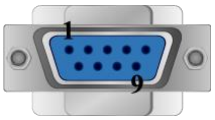
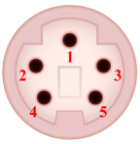
**The following is the view from the soldering point of a cable.**

FP0, FP2, FP2SH, FPM CPU : 9P D-Sub to 5P Mini-DIN

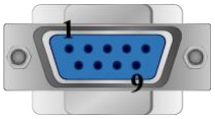
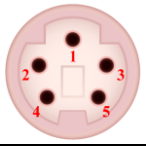
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 5P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

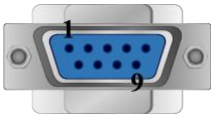
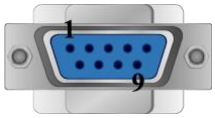
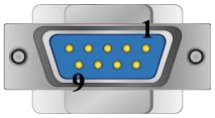
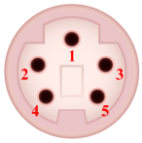
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 5P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

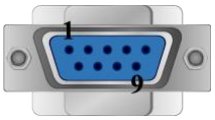
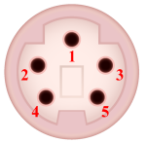
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 5P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 5P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 1 GND |
|  |  |  |  |

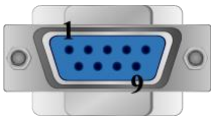
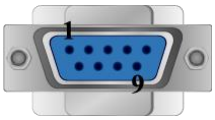
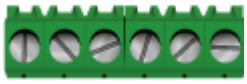
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 5P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 2 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

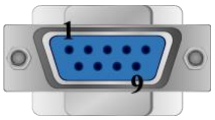
**The following is the view from the soldering point of a cable.**

FP0 CPU : 9P D-Sub to 3P Terminal:

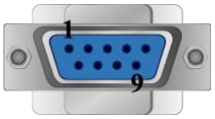
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 3P Terminal |
|---|---|---|---|
| 2 RX | 8 RX | | S |
| 3 TX | 7 TX | | R |
| 5 GND | 5 GND | | G |
|  |  | |  |

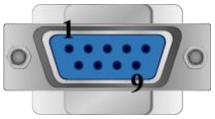
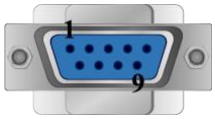
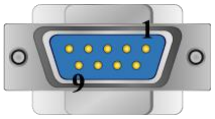
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 3P Terminal |
|---|---|---|---|
| 2 RX | | | S |
| 3 TX | | | R |
| 5 GND | | | G |
|  | | |  |

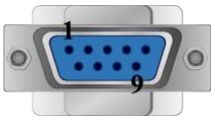
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 3P Terminal |
|---|---|---|---|
| 2 RX | | | S |
| 3 TX | | | R |
| 5 GND | | | G |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

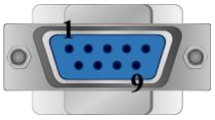
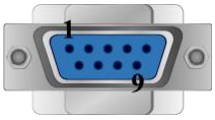
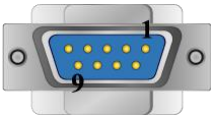
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 3P Terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | S |
| 3 TX | 4 TX | 7 TX | R |
| 5 GND | 5 GND | 5 GND | G |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

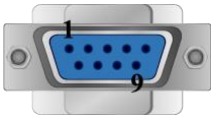
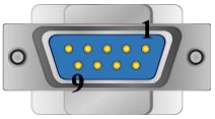
| COM1 RS232 9P D-Sub Female | | | RS232 3P Terminal |
|---|---|---|---|
| 9 RX | | | S |
| 6 TX | | | R |
| 5 GND | | | G |
|  | | |  |

**The following is the view from the soldering point of a cable.**

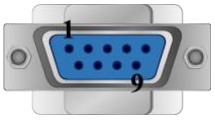
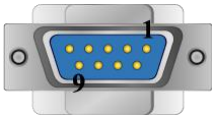
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 8 CD | short |
| | | | 9 ER | |
|  |  | |  | |

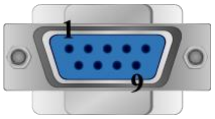
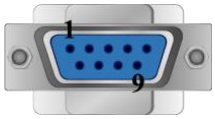
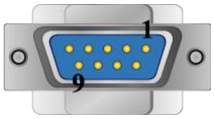
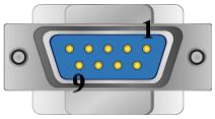
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 8 CD | short |
| | | | 9 ER | |
|  | | |  | |

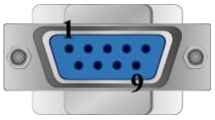
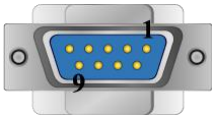
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 8 CD | short |
| | | | 9 ER | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 8 CD | short |
| | | | 9 ER | |
|  |  |  |  | |

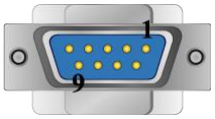
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TXD | |
| 6 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 8 CD | short |
| | | | 9 ER | |
|  | | |  | |

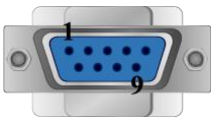
**The following is the view from the soldering point of a cable.**

FP1 CPU : 9P D-Sub to 8P MiniDIN

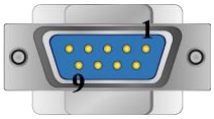
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P Hirose Female socket |
|---|---|---|---|
| 1 RX- | | | 2 TXDA |
| 2 RX+ | | | 5 TXDB |
| 3 TX- | | | 3 RXDA |
| 4 TX+ | | | 6 RXDB |
| 5 GND | | | 1 GND |
|  | | |  |

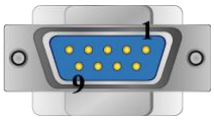
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 8P Hirose Female socket |
|---|---|---|---|
| 7 RX- | | | 2 TXDA |
| 6 RX+ | | | 5 TXDB |
| 9 TX- | | | 3 RXDA |
| 8 TX+ | | | 6 RXDB |
| 5 GND | | | 1 GND |
|  | | |  |

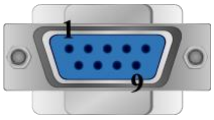
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P Hirose Female socket |
|---|---|---|---|
| 1 RX- | | | 2 TXDA |
| 2 RX+ | | | 5 TXDB |
| 3 TX- | | | 3 RXDA |
| 4 TX+ | | | 6 RXDB |
| 5 GND | | | 1 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P Hirose Male |
|---|---|---|---|
| 1 RX- | | | 2 TXDA |
| 2 RX+ | | | 5 TXDB |
| 3 TX- | | | 3 RXDA |
| 4 TX+ | | | 6 RXDB |
| 5 GND | | | 1 GND |
|  | | |  |

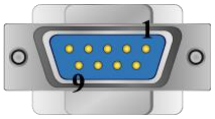
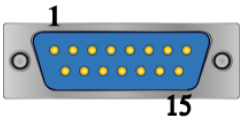
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 8P Hirose Male |
|---|---|---|---|
| 1 RX- | | | 2 TXDA |
| 2 RX+ | | | 5 TXDB |
| 3 TX- | | | 3 RXDA |
| 4 TX+ | | | 6 RXDB |
| 5 GND | | | 1 GND |
|  | | |  |

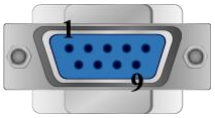
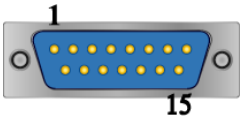
**The following is the view from the soldering point of a cable.**

FP3 CPU : 9P D-Sub to 15P D-Sub

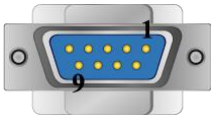
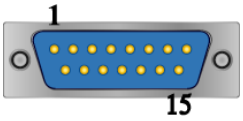
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 9 TXDA | |
| 2 RX+ | | | 2 TXDB | |
| 3 TX- | | | 10 RXDA | |
| 4 TX+ | | | 3 RXDB | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS+ | short |
| | | | 5 CTS+ | |
| | | | 11 RTS- | short |
| | | | 12 CTS- | |
|  | | |  | |

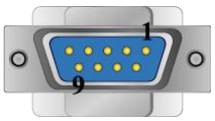
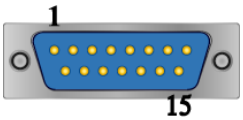
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 9 TXDA | |
| 6 RX+ | | | 2 TXDB | |
| 9 TX- | | | 10 RXDA | |
| 8 TX+ | | | 3 RXDB | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS+ | short |
| | | | 5 CTS+ | |
| | | | 11 RTS- | short |
| | | | 12 CTS- | |
|  | | |  | |

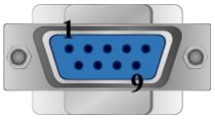
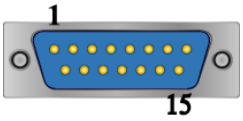
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 9 TXDA | |
| 2 RX+ | | | 2 TXDB | |
| 3 TX- | | | 10 RXDA | |
| 4 TX+ | | | 3 RXDB | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS+ | short |
| | | | 5 CTS+ | |
| | | | 11 RTS- | short |
| | | | 12 CTS- | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 9 TXDA | |
| 2 RX+ | | | 2 TXDB | |
| 3 TX- | | | 10 RXDA | |
| 4 TX+ | | | 3 RXDB | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS+ | short |
| | | | 5 CTS+ | |
| | | | 11 RTS- | short |
| | | | 12 CTS- | |
|  | | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 9 TXDA | |
| 2 RX+ | | | 2 TXDB | |
| 3 TX- | | | 10 RXDA | |
| 4 TX+ | | | 3 RXDB | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS+ | short |
| | | | 5 CTS+ | |
| | | | 11 RTS- | short |
| | | | 12 CTS- | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.80 | Apr/09/2010 | Added registers: FL |

# Panasonic FP (Ethernet)

Supported Series: NAIS (Matsushita) FP series include FP-X, FP-Σ, FP0, FP1, FP2, FP2SH, FP10SH and FP3 Ethernet support FP-X with AFPX-COM5.

Website: http://pewa.panasonic.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Panasonic FP (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 9094 | | |
| PLC sta. no. | 1 | 0~255 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDh | 0 ~ 9999f | Input (X) |
| B | Y | DDDDh | 0 ~ 9999f | Output (Y) |
| B | R | DDDDh | 0 ~ 9999f | Internal Relay (R) |
| B | L | DDDD | 0 ~ 9999 | Link Relay (L) |
| B | L_Bit | DDDDh | 0 ~ 9999f | |
| B | T | DDDD | 0 ~ 9999 | Timer (T) |
| B | C | DDDD | 0 ~ 9999 | Counter (C) |
| W | SV | DDDD | 0 ~ 9999 | Timer/Counter Set Value (SV) |
| W | EV | DDDDD | 0 ~ 65535 | Timer/Counter Elapse Value (EV) |
| W | DT | DDDDD | 0 ~ 99999 | Data Register (DT) |
| W | LD | DDDD | 0 ~ 8447 | Link Register (LD) |
| W | WX | DDDD | 0 ~ 9999 | Input (WX) (read only) |
| W | WY | DDDD | 0 ~ 9999 | Output (WY) |
| W | WR | DDDD | 0 ~ 9999 | Internal Relay (WR) |
| W | WL | DDDD | 0 ~ 9999 | Link Relay (WL) |
| W | FL | DDDDD | 0 ~ 99999 | File Register (FL) |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |

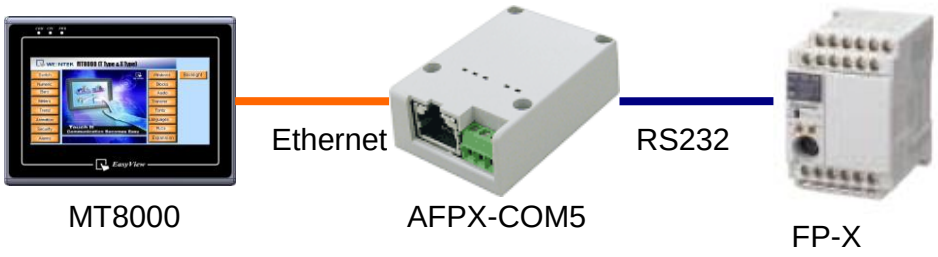



Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Ethernet Connection TCP Port: 9094



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.80 | Apr/12/2010 | |

# Panasonic FP2 (Ethernet)

Supported Series: NAIS (Matsushita) FP2 series include FP2, FP2SH, and FP10SH CPU.

Website: http://pewa.panasonic.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Panasonic FP2 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 8500 | | |
| PLC sta. no. | 2 | 0~255 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDh | 0 ~ 9999f | Input (X) |
| B | Y | DDDDh | 0 ~ 9999f | Output (Y) |
| B | R | DDDDh | 0 ~ 9999f | Internal Relay (R) |
| B | L | DDDD | 0 ~ 9999 | Link Relay (L) |
| B | L_Bit | DDDDh | 0 ~ 9999f | |
| B | T | DDDD | 0 ~ 9999 | Timer (T) |
| B | C | DDDD | 0 ~ 9999 | Counter (C) |
| W | SV | DDDD | 0 ~ 9999 | Timer/Counter Set Value (SV) |
| W | EV | DDDDD | 0 ~ 65535 | Timer/Counter Elapse Value (EV) |
| W | DT | DDDDD | 0 ~ 99999 | Data Register (DT) |
| W | LD | DDDD | 0 ~ 8447 | Link Register (LD) |
| W | WX | DDDD | 0 ~ 9999 | Input (WX) (read only) |
| W | WY | DDDD | 0 ~ 9999 | Output (WY) |
| W | WR | DDDD | 0 ~ 9999 | Internal Relay (WR) |
| W | WL | DDDD | 0 ~ 9999 | Link Relay (WL) |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/11/2010 | Driver released. |

# Panasonic MINAS A4

Supported Series: Panasonic MINAS A4 series Servo Drive.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Panasonic MINAS A4 | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 2400 ~ 57600 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| Axis no. | 0 (master station only) | 0 ~ F (slave) | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Command 20 | D | 0 ~ 7 | States (Note 3) |
| B | Command 27 | DD | 0 ~ 31 | Input Signal (Note 3) |
| B | Command 28 | DD | 0 ~ 31 | Output Signal (Note 3) |
| W | Command 01 | D | 0 | CPU Version (Numeric format:16-bit Hex) |
| W | Command 05 | DD | 0 ~ 11 | Driver Version (ASCII / 12 words) |
| W | Command 06 | DD | 0 ~ 11 | Motor Version (ASCII / 12 words) |
| W | Command 21 | D | 0 ~ 1 | command pulse counter (Numeric format: 32-bit Signed) |
| W | Command 22 | D | 0 ~ 1 | feedback pulse counter (Numeric format: 32-bit Signed) |
| W | Command 24 | D | 0 | present speed (Numeric format: 16-bit Unsigned) |
| W | Command 25 | D | 0 | present torque (Numeric format: 16-bit Unsigned) |
| W | Command 26 | D | 0 ~ 1 | present deviation counter (Numeric format: 32-bit Signed) |
| W | Command 84 | D | 0 | write parameter to EEPROM (Note 1) |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Command 90 | D | 0 | present Alarm Data (Numeric format: 16-bit Unsigned) |
| W | Command 91 | DD | 1 ~ 14 | Alarm History (Note 4) (Numeric format: 16-bit Unsigned) |
| W | Command 92 | DD | 1 ~ 14 | Batch Alarm (Note 4) (Numeric format: 16-bit Unsigned) |
| W | Command 93 | D | 0 | clear Alarm History (include EEPROM) (Note 1) |
| W | Command 94 | D | 0 | Alarm Clear (Note 1) |
| W | Command 9B | D | 0 | Absolute Clear (Note 1) |
| W | Parameter | HH | 0 ~ 7f | Individual Parameter (range: 0x00 ~ 0x7F) (Note 2) |
| W | Comm2D_S | D | 0 ~ 1 | Command 2D Signle turn data (Numeric format: 32-bit Signed) |
| W | Comm2D_M | D | 0 ~ 1 | Command 2D Multi-turn data (Numeric format: 32-bit Signed) |

## Note:

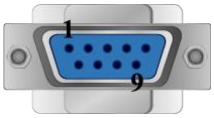
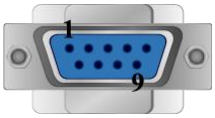
1. Command 84, Command 93, Command 94, and Command 9B are write only. (These commands are able to use Set Bit Object and execute the write command after triggering Set Bit Object.). Commands other than these four are read only.
2. Parameter read/write: Use device type to define address control from 00~7F.
   For example: “address_00” is mapping to “Parameter_00”.
   (Please refer to Panasonic MINAS A4 Series User Manual.)
3. Device address type can define MINAS A4 Driver’s command list.
   Command 20, Command 27, and Command 28 are Bit type, use “Operating range” to map communication order status.
   For example: “Command 20_3” means “Read state_CCW”.
   (Please refer to Panasonic MINAS A4 Series User Manual.)
4. Command 91 and Command 92 are word type, use “Operating range” to map the record of 14 alarms.
   For example: “Command 91_1” means “Read alarm data_First alarm”.

## Wiring Diagram:

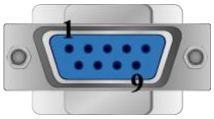
**The following is the view from the soldering point of a cable.**

MINAS A4 Driver CNX4 Port

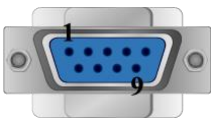
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 5 RXD |
| 5 GND | 5 GND | | 4 GND |
|  |  | |  |

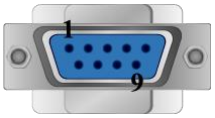
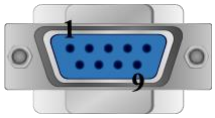
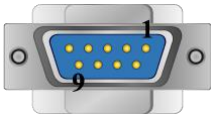
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

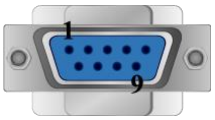
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 5 RXD |
| 5 GND | 5 GND | 5 GND | 4 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 5 RXD |
| 5 GND | | | 4 GND |
|  | | |  |

| | MINAS A4 Driver CNX3 Port | MINAS A4 Driver CNX4 Port |
|---|---|---|
| | | 3 TX |
| | | 5 RX |
| | 4 GND | 4 GND |
| | 7 D- | 7 D- |
| | 8 D+ | 8 D+ |



8P Mini-Din Male
MINAS A4 Driver
CNX3 / CNX4 Port

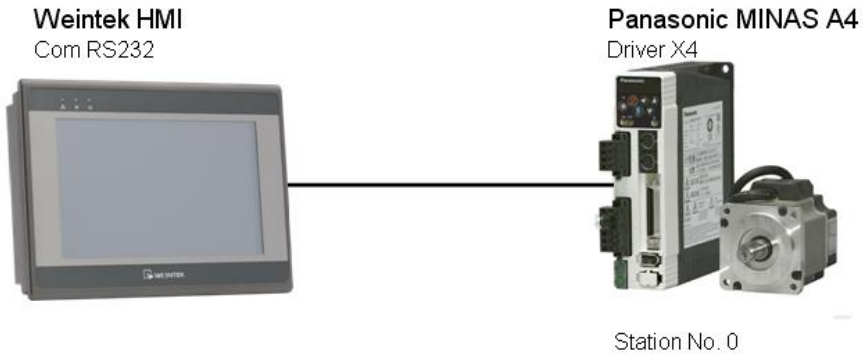
RS485 cable / DVOP1970-005

| MINAS A4 Driver 8p Mini-DIN Male | | MINAS A4 Driver 8p Mini-DIN Male |
|---|---|---|
| 7 D- | | 7 D- |
| 8 D+ | | 8 D+ |
| 4 GND | | 4 GND |

RS232 cable / DVOP1960

| MINAS A4 Driver 9P D-SUB Female | | MINAS A4 Driver 8p Mini-DIN Male |
|---|---|---|
| 3 RXD | | 5 RXD |
| 2 TXD | | 3 TXD |
| 5 GND | | 4 GND |

HMI connect with one Device




HMI connect with multi devices




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jan/11/2010 | |
| V1.20 | Jul/25/2012 | Added registers：Comm2D_S and Comm2D_M. |

# Panasonic MINAS A5

Supported Series: Panasonic MINAS A5 series Servo Drive.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Panasonic MINAS A5 | | |
| PLC I/F | RS232 | RS232/RS485 2W | |
| Baud rate | 9600 | 2400~115200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| Axis no. | 0 (master station only) | 0 ~ 127 (slave) | |

* When connecting with more than two devices, it is recommended to set timeout to more than 4 seconds. Set a longer timeout when connecting with more devices to maintain good communication.

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Command 20 | D | 0 ~ 7 | States (Note 3) |
| B | Command 27 | DD | 0 ~ 31 | Input Signal (Note 3) |
| B | Command 28 | DD | 0 ~ 31 | Output Signal (Note 3) |
| W | Command 01 | D | 0 | CPU Version (Numeric format:16-bit Hex) |
| W | Command 05 | DD | 0 ~ 11 | Driver Version (ASCII / 12 words) |
| W | Command 06 | DD | 0 ~ 11 | Motor Version (ASCII / 12 words) |
| W | Command 21 | D | 0 ~ 1 | command pulse counter (Numeric format: 32-bit Signed) |
| W | Command 22 | D | 0 ~ 1 | feedback pulse counter (Numeric format: 32-bit Signed) |
| W | Command 24 | D | 0 | present speed (Numeric format: 16-bit Unsigned) |
| W | Command 25 | D | 0 | present torque (Numeric format: 16-bit Unsigned) |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Command 26 | D | 0 ~ 1 | present deviation counter (Numeric format: 32-bit Signed) |
| W | Command2D_S | D | 0 ~ 1 | Command 2D Signle turn data (Numeric format: 32-bit Signed) |
| W | Command2D_M | D | 0 ~ 1 | Command 2D Multi-turn data (Numeric format: 32-bit Signed) |
| W | Parameter | HHH | 0 ~ 639 | Individual Parameter (range: 0x000 ~ 0x639) (Note 2) |
| W | Command 72 | D | 0 | write parameter to EEPROM (Note 1) |
| W | Command 90 | D | 0 | present Alarm Data (Numeric format: 16-bit Unsigned) |
| W | Command 92 | DD | 1 ~ 14 | Batch Alarm (Note 4) (Numeric format: 16-bit Unsigned) |
| W | Command 93 | D | 0 | clear Alarm History (include EEPROM) (Note 1) |
| W | Command 94 | D | 0 | Alarm Clear (Note 1) |
| W | Command 9B | D | 0 | Absolute Clear (Note 1) |

## Note:

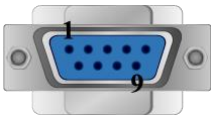
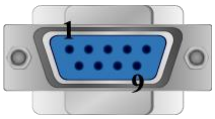
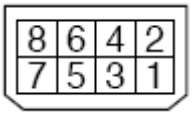
1. Command 72, Command 93, Command 94, and Command 9B are write only. (These commands are able to use Set Bit Object and execute the write command after triggering Set Bit Object.). Commands other than these four are read only.
2. Parameter read/write: Use device type to define address control from 000~639.
   For example: “address_000” is mapping to “Parameter_000”.
   (Please refer to Panasonic MINAS A5 Series User Manual.)
3. Device address type can define MINAS A5 Driver’s command list.
   Command 20, Command 27, and Command 28 are Bit type, use “Operating range” to map communication order status.
   For example: “Command 20_3” means “Read state_CCW”.
   (Please refer to Panasonic MINAS A5 Series User Manual.)
4. Command 92 are word type, use “Operating range” to map the record of 14 alarms.

## Wiring Diagram:

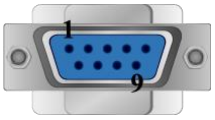
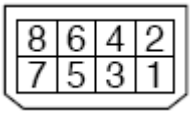
**The following is the view from the soldering point of a cable.**

MINAS A5 Driver X2 Port RS232 Signal

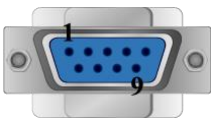
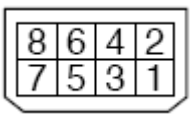
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Connector |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

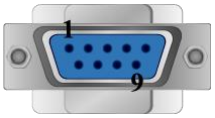
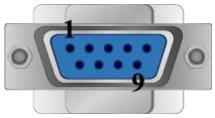
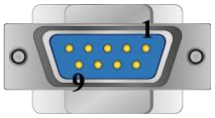
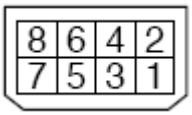
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Connector |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

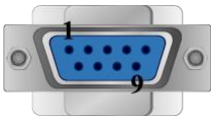
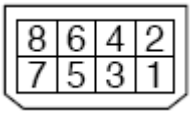
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Connector |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Connector |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 1 GND |
|  |  |  |  |

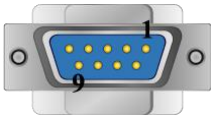
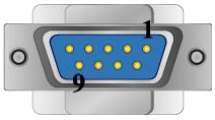
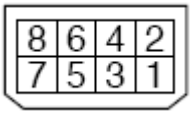
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Connector |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 1 GND |
|  | | |  |

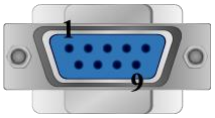
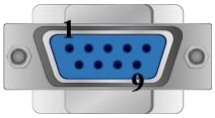
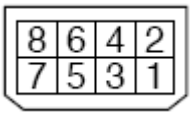
**The following is the view from the soldering point of a cable.**

MINAS A5 Driver X2 Port RS485 Signal

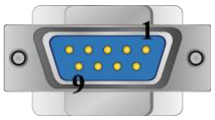
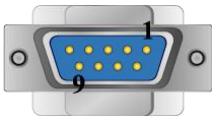
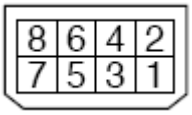
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Connector |
|---|---|---|---|
| 1 RX- | 6 Data- | | 5,7 485- |
| 2 RX+ | 9 Data+ | | 6,8 485+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

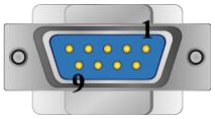
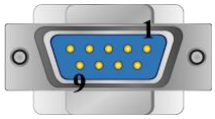
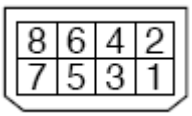
cMT/mTV series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W 8P<br>Connector |
|---|---|---|---|
| 7 RX- | 4 Data- | | 5,7 485- |
| 6 RX+ | 1 Data+ | | 6,8 485+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

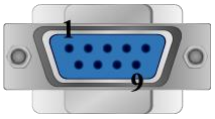
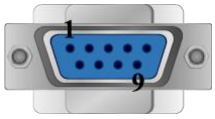
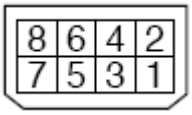
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W 8P<br>Connector |
|---|---|---|---|
| 1 RX- | 7 Data- | | 5,7 485- |
| 2 RX+ | 8 Data+ | | 6,8 485+ |
| 5 GND | 9 GND | | 1 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W 8P<br>Connector |
|---|---|---|---|
| 1 RX- | 6 Data- | | 5,7 485- |
| 2 RX+ | 9 Data+ | | 6,8 485+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W 8P<br>Connector |
|---|---|---|---|
| 1 RX- | 7 Data- | | 5,7 485- |
| 2 RX+ | 8 Data+ | | 6,8 485+ |
| 5 GND | 5 GND | | 1 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/23/2012 | Driver released. |
| V1.10 | Jul/13/2013 | Added registers：Comm2D_S and Comm2D_M. |
| V1.20 | Mar/10/2014 | Fixed th problem where RS485 cannot communicate. |

# Parker ACR9000

Supported Series: Parker ACR9000.

Website: http://www.parkermotion.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Parker ACR9000 | | |
| PLC I/F | RS232 | RS485 4W / RS232 | |
| Baud rate | 38400 | 1200 - 38400 | |
| Data bits | 8 | 7,8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 0 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | |

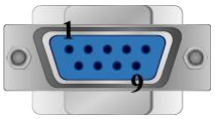
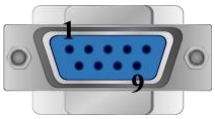
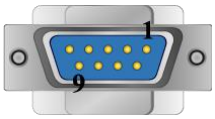
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | P_Low16bit | DDDDDdd | 0 ~ 9999915 | |
| B | P_High16bit | DDDDDdd | 0 ~ 9999915 | |
| W | P_Int32 | DDDDD | 0 ~ 99999 | |
| W | P_Float | DDDDD | 0 ~ 99999 | |

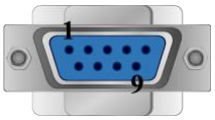
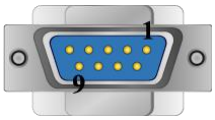
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

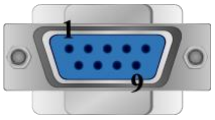
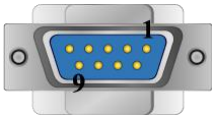
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Parker AC9000 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

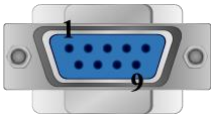
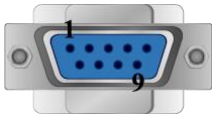
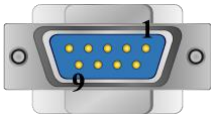
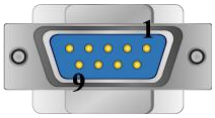
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Parker AC9000 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

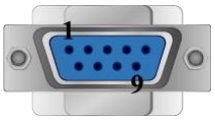
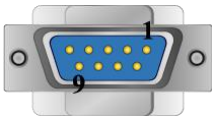
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Parker AC9000 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Parker AC9000 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Parker AC9000 RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/30/2008 | Driver released. |

# Parker Compax3

Supported Series: Parker Compax3 Servo Drive.

Website: http://www.parker.com

## HMI Setting:

### RS232

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Parker Compax3 | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | | |
| Data bits | 8 | 7 or 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | 0 | Must be 0 for RS232 |

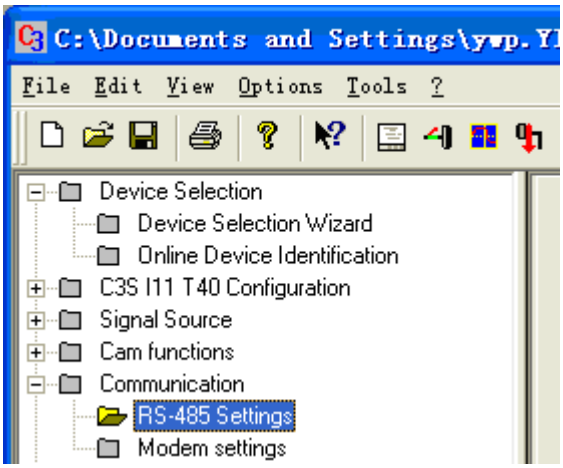
### RS485

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Parker Compax3 | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | 7 or 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 1 | 1-99 | Range from 1 to 99 for RS485, according to the PLC setting. |

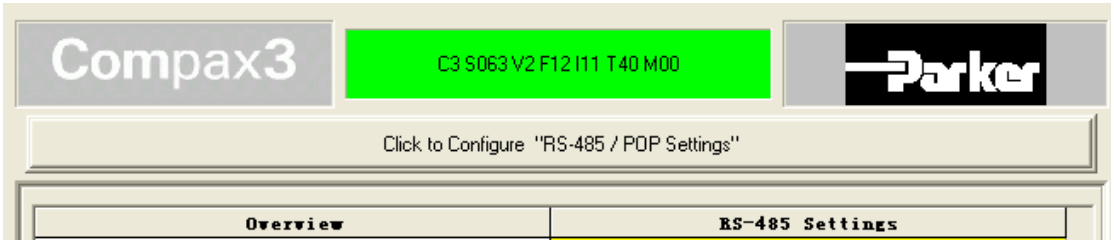
# PLC Setting:

How to set Compax 3 servo to RS485 mode?

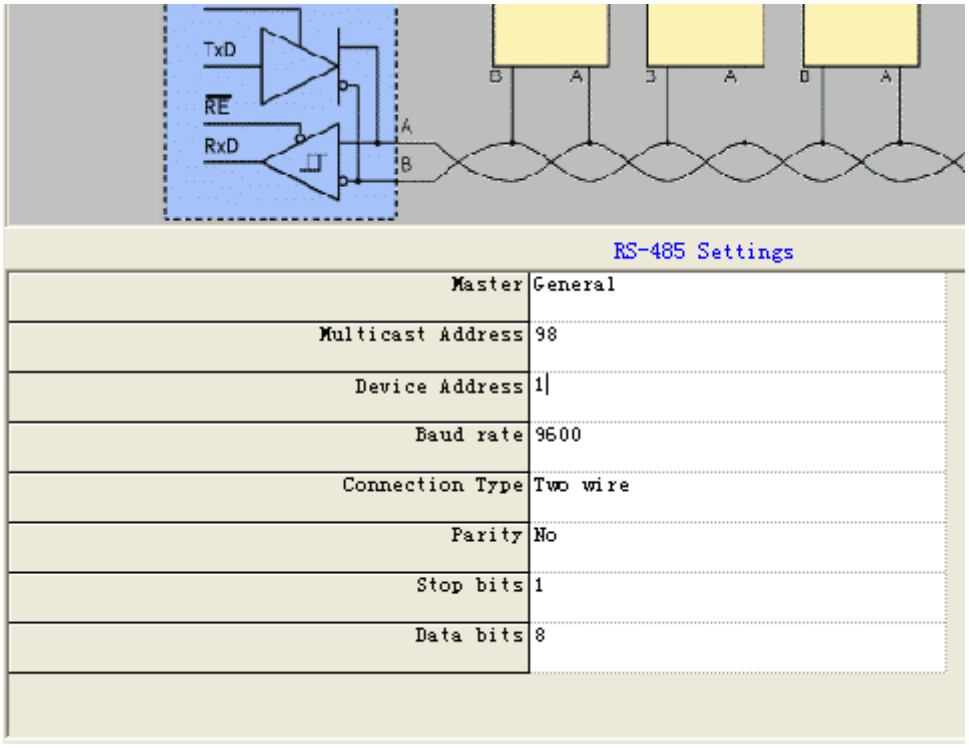
1. Open C3 ServoManager2, select “Communication” => “RS-485 Settings”.




2. Click to Configure “RS-485/POP Settings”.




3. Set parameters as below:



4. Download settings to Compax3 Servo.

5. Set EasyBuilder system parameter and connect with PLC for communication of HMI and Servo.

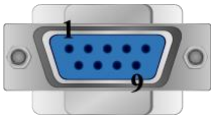
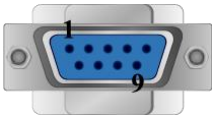
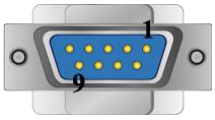
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | R_Low16bit | DDDDDDDDh | 0 ~ 99999999f | |
| B | R_High16bit | DDDDDDDDh | 0 ~ 99999999f | |
| DW | Register_Int | DDDDDD | 0 ~ 999999 | For Register INT32, U32 |
| DW | Register_float | DDDDDD | 0 ~ 999999 | For Register INT32, U32 |
| W | Register_Short | DDDDDD | 0 ~ 999999 | For Register INT16, U16 |

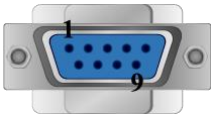
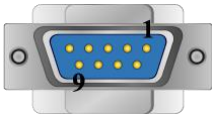
The range of the address that can be operated depends on the address type.
(For more information, please see PLC Connection Guide)
For example:
If the read / write address is: 1901.2, please enter 190102
If the read / write address is: 400.1, please enter 40001

## Wiring Diagram:

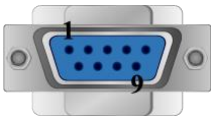
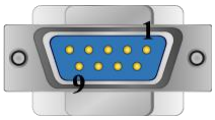
**The following is the view from the soldering point of a cable.**
Parker Compax3 PLC X10 : RS232
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

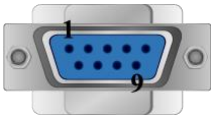
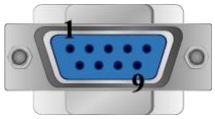
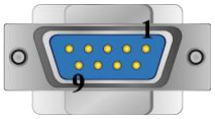
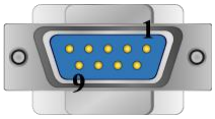
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

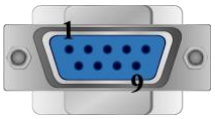
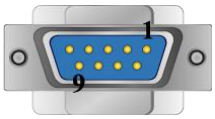
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

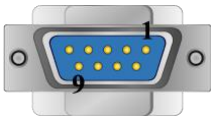
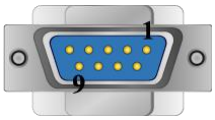
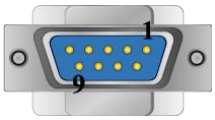
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

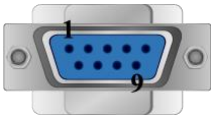
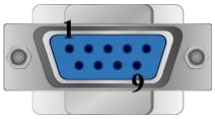
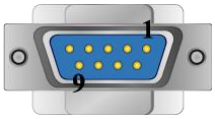
**The following is the view from the soldering point of a cable.**

Parker Compax3 PLC X10 : RS485 2W

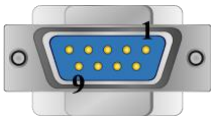
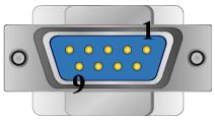
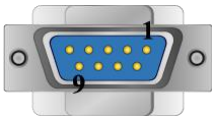
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 3 Data- | |
| 2 RX+ | 9 Data+ | | 7 Data+ | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 Enable RS485 | short |
| | | | 9 +5V | |
|  |  | |  | |

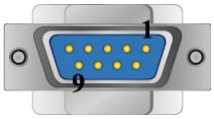
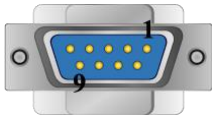
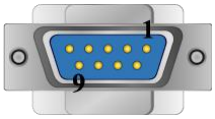
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | 4 Data- | | 3 Data- | |
| 6 RX+ | 1 Data+ | | 7 Data+ | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 nable RS485 | short |
| | | | 9 +5V | |
|  |  | |  | |

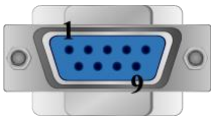
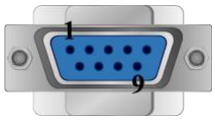
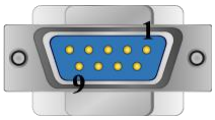
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 3 Data- | |
| 2 RX+ | 8 Data+ | | 7 Data+ | |
| 5 GND | 9 GND | | 5 GND | |
| | | | 1 Enable RS485 | short |
| | | | 9 +5V | |
|  |  | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 3 Data- | |
| 2 RX+ | 9 Data+ | | 7 Data+ | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 Enable RS485 | short |
| | | | 9 +5V | |
|  |  | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 3 Data- | |
| 2 RX+ | 8 Data+ | | 7 Data+ | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 1 Enable RS485 | short |
| | | | 9 +5V | |
|  |  | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.70 | Mar/30/2009 | |

# Parker Compumotor 6K Series

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Parker Compumotor 6K Series | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

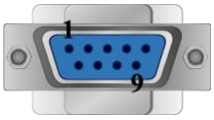
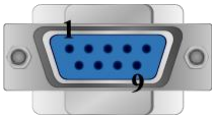
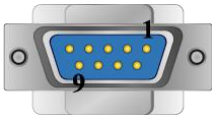
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | VARB(L) | DDDdd | 1 ~ 125 | The lower 16 bits data of VARB |
| B | VARB(H) | DDDdd | 1 ~ 125 | The higher 16 bits data of VARB |
| D | RUN_PRG | D | 0 | |
| DW | VARI | DDD | 1 ~ 125 | |
| DW | VAR | DDD | 1 ~ 125 | Must select single float data mode. |

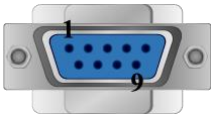
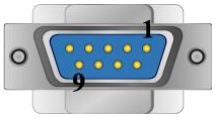
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

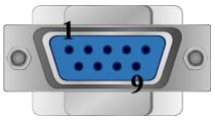
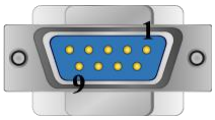
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

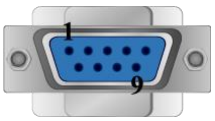
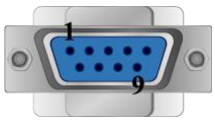
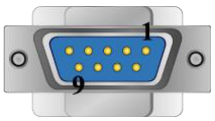
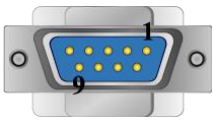
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

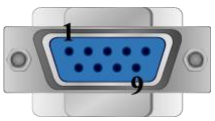
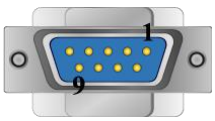
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/7/2011 | Driver released. |

# Parker SLVD Series

Supported Series : Parker SLVD Servo, SLVD1N, SLVD2N, SLVD5N, SLVD7N, SLVD10N, SLVD15N, SLVD17N.

Website: http://www.parker.com/portal/site/PARKER/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Parker SLVD Series | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 9600 | 9600/19200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 0 | | 0-31 |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | |

## Device Address:

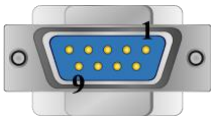
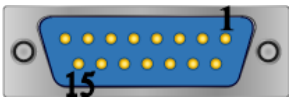
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Par_Binary | DDDDdd | 0 ~ 999915 | Set bit parameter |
| W | Par_One_Word | DDDD | 0 ~ 9999 | Set 2 bytes parameter |
| DW | Par_Two_Word | DDDD | 0 ~ 9999 | Set 4 bytes parameter |
| W | Par_One_Byte | DDDD | 0 ~ 9999 | Set 1 byte prarmeter |
| W | RESET | D | 0 | |
| W | RUN | D | 0 | |

## Wiring Diagram:

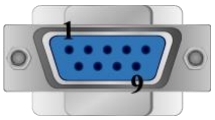
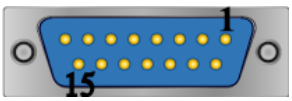
**The following is the view from the soldering point of a cable.**

Parker SLVD Servo Serial Link X1

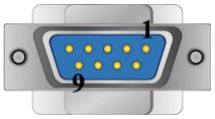
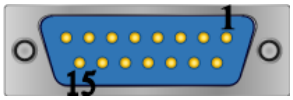
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 7 TX- | |
| 2 RX+ | | | 12 TX+ | |
| 3 TX- | | | 2 RX- | |
| 4 TX+ | | | 1 RX+ | short |
| | | | 6 TER | |
| 5 GND | | | 3 GND | |
|  | | |  | |

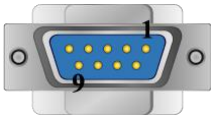
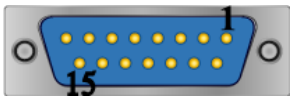
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 7 TX- | |
| 6 RX+ | | | 12 TX+ | |
| 9 TX- | | | 2 RX- | |
| 8 TX+ | | | 1 RX+ | short |
| | | | 6 TER | |
| 5 GND | | | 3 GND | |
|  | | |  | |

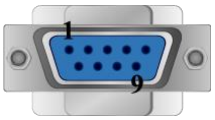
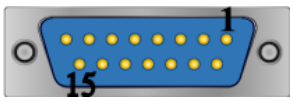
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 7 TX- | |
| 2 RX+ | | | 12 TX+ | |
| 3 TX- | | | 2 RX- | |
| 4 TX+ | | | 1 RX+ | short |
| | | | 6 TER | |
| 5 GND | | | 3 GND | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 7 TX- | |
| 2 RX+ | | | 12 TX+ | |
| 3 TX- | | | 2 RX- | |
| 4 TX+ | | | 1 RX+ | short |
| | | | 6 TER | |
| 5 GND | | | 3 GND | |
|  | | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 7 TX- | |
| 2 RX+ | | | 12 TX+ | |
| 3 TX- | | | 2 RX- | |
| 4 TX+ | | | 1 RX+ | short |
| | | | 6 TER | |
| 5 GND | | | 3 GND | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jan/27/2010 | Driver released. |

# PATLITE VM/VMS Series

Supported Series: PATLITE VM/VMS Series
Website: http://www.patlite.co.jp

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | PATLITE VM/VMS Series | | |
| PLC I/F | RS232 | RS232 / RS485 2W / RS485 4W/ Ethernet | |
| Baud rate | 38400 | 9600 ~ 115200 | |
| Data bits | 8 | 7 , 8 | |
| Parity | Even | Even , Odd , None | |
| Stop bits | 1 | 1 , 2 | |
| PLC sta. no. | 0 | 0 ~ 31 | |
| Port no. | 10600 | | |

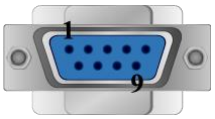
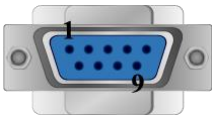
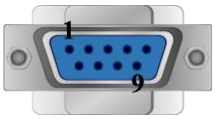
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | LAW_bit | HHHHh | 1 ~ 7FFE | h：Bit no.(0 ~ f) |
| W | LAW | HHHH | 1 ~ 7FFE | |
| W | LAW6Mode | H | 6 | |
| W | LAW6Style | H | 6 | |
| W | LAW6Scale | H | 6 | |
| W | LAW6BG_c | H | 6 | |
| W | LAW6Chr_c | H | 6 | |
| W | UNI2sJIS | HHHH | 1 ~ 7FFE | LAW：Unicode to shift-JIS |
| W | UNI2BIG5 | HHHH | 1 ~ 7FFE | LAW：Unicode to BIG5 |

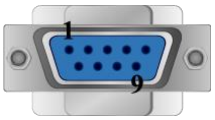
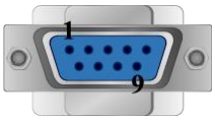
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

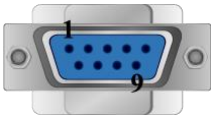
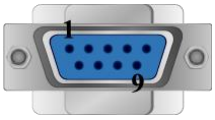
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | PLC RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

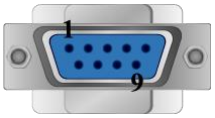
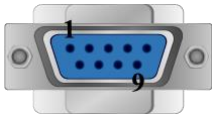
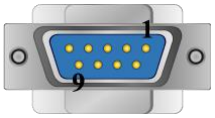
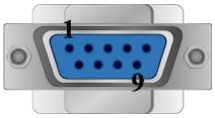
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

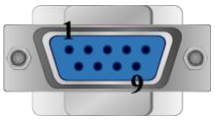
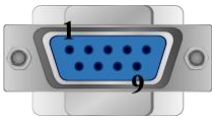
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

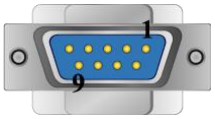
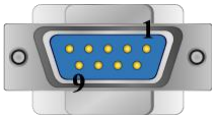
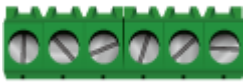
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | PLC RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

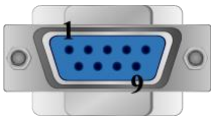
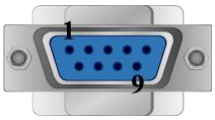
| COM1 RS232 9P D-Sub Female | | | PLC RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

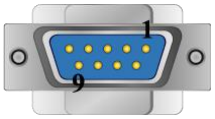
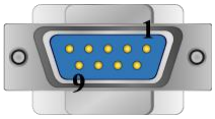
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | PLC RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 11 Data- |
| 2 RX+ | 9 Data+ | | 10 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

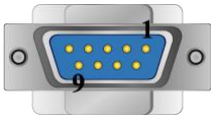
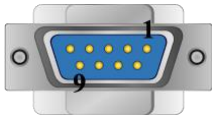
cMT/mTV series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | PLC RS485 2W<br>Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 11 Data- |
| 6 RX+ | 1 Data+ | | 10 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

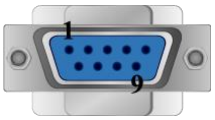
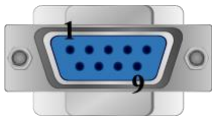
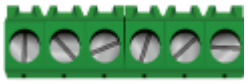
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | PLC RS485 2W<br>Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 11 Data- |
| 2 RX+ | 8 Data+ | | 10 Data+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

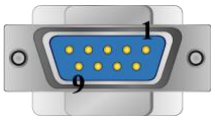
| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | PLC RS485 2W<br>Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 11 Data- |
| 2 RX+ | 9 Data+ | | 10 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

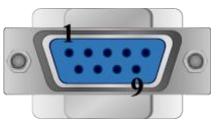
| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | PLC RS485 2W<br>Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 11 Data- |
| 2 RX+ | 8 Data+ | | 10 Data+ |
| 5 GND | 5 GND | | |
|  |  | |  |

**The following is the view from the soldering point of a cable.**

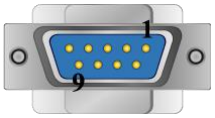
eMT3000 series

| COM1 RS485 4W<br>9P D-Sub Male | | | PLC RS485 4W<br>Terminal |
|---|---|---|---|
| 1 RX- | | | 12 TX- |
| 2 RX+ | | | 13 TX+ |
| 3 TX- | | | 11 RX- |
| 4 TX+ | | | 10 RX+ |
| 5 GND | | | |
|  | | |  |

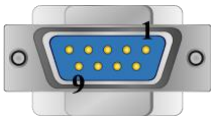
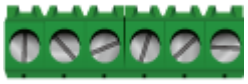
cMT/mTV series

| COM2 RS485 4W<br>9P D-Sub Female | | | PLC RS485 4W<br>Terminal |
|---|---|---|---|
| 7 RX- | | | 12 TX- |
| 6 RX+ | | | 13 TX+ |
| 9 TX- | | | 11 RX- |
| 8 TX+ | | | 10 RX+ |
| 5 GND | | | |
|  | | |  |

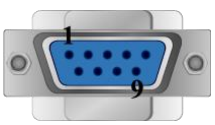
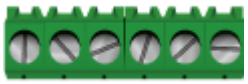
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | PLC RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | 12 TX- |
| 2 RX+ | | | 13 TX+ |
| 3 TX- | | | 11 RX- |
| 4 TX+ | | | 10 RX+ |
| 5 GND | | | |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | PLC RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | 12 TX- |
| 2 RX+ | | | 13 TX+ |
| 3 TX- | | | 11 RX- |
| 4 TX+ | | | 10 RX+ |
| 5 GND | | | |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | PLC RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | 12 TX- |
| 2 RX+ | | | 13 TX+ |
| 3 TX- | | | 11 RX- |
| 4 TX+ | | | 10 RX+ |
| 5 GND | | | |
|  | | |  |

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jan/25/2013 | Driver released |

# Rockwell CompactLogix - Free Tag Names

Website: http://www.ab.com

## HMI Setting:

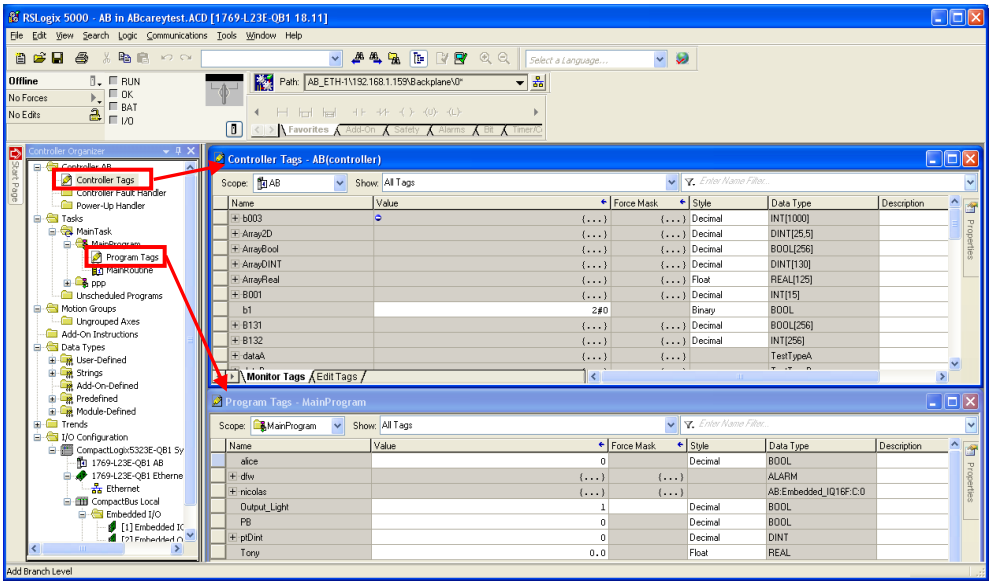
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell CompactLogix - Free Tag Names | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600, 19200, 38400 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| Turn around delay (ms) | 10 | 10 ~ 100 | *Note |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | 1-31 | |

*Note：When the communication is not stable, please adjust the parameter of [turn around delay] till the communication is normal.

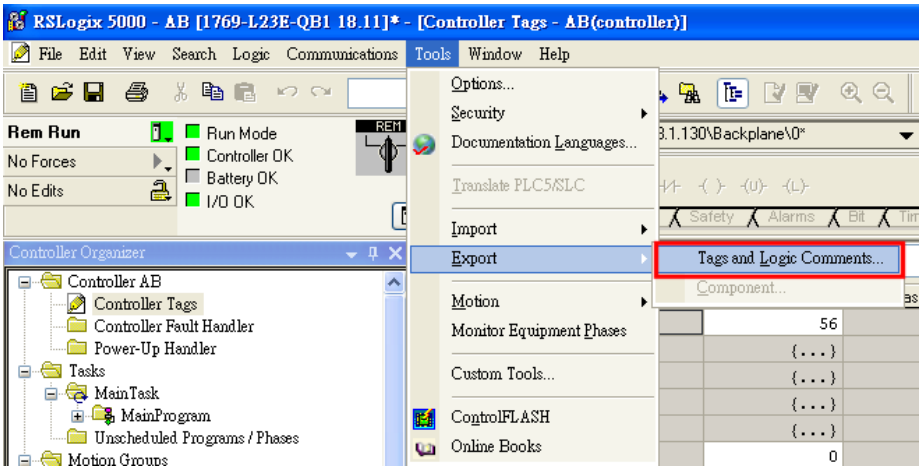
## PLC Setting:

| | |
|---|---|
| Communication mode | DF1 No Handshake protocol 19200, None, 8, 1 (default)<br>Error Check: BCC, Station Address: 1 |

1. Create new tags (Controller Tags and Program Tags supported).



2. Export Tag data to CSV file. ( **[Tools]** » **[Export]** » **[Tags and Logic Comments]** )



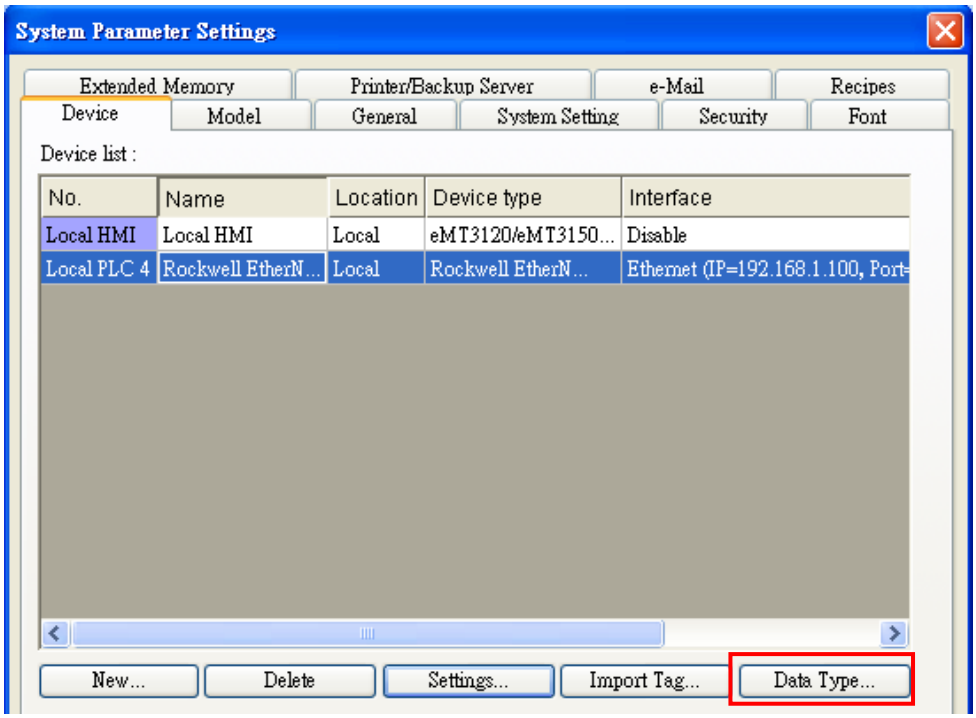

Note: The separator character in CSV file must be a comma “,” otherwise the file is invalid.

| | | | | | |
|---|---|---|---|---|---|
| TAG | | B003 | | INT[20] | (RADIX := Decimal, PLCMappingFile := 3, Constant := false, ExternalAccess := Read/Write) |
| TAG | | B012 | | INT[32] | (RADIX := Decimal, PLCMappingFile := 12, Constant := false, ExternalAccess := Read/Write) |
| TAG | | B015 | | BOOL | (RADIX := Binary, Constant := false, ExternalAccess := Read/Write) |

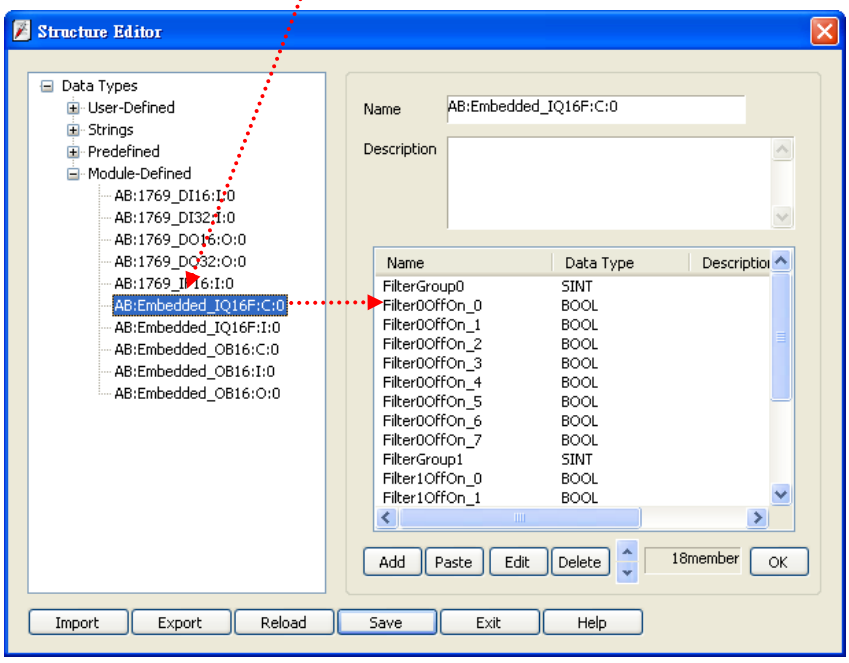
The directory of changing system settings: [**Control Panel] » [Date, Time, Language, and Regional Options] » [Change the format of numbers, dates, and times] » [Customize] » [List separator]**. Please select “,” and export CSV file after setting.



3. Open EasyBuilder project file, select the driver and set communication parameter. Click **[Data Type]** to open **[Structure Editor]** and edit the data type of the tags.




| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER | ATTRIBUTES |
|---|---|---|---|---|---|---|
| TAG | | Local:1:C | | AB:Embedded_IQ16F:C:0 | | |
| TAG | | Local:1:I | | AB:Embedded_IQ16F:I:0 | | |
| TAG | | Local:2:C | | AB:Embedded_OB16:C:0 | | |
| TAG | | Local:2:I | | AB:Embedded_OB16:I:0 | | |
| TAG | | Local:2:O | | AB:Embedded_OB16:O:0 | | |



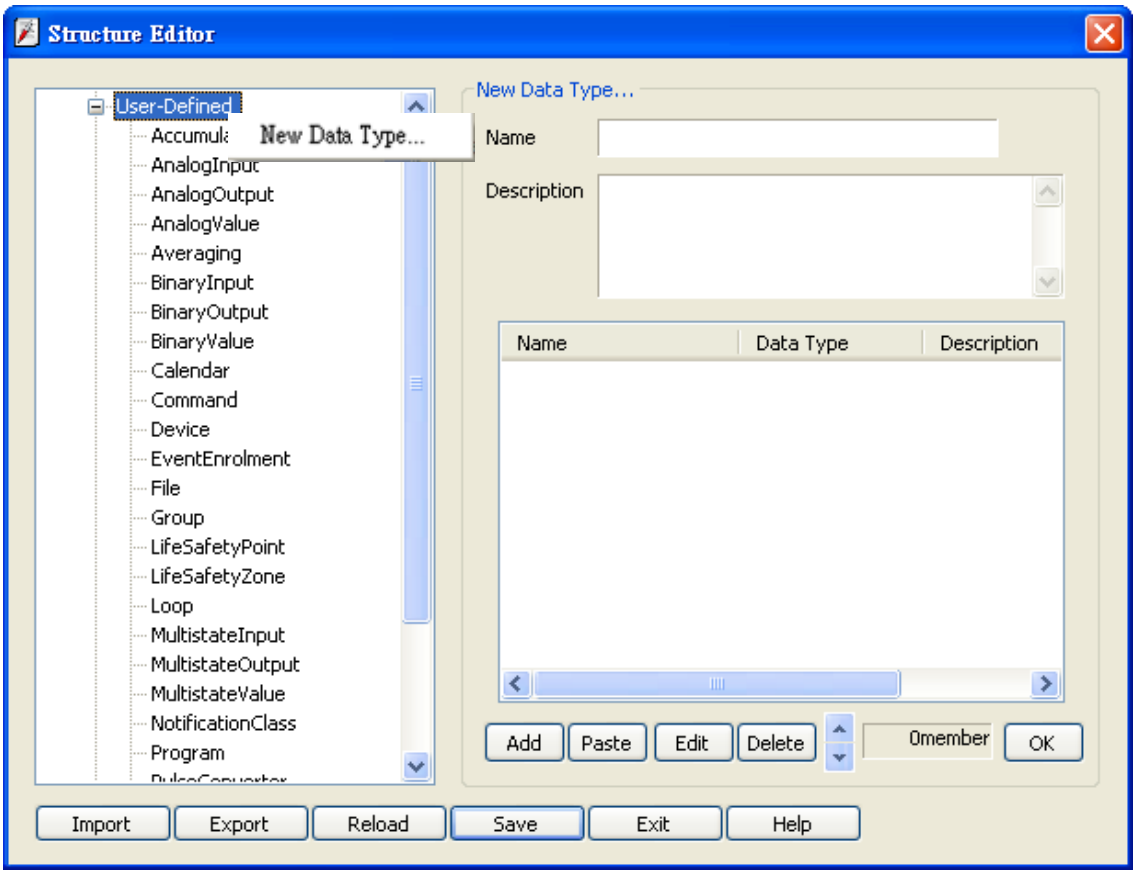
4. In **[Structure Editor]** edit the data type of **[Program Tag]**.
   The imported csv file is shown below:

Note: The Program Tag can directly be imported in EasyBuilder Pro V3.00.05, EasyBuilder 8000 V4.65.08, and the later versions. Please go to step 5 without editing manually.

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 8 | TAG | | Local:1:C | | AB:Embedded_IQ16F:C:0 | |
| 9 | TAG | | Local:1:I | | AB:Embedded_IQ16F:I:0 | |
| 10 | TAG | | Local:2:C | | AB:Embedded_OB16:C:0 | |
| 11 | TAG | | Local:2:I | | AB:Embedded_OB16:I:0 | |
| 12 | TAG | | Local:2:O | | AB:Embedded_OB16:O:0 | |
| 13 | TAG | | PB_ControllerTag | | BOOL | |
| 14 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 15 | TAG | ConveyorProgram | Output_Conveyor | | | Local:2:O.Data.2 |
| 16 | TAG | ConveyorProgram | PB_Conveyor | | BOOL | |
| 17 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 18 | TAG | MainProgram | Output_Light | | | Local:2:O.Data.1 |
| 19 | TAG | MainProgram | PB | | BOOL | |

**Step 1**

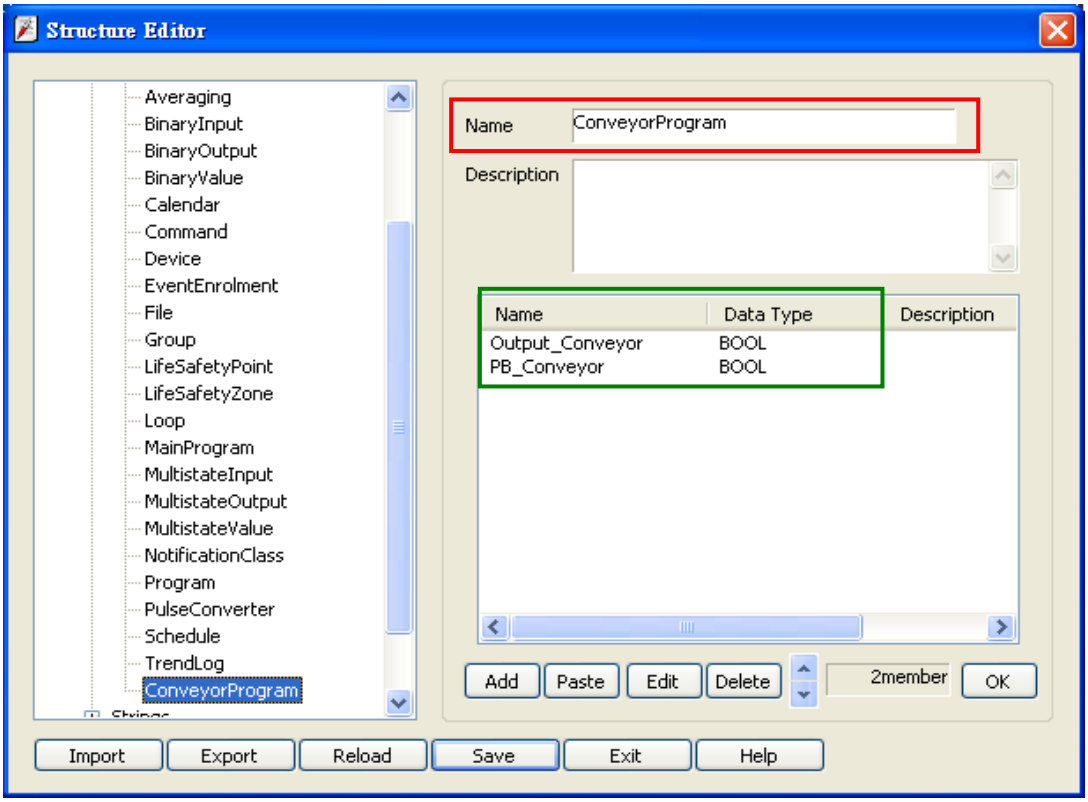
Right click on **[Structure Editor]** » **[User-Defined]** to add a **[new data type]**.



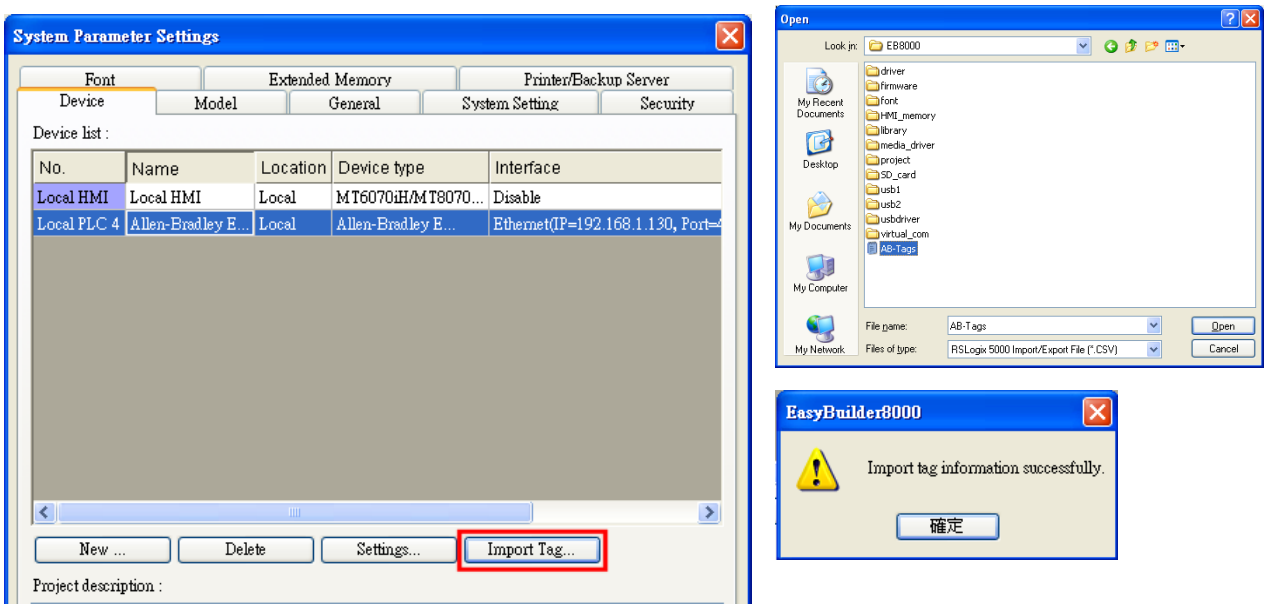
**Step 2**

After adding all Program Tags, click **[OK]** » **[Save]** » **[Exit]** to leave the editor dialog.

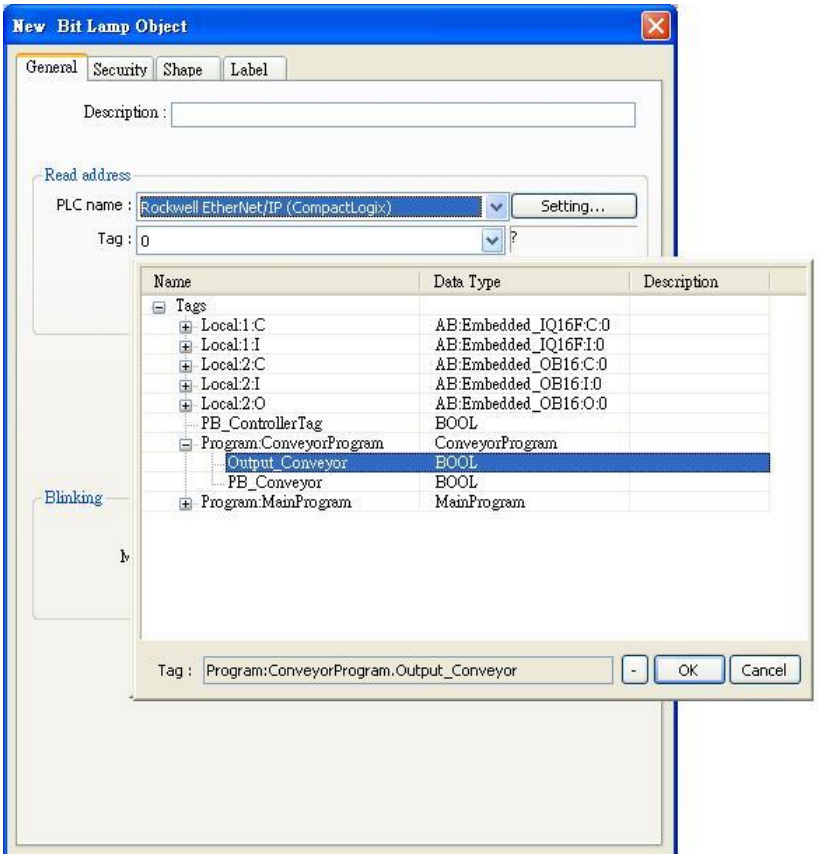
| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
|---|---|---|---|---|---|
| ALIAS | ConveyorProgram | Output_Conveyor | | | Local:2:O.Data.2 |
| TAG | ConveyorProgram | PB_Conveyor | | BOOL | |
| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| ALIAS | MainProgram | Output_Light | | | Local:2:O.Data.1 |
| TAG | MainProgram | PB | | BOOL | |



5. In **[System Parameter Settings]**, click **[Import Tag]**, select the csv file. After importing a message window is displayed.




6. In the object property dialog, select PLC Tag address.



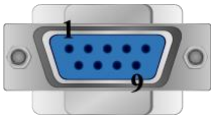
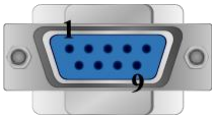
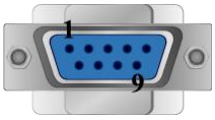
## Device Address:

| PLC Data Type Name | Bit/Word | EasyBuilder Data Format | Memo |
|---|---|---|---|
| BOOL | Boolean | Bit object | |
| BitArray | | | |
| SINT | | | |
| INT | Integer | 16-bit signed, ASCII | -32768 ~ 32767 |
| DINT | Double Integer | 32-bit signed | $-2^{31}$ ~ ($2^{31}$-1) |
| REAL | Single Precision Float | 32-bit Float | IEEE 754 |

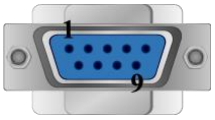
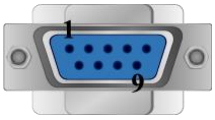
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

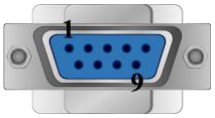
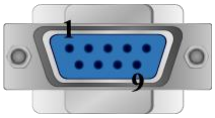
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

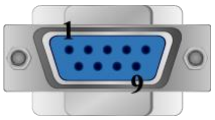
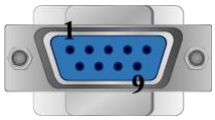
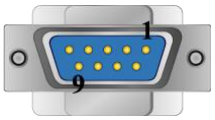
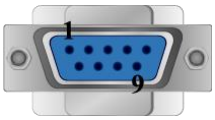
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

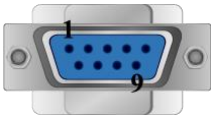
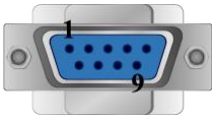
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | June/2/2011 | Driver released. |

# Rockwell CompactLogix/FlexLogix

Supported Series: Rockwell ControlLogix, CompactLogix, FlexLogix CH0 DF1.

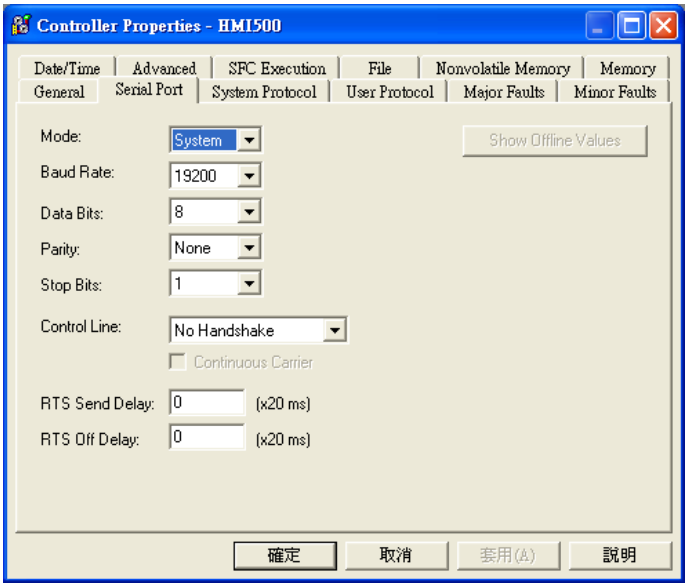
Website: http://www.ab.com

## HMI Setting:

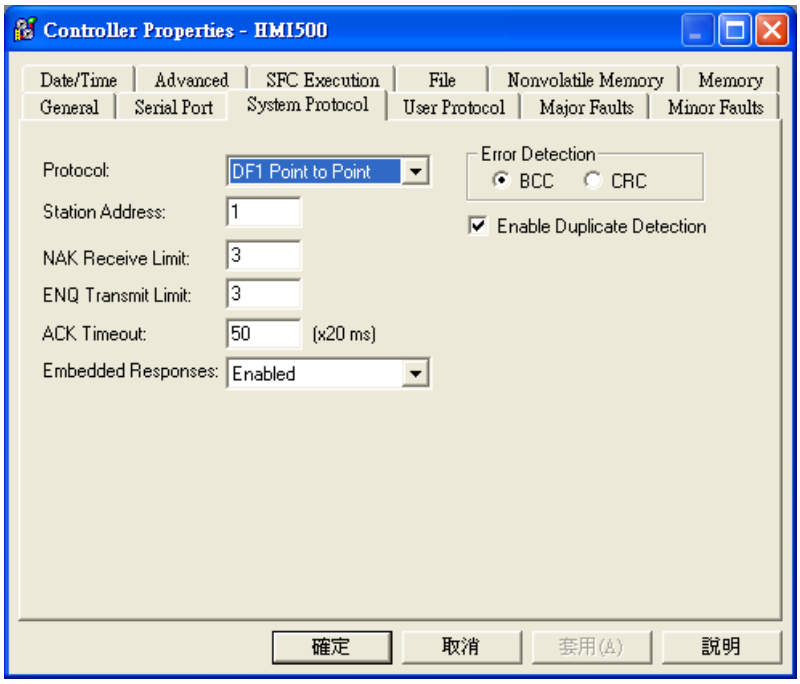
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell CompactLogix/FlexLogix | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600, 19200, 38400 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | 1-31 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | DF1 No Handshake protocol 19200, None, 8, 1 (default)<br>Error Check: BCC, Station Address: 1 |

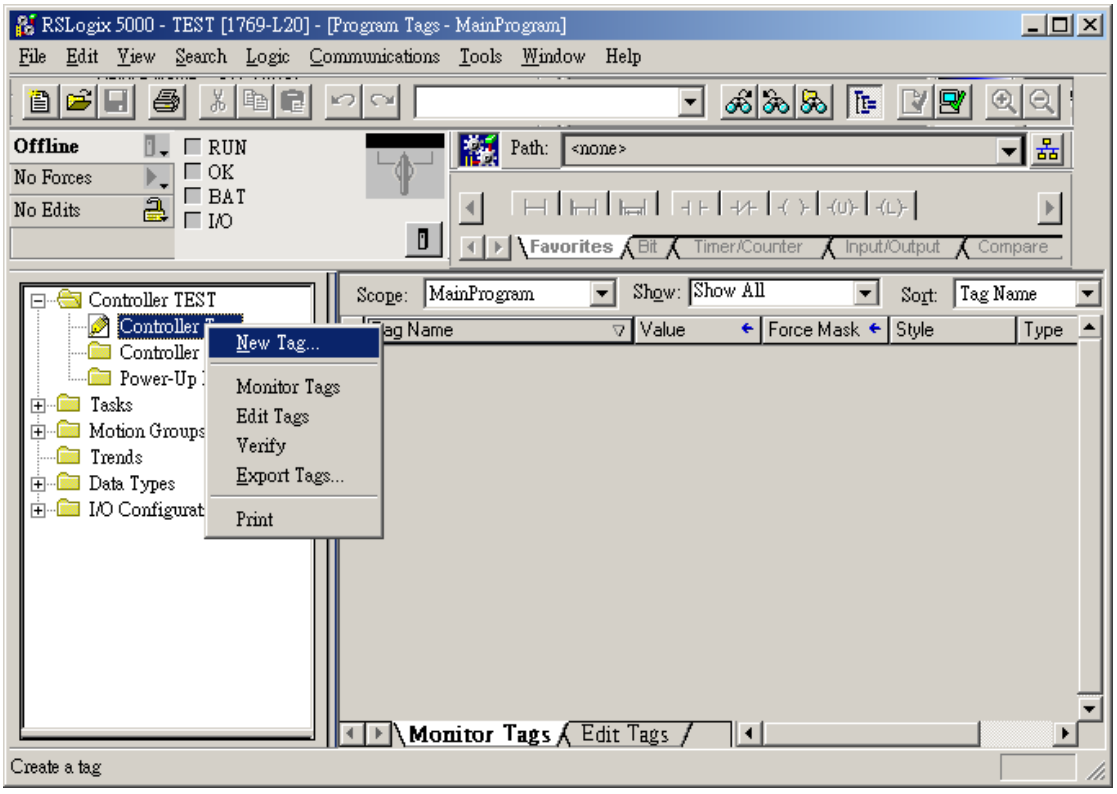


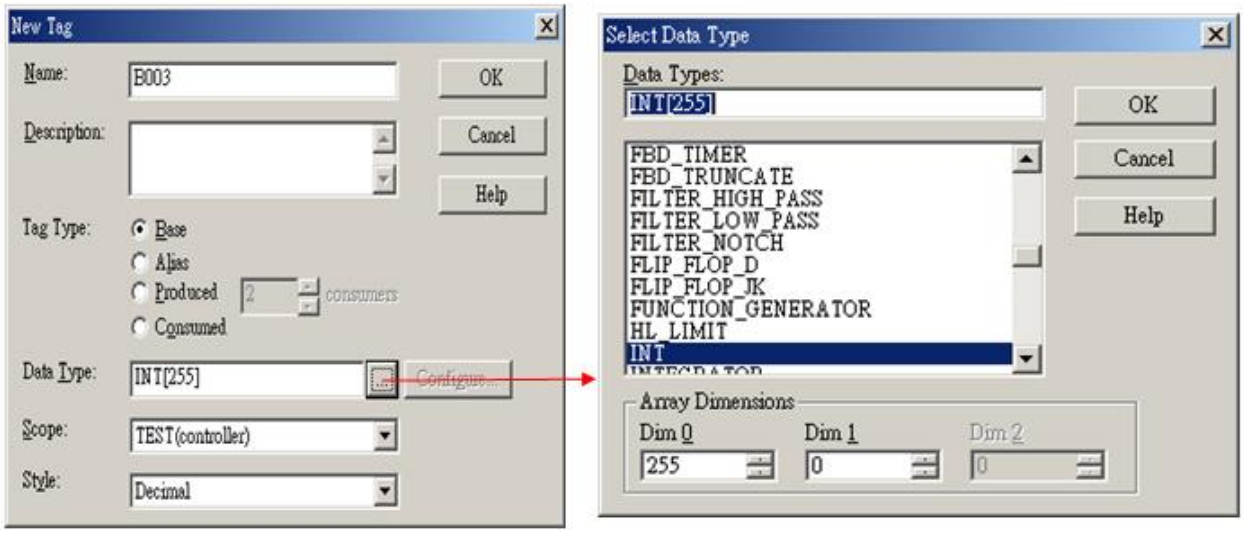
ControlLogix, CompactLogix CPU CH0 setting:




Create a Tag:

The name format must be 4 chars. For example: B003, T004, C005, N007, and F008. Two or three chars are not available. For example: B03 or B3.





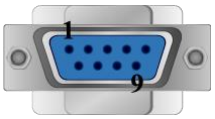
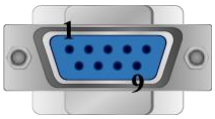
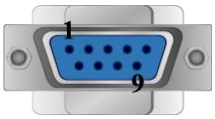

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | B_BOOL | FFFDDDdd | 0 ~ 25525515 | Bit data file |
| B | N_BOOL | FFFDDDdd | 0 ~ 25525515 | Integer data file bit level (N7, 10 ~ 255) |
| DW | Tx.ACC | FFFDDD | 0 ~ 255255 | Timer Accumulator Value (T4, T10 ~ 255) |
| DW | Tx.PRE | FFFDDD | 0 ~ 255255 | Timer Preset Value (T4, T10 ~ 255) |
| DW | Nx_INT | FFFDDD | 0 ~ 255255 | Integer data file (N7, 10 ~ 255) |
| W | Bx_INT | FFFDDD | 0 ~ 255255 | Bit data file word level |
| DW | Cx.ACC | FFFDDD | 0 ~ 255255 | Counter Accumulator Value (C5, C10 ~ 255) |
| DW | Cx.PRE | FFFDDD | 0 ~ 255255 | Counter Preset Value (C5, C10 ~ 255) |
| W | F8_REAL | DDD | 0 ~ 255 | Floating point data file (F8) |
| W | Fx_REAL | FFFDDD | 0 ~ 255255 | Floating point data file (F008, F010 ~ F255) |

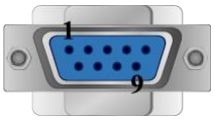
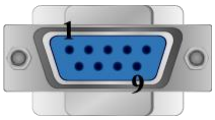
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

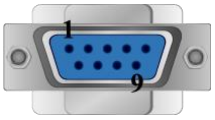
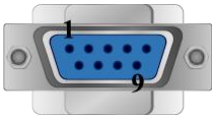
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

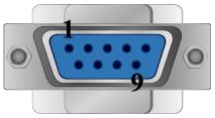
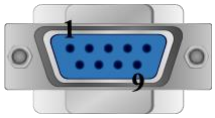
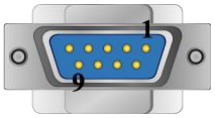
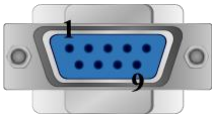
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

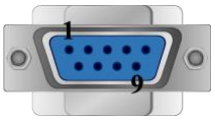
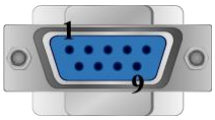
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.50 | Dec/30/2008 | |

# Rockwell DF1

Supported Series: Rockwell MicroLogix 1000, 1100, 1200, 1500, SLC 5/01, 5/02, 5/03, 5/04, 5/05.
Website: http://www.ab.com
Note: Allen-Bradley DF1 driver uses CRC checksum.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell DF1 | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600, 19200, 38400 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | 1-31 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | DF1 Full Duplex protocol 19200, None, 8, 1 (default)<br>Error Check: CRC |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I1 | DDDdd | 0 ~ 25515 | Input (I) |
| B | O0 | DDDdd | 0 ~ 25515 | Output (O) |
| B | B3 | DDDdd | 0 ~ 25515 | Bit data file (B3) |
| B | B10 ~ 13 | DDDdd | 0 ~ 25515 | Bit data file (B10 ~ 13) |
| B | S_Bit | DDDdd | 0 ~ 25515 | Status (S) bit level |
| B | Bfn | FFFDDDdd | 0 ~ 25525515 | Bit data file (B3, 10 ~ 254) |
| B | NfnBit | FFFDDDdd | 0 ~ 25525515 | Integer data file bit level (N7, 10 ~ 254) |
| W | T4SV | DDD | 0 ~ 255 | Timer Preset Value (T4) |
| W | T4PV | DDD | 0 ~ 255 | Timer Accumulator Value (T4) |
| W | C5SV | DDD | 0 ~ 255 | Counter Preset Value (C5) |

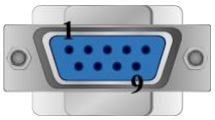
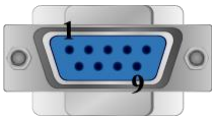
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | C5PV | DDD | 0 ~ 255 | Counter Accumulator Value |
| W | TfnSV | FFFDDD | 0 ~ 255255 | Timer Preset Value |
| W | TfnPV | FFFDDD | 0 ~ 255255 | Timer Accumulator Value |
| W | CfnSV | FFFDDD | 0 ~ 255255 | Counter Preset Value |
| W | CfnPV | FFFDDD | 0 ~ 255255 | Counter Accumulator Value |
| W | N7 | DDD | 0 ~ 255 | Integer data file (N7) |
| W | N10 ~ 15 | DDD | 0 ~ 255 | Integer data file (N10 ~ 15) |
| W | Nfn | FFFDDD | 0 ~ 255255 | Integer data file (N7,10 ~ 254) |
| W | S | DDD | 0 ~ 255 | Status (S) |
| W | F8 | DDD | 0 ~ 255 | Floating point data file (F8) |
| W | Ffn | FFFDDD | 0 ~ 255255 | |
| W | Lfn | FFFDDD | 0 ~ 255255 | |
| String | STfn | DDD.DDD.DD | 0 ~ 255.255.40 | File no.Element no.Data no. |

## Wiring Diagram:

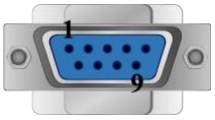
**The following is the view from the soldering point of a cable.**

9P D-Sub to 8P Mini-DIN: MicroLogix 1000, 1100, 1200, 1400, 1500

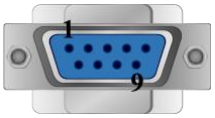
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 7 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 2 GND |
|  |  | |  |

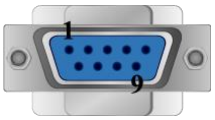
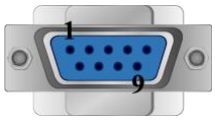
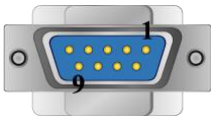
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

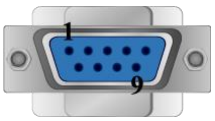
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 7 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 2 GND |
|  |  |  |  |

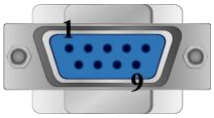
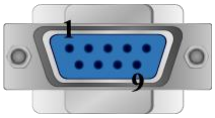
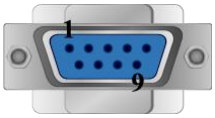
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 7 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

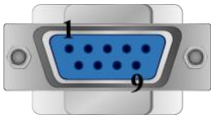
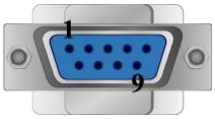
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: SLC5/03, 04, 05 CH0

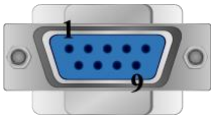
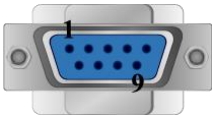
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

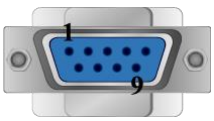
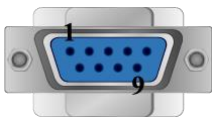
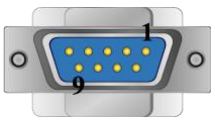
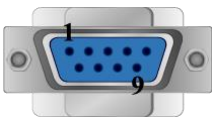
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

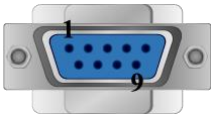
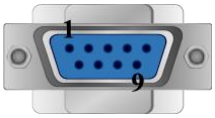
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.20 | Jan/05/2010 | |
| V2.50 | Oct/14/2012 | Add device type : I1n,O0n. |
| V2.70 | Jun/27/2013 | Add device type : STfn |

# Rockwell DF1 (BCC)

Supported Series: Rockwell MicroLogix 1000, 1100, 1200, 1500, SLC 5/01, 5/02, 5/03, 5/04, 5/05.
Website: http://www.ab.com
Note: Allen-Bradley DF1 (BCC) and Allen-Bradley DF1 are the same; the only difference is the use of BCC checksum.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell DF1 (BCC) | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600, 19200, 38400 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | 1-31 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | DF1 Full Duplex protocol 19200, None, 8, 1 (default)<br>Error Check: BCC |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I1 | DDDdd | 0 ~ 25515 | Input (I) |
| B | O0 | DDDdd | 0 ~ 25515 | Output (O) |
| B | B3 | DDDdd | 0 ~ 25515 | Bit data file (B3) |
| B | B10 ~ 13 | DDDdd | 0 ~ 25515 | Bit data file (B10 ~ 13) |
| B | S_Bit | DDDdd | 0 ~ 25515 | Status (S) bit level |
| B | Bfn | FFFDDDdd | 0 ~ 25525515 | Bit data file (B3, 10 ~ 254) |
| B | NfnBit | FFFDDDdd | 0 ~ 25525515 | Integer data file bit level (N7, 10 ~ 254) |
| W | T4SV | DDD | 0 ~ 255 | Timer Preset Value (T4) |
| W | T4PV | DDD | 0 ~ 255 | Timer Accumulator Value (T4) |

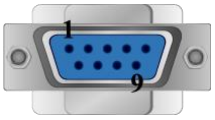
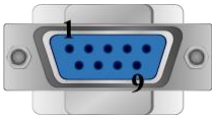
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | C5SV | DDD | 0 ~ 255 | Counter Preset Value (C5) |
| W | C5PV | DDD | 0 ~ 255 | Counter Accumulator Value (C5) |
| W | TfnSV | FFFDDD | 0 ~ 255255 | Timer Preset Value |
| W | TfnPV | FFFDDD | 0 ~ 255255 | Timer Accumulator Value |
| W | CfnSV | FFFDDD | 0 ~ 255255 | Counter Preset Value |
| W | CfnPV | FFFDDD | 0 ~ 255255 | Counter Accumulator Value |
| W | N7 | DDD | 0 ~ 255 | Integer data file (N7) |
| W | N10~15 | DDD | 0 ~ 255 | Integer data file (N10 ~ 15) |
| W | Nfn | FFFDDD | 0 ~ 255255 | Integer data file (N7, 10 ~ 254) |
| W | S | DDD | 0 ~ 255 | Status (S) |
| W | F8 | DDD | 0 ~ 255 | Floating point data file (F8) |
| W | Ffn | FFFDDD | 0 ~ 255255 | |
| W | Lfn | FFFDDD | 0 ~ 255255 | |
| W | STfn | DDD.DDD.DD | 0 ~ 255.255.40 | |

## Wiring Diagram:

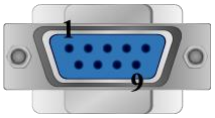
**The following is the view from the soldering point of a cable.**

9P D-Sub to 8P Mini-DIN: MicroLogix 1000, 1100, 1200, 1500

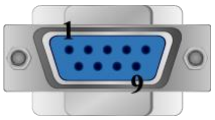
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 7 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 2 GND |
|  |  | |  |

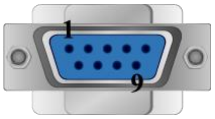
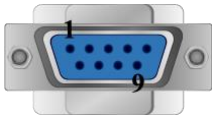
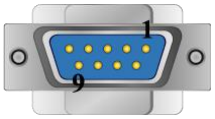
cMT/mTV series

| COM1 RS232 9P<br>D-Sub Female | | | MicroLogix RS232 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

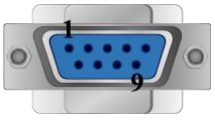
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | MicroLogix RS232 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P<br>D-Sub Female | COM2 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Male | MicroLogix RS232 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 7 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 2 GND |
|  |  |  |  |

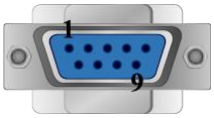
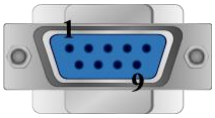
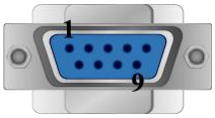
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | MicroLogix RS232 8P<br>Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 7 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

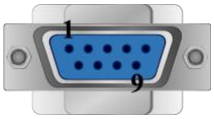
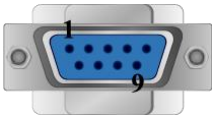
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: SLC5/03, 04, 05 CH0

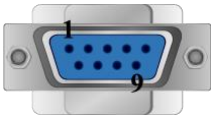
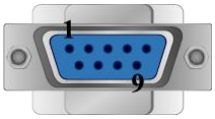
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

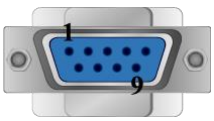
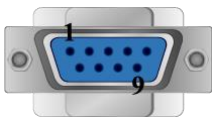
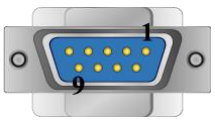
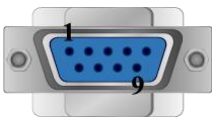
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

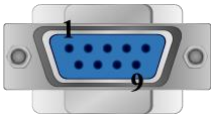
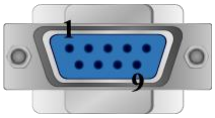
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.70 | Sep/05/2013 | Added register: STfn. |

# Rockwell DH485

Supported Series: Rockwell MicroLogix 1000, 1100, 1200, 1500, SLC 5/01, 5/02, 5/03, 5/04, 5/05.
Website: http://www.ab.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell DH485 | | |
| PLC I/F | RS485 2W | RS232 | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| HMI sta. no. | 0 | 2 | |
| PLC sta. no. | 1 | 1-31 | |

| | |
|---|---|
| Online simulation | YES |
| Extend address mode | NO |

## PLC Setting:

| | |
|---|---|
| Communication mode | DH485 protocol 19200 (default)<br>Set the Max. Node Address to the number of PLCs in use. |



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I1 | DDDdd | 0 ~ 25515 | Input (I) |
| B | O0 | DDDdd | 0 ~ 25515 | Output (O) |
| B | B3 | DDDdd | 0 ~ 25515 | Bit data file (B3) |
| B | B10 ~ 13 | DDDdd | 0 ~ 25515 | Bit data file (B10 ~ 13) |
| B | Bfn | FFFDDDdd | 0 ~ 25525515 | Bit data file (B3, 10 ~ 254) |
| B | NfnBit | FFFDDDdd | 0 ~ 25525515 | Integer data file bit level (N7,10 ~ 254) |
| B | S_Bit | DDDdd | 0 ~ 25515 | Status file |
| W | T4SV | DDD | 0 ~ 255 | Timer Preset Value (T4) |
| W | T4PV | DDD | 0 ~ 255 | Timer Accumulator Value (T4) |
| W | C5SV | DDD | 0 ~ 255 | Counter Preset Value (C5) |
| W | C5PV | DDD | 0 ~ 255 | Counter Accumulator Value (C5) |
| W | TfnSV | FFFDDD | 0 ~ 255255 | Timer Preset Value |
| W | TfnPV | FFFDDD | 0 ~ 255255 | Timer Accumulator Value |
| W | CfnSV | FFFDDD | 0 ~ 255255 | Counter Preset Value |
| W | CfnPV | FFFDDD | 0 ~ 255255 | Counter Accumulator Value |
| W | F8 | DDD | 0 ~ 255 | Floating point data file (F8) |
| W | N7 | DDD | 0 ~ 255 | Integer data file (N7) |
| W | N10 ~ 15 | DDD | 0 ~ 255 | Integer data file (N10 ~ 15) |
| W | Nfn | FFFDDD | 0 ~ 255255 | Integer data file (N7,10 ~ 254) |
| W | S | DDD | 0 ~ 255 | Status file |

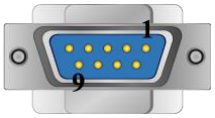
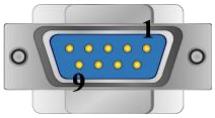
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

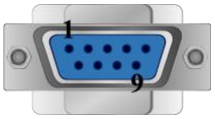
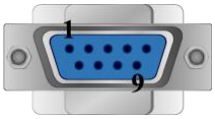
RS-485: SLC500 Fixed type, SLC5/01, 02, 03 CH1.

HMI can't connect to 1747-AIC peripheral port.

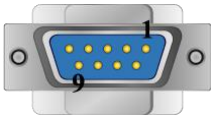
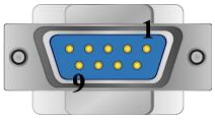
eMT3000 series

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | AB SLC500 DH485<br>RJ8 Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 SDB |
| 2 RX+ | 9 Data+ | | 1 SDA |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

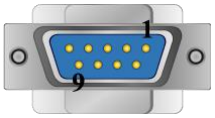
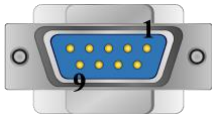
cMT/mTV series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | AB SLC500 DH485<br>RJ8 Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2 SDB |
| 6 RX+ | 1 Data+ | | 1 SDA |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

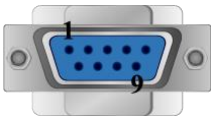
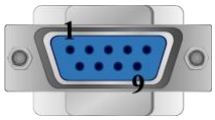
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | AB SLC500 DH485<br>RJ8 Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 SDB |
| 2 RX+ | 8 Data+ | | 1 SDA |
| 5 GND | 9 GND | | 7 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | AB SLC500 DH485 RJ8 Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 SDB |
| 2 RX+ | 9 Data+ | | 1 SDA |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

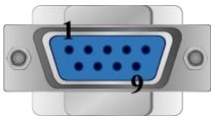
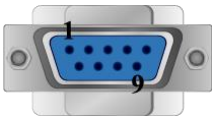
MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | AB SLC500 DH485 RJ8 Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 SDB |
| 2 RX+ | 8 Data+ | | 1 SDA |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

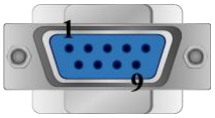
**The following is the view from the soldering point of a cable.**

9P D-Sub to 8P Mini-DIN: MicroLogix 1000, 1100, 1200, and 1500 must set DH485 protocol.

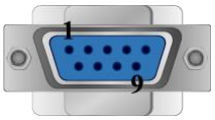
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 7 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 2 GND |
|  |  | |  |

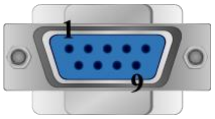
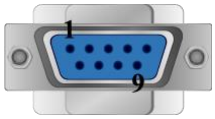
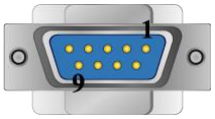
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

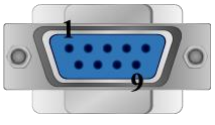
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 7 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 2 GND |
|  |  |  |  |

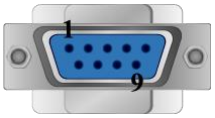
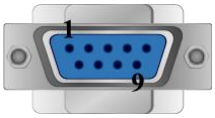
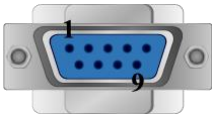
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | MicroLogix RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 7 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

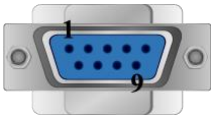
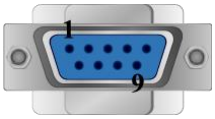
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: SLC5/03, 04, 05 CH0 must set DH485 protocol.

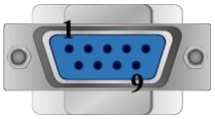
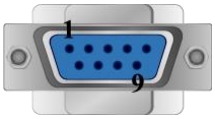
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

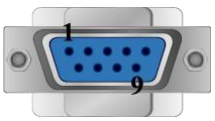
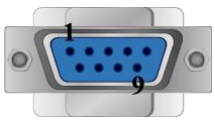
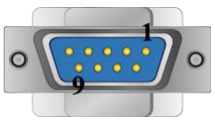
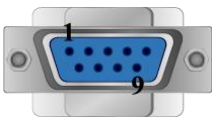
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

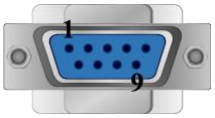
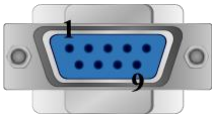
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Apr/17/2009 | |

# Rockwell EtherNet/IP (CompactLogix)

Supported Series: Rockwell ControlLogix, CompactLogix, FelxLogix Ethernet.

Website: http://www.ab.com

## HMI Setting:

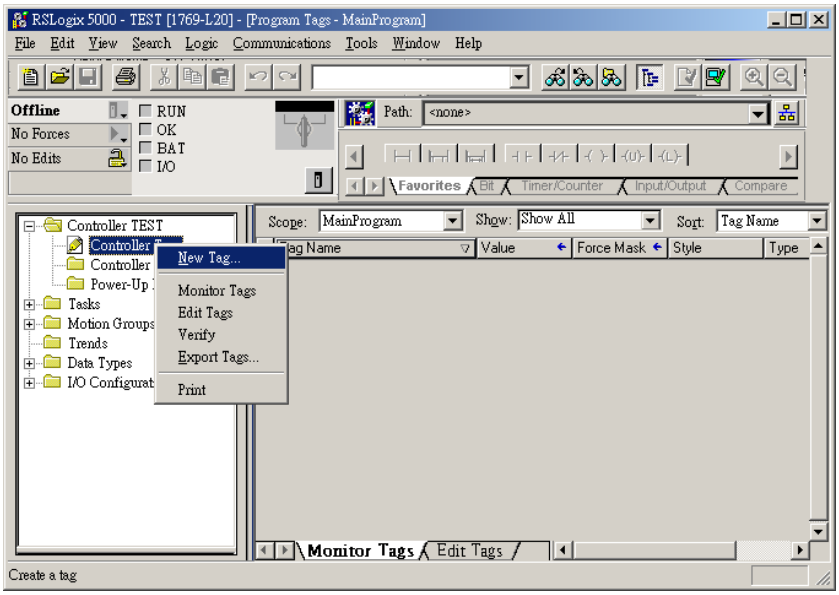
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell EtherNet/IP (CompactLogix) | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| PLC sta. no. | 1 | | |

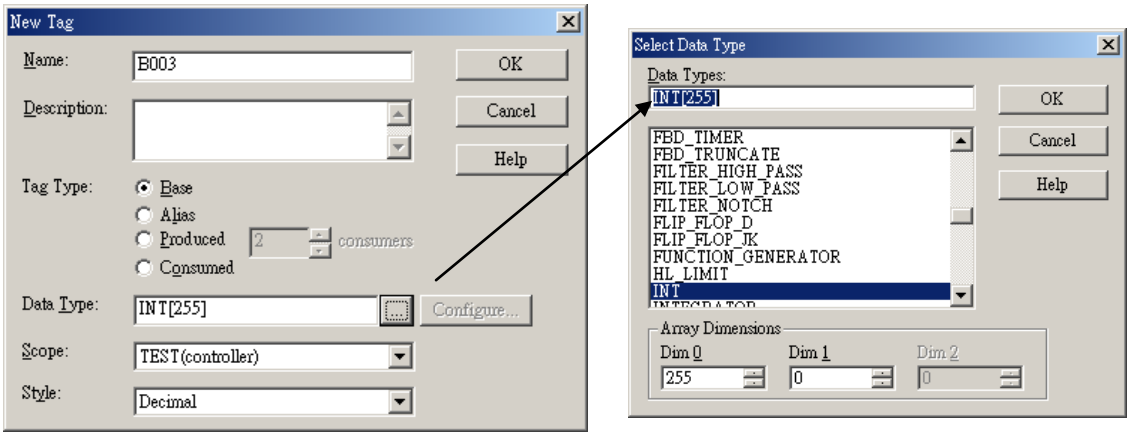
## PLC Setting:

RSLogix 5000 setting

Create a Tag:

The name format must be 4 chars. For example: B003, T004, C005, N007, and F008. Two or three chars are not available. For example: B03 or B3.






## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Bx_BOOL | FFFDDDdd | 0 ~ 25525515 | Bit data file |
| B | Nx_BOOL | FFFDDDdd | 0 ~ 25525515 | Integer data file bit level (N7, 10 ~ 99) |
| W | Bx_INT | FFFDDD | 0 ~ 255255 | Bit data file word level |
| W | Nx_INT | FFFDDD | 0 ~ 255255 | Integer data file (N7, 10 ~ 99) |
| DW (F) | F8_REAL | DDD | 0 ~ 255 | Floating point data file (F8) |
| DW (F) | Fx_REAL | FFFDDD | 0 ~ 255255 | Floating point data file (F8) |
| DW | Cx.ACC | FFFDDD | 0 ~ 255255 | Counter Accumulator Value (C5, C10 ~ 255) |
| DW | Cx.PRE | FFFDDD | 0 ~ 255255 | Counter Preset Value (C5, C10 ~ 255) |
| DW | Tx.ACC | FFFDDD | 0 ~ 255255 | Timer Accumulator Value (T4, T10 ~ 255) |
| DW | Tx.PRE | FFFDDD | 0 ~ 255255 | Timer Preset Value (T4, T10 ~ 255) |
| DW | Lx.DINT | FFFDDD | 0 ~ 255255 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Dec/30/2008 | |
| V1.50 | Mar/6/2012 | Added register: Lx.DINT |

# Rockwell EtherNet/IP (CompactLogix) – Free Tag Names

Supported Series: Rockwell CompactLogix, FelxLogix Ethernet

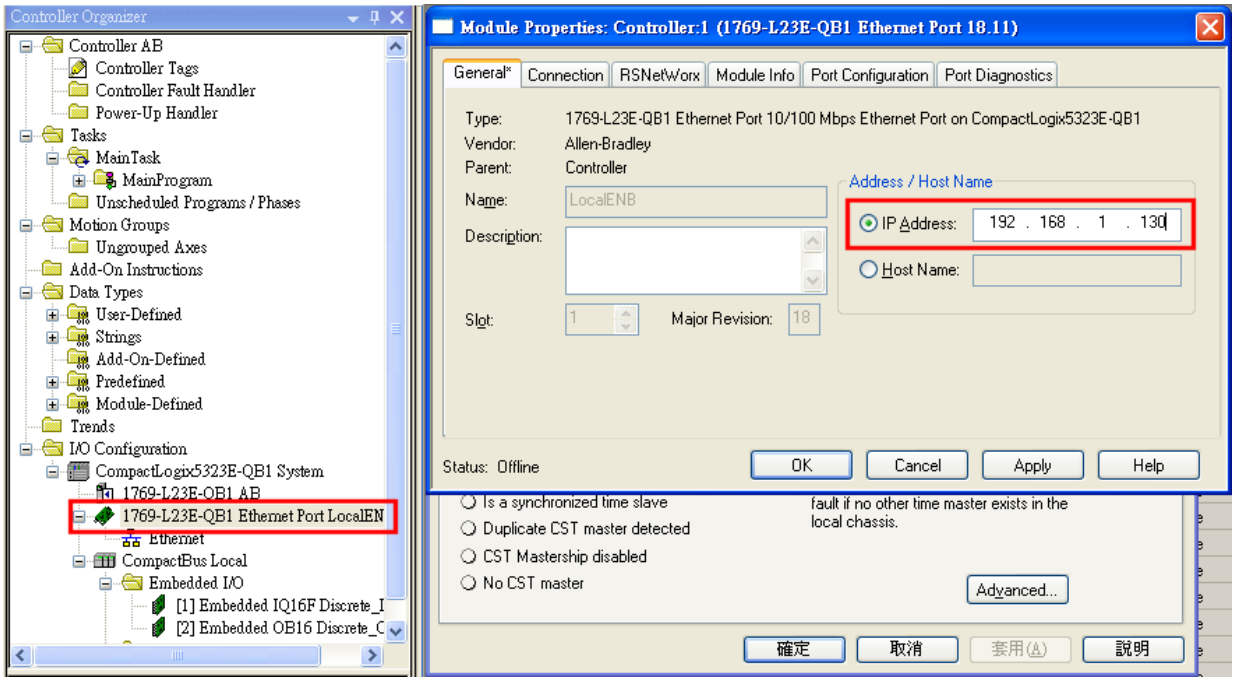
Website: http://www.ab.com

## HMI Setting:

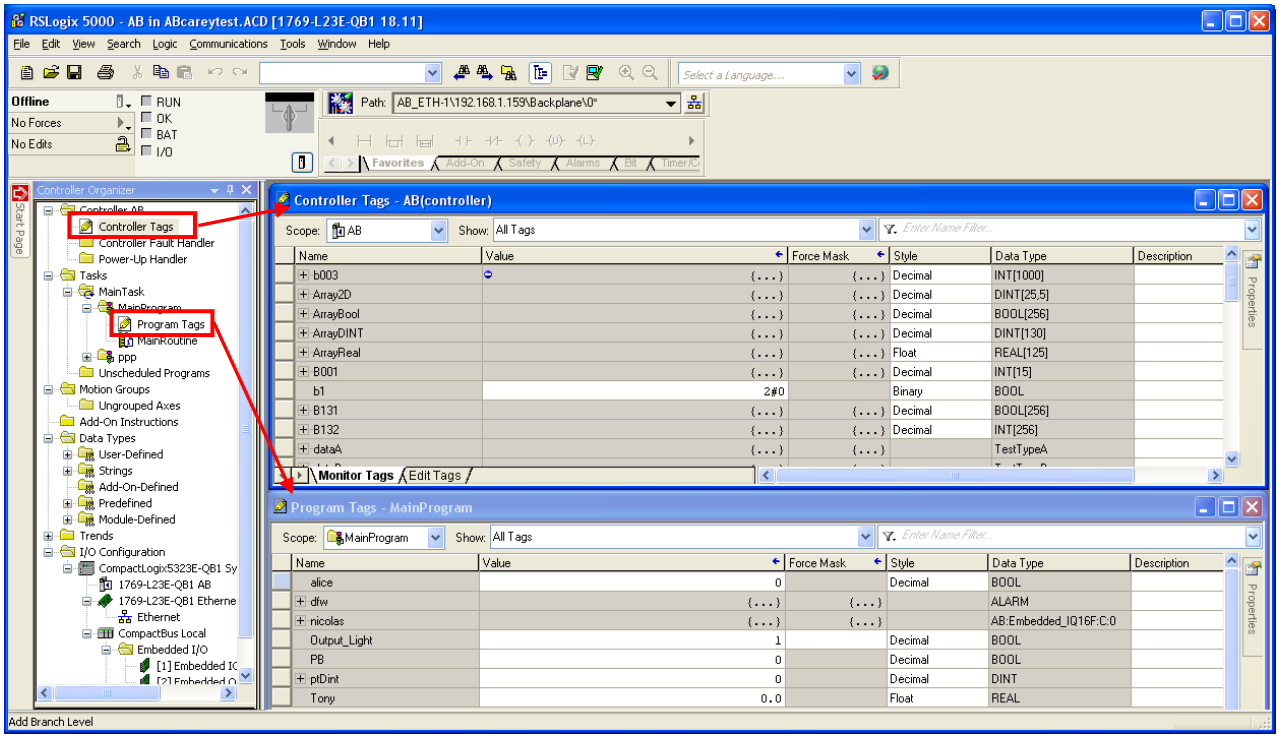
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell EtherNet/IP (CompactLogix) – Free Tag Names | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| PLC sta. no. | 1 | | |

## PLC Setting:

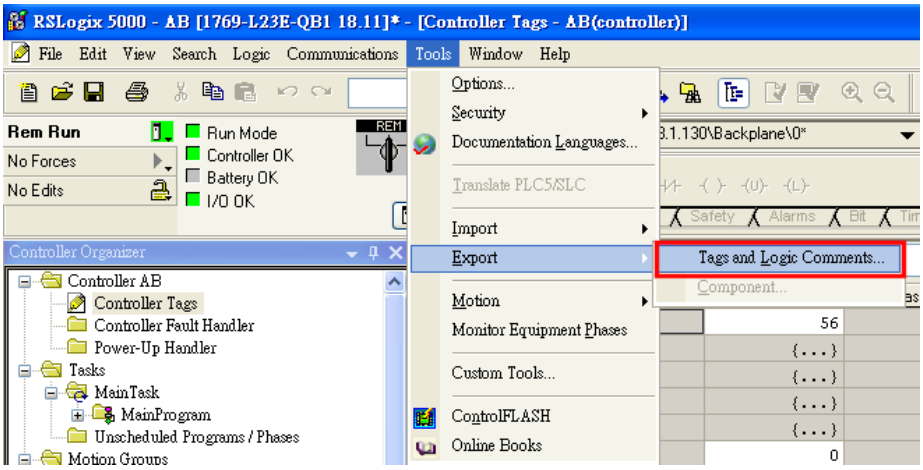
1. Set PLC IP address.



2. Create new tags (Controller Tags and Program Tags supported).




3. Export Tag data to CSV file. ( **[Tools]** » **[Export]** » **[Tags and Logic Comments]** )



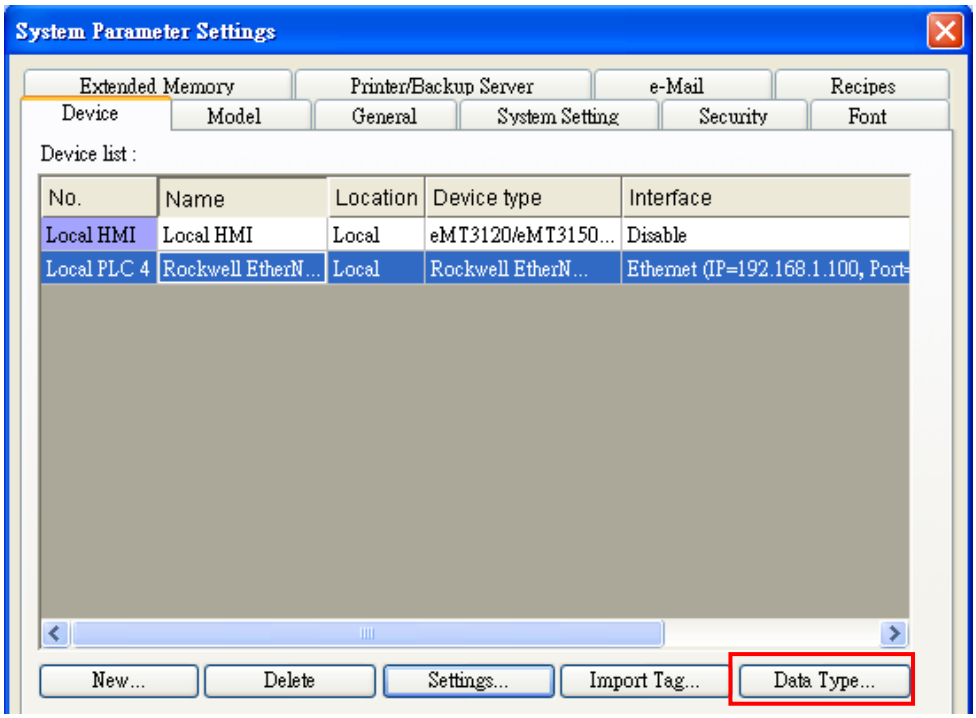

Note: The separator character in CSV file must be a comma “,” otherwise the file is invalid.

| | | | | | |
|---|---|---|---|---|---|
| TAG | | B003 | | INT[20] | (RADIX := Decimal, PLCMappingFile := 3, Constant := false, ExternalAccess := Read/Write) |
| TAG | | B012 | | INT[32] | (RADIX := Decimal, PLCMappingFile := 12, Constant := false, ExternalAccess := Read/Write) |
| TAG | | B015 | | BOOL | (RADIX := Binary, Constant := false, ExternalAccess := Read/Write) |

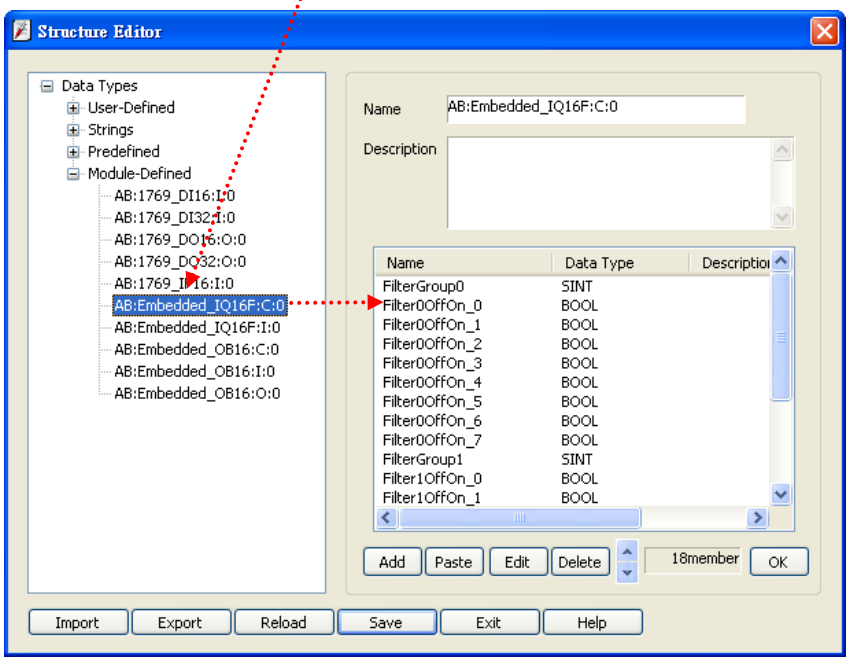
The directory of changing system settings: [**Control Panel] » [Date, Time, Language, and Regional Options] » [Change the format of numbers, dates, and times] » [Customize] » [List separator]**. Please select “,” and export CSV file after setting.



4. Open EasyBuilder project file, select the driver and set IP address. Click **[Data Type]** to open **[Structure Editor]** and edit the data type of the tags.




| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER | ATTRIBUTES |
|---|---|---|---|---|---|---|
| TAG | | Local:1:C | | AB:Embedded_IQ16F:C:0 | | |
| TAG | | Local:1:I | | AB:Embedded_IQ16F:I:0 | | |
| TAG | | Local:2:C | | AB:Embedded_OB16:C:0 | | |
| TAG | | Local:2:I | | AB:Embedded_OB16:I:0 | | |
| TAG | | Local:2:O | | AB:Embedded_OB16:O:0 | | |



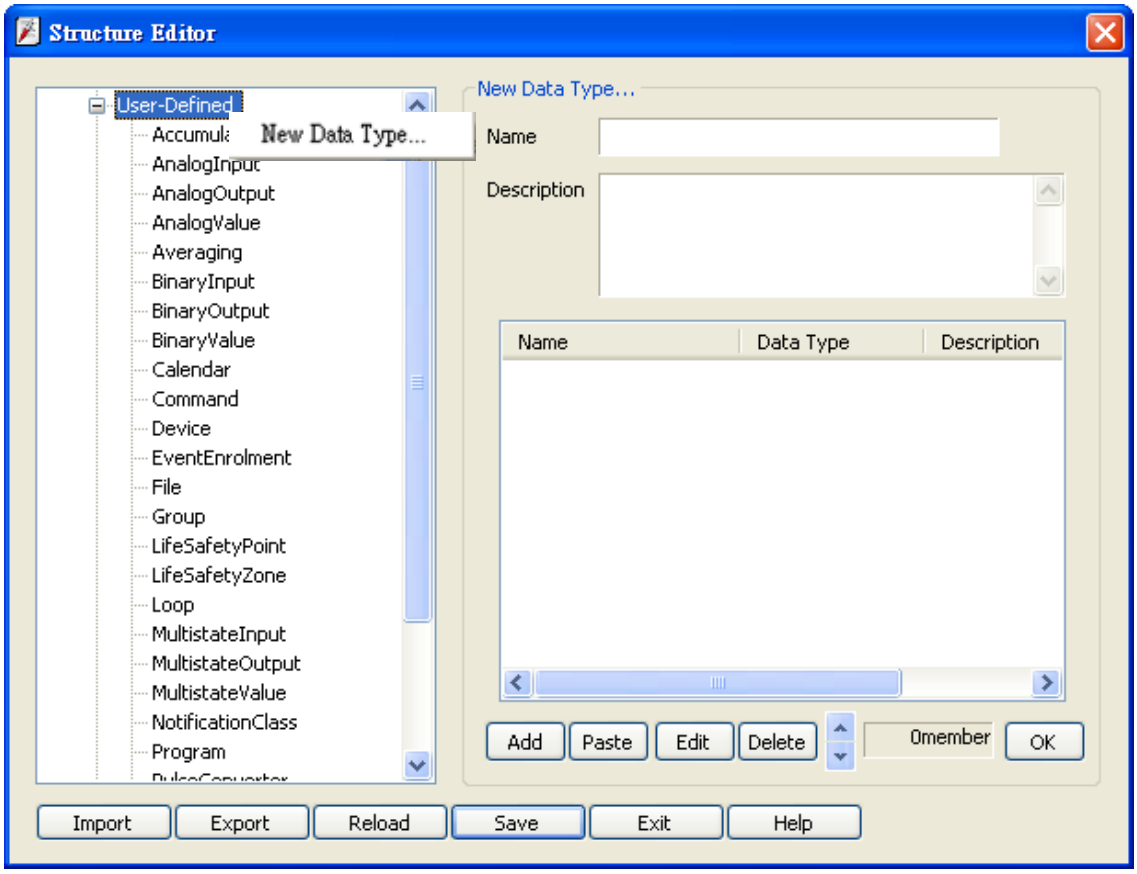
5. In **[Structure Editor]** edit the data type of **[Program Tag]**.
   The imported csv file is shown below:

Note: The Program Tag can directly be imported in EasyBuilder Pro V3.00.05, EasyBuilder 8000 V4.65.08, and the later versions. Please go to step 6 without editing manually.

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 8 | TAG | | Local:1:C | | AB:Embedded_IQ16F:C:0 | |
| 9 | TAG | | Local:1:I | | AB:Embedded_IQ16F:I:0 | |
| 10 | TAG | | Local:2:C | | AB:Embedded_OB16:C:0 | |
| 11 | TAG | | Local:2:I | | AB:Embedded_OB16:I:0 | |
| 12 | TAG | | Local:2:O | | AB:Embedded_OB16:O:0 | |
| 13 | TAG | | PB_ControllerTag | | BOOL | |
| 14 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 15 | TAG | ConveyorProgram | Output_Conveyor | | | Local:2:O.Data.2 |
| 16 | TAG | ConveyorProgram | PB_Conveyor | | BOOL | |
| 17 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 18 | TAG | MainProgram | Output_Light | | | Local:2:O.Data.1 |
| 19 | TAG | MainProgram | PB | | BOOL | |

**Step 1**

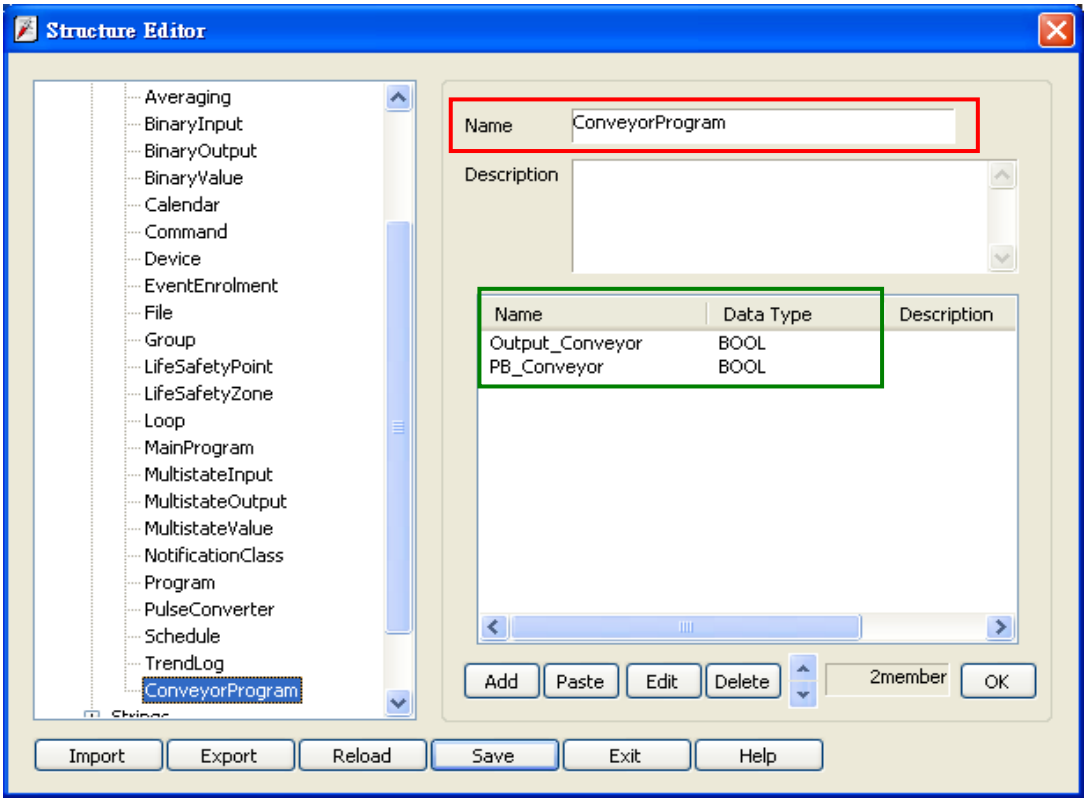
Right click on **[Structure Editor]** » **[User-Defined]** to add a **[new data type]**.



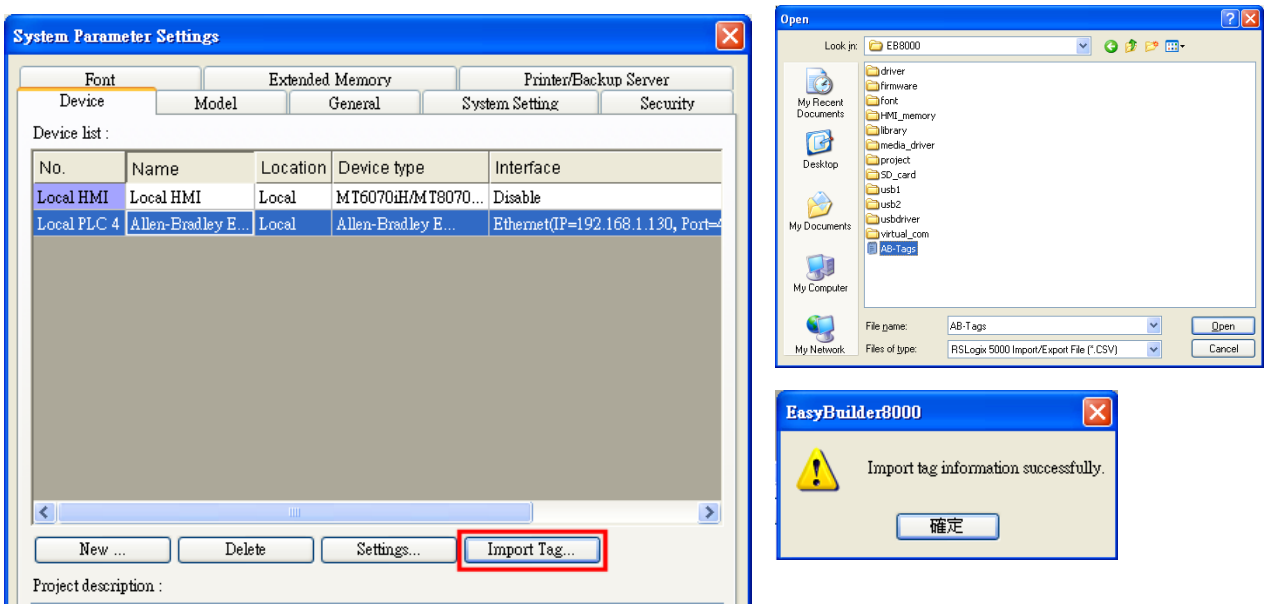
**Step 2**

After adding all Program Tags, click **[OK]** » **[Save]** » **[Exit]** to leave the editor dialog.

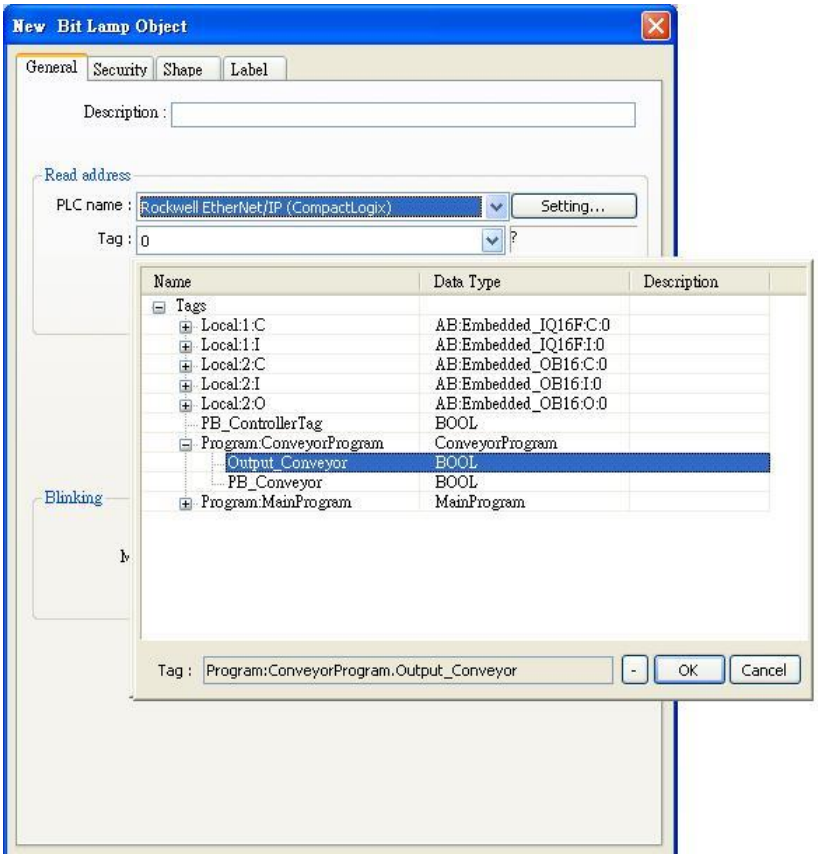
| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
|---|---|---|---|---|---|
| ALIAS | ConveyorProgram | Output_Conveyor | | | Local:2:O.Data.2 |
| TAG | ConveyorProgram | PB_Conveyor | | BOOL | |
| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| ALIAS | MainProgram | Output_Light | | | Local:2:O.Data.1 |
| TAG | MainProgram | PB | | BOOL | |



6. In **[System Parameter Settings]**, click **[Import Tag]**, select the csv file. After importing a message window is displayed.




7. In the object property dialog, select PLC Tag address.



## Device Address:

| PLC data type name | Bit/Word | EasyBuilder data format | Memo |
|---|---|---|---|
| BOOL | Boolean | Bit object | |
| BitArray | | | |
| SINT | | | |
| INT | Integer | 16-bit signed, ASCII | -32768 ~ 32767 |
| DINT | Double Integer | 32-bit signed | $-2^{31} \sim (2^{31}-1)$ |
| REAL | Single Precision Float | 32-bit Float | IEEE 754 |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Aug/25/2010 | |

# Rockwell EtherNet/IP (ControlLogix) – Free Tag Names

Supported Series: Rockwell ControlLogix, CompactLogix, FelxLogix Ethernet.

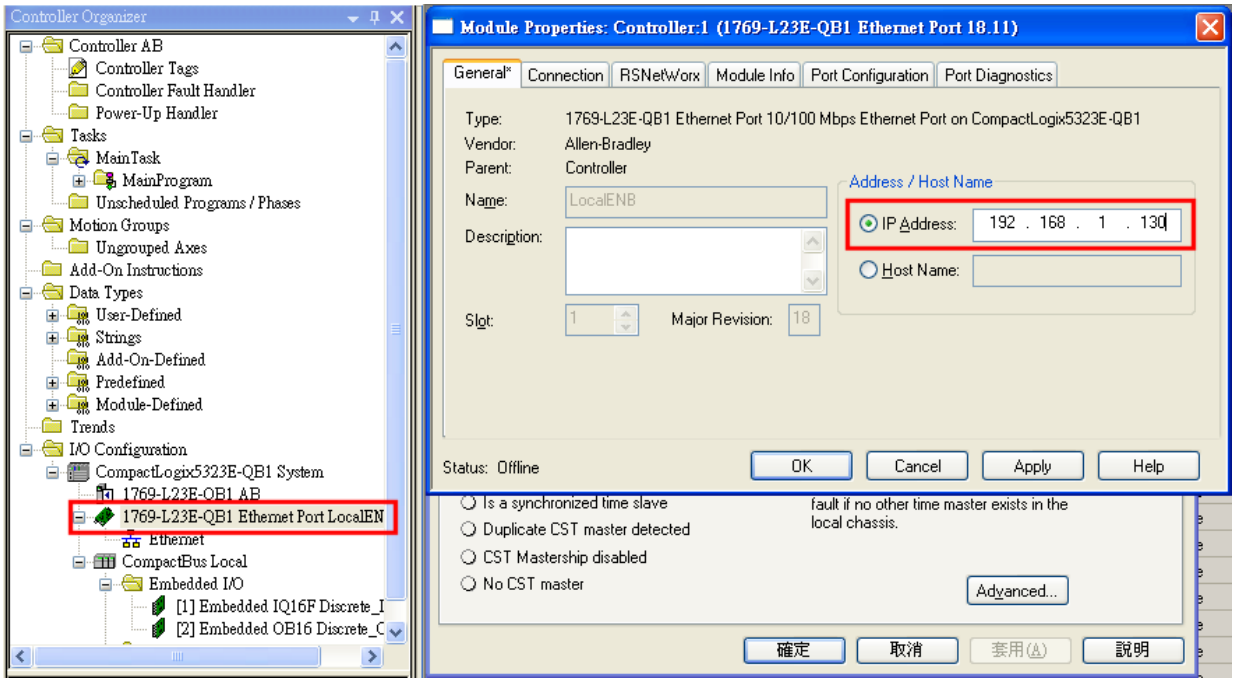
Website: http://www.ab.com

## HMI Setting:

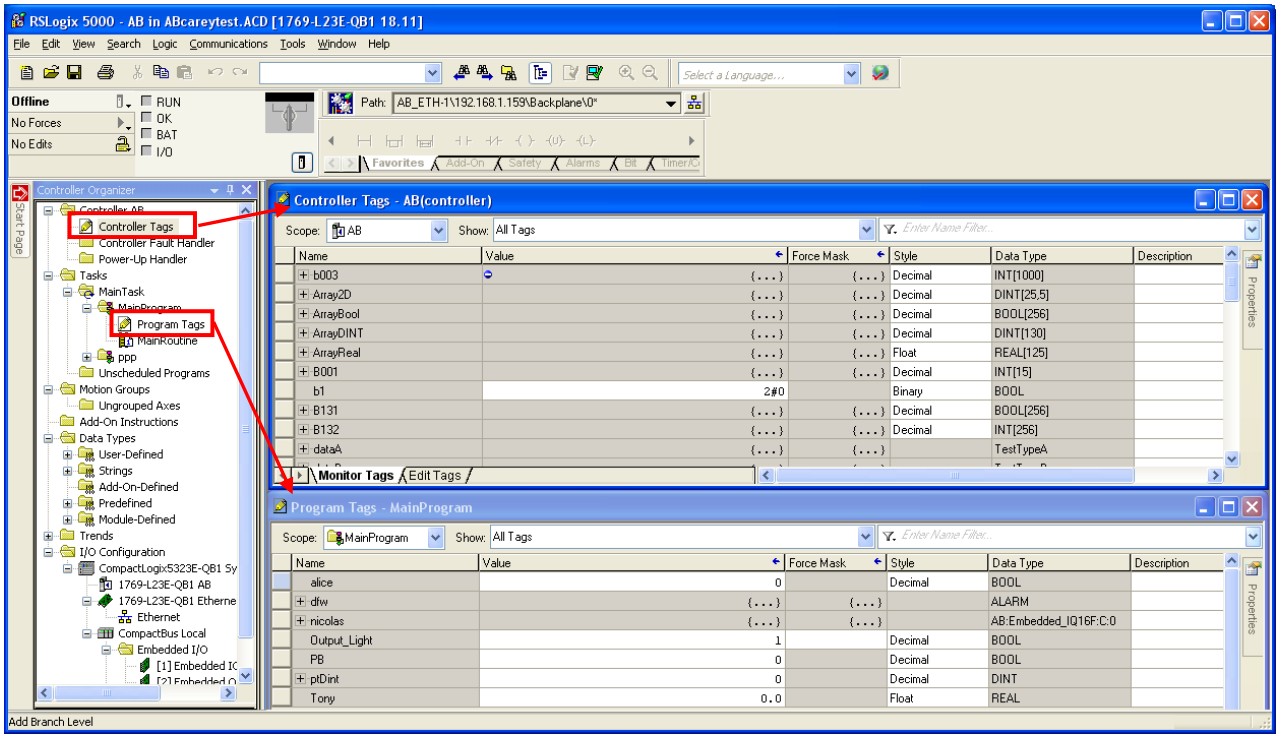
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell EtherNet/IP (ControlLogix) – Free Tag Names | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| PLC sta. no. | The same as CPU Slot No. | | |

## PLC Setting:

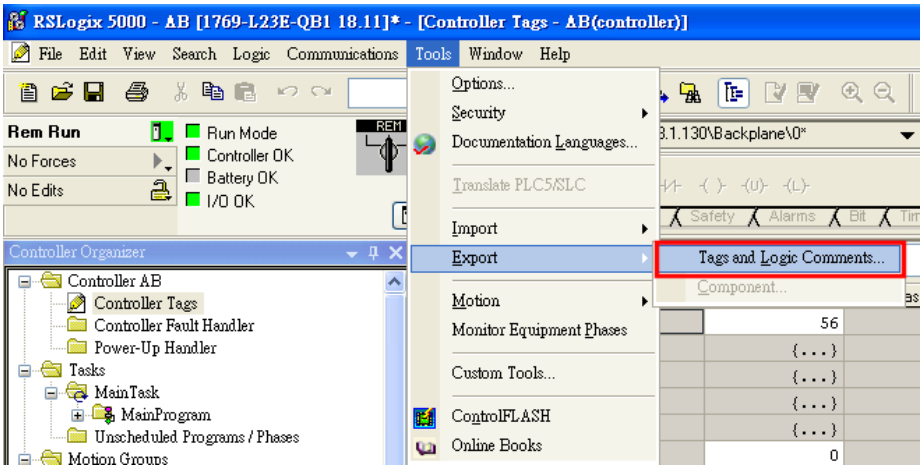
1. Set PLC IP address.



2. Create new tags (Controller Tags and Program Tags supported).




3. Export Tag data to CSV file. ( **[Tools]** » **[Export]** » **[Tags and Logic Comments]** )



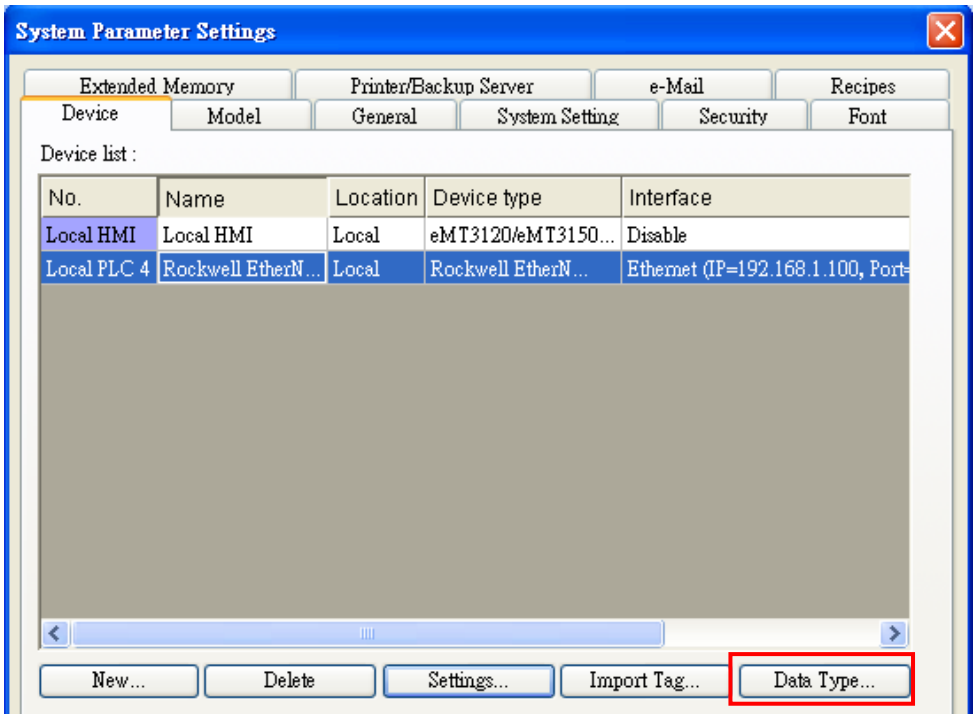

Note: The separator character in CSV file must be a comma “,” otherwise the file is invalid.

| | | | | | |
|---|---|---|---|---|---|
| TAG | | B003 | | INT[20] | (RADIX := Decimal, PLCMappingFile := 3, Constant := false, ExternalAccess := Read/Write) |
| TAG | | B012 | | INT[32] | (RADIX := Decimal, PLCMappingFile := 12, Constant := false, ExternalAccess := Read/Write) |
| TAG | | B015 | | BOOL | (RADIX := Binary, Constant := false, ExternalAccess := Read/Write) |

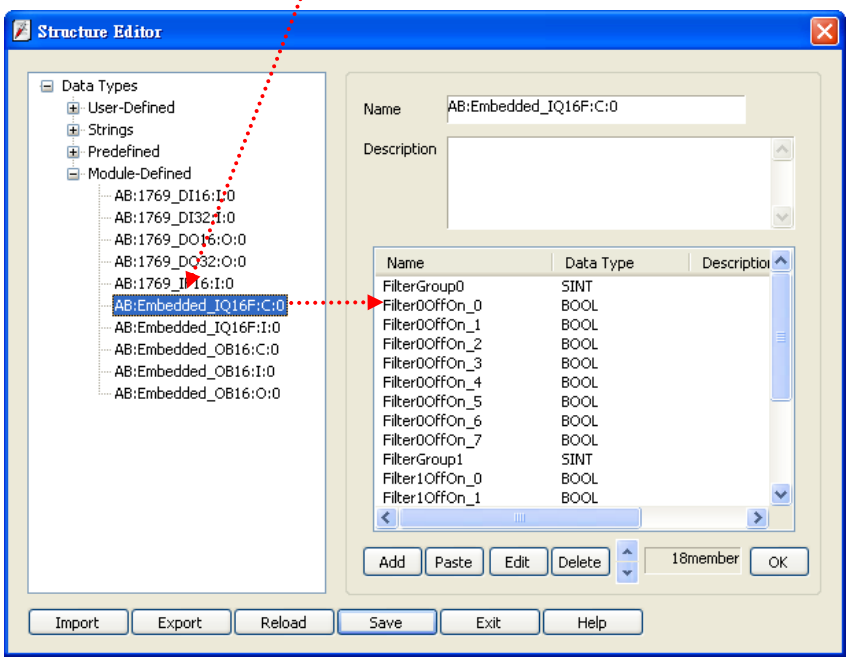
The directory of changing system settings: [**Control Panel] » [Date, Time, Language, and Regional Options] » [Change the format of numbers, dates, and times] » [Customize] » [List separator]**. Please select “,” and export CSV file after setting.



4. Open EasyBuilder project file, select the driver and set IP address. Click **[Data Type]** to open **[Structure Editor]** and edit the data type of the tags.




| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER | ATTRIBUTES |
|---|---|---|---|---|---|---|
| TAG | | Local:1:C | | AB:Embedded_IQ16F:C:0 | | |
| TAG | | Local:1:I | | AB:Embedded_IQ16F:I:0 | | |
| TAG | | Local:2:C | | AB:Embedded_OB16:C:0 | | |
| TAG | | Local:2:I | | AB:Embedded_OB16:I:0 | | |
| TAG | | Local:2:O | | AB:Embedded_OB16:O:0 | | |



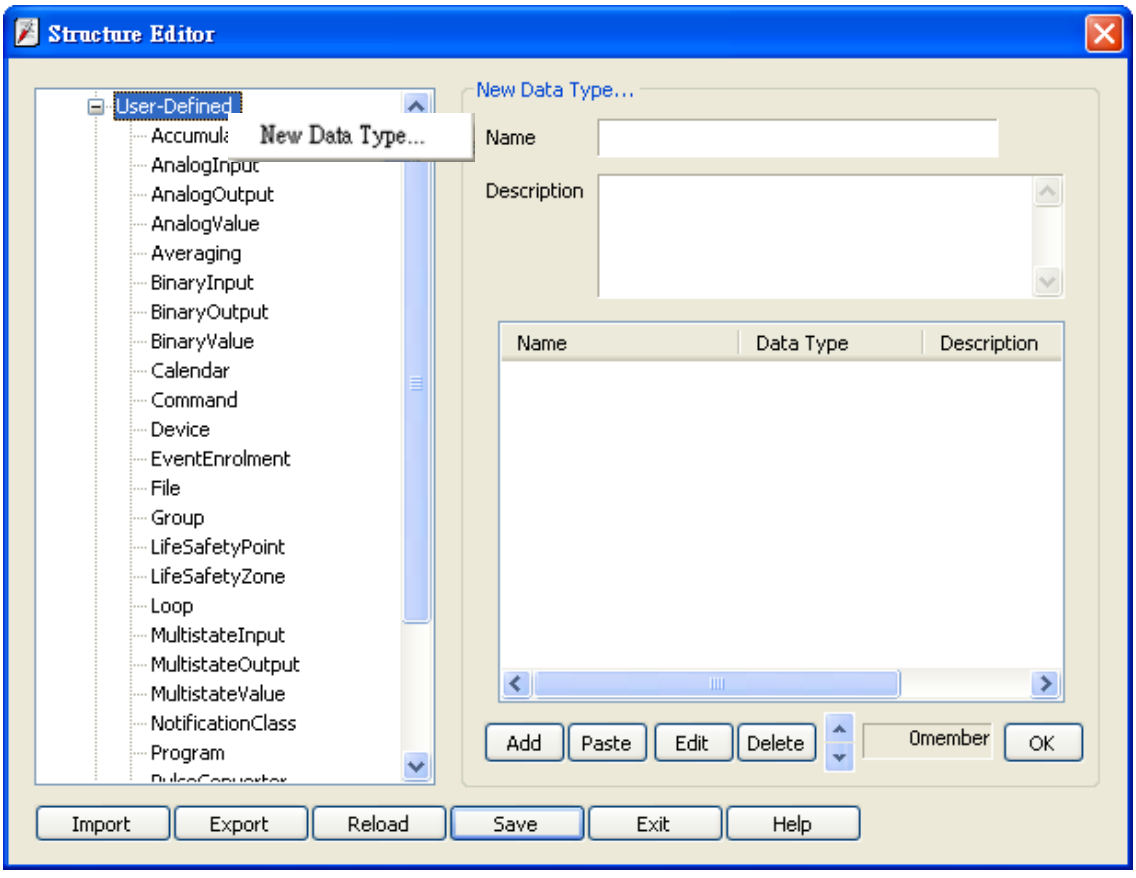
5. In **[Structure Editor]** edit the data type of **[Program Tag]**.
   The imported csv file is shown below:

Note: The Program Tag can directly be imported in EasyBuilder Pro V3.00.05, EasyBuilder 8000 V4.65.08, and the later versions. Please go to step 6 without editing manually.

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 8 | TAG | | Local:1:C | | AB:Embedded_IQ16F:C:0 | |
| 9 | TAG | | Local:1:I | | AB:Embedded_IQ16F:I:0 | |
| 10 | TAG | | Local:2:C | | AB:Embedded_OB16:C:0 | |
| 11 | TAG | | Local:2:I | | AB:Embedded_OB16:I:0 | |
| 12 | TAG | | Local:2:O | | AB:Embedded_OB16:O:0 | |
| 13 | TAG | | PB_ControllerTag | | BOOL | |
| 14 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 15 | TAG | ConveyorProgram | Output_Conveyor | | | Local:2:O.Data.2 |
| 16 | TAG | ConveyorProgram | PB_Conveyor | | BOOL | |
| 17 | TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| 18 | TAG | MainProgram | Output_Light | | | Local:2:O.Data.1 |
| 19 | TAG | MainProgram | PB | | BOOL | |

**Step 1**

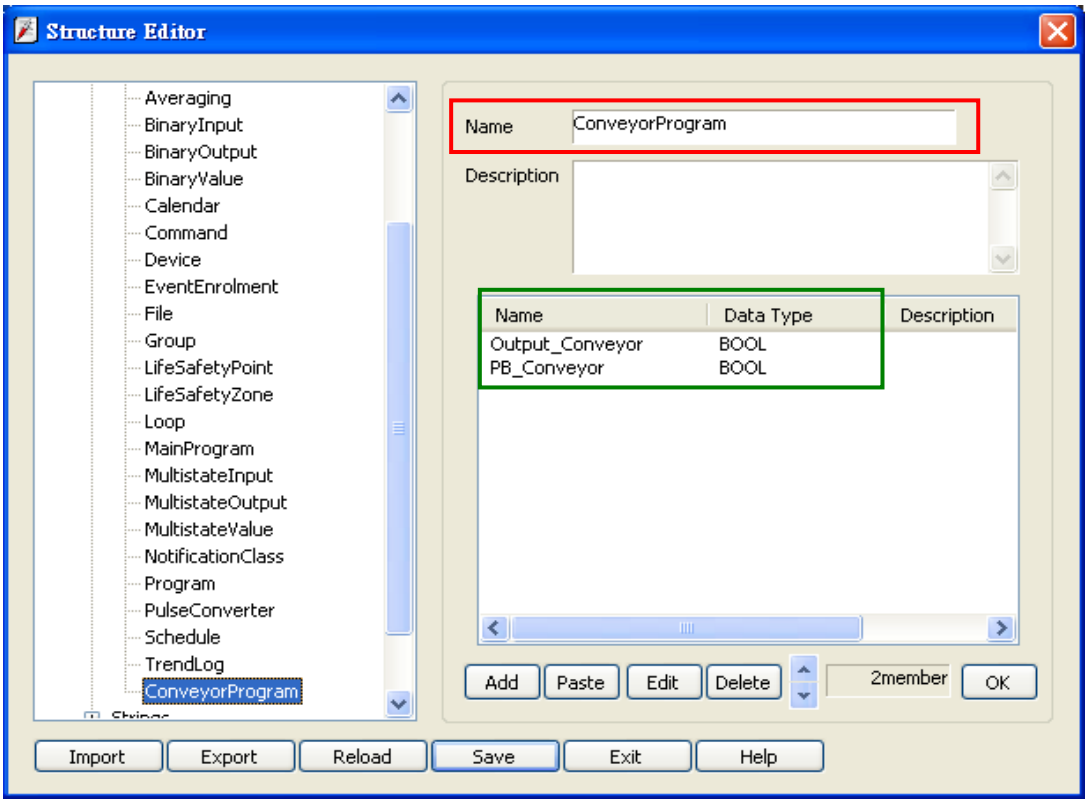
Right click on **[Structure Editor]** » **[User-Defined]** to add a **[new data type]**.



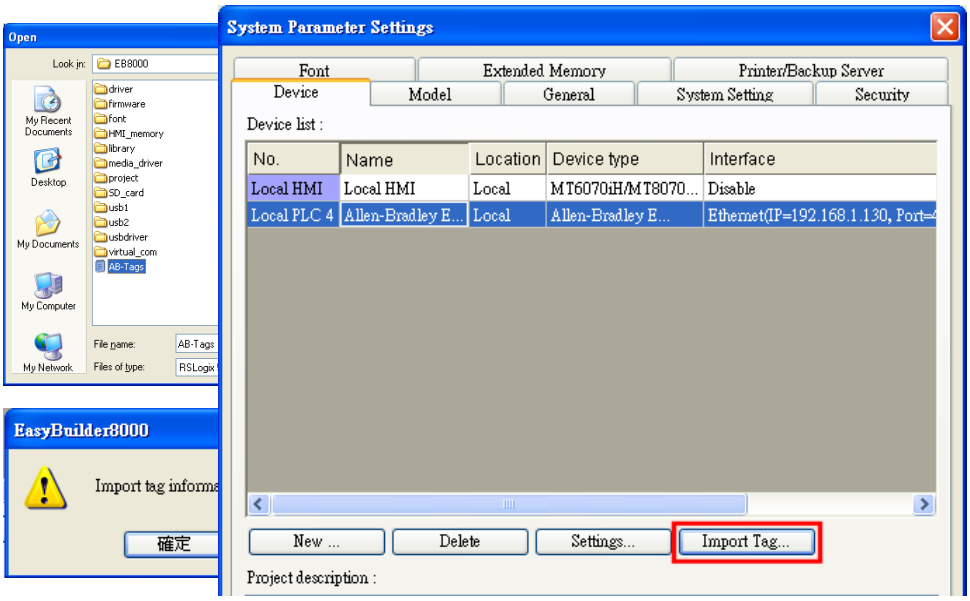
**Step 2**

After adding all Program Tags, click **[OK]** » **[Save]** » **[Exit]** to leave the editor dialog.

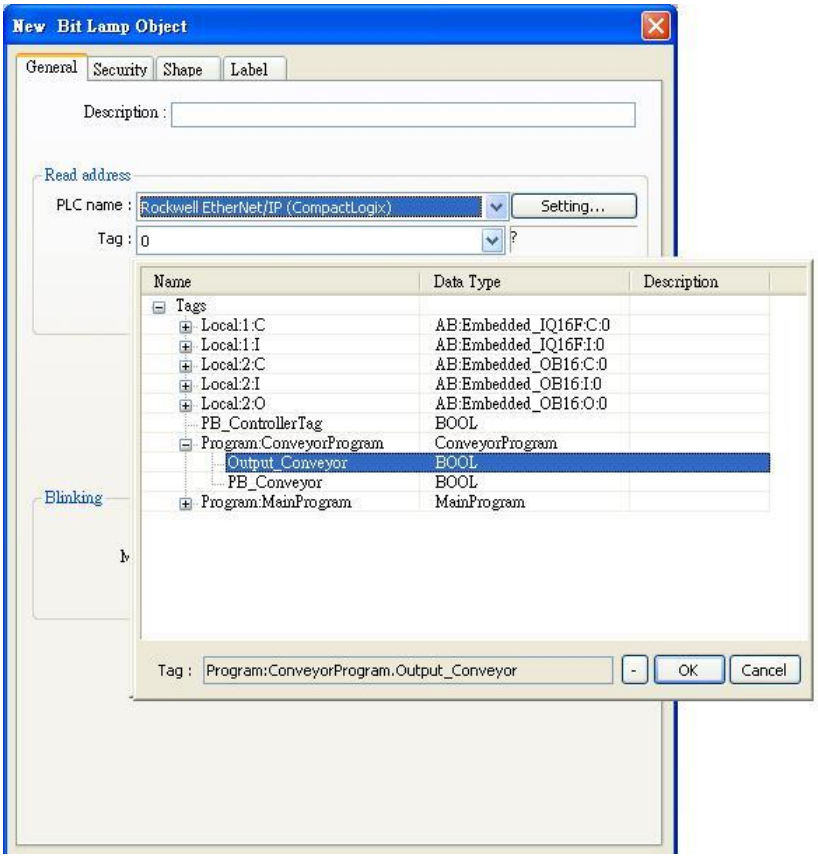
| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
|---|---|---|---|---|---|
| ALIAS | ConveyorProgram | Output_Conveyor | | | Local:2:O.Data.2 |
| TAG | ConveyorProgram | PB_Conveyor | | BOOL | |
| TYPE | SCOPE | NAME | DESCRIPTION | DATATYPE | SPECIFIER |
| ALIAS | MainProgram | Output_Light | | | Local:2:O.Data.1 |
| TAG | MainProgram | PB | | BOOL | |



6. In **[System Parameter Settings]**, click **[Import Tag]**, select the csv file. After importing a message window is displayed.




7. In the object property dialog, select PLC Tag address.



## Device Address:

| PLC data type name | Bit/Word | EasyBuilder data format | Memo |
|---|---|---|---|
| BOOL | Boolean | Bit object | |
| BitArray | | | |
| SINT | | | |
| INT | Integer | 16-bit signed, ASCII | -32768 ~ 32767 |
| DINT | Double Integer | 32-bit signed | $-2^{31} \sim (2^{31}-1)$ |
| REAL | Single Precision Float | 32-bit Float | IEEE 754 |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Oct/05/2010 | |

# Rockwell EtherNet/IP (DF1)

Supported Series: Rockwell MicroLogix 1100, 1400, SLC5/05 Ethernet port.
MicroLogix1000, 1200, 1500, SLC 5/03, 5/04 with 1761-NET-ENI

Website: http://www.ab.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell EtherNet/IP (DF1) | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Port Setting: 10/100 Mbps Full Duplex/Half Duplex |

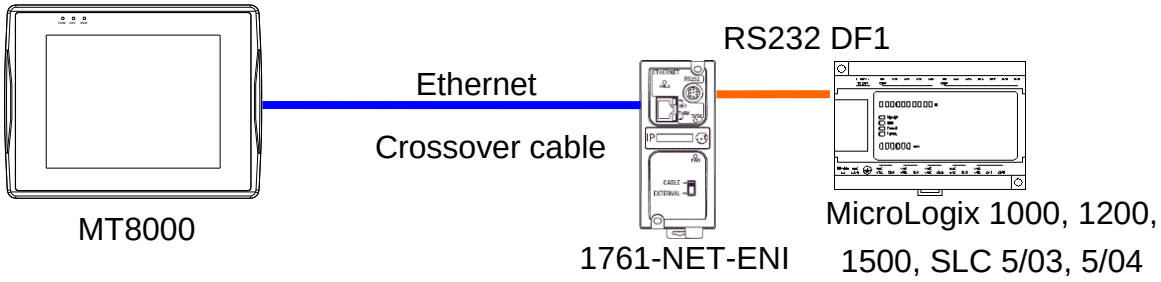
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I1 | DDDdd | 0 ~ 25515 | Input (I) |
| B | O0 | DDDdd | 0 ~ 25515 | Output (O) |
| B | B3 | DDDdd | 0 ~ 25515 | Bit data file (B3) |
| B | S_Bit | DDDDDDdd | 0 ~ 25525515 | Status file |
| B | Bfn | FFFDDDdd | 0 ~ 25525515 | Bit data file (B3, 10 ~ 254) |
| B | NfnBit | FFFDDDdd | 0 ~ 25525515 | Integer data file bit level (N7, 10 ~ 254) |
| W | T4SV | DDD | 0 ~ 255 | Timer Preset Value (T4) |
| W | T4PV | DDD | 0 ~ 255 | Timer Accumulator Value (T4) |
| W | C5SV | DDD | 0 ~ 255 | Counter Preset Value (C5) |
| W | C5PV | DDD | 0 ~ 255 | Counter Accumulator Value |
| W | TfnSV | FFFDDD | 0 ~ 255255 | |
| W | TfnPV | FFFDDD | 0 ~ 255255 | |
| W | CfnSV | FFFDDD | 0 ~ 255255 | |
| W | CfnPV | FFFDDD | 0 ~ 255255 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | S | DDD | 0 ~ 255 | |
| W | N7 | DDD | 0 ~ 255 | Integer data file (N7) |
| W | Nfn | FFFDDD | 0 ~ 255255 | Integer data file (N7, 10 ~ 254) |
| DW (F) | F8 | DDD | 0 ~ 255 | Floating point data file (F8) |
| DW (F) | Ffn | FFFDDD | 0 ~ 255255 | Floating point data file (F8, 10 ~ |
| DW | Lfn | FFFDDD | 0 ~ 255255 | Driver version 2.00 or later |
| W | STfn | DDD.DDD.DD | 0 ~ 255.255.40 | |

## Wiring Diagram:

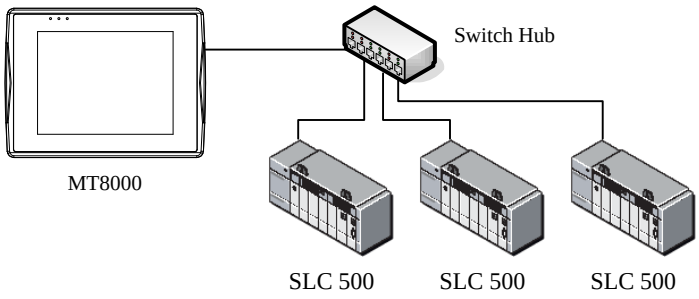
Direct connect (crossover cable):




| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |



Through a hub:




| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.00 | Dec/21/2009 | Add Lfn register. |
| V2.10 | Oct/14/2012 | Added register: I1n,O0n. |
| V2.20 | Set/06/2013 | Added register: STfn. |

# Rockwell Micro850 (Ethernet) - Free Tag Names

Supported Series: Rockwell Micro820/850 Ethernet Module.
Website: http://www.ab.com

## HMI Setting:

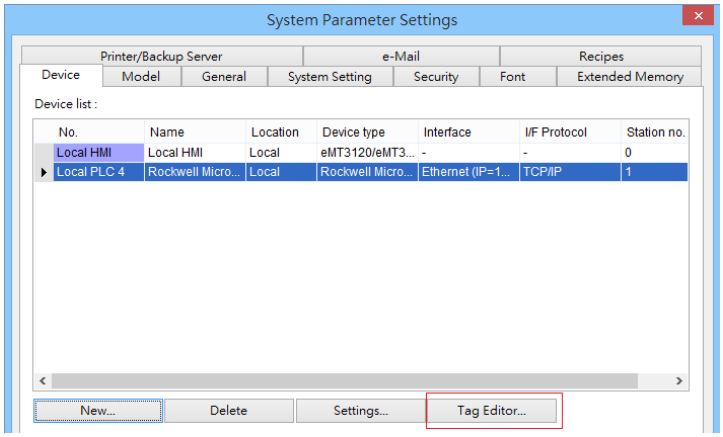
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell Micro850 (Ethernet) - Free Tag Names | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | | |

## Support Device Type:

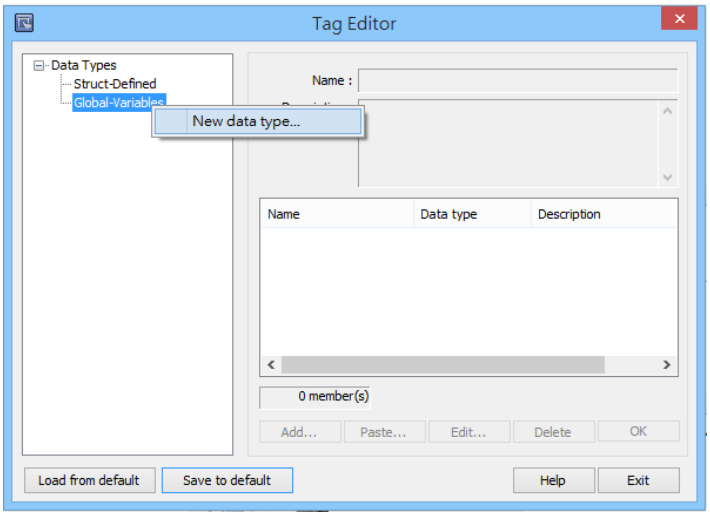
| Data type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Byte | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| SInt | 16-bit BCD, Hex, Binary, Signed | 8-bit |
| USInt | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| String | ASCII Object | Length=word |

# How to Import Tags:

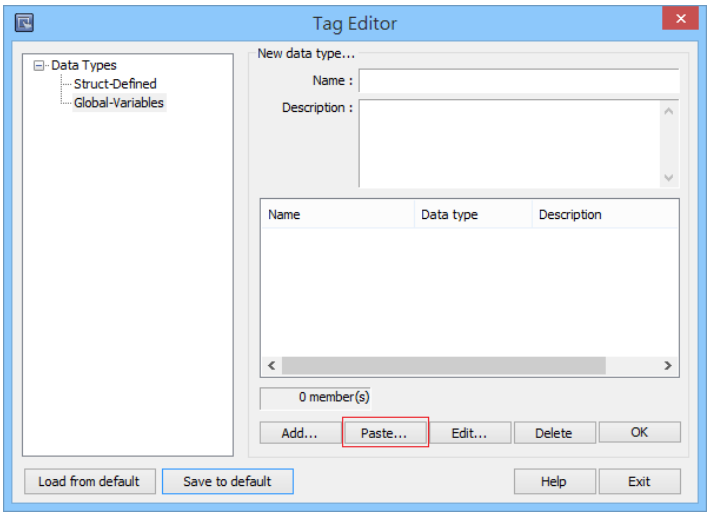
1. Click [Tag Editor].



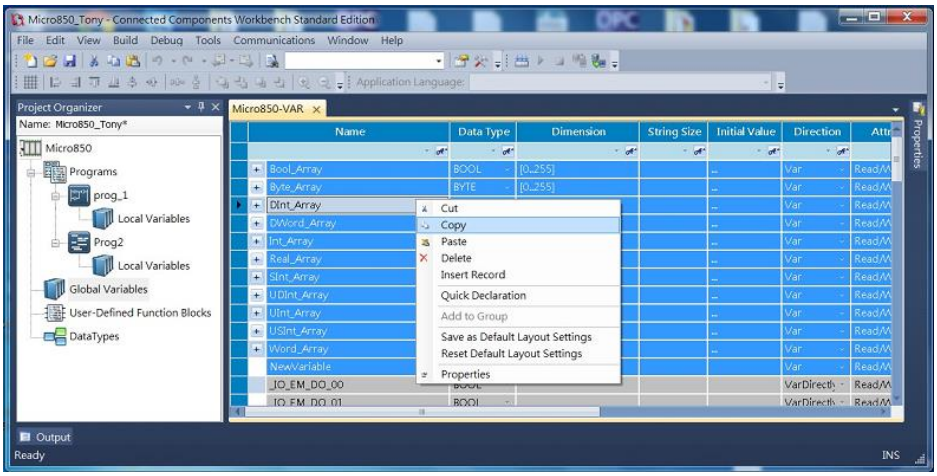

2. Right-click [Global-Variables] and select [New data type].



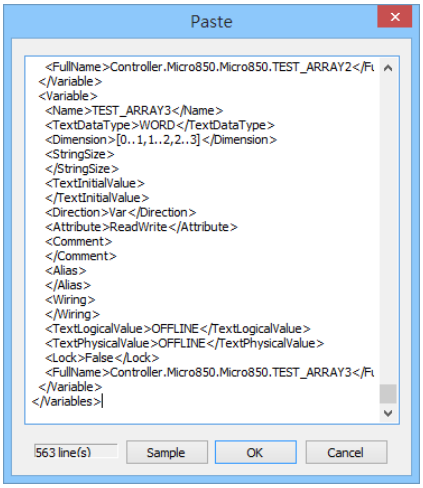

3. Click [Paste].



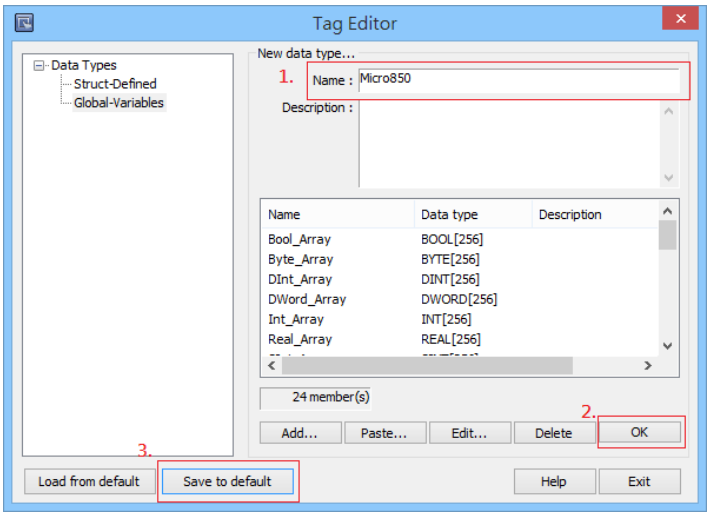
4. Launch “Connected Components Workbench” software, select and copy the tags under [Global Variables]. Note that the IO address cannot be copied and can only be manually created.




5. Paste the copied tags and click [OK].

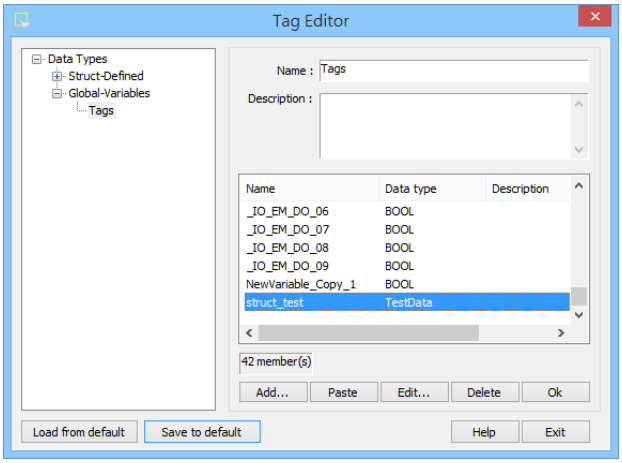



6. Enter [Name], click [OK], and then click [Save to default]. The tags are now successfully created.

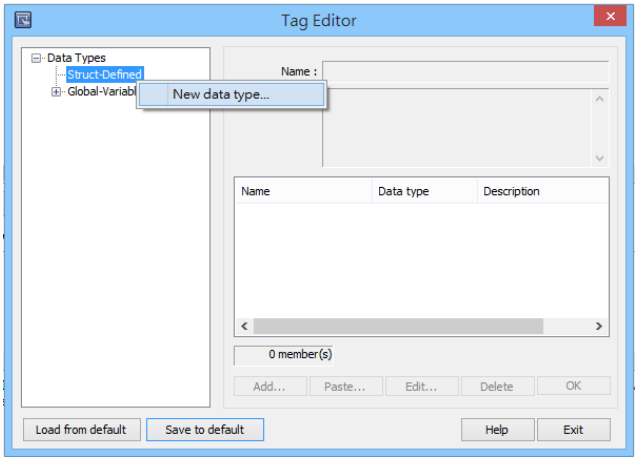


## Building Struct:

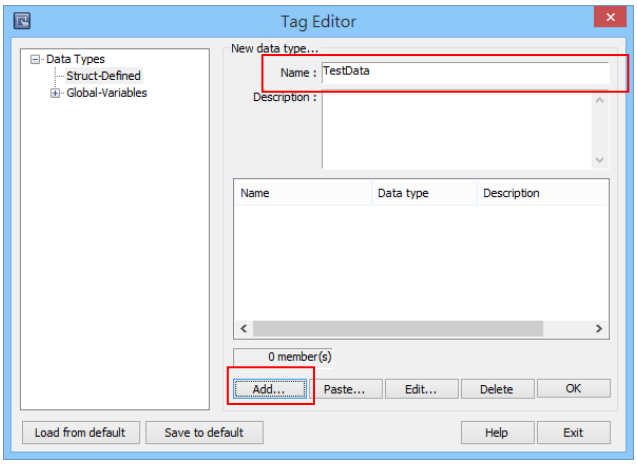
1. After importing the tags, the data type of Struct is shown as in the following figure, please build the corresponding tag under Struct-Defined.



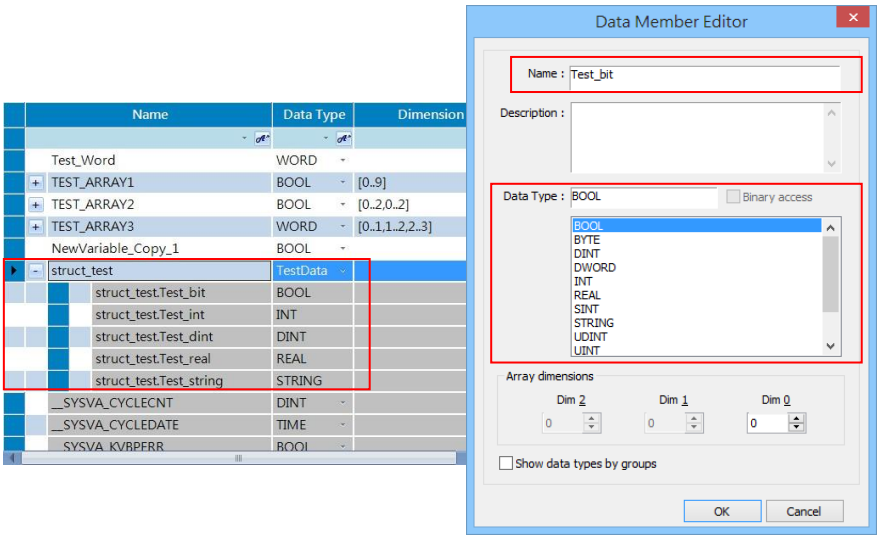

2. Right click on [Struct-Definded] and then select [New data type].



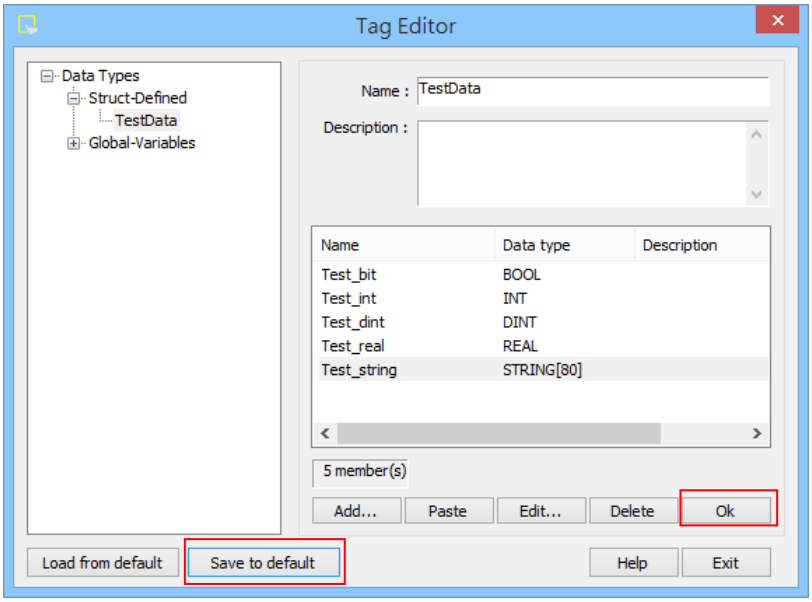

3. Enter the [Data type] in the [Name] field, and then click [Add].



4. Enter the same information in the [Name] and [Data Type] fields as shown in the original factory software, and then click [OK].




5. Upon completion click [OK] and then click [Save to default] to finish building Struct.



## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jun/08/2014 | Driver released. |

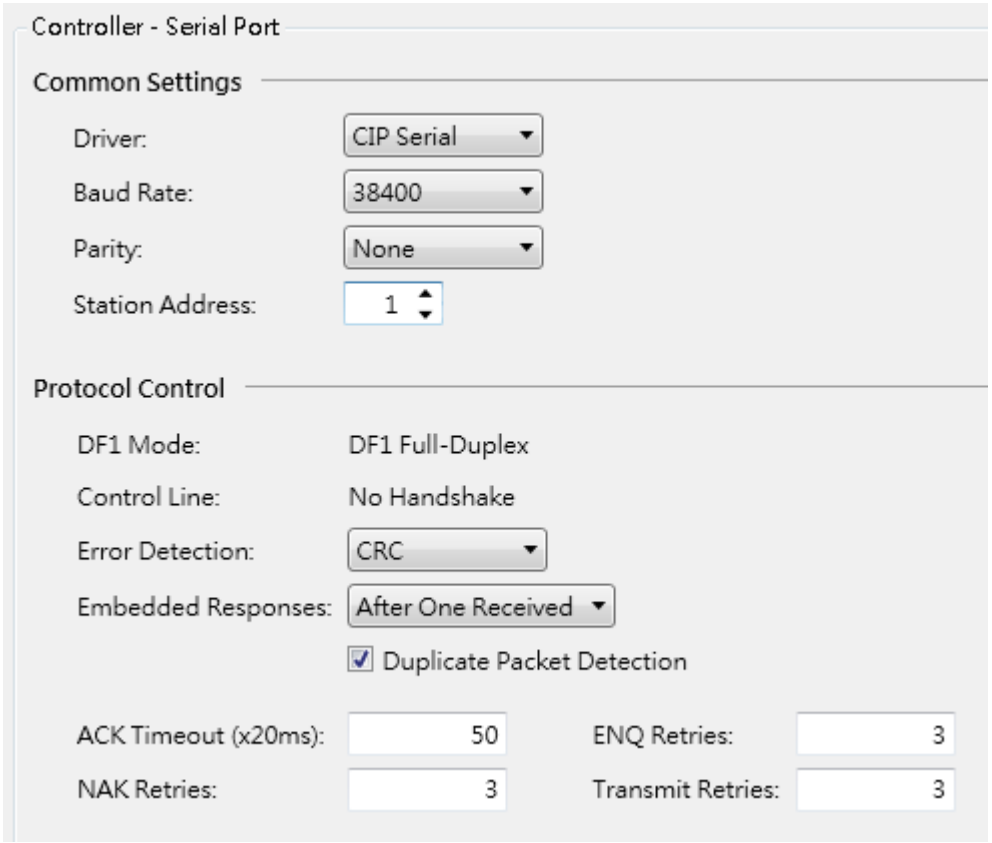
# Rockwell Micro850 - Free Tag Names

Supported Series: Rockwell Micro820/850 Ethernet Module.
Website: http://www.ab.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell Micro850 - Free Tag Names | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | 1200 ~ 38400 | |
| Data bits | 8 | | |
| Parity | None | None,Even,Odd | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 0 ~ 254 | |

## PLC Setting:

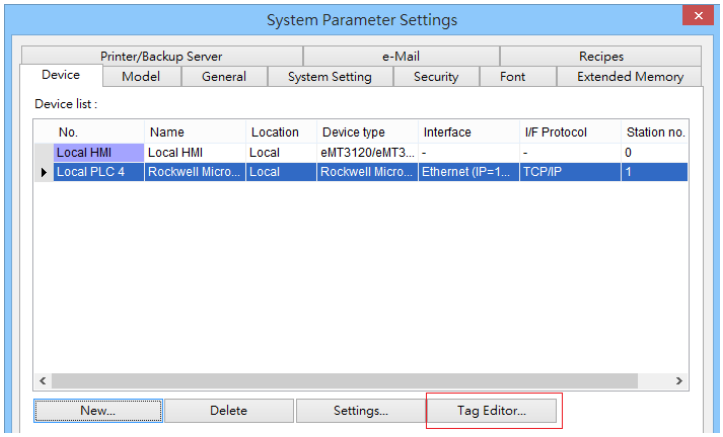


## Support Device Type:

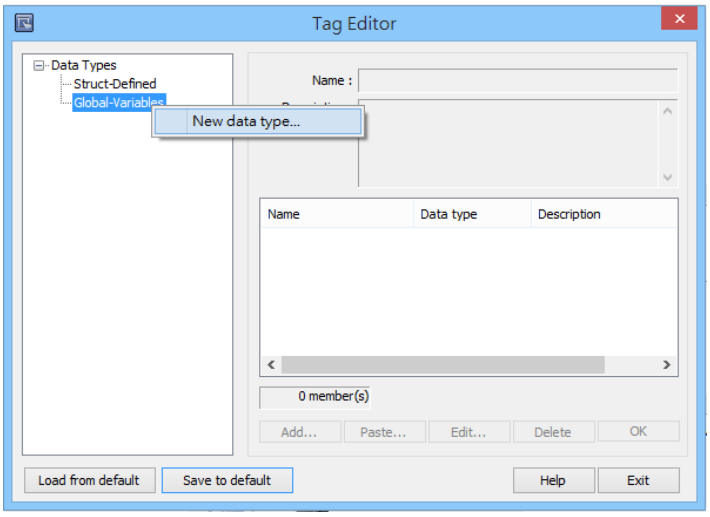
| Data type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Byte | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| SInt | 16-bit BCD, Hex, Binary, Signed | 8-bit |
| USInt | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| String | ASCII Object | Length=word |

# How to Import Tags:

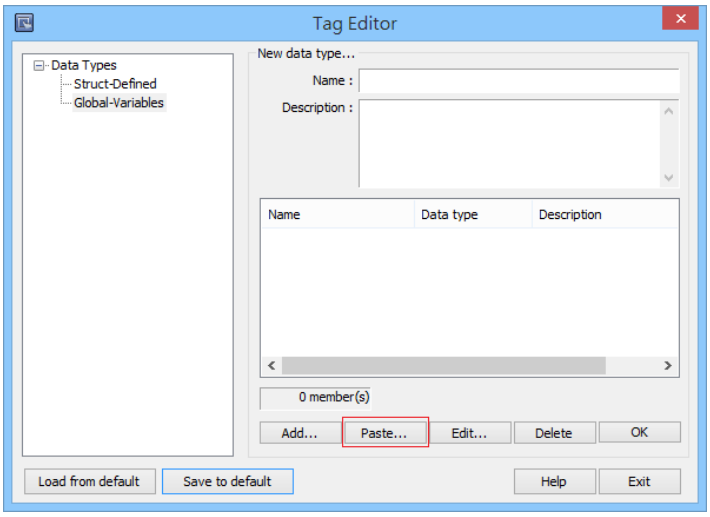
1. Click [Tag Editor].



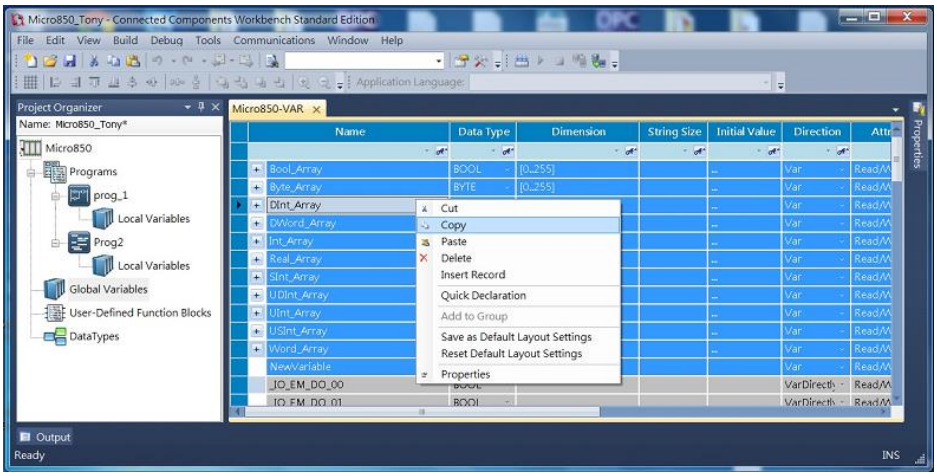

2. Right-click [Global-Variables] and select [New data type].



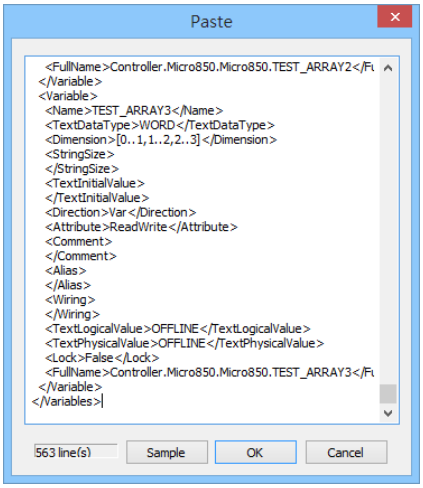

3. Click [Paste].



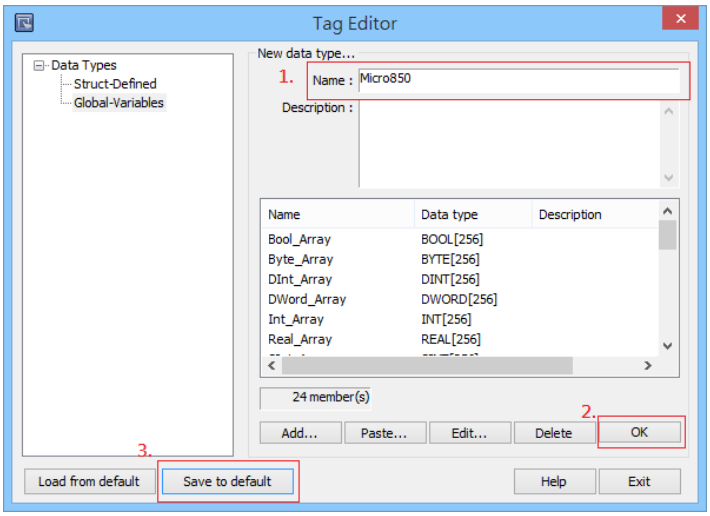
4. Launch “Connected Components Workbench” software, select and copy the tags under [Global Variables]. Note that the IO address cannot be copied and can only be manually created.




5. Paste the copied tags and click [OK].

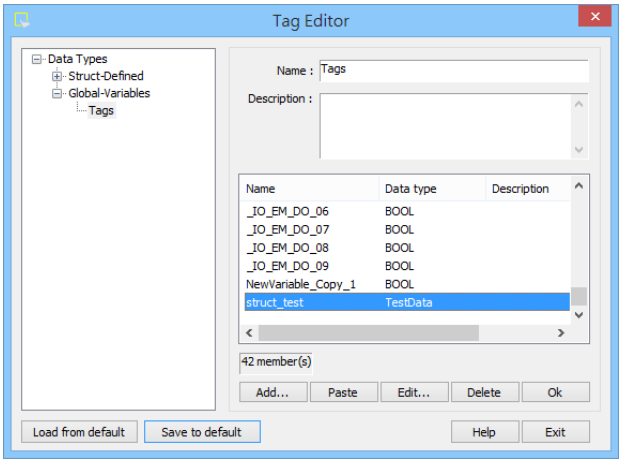



6. Enter [Name], click [OK], and then click [Save to default]. The tags are now successfully created.

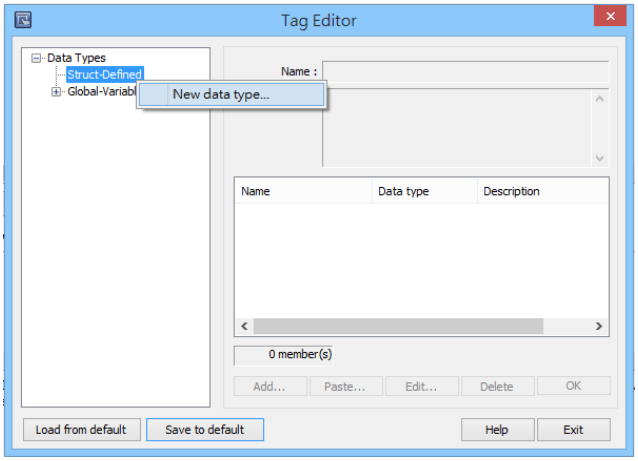


## Building Struct:

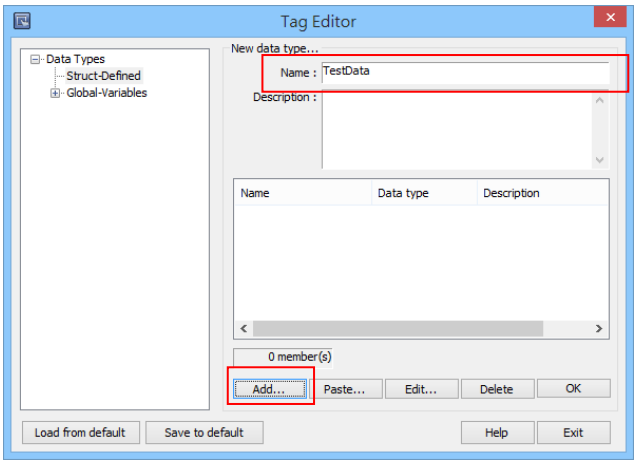
1. After importing the tags, the data type of Struct is shown as in the following figure, please build the corresponding tag under Struct-Defined.



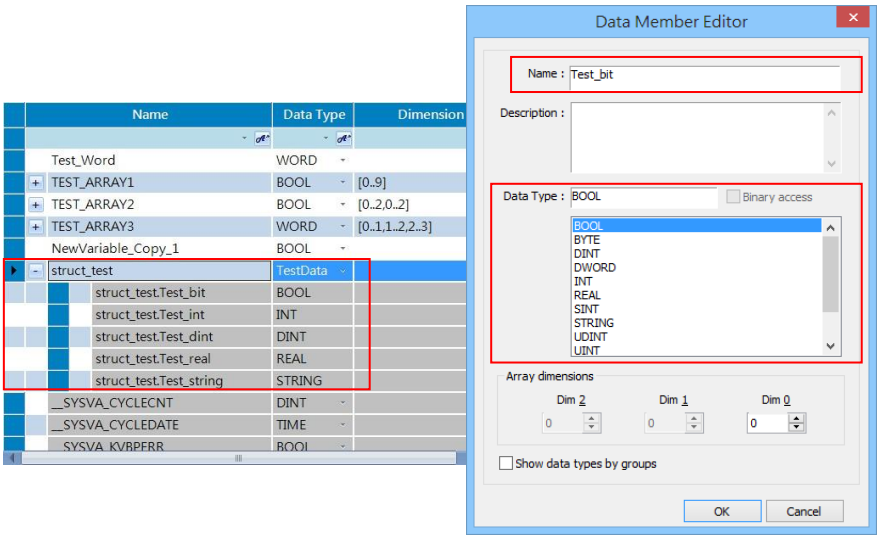

2. Right click on [Struct-Definded] and then select [New data type].



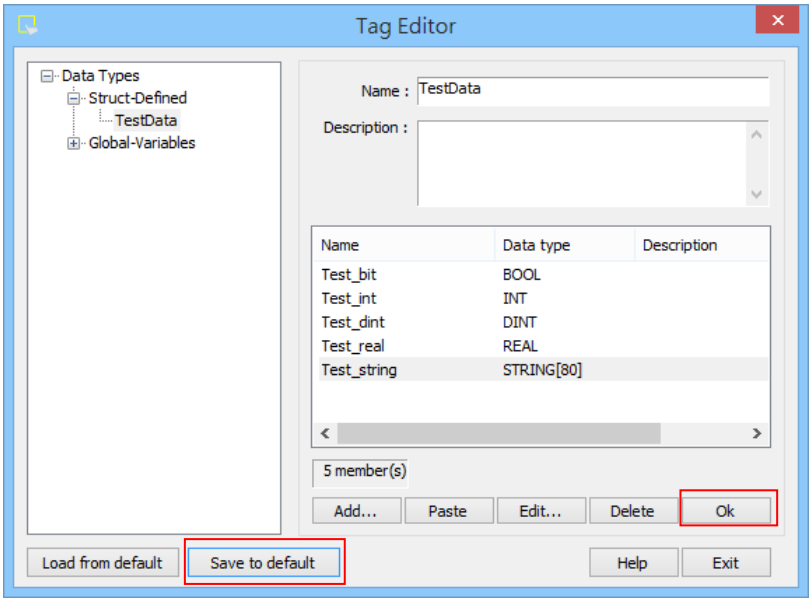

3. Enter the [Data type] in the [Name] field, and then click [Add].



4. Enter the same information in the [Name] and [Data Type] fields as shown in the original factory software, and then click [OK].



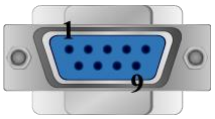
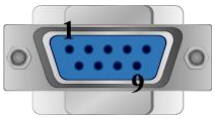

5. Upon completion click [OK] and then click [Save to default] to finish building Struct.



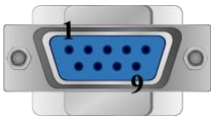
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

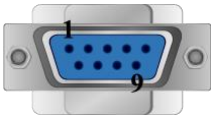
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 7 TXD |
| 3 TX | 7 TX | | 4 RXD |
| 5 GND | 5 GND | | 2 GND |
|  |  | |  |

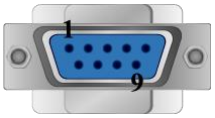
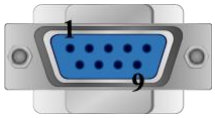
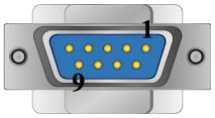
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

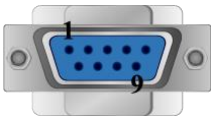
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 7 TXD |
| 3 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 7 TXD |
| 3 TX | 4 TX | 7 TX | 4 RXD |
| 5 GND | 5 GND | 5 GND | 2 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 7 TXD |
| 6 TX | | | 4 RXD |
| 5 GND | | | 2 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/29/2014 | Driver released. |

# Rockwell PLC5

Website: http://www.ab.com
Note: Rockwell PLC5 driver uses CRC checksum.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Rockwell PLC5 | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | 1-31 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | DF1 Full Duplex protocol 19200, None, 8, 1 (default) |

Allen-Bradley PLC-5 Family PLCs use DF1 Full Duplex protocol.
For PLC-5/10, PLC-5/15 and PLC-5/25, MT8000 should be connected to the DF1 port on the 1785-KE module.
For PLC-5/11, PLC-5/20, PLC-5/30 and PLC-5/40, MT8000 should be connected to the Channel 0 Port on the PLC.

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I1 | DDDdd | 0 ~ 25515 | Input (I) |
| B | O0 | DDDdd | 0 ~ 25515 | Output (O) |
| B | B3 | DDDdd | 0 ~ 99915 | Bit data file (B3) |
| B | B10 ~ 13 | DDDdd | 0 ~ 99915 | Bit data file (B10 ~ 13) |
| B | S_Bit | DDDDDDdd | 0 ~ 25599915 | |
| B | Bfn | FFFDDDdd | 0 ~ 25599915 | |
| B | NfnBit | FFFDDDdd | 0 ~ 25599915 | |
| W | T4SV | DDD | 0 ~ 999 | Timer Preset Value (T4) |

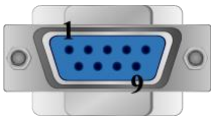
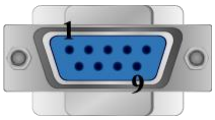
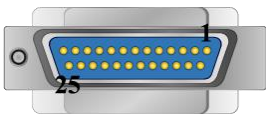
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | T4PV | DDD | 0 ~ 999 | Timer Accumulator Value (T4) |
| W | C5SV | DDD | 0 ~ 999 | Counter Preset Value (C5) |
| W | C5PV | DDD | 0 ~ 999 | Counter Accumulator Value (C5) |
| W | TfnSV | FFFDDD | 0 ~ 255999 | |
| W | TfnPV | FFFDDD | 0 ~ 255999 | |
| W | CfnSV | FFFDDD | 0 ~ 255999 | |
| W | CfnPV | FFFDDD | 0 ~ 255999 | |
| W | N7 | DDD | 0 ~ 999 | Integer data file (N7) |
| W | N10 ~ 15 | DDD | 0 ~ 999 | Integer data file (N10 ~ 15) |
| W | Nfn | FFFDDD | 0 ~ 255999 | Integer data file (V2.5.0 or newer) |
| W | S | DDD | 0 ~ 255 | |
| W | F8 | DDD | 0 ~ 999 | Floating point data file (F8) |
| W | Ffn | FFFDDD | 0 ~ 255999 | Floating point data file (V2.5.0 or newer) |

## Wiring Diagram:

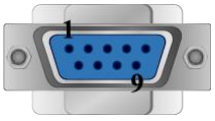
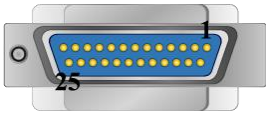
**The following is the view from the soldering point of a cable.**

9P D-Sub to 25P D-Sub: PLC5 CPU CH0

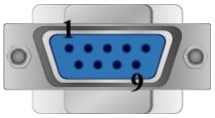
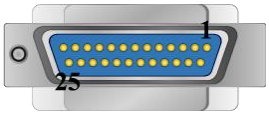
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | AB CPU CH0 RS232 25P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TD |
| 3 TX | 7 TX | | 3 RD |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

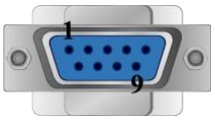
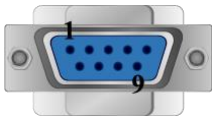
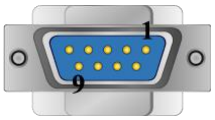
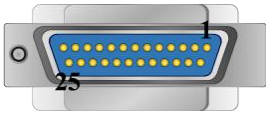
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 25P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 7 GND |
|  | | |  |

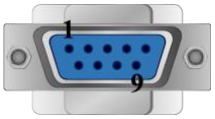
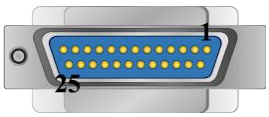
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 25P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 7 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

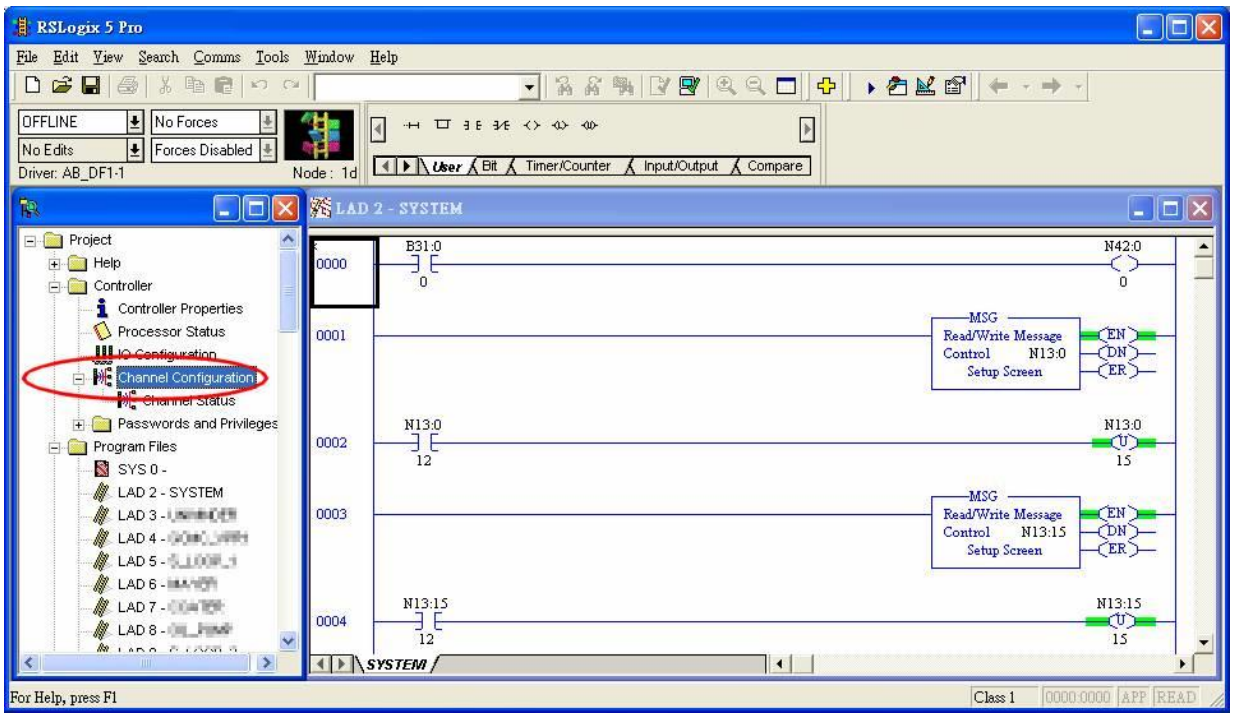
| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | AB CPU CH0 RS232 25P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TD |
| 3 TX | 4 TX | 7 TX | 3 RD |
| 5 GND | 5 GND | 5 GND | 7 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

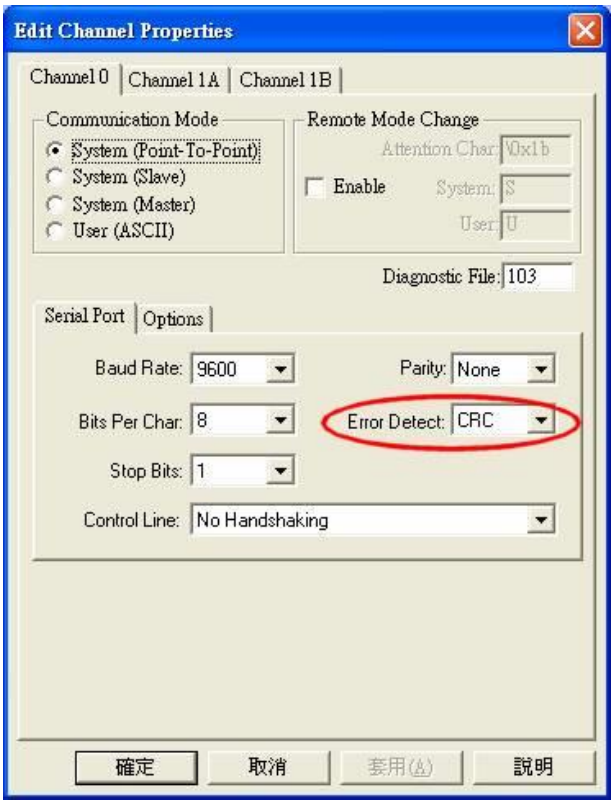
| COM1 RS232 9P D-Sub Female | | | AB CPU CH0 RS232 25P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TD |
| 6 TX | | | 3 RD |
| 5 GND | | | 7 GND |
|  | | |  |

## Note:

The default error checking of Rockwell PLC5 is BCC, whereas our driver is CRC.




Access [Channel Configuration] from RSLogix5, under Channel 0 tab, please select “CRC” for [Error Detect].



## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Apr/17/2009 | |

# RS Automation OEMAX Series

Supported Series: OEMax NX7/NX7s Controllers.

Website: http://www.oemax.co.kr

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | RS Automation OEMAX Series | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600, 19200, 38400 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | | |
| HMI sta. no. | 225 | 0 ~ 255 | *Please correctly set HMI station number. |

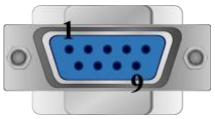
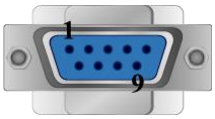
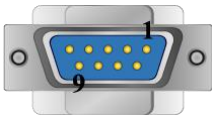
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | R | DDDdd | 0 ~ 25515 | |
| B | L | DDDdd | 0 ~ 25515 | |
| B | M | DDDDdd | 0 ~ 199915 | |
| B | K | DDDdd | 0 ~ 25515 | Keep Contact |
| B | F | DDDdd | 0 ~ 99115 | Special Contact |
| B | TC | DDD | 0 ~ 255 | Timer/Counter |
| W | W | DDDD | 0 ~ 7999 | Data Register |
| W | SV | DDD | 0 ~ 255 | Timer/Counter Set Value |
| W | PV | DDD | 0 ~ 255 | Timer/Counter Preset Value |
| W | SR | DDD | 0 ~ 255 | Special Register |
| W | WR | DDD | 0 ~ 255 | |
| W | WL | DDD | 0 ~ 255 | |
| W | WM | DDDD | 0 ~ 1999 | |
| W | WK | DDD | 0 ~ 255 | |
| W | WF | DDD | 0 ~ 991 | |

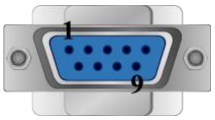
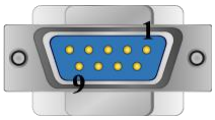
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

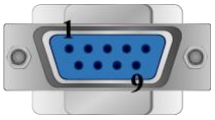
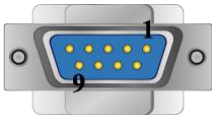
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Port1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

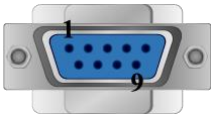
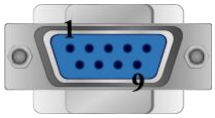
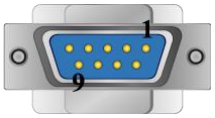
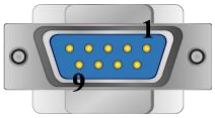
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Port1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

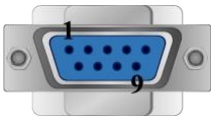
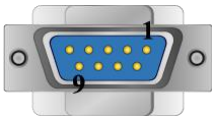
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Port1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Port1 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Port1 RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/30/2008 | Driver released. |
| V1.20 | Jun/27/2012 | Support more station numbers. |

# RS Automation X8 Series

Supported Series: RS-X8 Series PLC
Website: http://www.rsautomation.biz/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | RS Automation X8 Series | | |
| PLC I/F | RS232/Ethernet | RS232/ Ethernet | |
| Baud rate | 115200 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | None | None,Even,ODD | |
| Stop bits | 1 | 1,2 | |
| Port no. | 50000 | | |
| PLC sta. no. | 1 | 0 ~ 255 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Xnet Slave |

## Device Address:

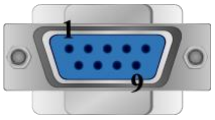
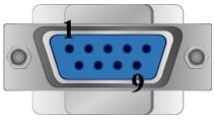
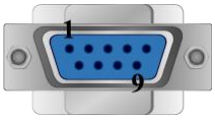
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Y_bit | DD.DDDdd | 0 ~ 96.25515 | Output |
| B | X_bit | DD.DDDdd | 0 ~ 96.25515 | Input |
| B | SR_bit | DDDdd | 0 ~ 12715 | Status |
| B | B_bit | DDDD.DDDDdd | 0 ~ 1535.153515 | Bit |
| B | N_bit | DDDD.DDDDdd | 0 ~ 1535.153515 | Integer |
| B | A_bit | DDDD.DDDDdd | 0 ~ 1535.153515 | ASCII |
| B | TM_Done | DDDD.DDDDdd | 0 ~ 1535.153515 | Timer_Done |
| B | CT_Done | DDDD.DDDDdd | 0 ~ 1535.153515 | Counter_Done |
| B | CR_Done | DDDD.DDDDdd | 0 ~ 1535.153515 | Control_Done |
| W | Y | DD.DDD | 0 ~ 96.255 | Output |
| W | X | DD.DDD | 0 ~ 96.255 | Input |
| W | SR | DDD | 0 ~ 127 | Status |
| W | B | DDDD.DDDD | 0 ~ 1535.1535 | Bit |
| W | N | DDDD.DDDD | 0 ~ 1535.1535 | Integer |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | A | DDDD.DDDD | 0 ~ 1535.1535 | ASCII |
| W | ST_Length | DDDD.DDD | 0 ~ 1535.779 | String_Length |
| W | ST_Data | DDDD.DDD.DD | 0 ~ 1535.779.42 | String_Data |
| W | CR_Length | DDDD.DDDD | 0 ~ 1535.1535 | Control_Length |
| W | CR_Pos | DDDD.DDDD | 0 ~ 1535.1535 | Control_Postion |
| W | F | DDDD.DDDD | 0 ~ 1535.1535 | Float |
| W | L | DDDD.DDDD | 0 ~ 1535.1535 | Long |
| W | TM_Preset | DDDD.DDDD | 0 ~ 1535.1535 | Timer_Preset |
| W | TM_Acc | DDDD.DDDD | 0 ~ 1535.1535 | Timer_Accumulator |
| W | CT_Preset | DDDD.DDDD | 0 ~ 1535.1535 | Counter_Preset |
| W | CT_Acc | DDDD.DDDD | 0 ~ 1535.1535 | Counter_Accumulator |

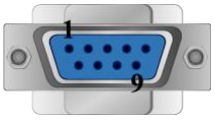
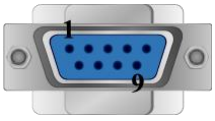
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

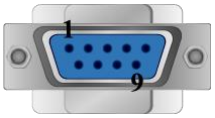
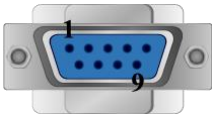
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

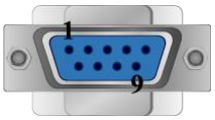
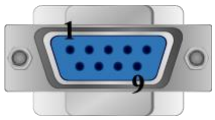
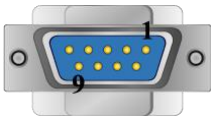
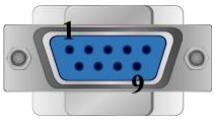
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

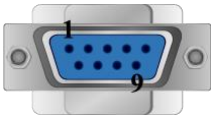
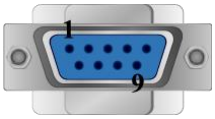
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/3/2012 | Driver released. |

# SAIA PCD PGU Mode

Supported Series : SAIA PCD series PGU mode.

Website :http://www.saia-burgess.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SAIA PCD PGU Mode | | PDS driver |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 7 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 0-255 | |

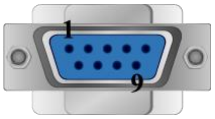
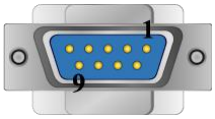
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Flag | DDDD | 0 ~ 8191 | |
| B | Output | DDD | 0 ~ 511 | |
| B | Input | DDD | 0 ~ 511 | |
| W | Register | DDDD | 0 ~ 4095 | |
| W | Counter | DDDD | 0 ~ 1599 | |
| W | Timer | DDDD | 0 ~ 1599 | |
| W | Reg_Float | DDDD | 0 ~ 4095 | support single float point |
| W | Reg_Word | DDDD | 0 ~ 4095 | |

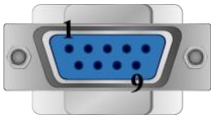
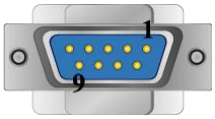
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

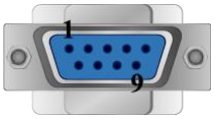
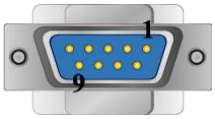
eMT3000 series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| 7 RTS | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| 7 RTS | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| 7 RTS | | | 6 DSR | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

6 DSR (Of PGU Port): PGU connected.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.02 | Dec/30/2008 | |

# SAIA PCD S-BUS Mode

Supported Series: SAIA PCD series S-Bus mode.

Website: http://www.saia-burgess.com/

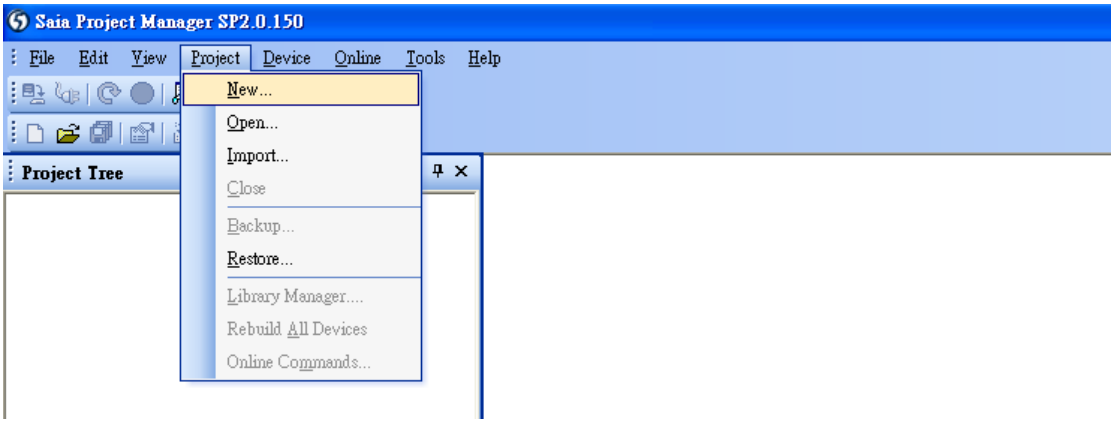
## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SAIA PCD S-BUS Mode | | PDS driver |
| PLC I/F | RS232 | RS232, RS485 | |
| Baud rate | 9600 | 9600, 19200, 38400 | |
| Data bits | 8 | 7,8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | 0-255 | |

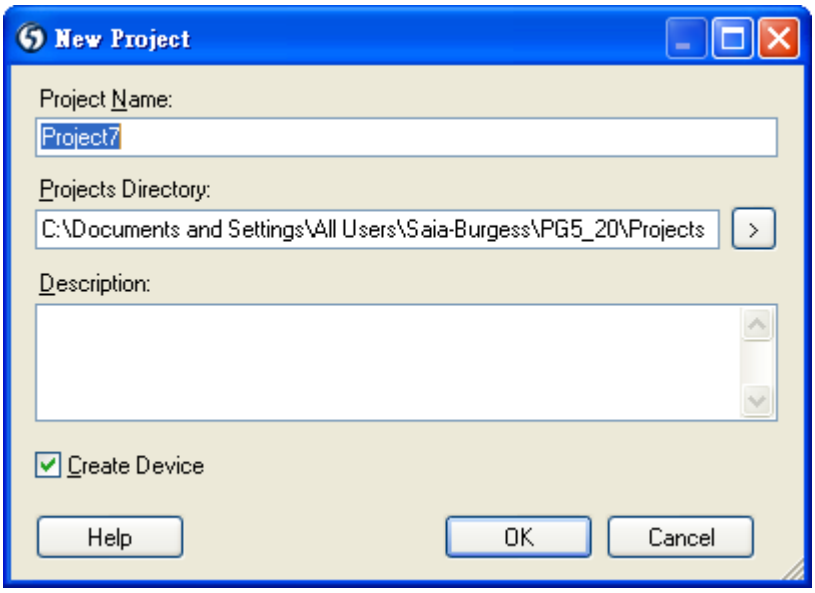
## PLC Setting:

| | |
|---|---|
| Communication mode | 9600,N,8,1 (default) |
| RS232 | Port 0-Type: RS232 |
| RS485 2W | S-BUS Mode: Data(S2), Port 1-Type: RS485 |

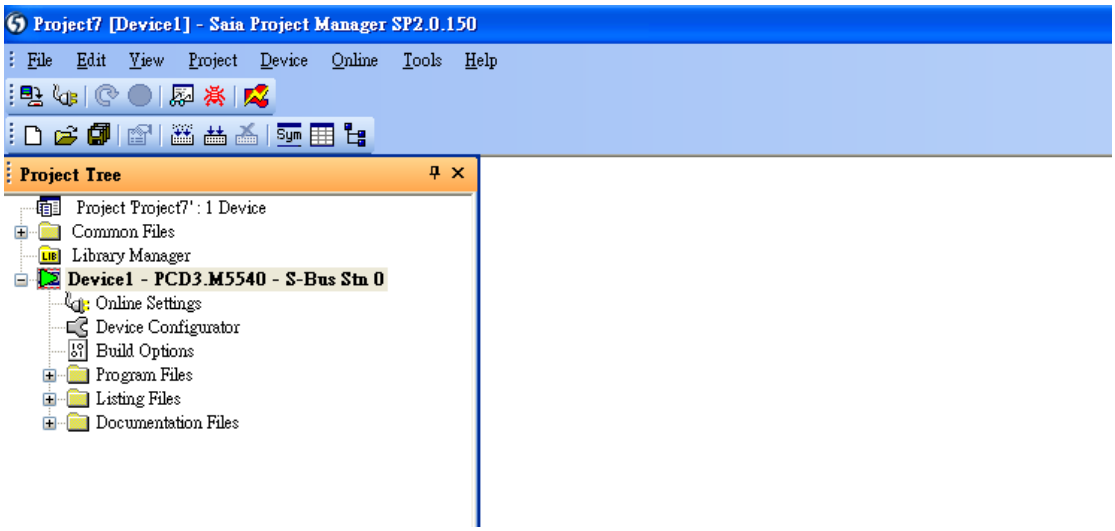
1. Open Saia Project Manager SP2.0.150 and create a new project.



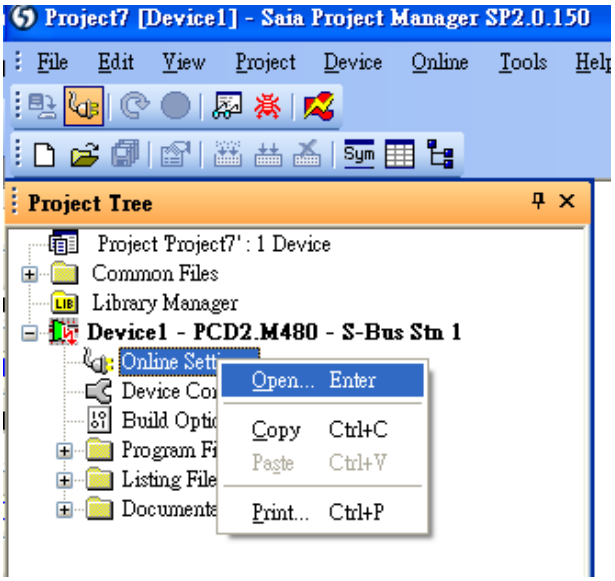
2. Give a project name.



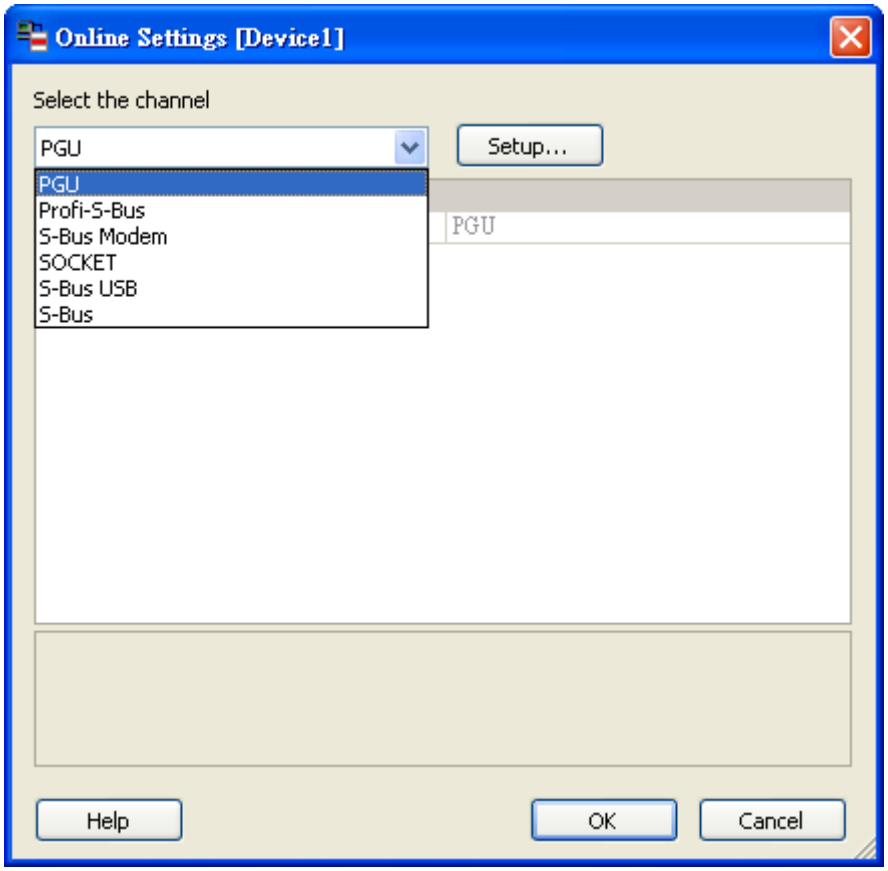

3. Create a new project as below.



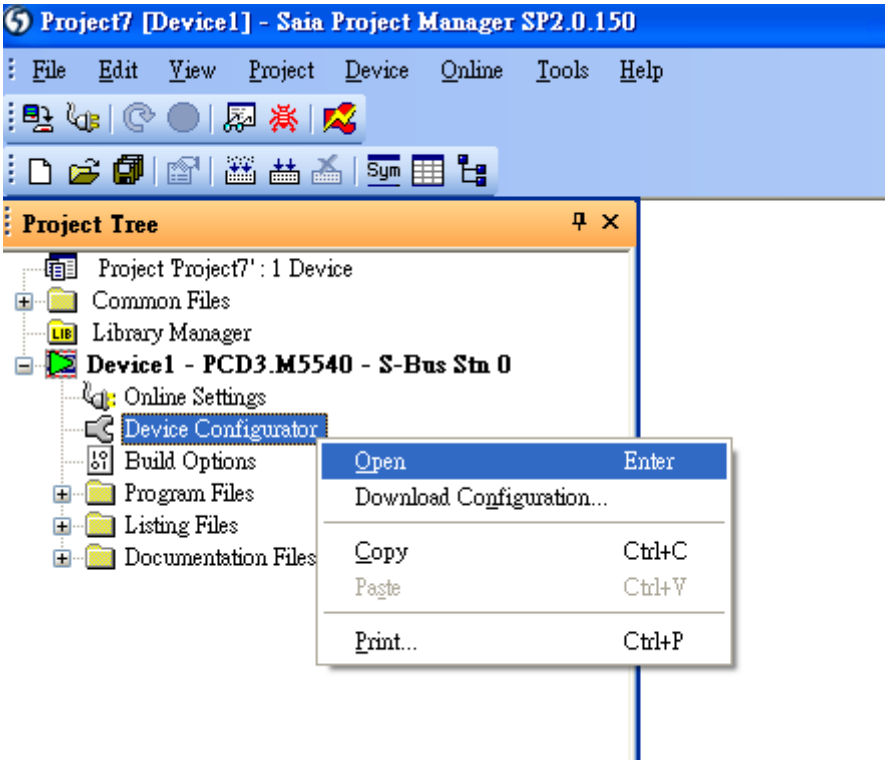

4. Go to “Online Setting”.



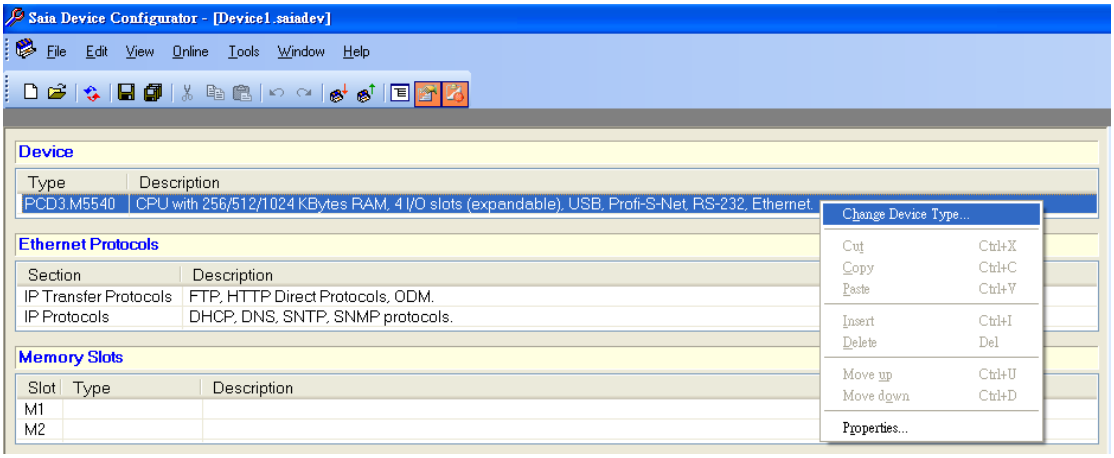
5. Select “PGU”.

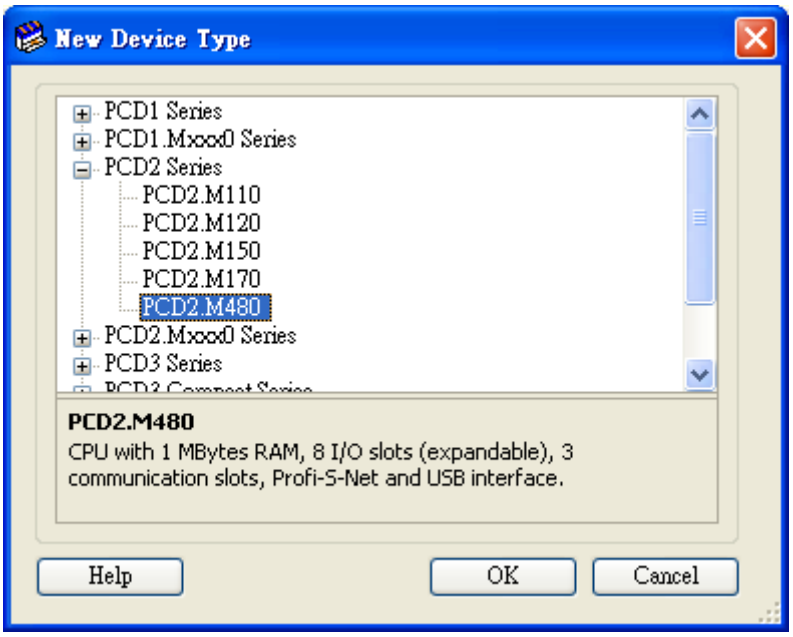



6. Go to ”Device Configurator”.

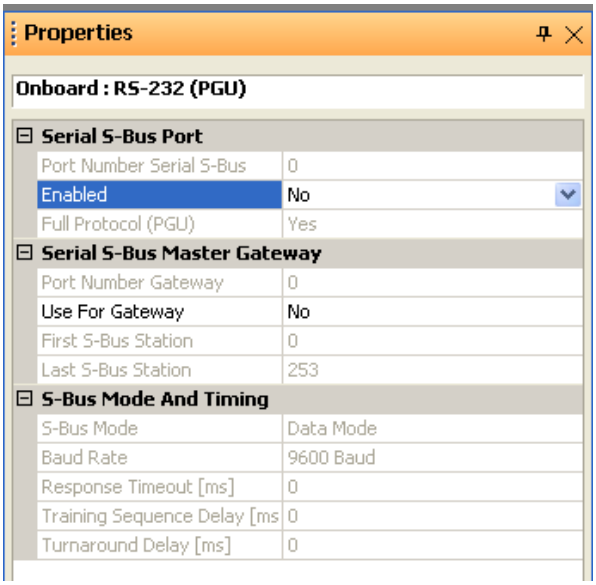


7. Click ” Change Device Type” to select your PLC model.

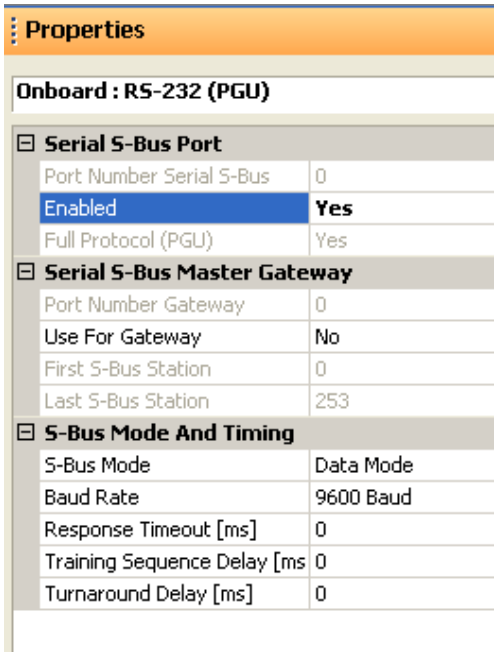


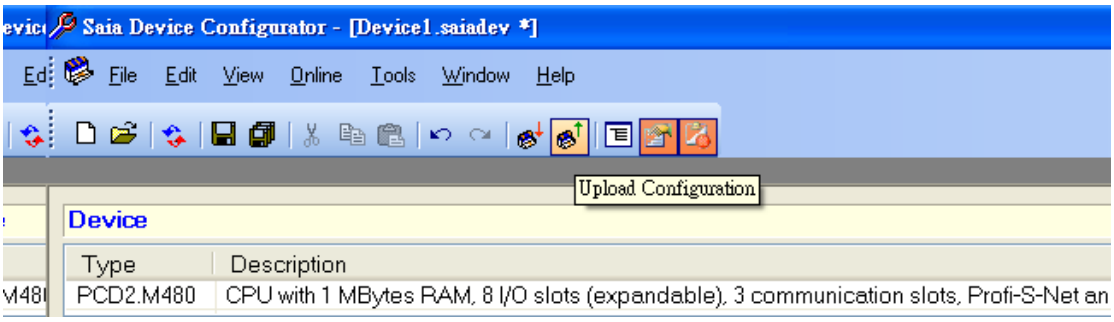

8. Select RS232 (PGU) in Type and then right click mouse on Onboard Communications and select ” Properties”.

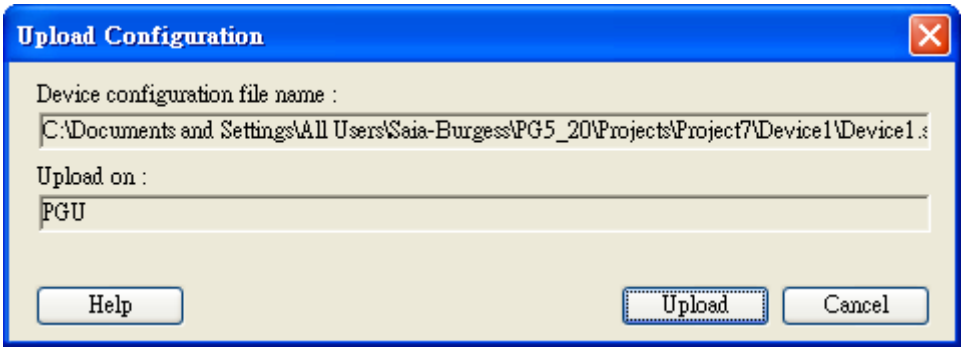


9. Select “Yes” in Series S-Bus Port: Enabled.

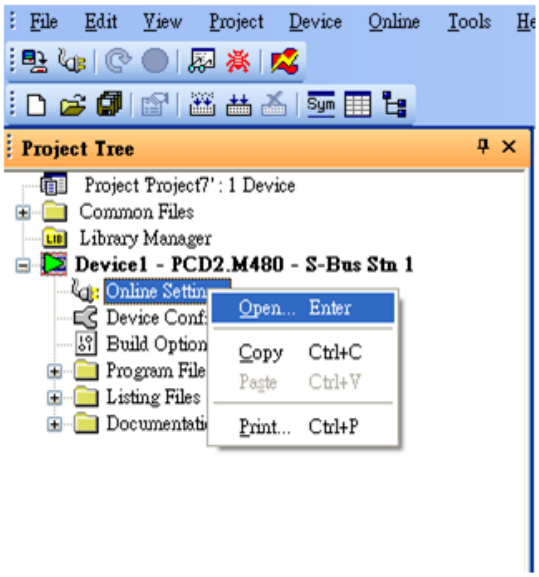


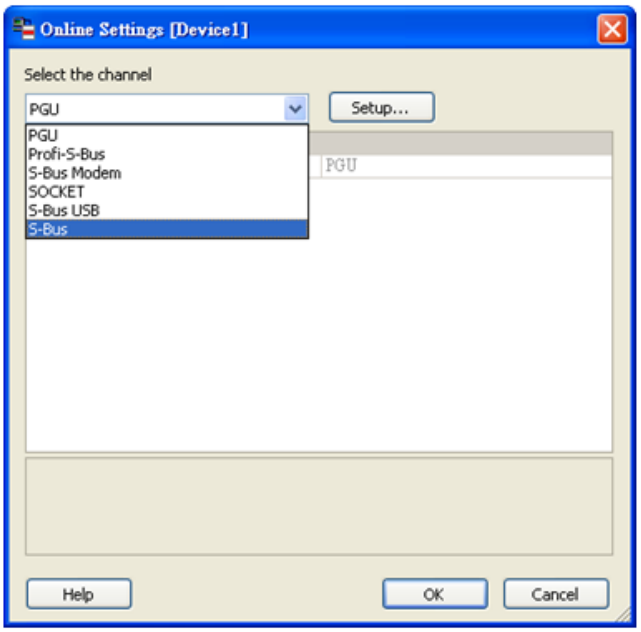

10. Set parameters in S-Bus Mode and Timing then upload to PLC.

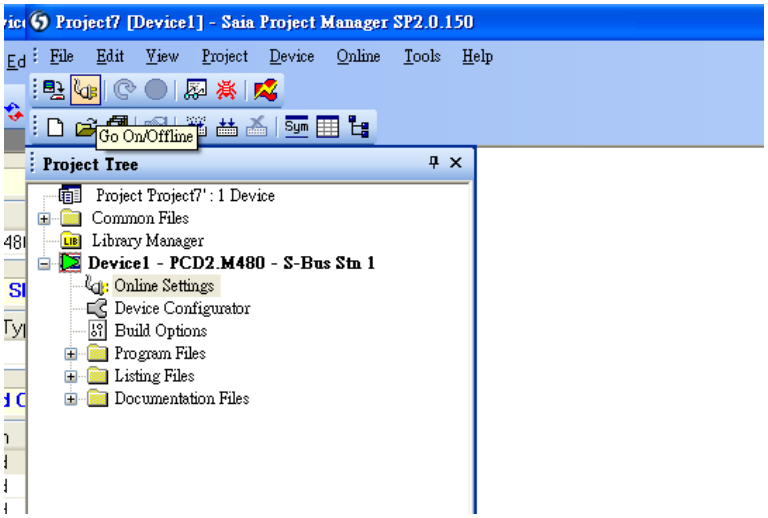


11. Go to Online Settings >> Open to select S-Bus for finishing the PLC settings.




## Device Address:

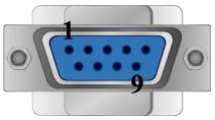
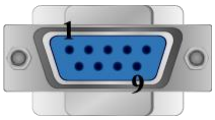
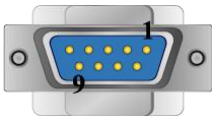
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Flag | DDDD | 0 ~ 8191 | |
| B | Output | DDDD | 0 ~ 1023 | |
| B | Input | DDDD | 0 ~ 1023 | |
| B | Reg_Bit | DDDDdd | 0 ~ 1638331 | dd: Bit no. (00~31) |
| DW | Register | DDDDD | 0 ~ 16383 | |
| DW | Counter | DDDD | 0 ~ 1599 | |
| DW | Timer | DDDD | 0 ~ 1599 | |
| DW | Reg_Float | DDDDD | 0 ~ 16383 | support single float point |
| DW | DBn | DDDDDDDDD | 0 ~ 536016383 | |

## Wiring Diagram:

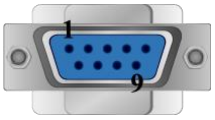
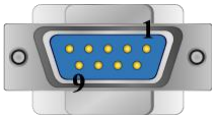
**The following is the view from the soldering point of a cable.**

SAIA PCD PGU Port

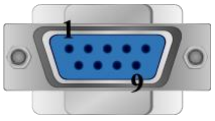
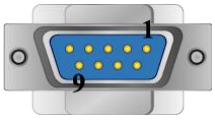
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  |  | |  | |

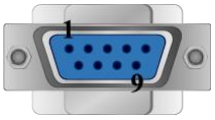
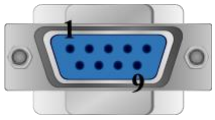
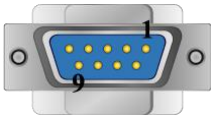
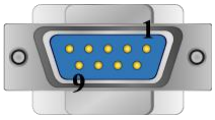
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

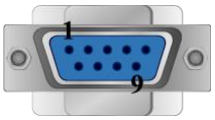
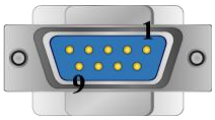
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

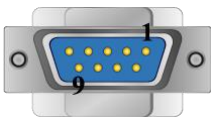
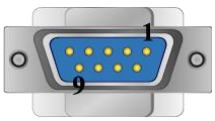
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

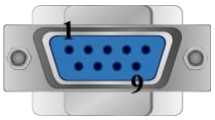
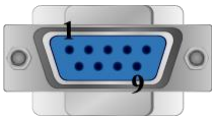
**The following is the view from the soldering point of a cable.**

SAIA PCD1 Port #1 (Port #0) Terminal

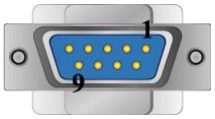
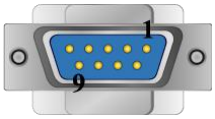
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | SAIA PCD1 Port #1 (Port #0) Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 11 (29) |
| 2 RX+ | 9 Data+ | | 12 (28) |
| 5 GND | 5 GND | | |
|  |  | |  |

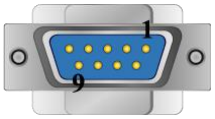
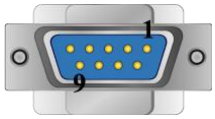
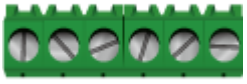
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | SAIA PCD1 Port #1 (Port #0) Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 11 (29) |
| 6 RX+ | 1 Data+ | | 12 (28) |
| 5 GND | 5 GND | | |
|  |  | |  |

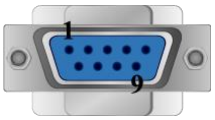
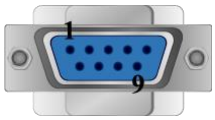
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | SAIA PCD1 Port #1 (Port #0) Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 11 (29) |
| 2 RX+ | 8 Data+ | | 12 (28) |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | SAIA PCD1 Port #1 (Port #0) Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 11 (29) |
| 2 RX+ | 9 Data+ | | 12 (28) |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | SAIA PCD1 Port #1 (Port #0) Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 11 (29) |
| 2 RX+ | 8 Data+ | | 12 (28) |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Jun/21/2012 | DBn address types are added. |

# SAIA S-BUS (Ethernet)

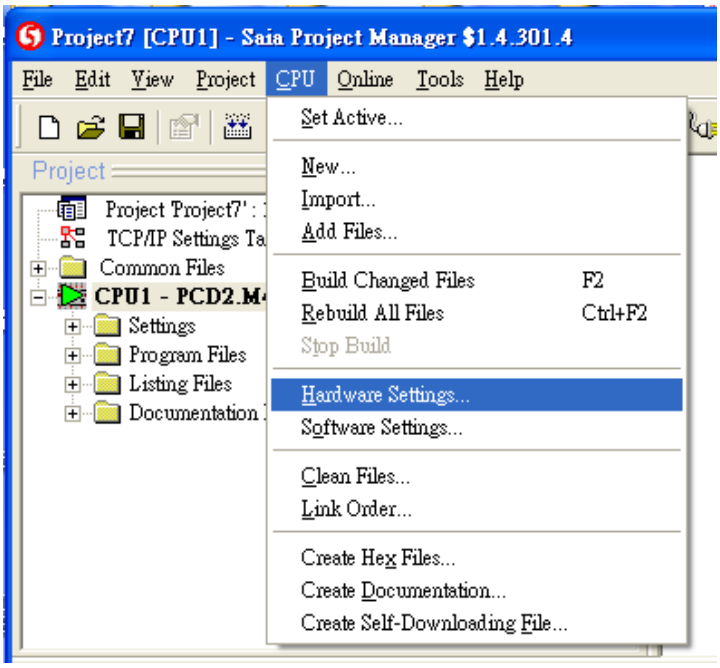
Supported Series : SAIA PCD series Ethernet-TCP/IP.

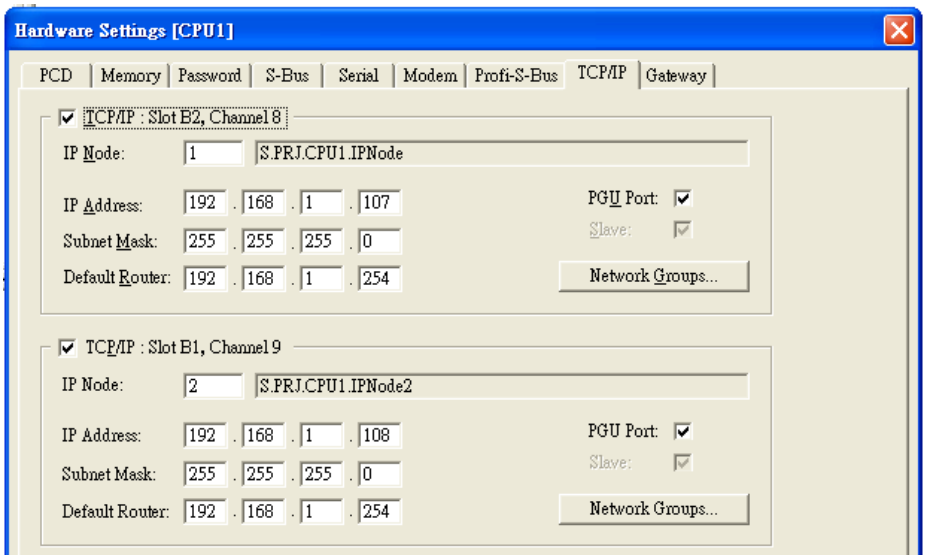
Website : http://www.saia-burgess.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SAIA S-BUS (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 5050 | | |
| PLC sta. no. | 0 | | |

## PLC Setting:






## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Flag | DDDD | 0 ~ 8191 | |
| B | Output | DDDD | 0 ~ 1023 | |
| B | Input | DDDD | 0 ~ 1023 | |
| B | Reg_Bit | DDDDdd | 0 ~ 1638331 | dd: Bit no. (00 ~ 31) |
| B | DBn_Bit | DDDDDDDdd | 0 ~ 399938331 | |
| DW | Register | DDDDD | 0 ~ 16383 | |
| DW | Counter | DDDD | 0 ~ 1599 | |
| DW | Timer | DDDD | 0 ~ 1599 | |
| DW | Reg_Float | DDDDD | 0 ~ 16383 | support single float point |
| DW | DBn | DDDDDDDDD | 0 ~ 536016383 | |
| DW | DB_String | DDDDDDDDD | 0 ~ 536016383 | |
| DW | R_String | DDDDD | 0 ~ 16383 | |
| DW | DB_Float | DDDDDDDDD | 0 ~ 536016383 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Jun/21/2012 | DBn address types are added. |
| V1.50 | Sep/24/2012 | R_String , DB_Float , DBn_Bit and DB_String address types are added. |

# Samsung SPC-10

Supported Series: Samsung SPC-10

Website: http://www.samsungelectronics.com/factory_automation/controller/plc/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Samsung SPC-10 | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | None | | |
| Parity | 8 | | |
| Stop bits | 1 | | |
| PLC sta. no. | 192 | | |

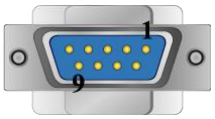
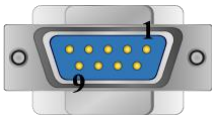
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | R | DDDDdd | 0 ~ 999915 | |
| B | K | DDDDdd | 0 ~ 999915 | |
| B | M | DDDDdd | 0 ~ 999915 | |
| B | F | DDDDdd | 0 ~ 999915 | |
| W | W | DDDD | 0 ~ 9999 | |

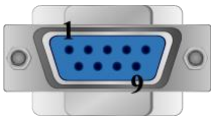
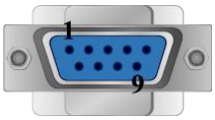
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

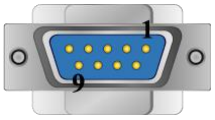
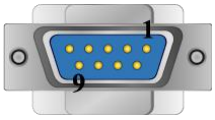
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 6 TR- |
| 2 RX+ | 9 Data+ | | 7 TR+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

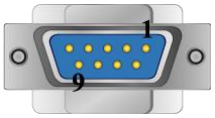
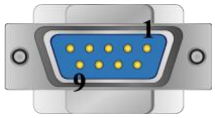
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | 4 Data- | | 6 TR- |
| 6 RX+ | 1 Data+ | | 7 TR+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

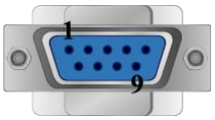
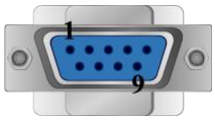
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 6 TR- |
| 2 RX+ | 8 Data+ | | 7 TR+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 6 TR- |
| 2 RX+ | 9 Data+ | | 7 TR+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 6 TR- |
| 2 RX+ | 8 Data+ | | 7 TR+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/19/2009 | |

# SCENE6 Controller

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SCENE6 Controller | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 2 | | |
| PLC sta. no. | 0 | | |

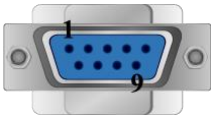
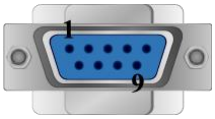
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Word | DD | 0 ~ 99 | |

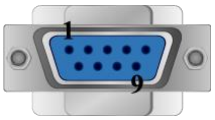
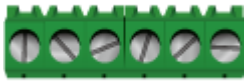
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

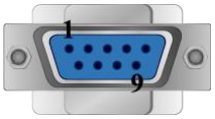
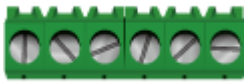
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 Terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TD |
| 3 TX | 7 TX | | RD |
| 5 GND | 5 GND | | GND |
|  |  | |  |

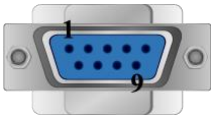
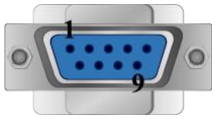
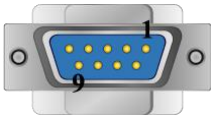
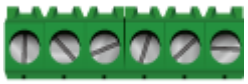
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 2 RX | | | TD |
| 3 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

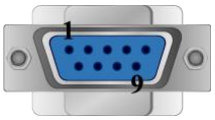
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 2 RX | | | TD |
| 3 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 Terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TD |
| 3 TX | 4 TX | 7 TX | RD |
| 5 GND | 5 GND | 5 GND | GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 Terminal |
|---|---|---|---|
| 9 RX | | | TD |
| 6 TX | | | RD |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/24/2009 | |

# Schleicher XCS 20C

Supported Series: Schleicher XCx-Systems Ethernet port. Schleicher XCS series, 20C model.

Website: http://www.schleicher-electronic.com

## HMI Setting:

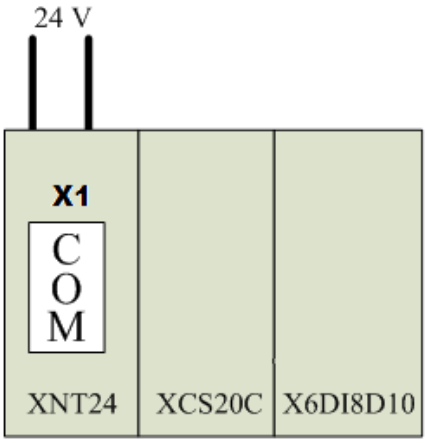
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Schleicher XCS 20C | | |
| PLC I/F | RS232 | | |
| Baud rate | 38400 | | |
| Data bits | 8 | | |
| Parity | N | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IX | DDDDDo | 0 ~ 655357 | Input %IX |
| B | QX | DDDDDo | 0 ~ 655357 | Output %QX |
| B | MX | DDDDDo | 0 ~ 655357 | %MX |
| W | IW | DDDDD | 0 ~ 65535 | %IW |
| W | QW | DDDDD | 0 ~ 65535 | %QW |
| W | MW | DDDDD | 0 ~ 65535 | %MW |
| DW | ID | DDDDD | 0 ~ 65535 | %ID |
| DW | QD | DDDDD | 0 ~ 65535 | %QD |
| DW | MD | DDDDD | 0 ~ 65535 | %WD |

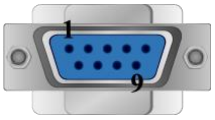
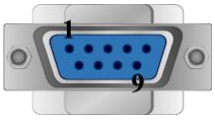
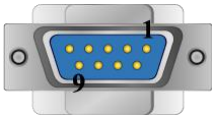
- Word address must be even.

## Wiring Diagram:

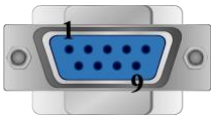
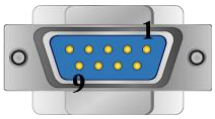



**The following is the view from the soldering point of a cable.**

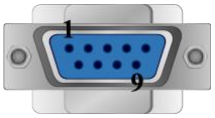
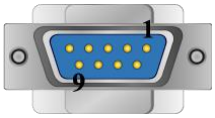
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Schleicher XCS20 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TD |
| 3 TX | 7 TX | | 2 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

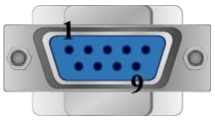
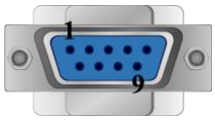
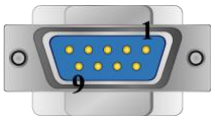
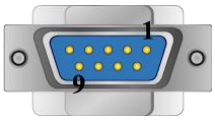
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Schleicher XCS20 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

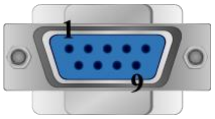
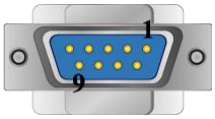
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Schleicher XCS20 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TD |
| 3 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Schleicher XCS20 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TD |
| 3 TX | 4 TX | 7 TX | 2 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Schleicher XCS20 RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TD |
| 6 TX | | | 2 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Feb/26/2010 | |

# Schleicher XCX 300

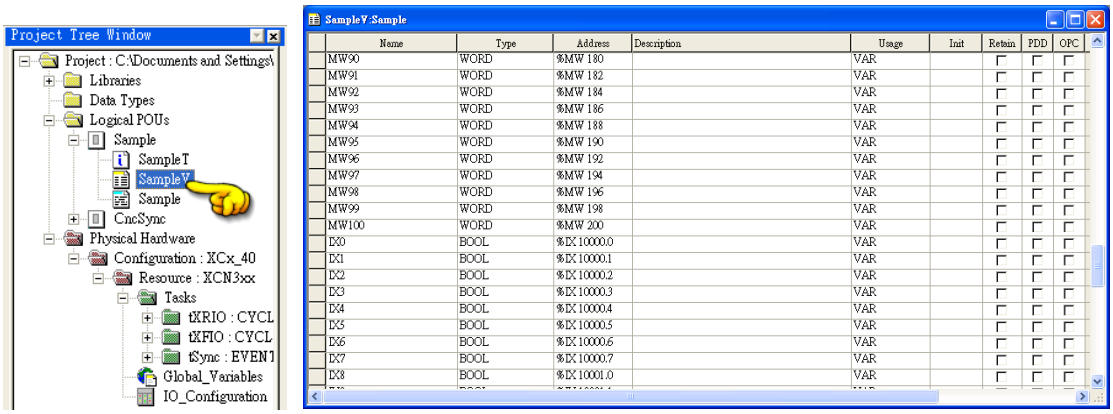
Website: http://www.schleicher-electronic.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Schleicher XCX 300 | | |
| PLC I/F | Ethernet | RS232, RS422, Ethernet | |
| Port no. | 20547 | | |
| PLC sta. no. | 2 | | |

## PLC Setting:

A variable must be created for HMI access.




## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | IX | DDDDDo | 0 ~ 655357 | Input %IX |
| B | QX | DDDDDo | 0 ~ 655357 | Output %QX |
| B | MX | DDDDDo | 0 ~ 655357 | %MX |
| W | IW | DDDDD | 0 ~ 65535 | %IW |
| W | QW | DDDDD | 0 ~ 65535 | %QW |
| W | MW | DDDDD | 0 ~ 65535 | %MW |
| DW | ID | DDDDD | 0 ~ 65535 | %ID |
| DW | QD | DDDDD | 0 ~ 65535 | %QD |
| DW | MD | DDDDD | 0 ~ 65535 | %WD |

- Word address must be even.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

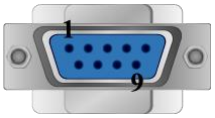
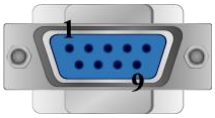
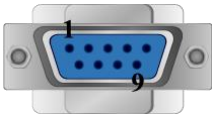
| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



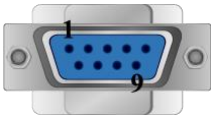
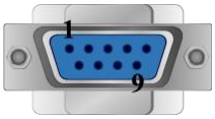
**The following is the view from the soldering point of a cable.**

Schleicher XCX300 RS232 Port

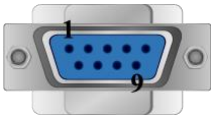
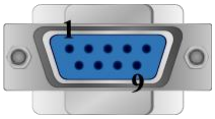
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

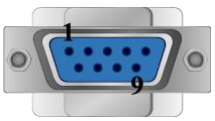
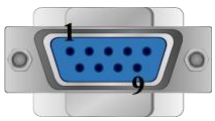
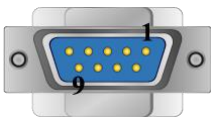
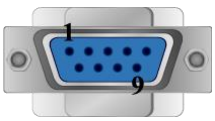
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

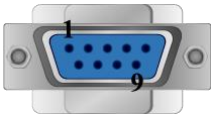
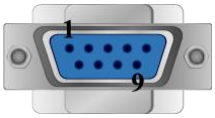
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

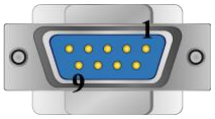
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

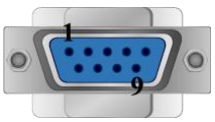
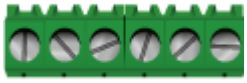
**The following is the view from the soldering point of a cable.**

Schleicher XCX300 RS485 4W Terminal

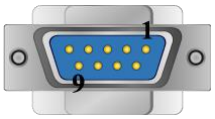
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

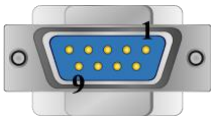
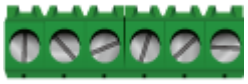
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W Terminal |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

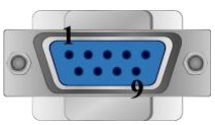
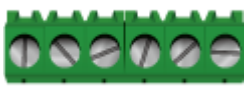
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/30/2009 | Driver released. |
| V1.10 | Jun/28/2010 | Support RS232, RS422 interface connection. |

# Schneider IMS SERVO

Supported Series : Schneider IMS SERVO

Website: http://www.schneider-electric.com/site/home/index.cfm/ww/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Schneider IMS SERVO | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

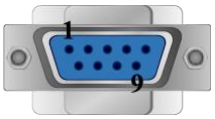
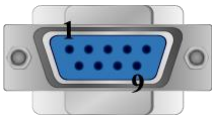
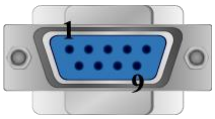
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | BIT | HHHHo | 0 ~ FFFF7 | |
| W | WORD | HHHH | 0 ~ FFFF | |
| DW | DWORD | HHHH | 0 ~ FFFF | |
| Byte | BYTE | HHHH | 0 ~ FFFF | |

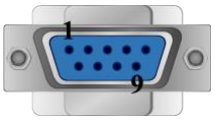
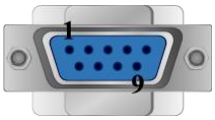
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

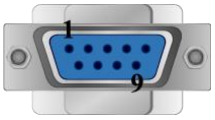
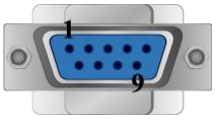
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

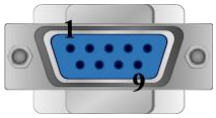
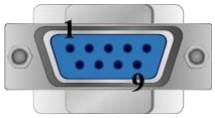
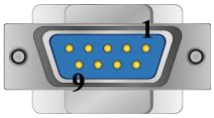
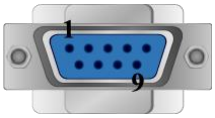
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

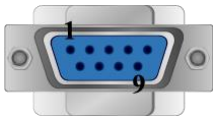
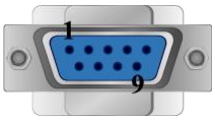
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Apr/04/2012 | |

# Schneider MODBUS RTU

Supported Series : Schneider MODBUS RTU CONTROLLER

Website: http://www.schneider-electric.com/site/home/index.cfm/ww/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Schneider MODBUS RTU | | |
| PLC I/F | RS485 | RS232/RS485 | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1,2 | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |

## Device Address:

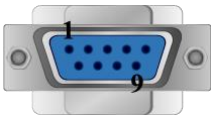
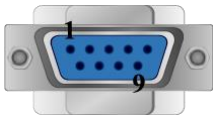
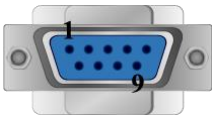
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | %M | DDDDD | 0 ~ 65535 | Output bit |
| B | 1x | DDDDD | 0 ~ 65535 | Input bit (read only) |
| B | 3x_Bit | DDDDDdd | 0 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 0 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 0 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 0 ~ 65535 | Input Register (read only) |
| W | %MW | DDDDD | 0 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 0 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 0 ~ 65535 | 4x single word write |

## Wiring Diagram:

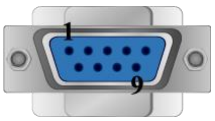
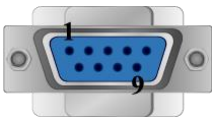
**The following is the view from the soldering point of a cable.**

RS232

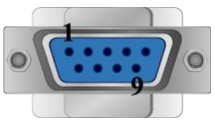
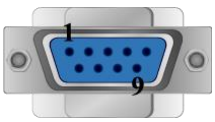
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

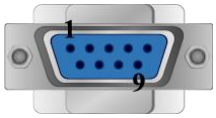
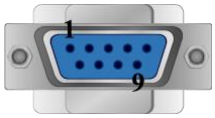
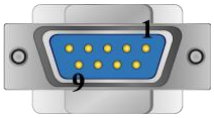
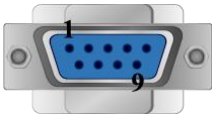
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

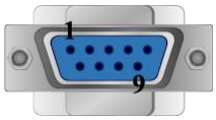
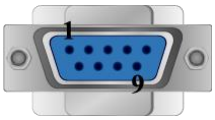
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

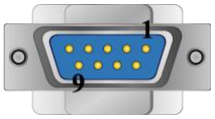
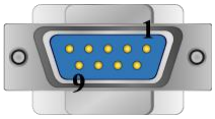
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

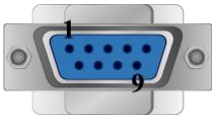
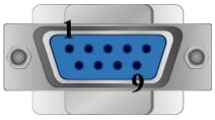
**The following is the view from the soldering point of a cable.**

9P D-Sub to 8P Mini-DIN : RS485 2W

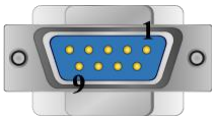
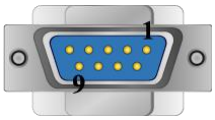
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 2 B- | |
| 2 RX+ | 9 Data+ | | 1 A+ | |
| 5 GND | 5 GND | | 5 DTP | short |
| | | | 7 GND | |
|  |  | |  | |

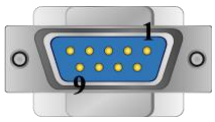
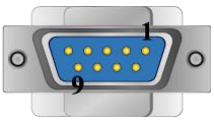
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 7 RX- | 4 Data- | | 2 B- | |
| 6 RX+ | 1 Data+ | | 1 A+ | |
| 5 GND | 5 GND | | 5 DTP | short |
| | | | 7 GND | |
|  |  | |  | |

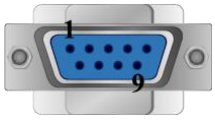
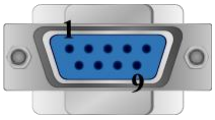
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 2 B- | |
| 2 RX+ | 8 Data+ | | 1 A+ | |
| 5 GND | 9 GND | | 5 DTP | short |
| | | | 7 GND | |
|  |  | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 1 RX- | 6 Data- | | 2 B- | |
| 2 RX+ | 9 Data+ | | 1 A+ | |
| 5 GND | 5 GND | | 5 DTP | short |
| | | | 7 GND | |
|  |  | |  | |

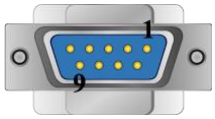
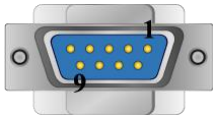
MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 1 RX- | 7 Data- | | 2 B- | |
| 2 RX+ | 8 Data+ | | 1 A+ | |
| 5 GND | 5 GND | | 5 DTP | short |
| | | | 7 GND | |
|  |  | |  | |

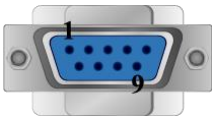
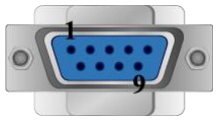
**The following is the view from the soldering point of a cable.**

9P D-Sub to Terminal : RS485 2W

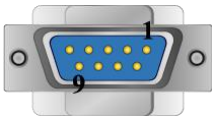
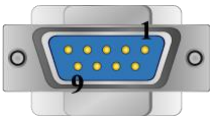
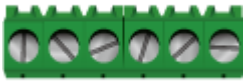
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 3P Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | B- |
| 2 RX+ | 9 Data+ | | A+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

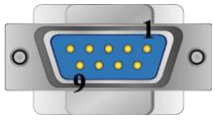
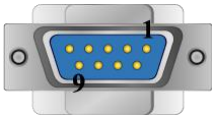
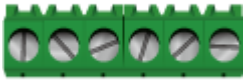
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 3P Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | B- |
| 6 RX+ | 1 Data+ | | A+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

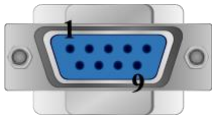
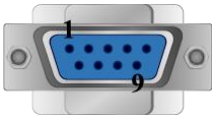
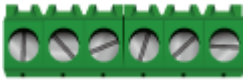
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 3P Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | B- |
| 2 RX+ | 8 Data+ | | A+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 3P Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | B- |
| 2 RX+ | 9 Data+ | | A+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 3P Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | B- |
| 2 RX+ | 8 Data+ | | A+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Aug/26/2009 | |

# Schneider MODBUS TCP/IP

Supported Series : Schneider Modbus RTU TCP/IP Device.
Website: http://www.schneider-electric.com/site/home/index.cfm/ww/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Schneider MODBUS TCP/IP | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0~255 | |

## PLC Setting:

| | |
|---|---|
| Ethernet frame format | Ethernet II format |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | %M | DDDDD | 0 ~ 65535 | Input bit |
| B | 1x | DDDDD | 0 ~ 65535 | Output bit |
| B | 3x_Bit | DDDDDdd | 0 ~ 6553515 | Input Register bit (read only) |
| B | 4x_Bit | DDDDDdd | 0 ~ 6553515 | Output Register bit |
| B | 6x_Bit | DDDDDdd | 0 ~ 6553515 | Output Register bit |
| B | 0x_multi_coils | DDDDD | 0 ~ 65535 | Write multiple coils |
| W | 3x | DDDDD | 0 ~ 65535 | Input Register |
| W | %MW | DDDDD | 0 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 0 ~ 65535 | 4x double word swap |
| W | 6x | DDDDD | 0 ~ 65535 | 4x single word write |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | Aug/27/2009 | |

# Schneider UniTelway

Supported Series: Modicon TSX Micro&Nano&Neza series PLC.

Website: http://www.modicon.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Schneider UniTelway | | |
| PLC I/F | RS485 2W | RS232/RS485 | |
| Baud rate | 19200 | 9600~115200 | |
| Data bits | 8 | 7,8 | Must set to 8 for this protocol |
| Parity | Odd | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| HMI sta. no. | 5 | 1-8 | |
| PLC sta. no. | 0 | 0-3 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | YES |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | UniTelWay protocol, set PLC as master |

## Device Address:

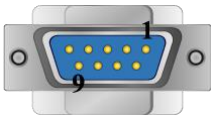
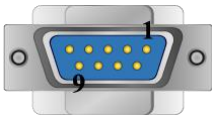
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | S | DDDDD | 0 ~ 32767 | Internal relay |
| B | M | DDDDD | 0 ~ 32767 | Auxiliary relay |
| B | MW.B | DDDDDdd | 0 ~ 3276715 | Data register bit |
| W | MW | DDDDD | 0 ~ 32767 | Data register |

## Wiring Diagram:

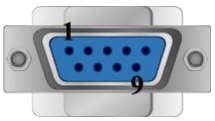
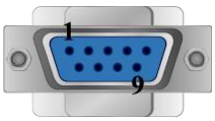
**The following is the view from the soldering point of a cable.**

TSX37-XX/TSX07-XX CPU : 9P D-Sub to 9P D-Sub

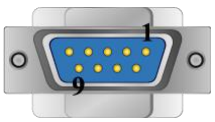
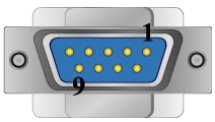
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

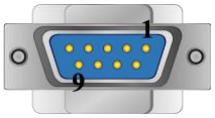
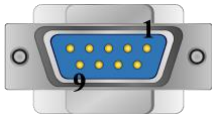
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2 D- |
| 6 RX+ | 1 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

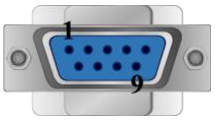
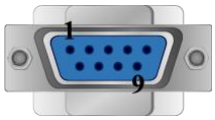
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 9 GND | | 7 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2 D- |
| 2 RX+ | 9 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2 D- |
| 2 RX+ | 8 Data+ | | 1 D+ |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Sep/24/2009 | |

# SERVO BLDC (400/750WD)

Supported Series: BLDC(400/750WD)
Website: http://www.servoind.net/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SERVO BLDC (400/750WD) | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

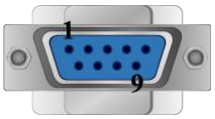
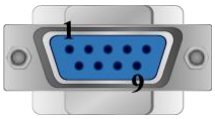
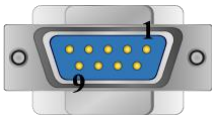
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SET_SERVO | D | 0 | |
| B | SET_DIRECTION | D | 0 | |
| B | SET_BERAK | D | 0 | |
| B | RESET | D | 0 | |
| B | DRIVER_FAULT | D | 0 | |
| B | SERVO_OFF_ERROR | D | 0 | |
| B | BREAK_ON_ERROR | D | 0 | |
| W | SET_RPM | D | 0 | |
| W | RPM | D | 0 | |
| W | CUR_RPM | D | 0 | |
| W | CUR_ERROR | D | 0 | |
| W | PARAMETER1_W | D | 0 ~ 7 | |
| W | PARAMETER1_R | D | 0 ~ 7 | |

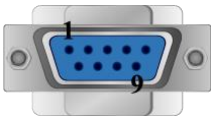
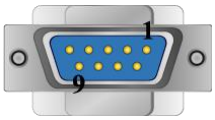
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

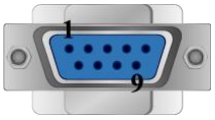
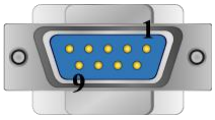
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | CN3 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

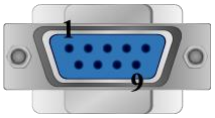
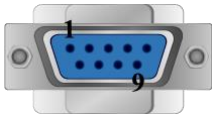
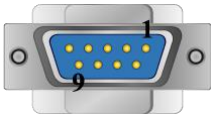
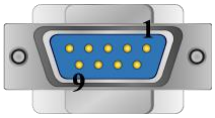
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CN3 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

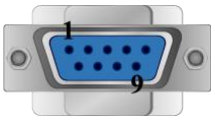
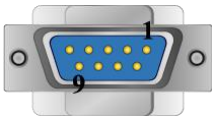
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CN3 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | CN3 RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | CN3 RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jul/09/2014 | Driver released. |

# SEW Movilink

Supported Series: SEW Eurodrive series, model MOVITRAC-07 inverter, MovitracB.
Website: http://sg.sew-eurodrive.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SEW Movilink | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | 0~255 | |

## Device Address:

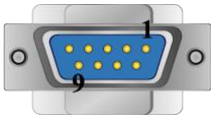
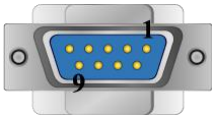
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | INDEX_Bit | DDDDDDDDdd | 0 ~ 2552500031 | |
| W | INDEX | DDDDDDDD | 0 ~ 25525000 | |

- The MOVITRAC-07 doesn't support Sub index( other series may support ), please input 000.
- When input D and d, the correct format：Sub index 15, Index 8359, Format is 01508359.

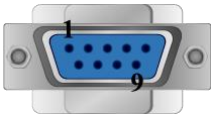
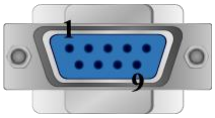
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

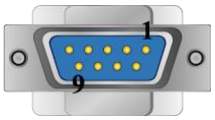
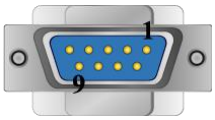
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | Movitrac-07 RS485 2W |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- (Green) |
| 2 RX+ | 9 Data+ | | D+ (Red) |
| 5 GND | 5 GND | | |
|  |  | |  |

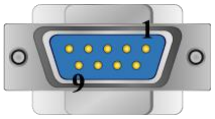
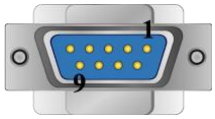
cMT/mTV series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | Movitrac-07 RS485 2W |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- (Green) |
| 6 RX+ | 1 Data+ | | D+ (Red) |
| 5 GND | 5 GND | | |
|  |  | |  |

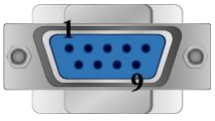
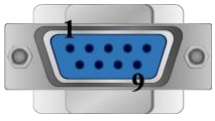
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | Movitrac-07 RS485 2W |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- (Green) |
| 2 RX+ | 8 Data+ | | D+ (Red) |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | Movitrac-07 RS485 2W |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- (Green) |
| 2 RX+ | 9 Data+ | | D+ (Red) |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | Movitrac-07 RS485 2W |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- (Green) |
| 2 RX+ | 8 Data+ | | D+ (Red) |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.31 | Jun/25/2010 | |

# SEW MOVITRAC LTE

Website : http://www.seweurodrive.com/index.php

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SEW MOVITRAC LTE | | |
| PLC I/F | RS-485 2W | | |
| Baud rate | 115200 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | P-1 | D | 0 ~ 1 | Max. speed limit |
| W | P-2 | D | 0 ~ 1 | Min. speed limit |
| W | P-3 | D | 0 ~ 1 | Acceleration ramp time |
| W | P-4 | D | 0 ~ 1 | Deceleration ramp time |
| W | P-5 | D | 0 ~ 1 | Stop mode select |
| W | P-6 | D | 0 ~ 1 | Energy optimizer |
| W | P-7 | D | 0 ~ 1 | Motor rated voltage |
| W | P-8 | D | 0 ~ 1 | Motor rated current |
| W | P-9 | D | 0 ~ 1 | Motor rated frequency |
| W | P-10 | D | 0 ~ 1 | Motor rated speed |
| W | P-11 | D | 0 ~ 1 | Voltage boost |
| W | P-12 | D | 0 ~ 1 | Terminal / Keypad control |
| W | P-13 | D | 0 ~ 1 | Trip log |
| W | P-14 | D | 0 ~ 1 | Extended menu access code |
| W | P-15 | D | 0 ~ 1 | Digital input function set |
| W | P-16 | D | 0 ~ 1 | Analog input V / mA |
| W | P-17 | D | 0 ~ 1 | Output switching frequency |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | P-18 | D | 0 ~ 1 | User relay output select |
| W | P-19 | D | 0 ~ 1 | User relay output limit |
| W | P-20 | D | 0 ~ 1 | Preset speed 1 |
| W | P-21 | D | 0 ~ 1 | Preset speed 2 |
| W | P-22 | D | 0 ~ 1 | Preset speed 3 |
| W | P-23 | D | 0 ~ 1 | Preset speed 4 |
| W | P-24 | D | 0 ~ 1 | Deceleration ramp time 2 |
| W | P-25 | D | 0 ~ 1 | Analog output function select |
| W | P-26 | D | 0 ~ 1 | Skip frequency hysteris band |
| W | P-27 | D | 0 ~ 1 | Skip frequency |
| W | P-28 | D | 0 ~ 1 | V/F characteristic adjustment voltage |
| W | P-29 | D | 0 ~ 1 | V/F characteristic adjustment frequency |
| W | P-30 | D | 0 ~ 1 | Terminal mode restart function |
| W | P-31 | D | 0 ~ 1 | Keypad mode restart function |
| W | P-32 | D | 0 ~ 1 | DC injection enable / duration |
| W | P-33 | D | 0 ~ 1 | Spin start |
| W | P-34 | D | 0 ~ 1 | Brake chopper enable |
| W | P-35 | D | 0 ~ 1 | Analog input scaling factor |
| W | P-36 | D | 0 ~ 1 | Comms address; SBus enable/baudrate select; Trip enable / delay |
| W | P-37 | D | 0 ~ 1 | Access code definition |
| W | P-38 | D | 0 ~ 1 | Parameter access lock |
| W | P-39 | D | 0 ~ 1 | Analog input off-set |
| W | P-40 | D | 0 ~ 1 | Display speed scaling factor |
| W | P-00-01 | D | 0 ~ 1 | Analog input 1 value |
| W | P-00-02 | D | 0 ~ 1 | Analog input 2 value |
| W | P-00-03 | D | 0 ~ 1 | Speed reference input |
| W | P-00-04 | D | 0 ~ 1 | Digital input status |
| W | P-00-05 | D | 0 ~ 1 | Reserved |
| W | P-00-06 | D | 0 ~ 1 | Reserved |
| W | P-00-07 | D | 0 ~ 1 | Applied motor voltage |
| W | P-00-08 | D | 0 ~ 1 | DC bus voltage log |
| W | P-00-09 | D | 0 ~ 1 | Heatsink temperature |
| W | P-00-10 | D | 0 ~ 1 | Hours run meter |
| W | P-00-11 | D | 0 ~ 1 | Run time since last trip (1) |
| W | P-00-12 | D | 0 ~ 1 | Run time since last trip (2) |
| W | P-00-13 | D | 0 ~ 1 | Run time since last disable |

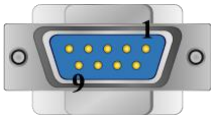
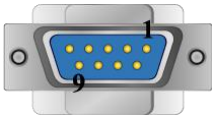
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | P-00-14 | D | 0 ~ 1 | Reserved |
| W | P-00-15 | D | 0 ~ 1 | DC bus voltage log |
| W | P-00-16 | D | 0 ~ 1 | Thermistor temperature log |
| W | P-00-17 | D | 0 ~ 1 | Motor current |
| W | P-00-18 | D | 0 ~ 1 | Software ID,IO and motor control |
| W | P-00-19 | D | 0 ~ 1 | Drive serial number |
| W | P-00-20 | D | 0 ~ 1 | Drive identifier |

P-00-01 ~ P-00-20 read only.

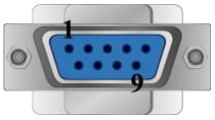
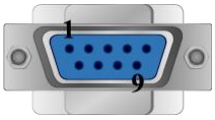
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

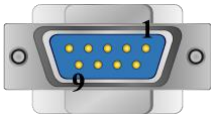
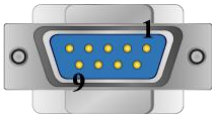
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | PLC RS485 2W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 4 - |
| 2 RX+ | 9 Data+ | | 5 + |
| 5 GND | 5 GND | | |
|  |  | |  |

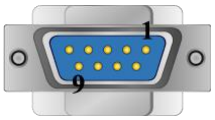
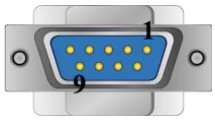
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | PLC RS485 2W 8P RJ45 Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 4 - |
| 6 RX+ | 1 Data+ | | 5 + |
| 5 GND | 5 GND | | |
|  |  | |  |

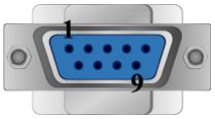
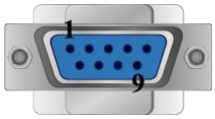
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | PLC RS485 2W 8P<br>RJ45 Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 4 - |
| 2 RX+ | 8 Data+ | | 5 + |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | PLC RS485 2W 8P<br>RJ45 Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 4 - |
| 2 RX+ | 9 Data+ | | 5 + |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | PLC RS485 2W 8P<br>RJ45 Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 4 - |
| 2 RX+ | 8 Data+ | | 5 + |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/19/2011 | Driver released. |

# SHIMADEN MR13/FP93

Supported Series: MR13, FP93 devices

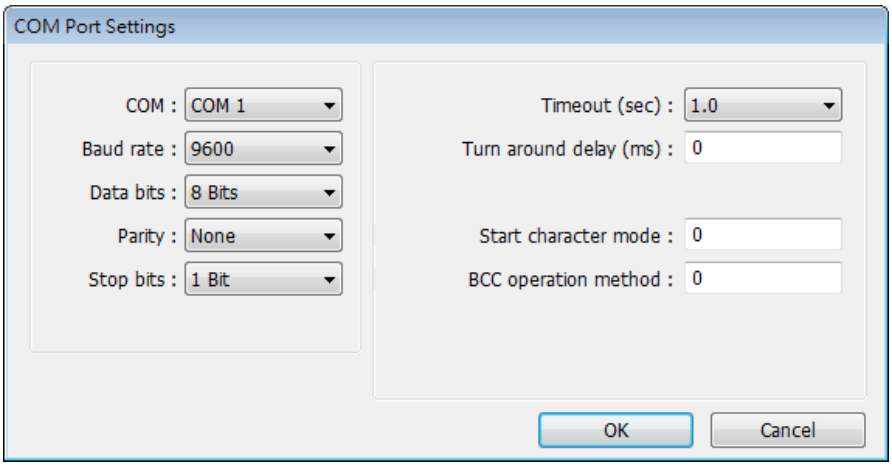
Website: http://www.shimaden.co.jp

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SHIMADEN MR13/FP93 | | |
| PLC I/F | RS485 | | |
| Baud rate | 9600 | 1200-19200 | |
| Data bits | 7 | 7 or 8 | |
| Parity | E | None/Even | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 1~255 | |
| Start Character Mode | Select 3：@_:_CR | 0, 1 : STX_ETX_CR<br>2 : STX_ETX_CR LF<br>3 : @_:_CR | For FP93, select 0,1 |
| BCC Operation Method | Select 3：XOR | 0, 1 : Addition<br>2 : Addition +2's complement<br>3 : XOR<br>4 : None | |

***Note：***

Address 018C is a communication control register, only when it is set to 1 can this register be allowed to write to other registers.



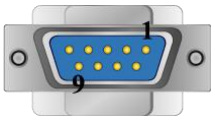
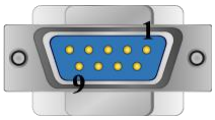
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Channel 1 | HHHH | 0 ~ ffff | Read/Write 1st Channel Register |
| W | Channel 2 | HHHH | 0 ~ ffff | Read/Write 2nd Channel Register |
| W | Channel 3 | HHHH | 0 ~ ffff | Read/Write 3rd Channel Register |

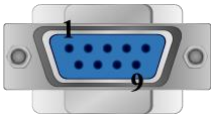
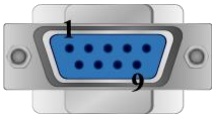
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

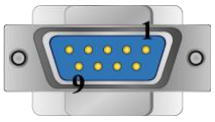
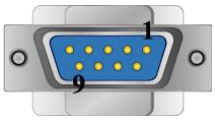
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | MR13/FP93 RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 25 - |
| 2 RX+ | 9 Data+ | | 24 + |
| 5 GND | 5 GND | | 23 GND |
|  |  | |  |

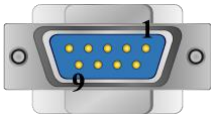
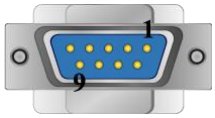
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | MR13/FP93 RS485 2W Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 25 - |
| 6 RX+ | 1 Data+ | | 24 + |
| 5 GND | 5 GND | | 23 GND |
|  |  | |  |

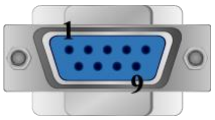
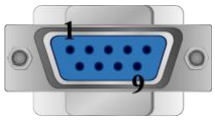
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | MR13/FP93 RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 25 - |
| 2 RX+ | 8 Data+ | | 24 + |
| 5 GND | 9 GND | | 23 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | MR13/FP93 RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 25 - |
| 2 RX+ | 9 Data+ | | 24 + |
| 5 GND | 5 GND | | 23 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | MR13/FP93 RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 25 - |
| 2 RX+ | 8 Data+ | | 24 + |
| 5 GND | 5 GND | | 23 GND |
|  |  | |  |

**MR13 Communication Parameter Settings**

| Data Address (hex) | Parameter | Details of Parameter | R /W |
|---|---|---|---|
| 0100 | PV Value | Within measuring range | R |
| 0101 | E_SV Execution SV Value | Within setting range | R |
| 0102 | OUT Control Output Value | Within range 0.0～100.0% | R |
| 0103 | Reserved | | |
| 0104 | Action Flag | （See detailed explanation below.） | R |
| 0105 | Event Output Flag | （See detailed explanation below.） | R |
| 0106 | Reserved | | |
| 0107 | Reserved | | |
| 0108 | REM Value | Within setting range | R |
| 0109 | Reserved | | |
| 010A | Reserved | | |
| 010B | DI Input State Flag | （See detailed explanation below.） | R |

| Data Address (hex) | Parameter | Details of Parameter | R /W |
|---|---|---|---|
| 0111 | RANGE | Refer to the measuring range code list. | R |
| 0112 | Reserved | | |
| 0113 | DP<br>Decimal Point | Position of decimal point（0:Without decimal point 1:With decimal point） | R |
| 0114 | PV Sc_L Lower Limit | For Linear Imput:-1999～9999 unit<br>For Thermocouple, and RTD Input:<br>Measuring range to be displayed. | R |
| 0115 | PV Sc_H Higher Limit | | R |

| Data Address (hex) | Parameter | Details of Parameter | R/W |
|---|---|---|---|
| 0120 | E_PRG | Program Action Flag | R |
| 0121 | Reserved | | |
| 0122 | Reserved | | |
| 0123 | E_PRT | The number of execution patterns<br>（When program is reset, value=7FFEH） | R |
| 0124 | E_STP | Execution step number<br>（When program is reset, value=7FFEH） | R |
| 0125 | E_TIM | Remaining time of execution step<br>（When program is reset, value=7FFEH） | R |
| 0126 | E_PID | Execution PID number<br>（When program is reset, value=7FFEH） | R |

| Data Address (hex) | Parameter | Details of Parameter | R/W |
|---|---|---|---|
| 0184 | AT Auto Tuning | 0:No execution 1:Execution | W |

| | | | |
|---|---|---|---|
| 018C | Operation | 0:Local 1:COM | W |

| | | | |
|---|---|---|---|
| 0190 | PROG RUN/RST<br>Program Run/Reset | 0：RST, 1：RUN<br>（Writing is possible only in CH1） | W |

| | | | |
|---|---|---|---|
| 0191 | PROG HLD<br>Program Hold | 0：Release, 1：HLD<br>（Writing is possible only in CH1） | W |

| | | | |
|---|---|---|---|
| 0300 | SV | Local SV Value, within set value limiter | R/W |

| Data AddresS | Parameter | Details of Parameter | R/W |
|---|---|---|---|
| 030A | SV Limt_L Lower Limit | Within measuring range,<br>On condition that SV Limt_L<SV Limt_H | R/W |
| 030B | SV Limt_h Higher Limit | | |

| | | | |
|---|---|---|---|
| 0314 | REM SC_L | Within measuring range<br>On condition that REM SC_L≠REM SC_H | R/W |
| 0315 | REM SC_H | | |
| 0316 | REM Bias | Range: -1999～5000 unit | R/W |
| 0317 | REM Filt | Range: 0～100 seconds | R/W |

| | | | |
|---|---|---|---|
| 031A | REM-CH | Remote channel assignment<br>0：OFF，1：CH1，2：CH2，3：CH3 | R/W |

| Data Address (hex) | Parameter | Details of Parameter | R/W |
|---|---|---|---|
| 0320 | SV Follow SW | CH2 & CH3 SV follow setting flag 1: Follow 0:No | R/W |
| 0321 | SV Follow | Follow type deviation SV set value: 1999～5000 unit | R/W |

| | | | |
|---|---|---|---|
| 0400 | FIX P | Control Output Proportional Baud<br>Range: 0.0～999.9%(0.0:OFF) | R/W |
| 0401 | FIX I | Control Output Integral Time<br>Range: 0～6000 Seconds (0.0:OFF) | R/W |
| 0402 | FIX D | Control Output Derivative Time<br>Range 0～3600 Seconds (0.0:OFF) | R/W |

| | | | |
|---|---|---|---|
| 0403 | FIX MR | Manual Reset Range: -50.0～50.0% | R/W |
| 0404 | FIX DF | Hysteresis Range: 1～999 unit | R/W |
| 0405 | FIX OUT Limt_L | Control Output Lower Limit Output Limiter Range: 0.0～99.9% | R/W |
| 0406 | FIX OUT Limt_H | Control Output Higher Limit Output Limiter Range: 0.1～100.0% | R/W |
| 0407 | FIX SF | Control Output Target Value Function Range: OFF，0.01～1.00 | R/W |
| 0408 | Prog P1 | PROG mode PB1 Range: 0.0～999.9% (0.0:OFF) | R/W |
| 0409 | Prog I1 | PROG mode IT1 Range: 0～6000 seconds (0.0:OFF) | R/W |
| 040A | Prog D1 | PROG mode DT1 Range: 0～3600 seconds (0.0:OFF) | R/W |
| 040B | Prog MR1 | PROG mode MR1 Range: -50.0～50.0% | R/W |
| 040C | Prog DF1 | PROG mode DF1 Range: 1～999 unit | R/W |
| 040D | Prog O_Lmt_L1 | PROG mode lower limit side output limiter 1 Range: 0.0～99.9% | R/W |
| 040E | Prog O_Lmt_H1 | PROG mode higher limit side output limiter 1 Range: 0.1～100.0% | R/W |
| 040F | Prog SF1 | PROG mode target value function 1 Range: OFF,0.01～1.00 | R/W |
| 0410 | Prog P2 | PROG mode PB2 Range: 0.0～999.9% (0.0:OFF) | R/W |
| 0411 | Prog I2 | PROG mode IT2 Range: 0～6000 seconds (0.0:OFF) | R/W |
| 0412 | Prog D2 | PROG mode DT2 Range: 0～3600 seconds (0.0:OFF) | R/W |
| 0413 | Prog MR2 | PROG mode MR2 Range: -50.0～50.0% | R/W |
| 0414 | Prog DF2 | PROG mode DF2 Range: 1～999 unit | R/W |
| 0415 | Prog O_Lmt_L2 | PROG mode lower limit side output limiter 2 Range: 0.0～99.9% | R/W |
| 0416 | Prog O_Lmt_H2 | PROG mode higher limit side output limiter 2 Range: 0.1～100.0% | R/W |

| | | | |
|---|---|---|---|
| 0417 | Prog SF2 | PROG mode target value function 2<br>Range: OFF,0.01～1.00 | R/W |
| 0418 | Prog P3 | PROG mode PB3<br>Range: 0.0～999.9% (0.0:OFF) | R/W |
| 0419 | Prog I3 | PROG mode IT3<br>Range: 0～6000 seconds (0.0:OFF) | R/W |
| 041A | Prog D3 | PROG mode DT3<br>Range: 0～3600 seconds (0.0:OFF) | R/W |
| 041B | Prog MR3 | PROG mode MR3<br>Range: -50.0～50.0% | R/W |
| 041C | Prog DF3 | PROG mode DF3<br>Range: 1～999 unit | R/W |
| 041D | Prog O_Lmt_L3 | PROG mode lower limit side output limiter 3 Range: 0.0～99.9% | R/W |
| 041E | Prog O_Lmt_H3 | PROG mode higher limit side output limiter 3<br>Range: 0.1～100.0% | R/W |
| 041F | Prog SF3 | PROG mode target value function 3<br>Range: OFF,0.01～1.00 | R/W |

| | | | |
|---|---|---|---|
| 0500 | EV1_MODE | 0:Not assigned 1:Higher limit deviation value<br>2:Lower limit deviation value<br>3:Out of range between higher & lower limits<br>4:Within range between higher & lower limits<br>5:Higher limit absolute value<br>6:Lower limit absolute value<br>7:Scaleover<br>8:Program RUN<br>9:Program END<br>10:Program STEP<br>Only when Subaddress=EV1_CH. | R/W |

| | | | |
|---|---|---|---|
| 0501 | EV1 Set Point | 1. Higher limit deviation value alarm: 0～1999 unit<br>2. Lower limit deviation value alarm: 0～-1999 unit<br>3. Out of range between higher & lower limits value alarm: 0～1999 unit<br>4. Within range between higher and lower limits value alarm: 0～1999 unit<br>5. Higher limit absolute value alarm: Within measuring range<br>6. Lower limit absolute value alarm: Within measuring range<br>Only when Subaddress=EV1_CH. | R/W |
| 0502 | EV1 Diffrnt | Alarm hysteresis 1～999 unit<br>Only when Subaddress=EV1_CH. | R/W |
| 0503 | EV1 Inhibit | Alarm stand by 1～4<br>Only when Subaddress=EV1_CH. | R/W |
| 0504 | EV1 Delay | Alarm delay time 0～9999 seconds<br>Only when Subaddress=EV1_CH. | R/W |

| | | | |
|---|---|---|---|
| 0506 | EV1_CH | Channel number setting<br>1:CH1, 2:CH2, 3:CH3 | R/W |

| | | | |
|---|---|---|---|
| 0510 | EV2_MODE | 0:Not assigned 1:Higher limit deviation value<br>2:Lower limit deviation value<br>3:Out of range between higher & lower limits<br>4:Within range between higher & lower limits<br>5:Higher limit absolute value<br>6:Lower limit absolute value<br>7:Scaleover<br>8:Program RUN<br>9:Program END<br>10:Program STEP<br>Only when Subaddress=EV2_CH. | R/W |

| | | | |
|---|---|---|---|
| 0511 | EV2 Set Point | 1. Higher limit deviation value alarm: 0～1999 unit<br>2. Lower limit deviation value alarm: 0～-1999 unit<br>3. Out of range between higher & lower limits value alarm: 0～1999 unit<br>4. Within range between higher and lower limits value alarm: 0～1999 unit<br>5. Higher limit absolute value alarm: Within measuring range<br>6. Lower limit absolute value alarm: Within measuring range<br>Only when Subaddress=EV2_CH. | R/W |
| 0512 | EV2 Diffrnt | Alarm hysteresis 1～999 unit<br>Only when Subaddress=EV2_CH. | R/W |
| 0513 | EV2 Inhibit | Alarm stand by 1～4<br>Only when Subaddress=EV2_CH. | R/W |
| 0514 | EV2 Delay | Alarm delay time 0～9999 seconds<br>Only when Subaddress=EV2_CH. | R/W |

| | | | |
|---|---|---|---|
| 0516 | EV2_CH | Channel number setting<br>1:CH1, 2:CH2, 3:CH3 | R/W |

| | | | |
|---|---|---|---|
| 0520 | EV3_MODE | 0:Not assigned 1:Higher limit deviation value<br>2:Lower limit deviation value<br>3:Out of range between higher & lower limits<br>4:Within range between higher & lower limits<br>5:Higher limit absolute value<br>6:Lower limit absolute value<br>7:Scaleover<br>8:Program RUN<br>9:Program END<br>10:Program STEP<br>Only when Subaddress=EV3_CH. | R/W |

| | | | |
|---|---|---|---|
| 0521 | EV3 Set Point | 1. Higher limit deviation value alarm: 0～1999 unit<br>2. Lower limit deviation value alarm: 0～-1999 unit<br>3. Out of range between higher & lower limits value alarm: 0～1999 unit<br>4. Within range between higher and lower limits value alarm: 0～1999 unit<br>5. Higher limit absolute value alarm: Within measuring range<br>6. Lower limit absolute value alarm: Within measuring range<br>Only when Subaddress=EV3_CH | R/W |
| 0522 | EV3 Diffrnt | Alarm hysteresis 1～999 unit<br>Only when Subaddress=EV3_CH. | R/W |
| 0523 | EV3 Inhibit | Alarm stand by 1～4<br>Only when Subaddress=EV3_CH. | R/W |
| 0524 | EV3 Delay | Alarm delay time 0～9999 seconds<br>Only when Subaddress=EV3_CH. | R/W |

| | | | |
|---|---|---|---|
| 0526 | EV3_CH | Channel number setting<br>1:CH1, 2:CH2, 3:CH3 | R/W |

| | | | |
|---|---|---|---|
| 0580 | DI | DI setting flag<br>0:NON 1:FLW 2:RUN 3:HLD 4:ADV | R/W |

| | | | |
|---|---|---|---|
| 05B0 | MEM | 1:EEP Program Memory<br>0:RAM Random Memory | R/W |

| | | | |
|---|---|---|---|
| 0600 | Out Actn | Output characteristic setting flag<br>0:Rev Act. 1:Dir Act | R/W |
| 0601 | Out Cyc | Control output cycle (Unit:0.5 seconds)<br>Range: 0.5～120.0 seconds | R/W |
| 0602 | Reserved | | |
| 0603 | SOFTSW | Soft start setting flag<br>0:OFF 1:ON | |

| | | | |
|---|---|---|---|
| 0610 | AT Point | AT pointer Range: 0～5000 unit | R/W |
| 0611 | Key Lock | 0:OFF 1:LOCK1 2:LOCK2<br>3:LOCK3 | R/W |

- When Out_Cyc is written, writing data is adjusted to 0.5 sec as one unit.
- The write command lock by keylock is the same as the screen lock. (Refer to the manual of the instrument.)
- If there is a change in EV1_CH,EV2_CH,EV3_CH, the related parameters are initialized.

| | | | |
|---|---|---|---|
| 0701 | PV Bias | PV bias Range: -1999～1999 unit | R/W |
| 0702 | PV Filt | PV filter Range: 0～100 seconds | R/W |

| | | | |
|---|---|---|---|
| 0710 | PFLW | Setting of CH2, CH3 PV input follow<br>0:OFF 1:ON | R/W |
| 0711 | CH_P | Selection of CH2, CH3 PV display or not<br>0-0 Window<br>0: Without 1: With | R/W |

| | | | |
|---|---|---|---|
| 0800 | FP_MOD | Selection between FIX and PROG<br>0:FIX 1:PROG<br>(Writing possible only in CH1) | R/W |
| 0801 | PV_ST | Setting of PV start 0:OFF 1:ON<br>(Writing possible only in CH1) | R/W |

| | | | |
|---|---|---|---|
| 0882 | STP | The number of steps 1～9<br>(Writing possible only in CH1) | R/W |
| 0883 | RPT | The number of execution repetitions 1～9999<br>(Writing possible only in CH1) | R/W |
| 0884 | ST_SV | Start SV<br>(Writing possible only in CH1) | R/W |

- For CH1, PFLW (window 1~30), CH_P (window1-29）display- - - -.The read value is: 7FFEH, To a write command, error（0BH）is returned.

| | | | |
|---|---|---|---|
| 08A0 | Step1 SV | Step No. 1 SV Value<br>(Writing possible only in CH1) | R/W |
| 08A1 | Step1 Time | Step No. 1 Step Time<br>(Writing possible only in CH1) | R/W |
| 08A2 | Step1 PID No | Step No. 1 PID No. | R/W |
| 08A3 | Reserved | | |
| 08A4 | Step2 SV | Step No. 2 SV Value<br>(Writing possible only in CH1) | R/W |
| 08A5 | Step2 Time | Step No. 2 Step Time<br>(Writing possible only in CH1) | R/W |
| 08A6 | Step2 PID No | Step No. 2 PID No. | R/W |
| 08A7 | Reserved | | |
| 08A8 | Step3 SV | Step No. 3 SV Value<br>(Writing possible only in CH1) | R/W |
| 08A9 | Step3 Time | Step No. 3 Step Time<br>(Writing possible only in CH1) | R/W |
| 08AA | Step3 PID No | Step No. 3 PID No. | R/W |
| 08AB | Reserved | | |
| 08AC | Step4 SV | Step No. 4 SV Value<br>(Writing possible only in CH1) | R/W |
| 08AD | Step4 Time | Step No. 4 Step Time<br>(Writing possible only in CH1) | R/W |
| 08AE | Step4 PID No | Step No. 4 PID No. | R/W |
| 08AF | Reserved | | |
| 08B0 | Step5 SV | Step No. 5 SV Value<br>(Writing possible only in CH1) | R/W |
| 08B1 | Step5 Time | Step No. 5 Step Time<br>(Writing possible only in CH1) | R/W |
| 08B2 | Step5 PID No | Step No. 5 PID No. | R/W |
| 08B3 | Reserved | | |
| 08B4 | Step6 SV | Step No. 6 SV Value<br>(Writing possible only in CH1) | R/W |
| 08B5 | Step6 Time | Step No. 6 Step Time<br>(Writing possible only in CH1) | R/W |
| 08B6 | Step6 PID No | Step No. 6 PID No. | R/W |
| 08B7 | Reserved | | |

| | | | |
|---|---|---|---|
| 08B8 | Step7 SV | Step No. 7 SV Value<br>(Writing possible only in CH1) | R/W |
| 08B9 | Step7 Time | Step No. 7 Step Time<br>(Writing possible only in CH1) | R/W |
| 08BA | Step7 PID No | Step No. 7 PID No. | R/W |
| 08BB | Reserved | | |
| 08BC | Step8 SV | Step No. 8 SV Value<br>(Writing possible only in CH1) | R/W |
| 08BD | Step8 Time | Step No. 8 Step Time<br>(Writing possible only in CH1) | R/W |
| 08BE | Step8 PID No | Step No. 8 PID No. | R/W |
| 08BF | Reserved | | |
| 08C0 | Step9 SV | Step No. 9 SV Value<br>(Writing possible only in CH1) | R/W |
| 08C1 | Step9 Time | Step No. 9 Step Time<br>(Writing possible only in CH1) | R/W |
| 08C2 | Step9 PID No | Step No. 9 PID No. | R/W |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Apr/08/2011 | |

# SHJ-A

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SHJ-A | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

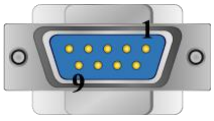
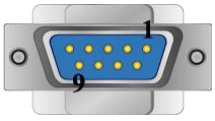
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Word | DD | 0 ~ 89 | |

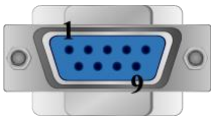
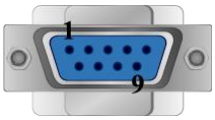
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

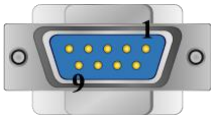
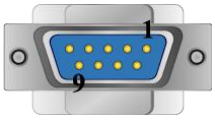
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

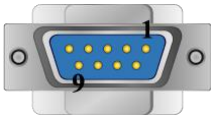
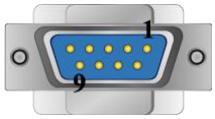
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

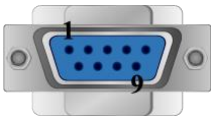
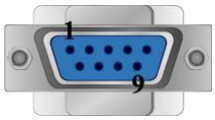
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/18/2011 | Driver released. |

# SICK FLEXI SOFT

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SICK FLEXI SOFT | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | 9600,19200,38400,57600,115200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

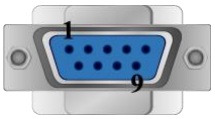
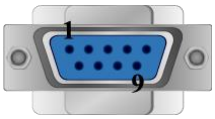
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDo | 0 ~ 967 | Input |
| B | Q | DDo | 0 ~ 487 | Output |
| B | Logic result | DDo | 0 ~ 327 | Logic Result |
| B | RS-232 | DDo | 0 ~ 327 | RS-232 |
| B | Flexi soft to RS-232_Bit | DDo | 0 ~ 997 | |
| B | Module Status Bit Array_Bit | DDo | 0 ~ 597 | |
| B | Operating Data Block_Bit | Do | 0 ~ 97 | |
| B | Configuration CRCs_Bit | DDo | 0 ~ 197 | |
| B | CPU Module Type Key_Bit | DDo | 0 ~ 177 | |
| B | Extension Modules Type_Bit | DDDo | 0 ~ 3377 | |
| W | RS-232 to Flexi soft | D | 0 ~ 2 | |
| W | Flexi soft to RS-232 | DD | 0 ~ 98 | |
| W | Module Status Bit Array | DD | 0 ~ 58 | |
| W | Operating Data Block | D | 0 ~ 8 | |
| W | Configuration CRCs | DD | 0 ~ 18 | |
| W | CPU Module Type Key | DD | 0 ~ 16 | |
| W | Extension Modules Type | DDD | 0 ~ 336 | |

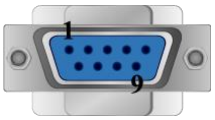
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

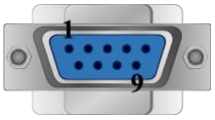
eMT3000 series

| COM1 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Female | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 4 GND |
|  |  | |  |

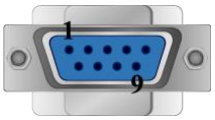
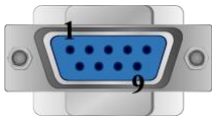
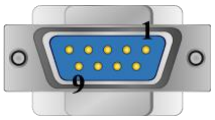
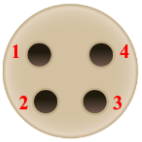
cMT/mTV series

| COM1 RS232 9P<br>D-Sub Female | | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 4 GND |
|  | | |  |

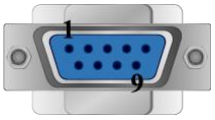
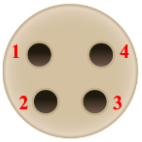
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 4 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P<br>D-Sub Female | COM2 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Male | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 4 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 4 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/6/2011 | Driver released. |
| V1.10 | May/15/2013 | Supports importing tags of external modules and V1.4 .csv files. |

# Siemens LOGO (Ethernet)

Supported Series: Siemens LOGO! 0BA7

Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

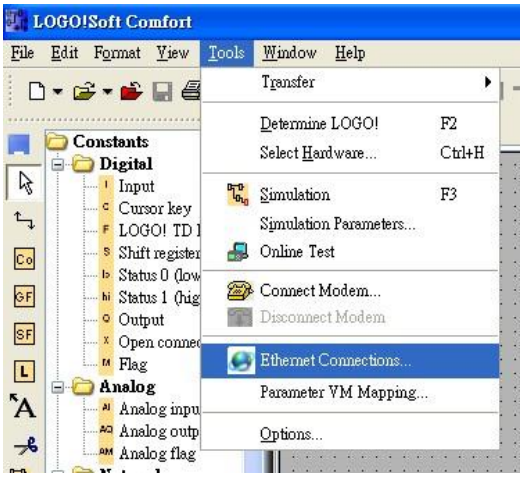
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7/200 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 1 | 1~99 | |
| Local TSAP | 1000 | | Must be greater than 1000 |
| Remote TSAP | 2100 | | Range:2000~2700 |

★ For TSAP settings please refer to PLC Setting below.

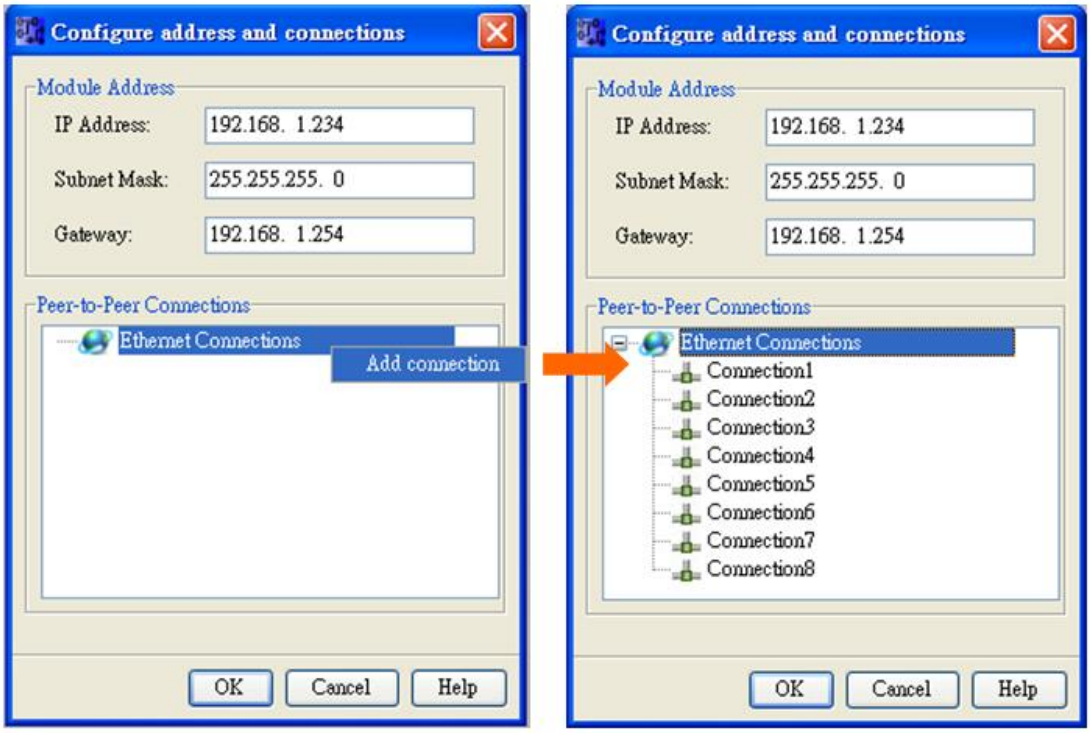
## PLC Setting:

Siemens LOGO! multi connection setting requires LOGO! Soft Comfort software to set PLC to identify the connected devices. The following introduces LOGO! Soft Comfort settings.

Step 1. Tools -> Ethernet Connections



Step 2. Right click on ”Ethernet Connections” and click ”Add connections” to add a connection, up to eight connections are allowed.



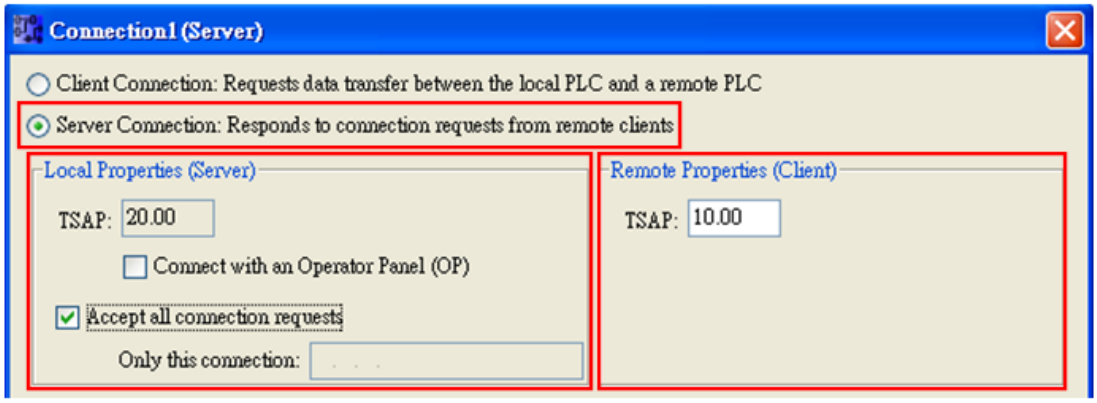

Step 3. Setting Server

I. Double click on Connection1, then select ”Server Connection”.

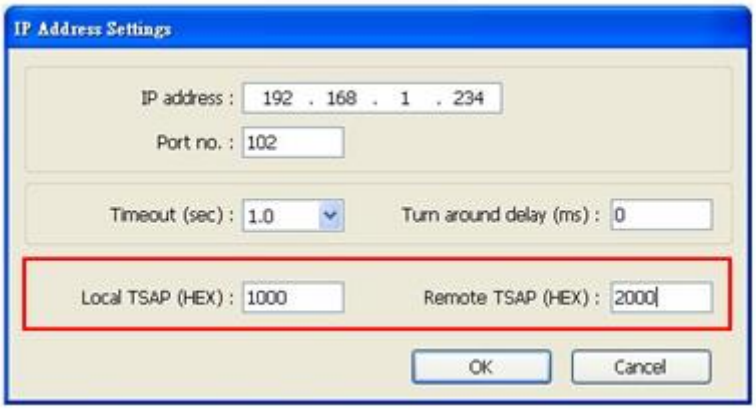
II. Local TSAP is system default and can’t be modified. Tick ”Accept all connection requests” to connect to any IP.

III. Remote TSAP set to ”10.00”.

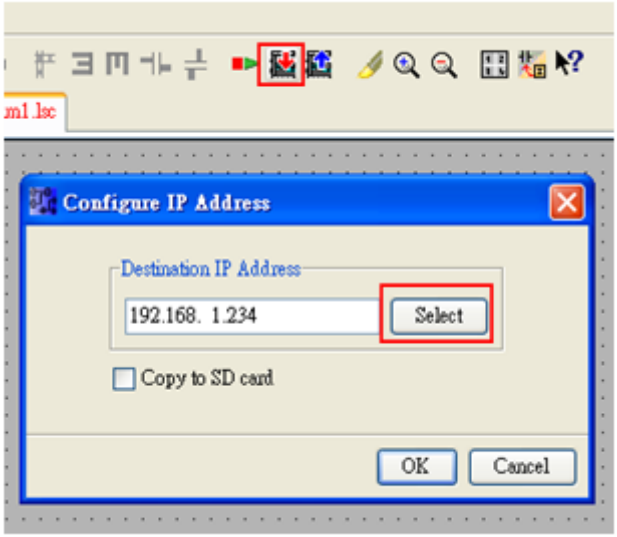
IV. Connection 2~8 can all be set as above.




Note: The value of Local TSAP and Remote TSAP must be set oppositely in EasyBuilder for communication.




Step 4. Complete settings, download connection to Siemens LOGO!




## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DD | 1~24 | Read Only |
| B | Q | DD | 1~16 | |
| B | M | DD | 1~27 | |
| B | V | DDDDo | 0~1023 | VW_Bit |
| W | AI | D | 1~8 | |
| W | AQ | D | 1~2 | |
| W | AM | DD | 1~16 | |
| W | VW | DDDD | 0~1023 | See Table 1 Address Mapping |

Table 1 Address Mapping

| I | VW | Q | VW | M | VW | AI | VW | AQ | VW | AM | VW |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I1 | V923.0 | Q1 | V942.0 | M1 | V948.0 | AI1 | VW926 | AQ1 | VW944 | AM1 | VW952 |
| I2 | V923.1 | Q2 | V942.1 | M2 | V948.1 | AI2 | VW928 | AQ2 | VW946 | AM2 | VW954 |
| I3 | V923.2 | Q3 | V942.2 | M3 | V948.2 | AI3 | VW930 | | | AM3 | VW956 |
| I4 | V923.3 | Q4 | V942.3 | M4 | V948.3 | AI4 | VW932 | | | AM4 | VW958 |
| I5 | V923.4 | Q5 | V942.4 | M5 | V948.4 | AI5 | VW934 | | | AM5 | VW960 |
| I6 | V923.5 | Q6 | V942.5 | M6 | V948.5 | AI6 | VW936 | | | AM6 | VW962 |
| I7 | V923.6 | Q7 | V942.6 | M7 | V948.6 | AI7 | VW938 | | | AM7 | VW964 |
| I8 | V923.7 | Q8 | V942.7 | M8 | V948.7 | AI8 | VW940 | | | AM8 | VW966 |
| | | | | | | | | | | | |
| I9 | V924.0 | Q9 | V943.0 | M9 | V949.0 | | | | | AM9 | VW968 |
| I10 | V924.1 | Q10 | V943.1 | M10 | V949.1 | | | | | AM10 | VW970 |
| I11 | V924.2 | Q11 | V943.2 | M11 | V949.2 | | | | | AM11 | VW972 |
| I12 | V924.3 | Q12 | V943.3 | M12 | V949.3 | | | | | AM12 | VW974 |
| I13 | V924.4 | Q13 | V943.4 | M13 | V949.4 | | | | | AM13 | VW976 |
| I14 | V924.5 | Q14 | V943.5 | M14 | V949.5 | | | | | AM14 | VW978 |
| I15 | V924.6 | Q15 | V943.6 | M15 | V949.6 | | | | | AM15 | VW980 |
| I16 | V924.7 | Q16 | V943.7 | M16 | V949.7 | | | | | AM16 | VW982 |
| | | | | | | | | | | | |
| I17 | V925.0 | | | M17 | V950.0 | | | | | | |
| I18 | V925.1 | | | M18 | V950.1 | | | | | | |
| I19 | V925.2 | | | M19 | V950.2 | | | | | | |
| I20 | V925.3 | | | M20 | V950.3 | | | | | | |
| I21 | V925.4 | | | M21 | V950.4 | | | | | | |
| I22 | V925.5 | | | M22 | V950.5 | | | | | | |
| I23 | V925.6 | | | M23 | V950.6 | | | | | | |
| I24 | V925.7 | | | M24 | V950.7 | | | | | | |
| | | | | | | | | | | | |
| | | | | M25 | V951.0 | | | | | | |
| | | | | M26 | V951.1 | | | | | | |
| | | | | M27 | V951.2 | | | | | | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | DEC/7/2011 | Driver released. |

# Siemens S7-1200 (Ethernet)

Supported Series: Siemens S7-1200 series Ethernet.
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

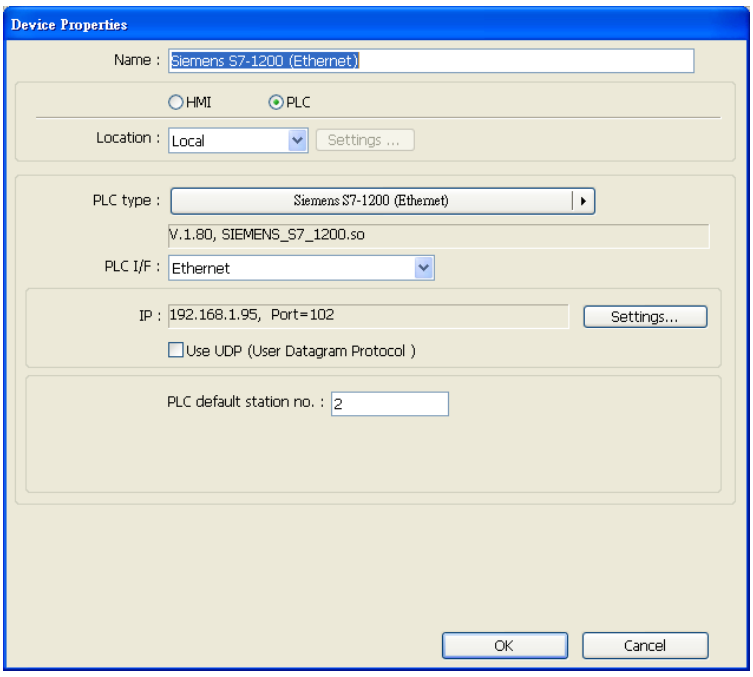
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7-1200 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 2 | | |
| Rack | 0 | | |
| CPU slot | 1 | | |

| | | | |
|---|---|---|---|
| On-line simulator | Yes | Multi-HMI connect | Yes (Max:3 HMI) |

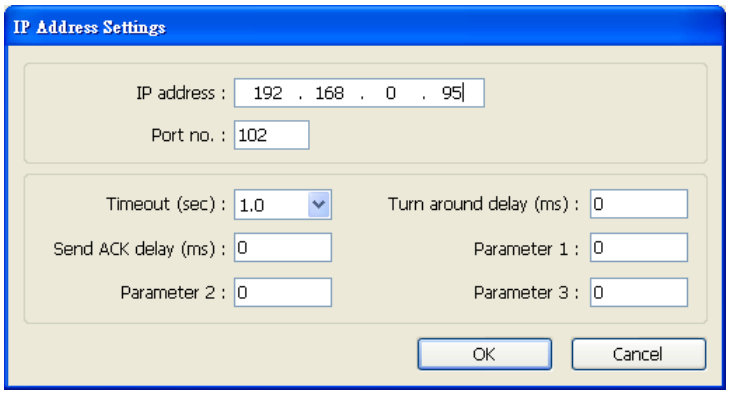
*EasyBuilder8000 does note support Siemens S7-1200 firmware V4.0 and later versions.

## PLC Setting:

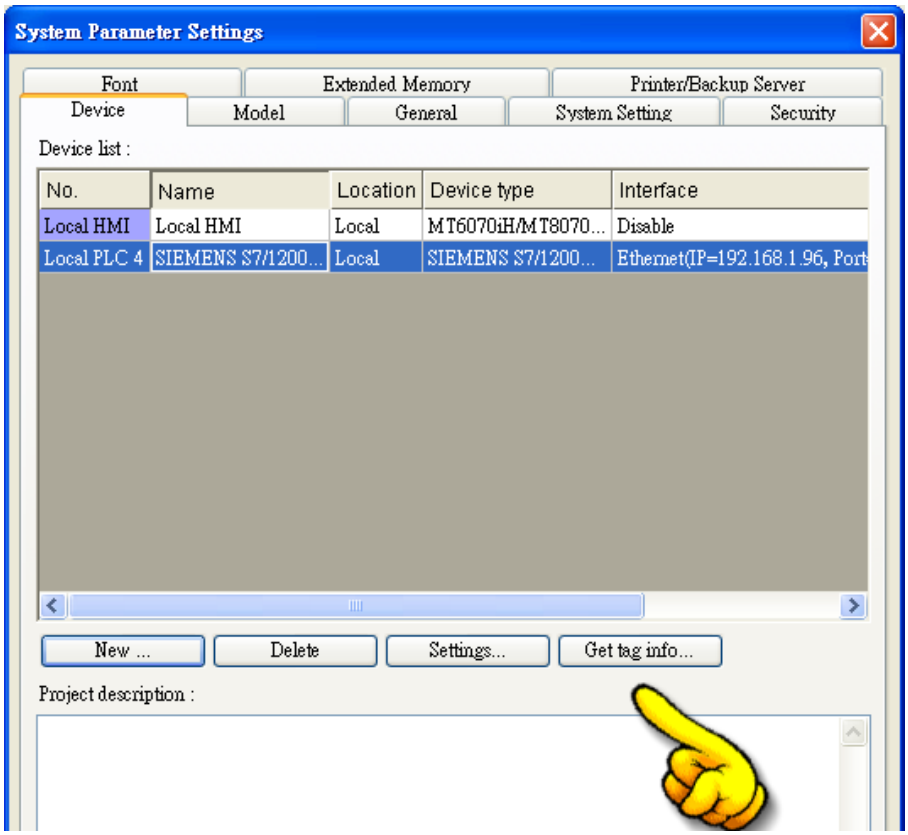
1. In S7-1200 program software create PLC program and tag and then download to PLC.
2. Select Go offline, EasyBuilder will connect to PLC and get tag data. In PLC type select “SIEMENS S7-1200 (Ethernet)”.



3. Click “Settings…”, input PLC IP address.

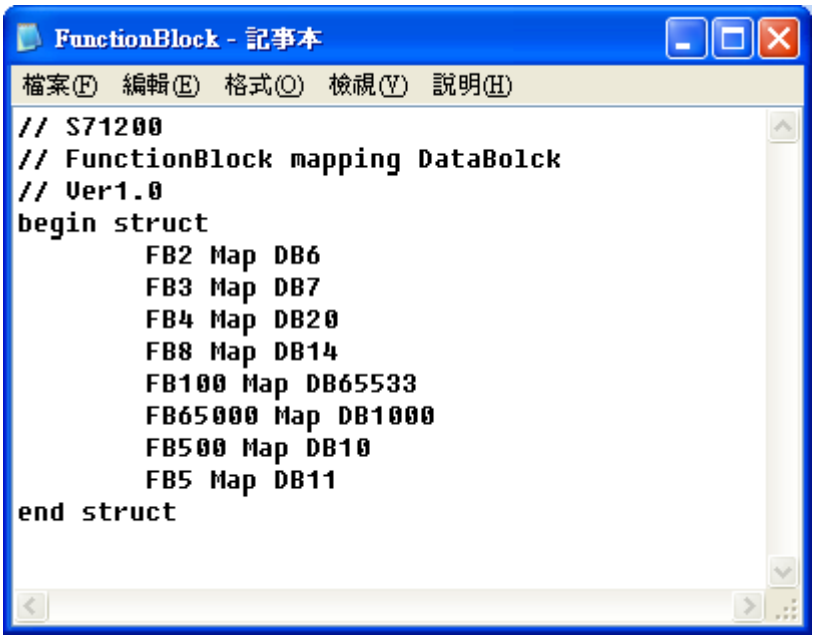


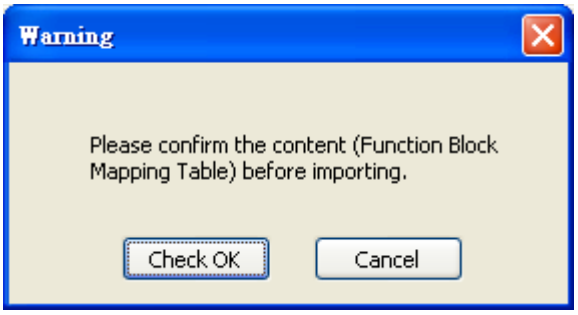

4. Check the PLC that is not connected to any PC. Click “Get tag info…”.
5. Supported by firmware V3.X and previous versions. For V4.0 or later, please see **How to Connect With S7-1200 Firmware V4.0**)

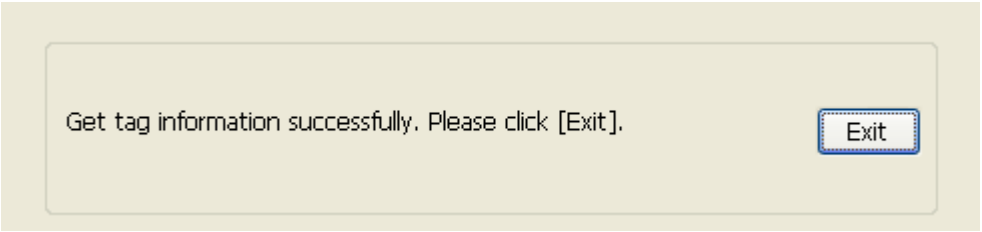


6. If the software used is a version later than TIA Portal V11，SP2, a dialog of FunctionBlock directory will be shown, users have to define the mapping from FB to DB in this directory then click “Check OK”. The tag information will be gained and a successful message is shown.

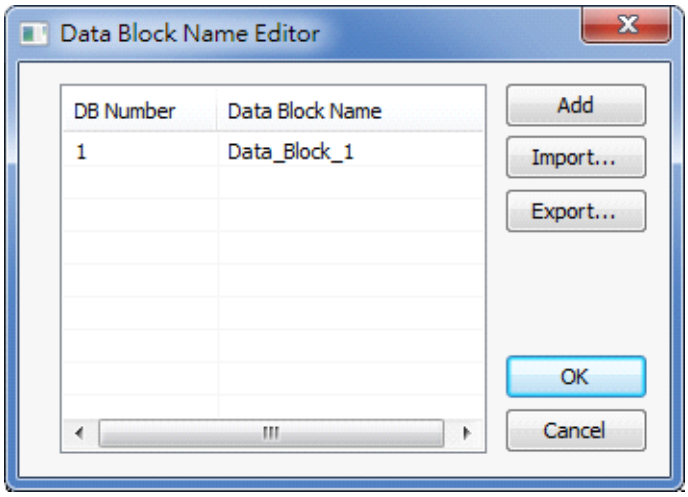


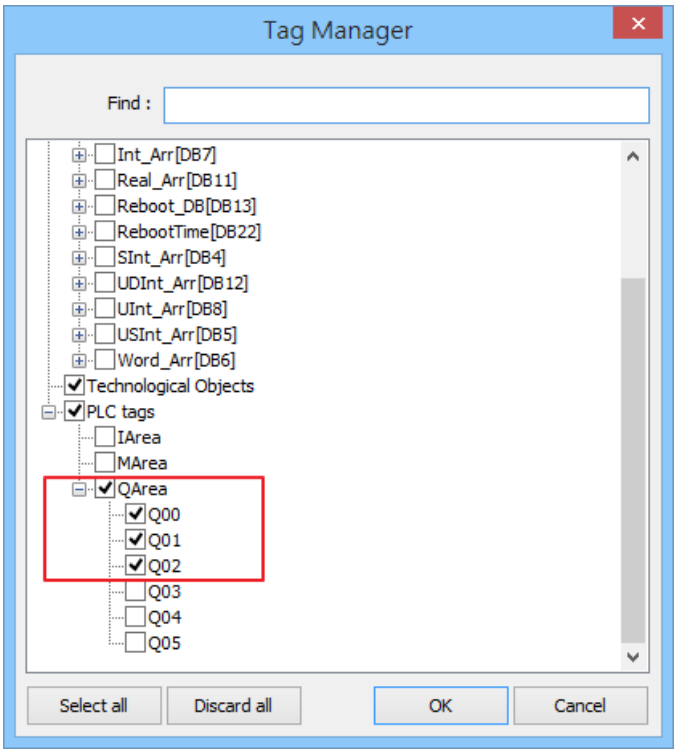



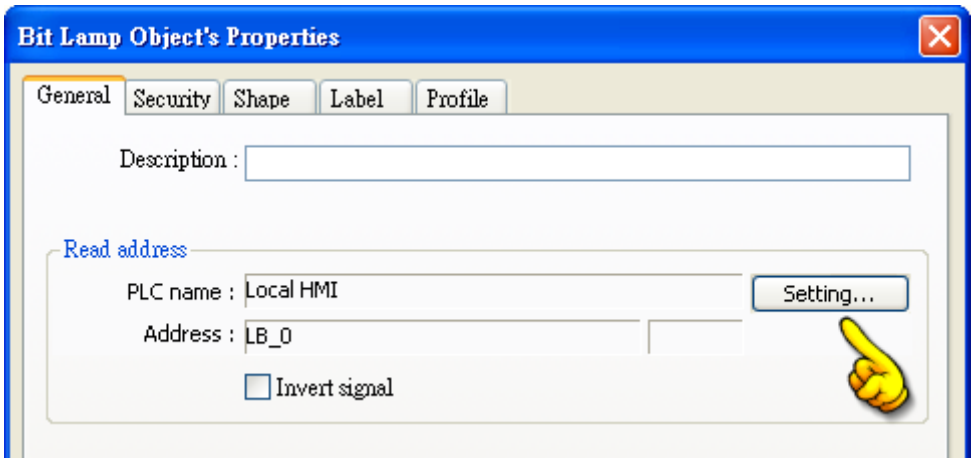
7. When opening an existing project and get the tag information again, if the PLC software used is TIA Portal V12 and later versions, the DB name must be entered again in order to compile the project.



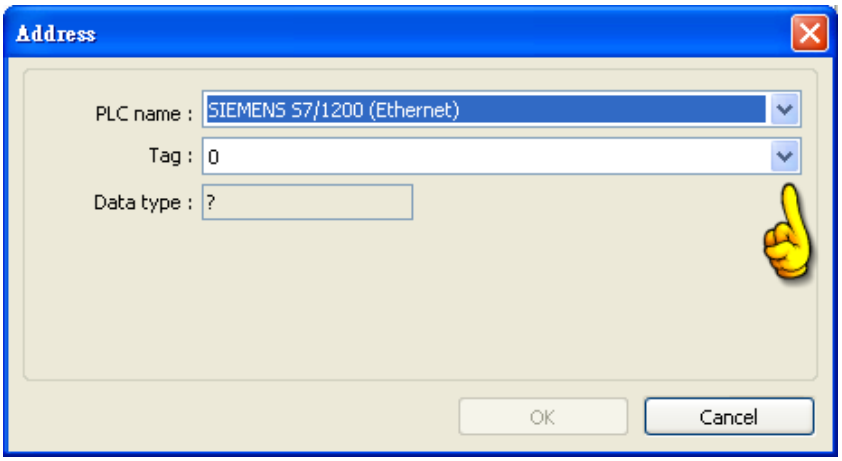

8. Added Tag Manager that allows selecting the Siemens S7-1200 PLC tags to be imported.



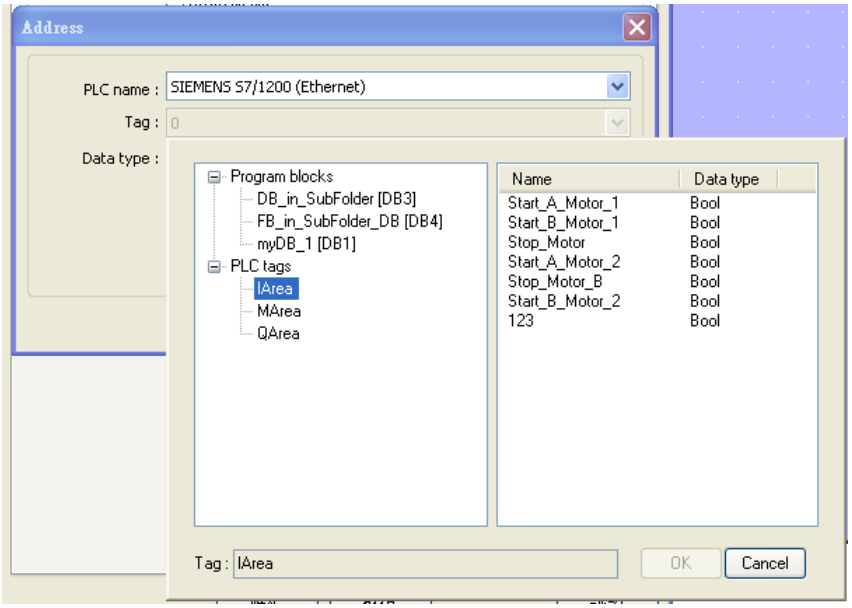
9. Create an object and click read address “Setting…”




10. In PLC name select S7-1200 then click Tag.



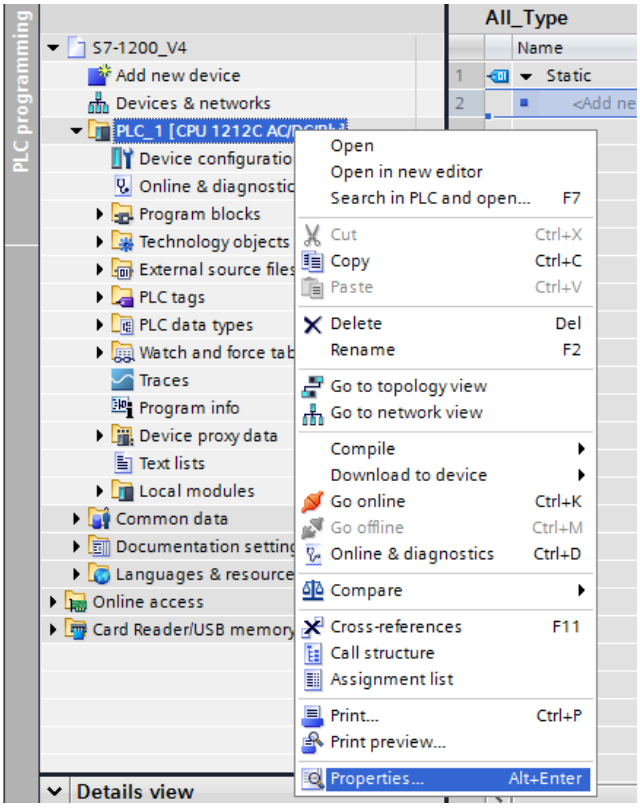

11. Select PLC tag.



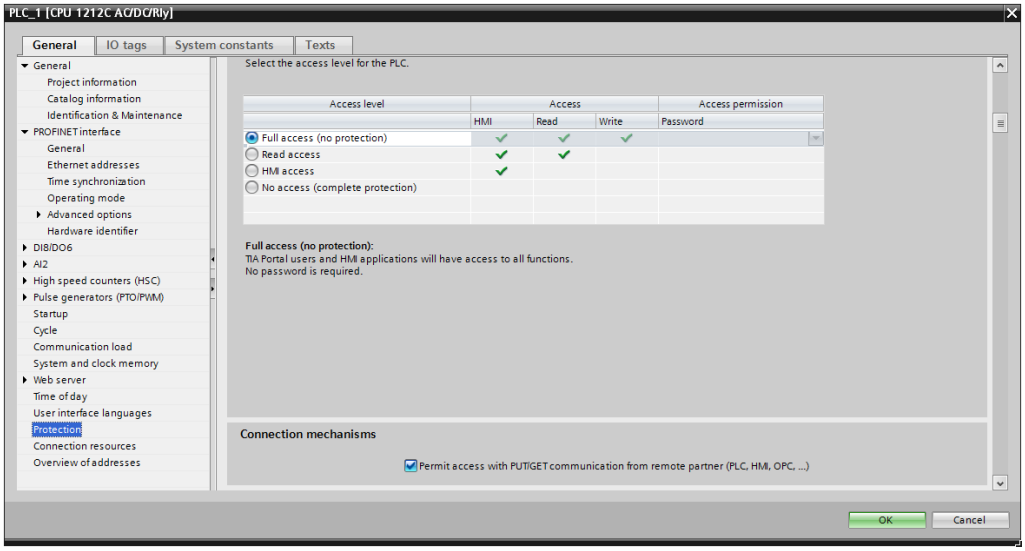
# How to Connect With S7-1200 Firmware V4.0

There are certain restrictions in S7-1200 firmware V4.0, therefore, to avoid communication errors, please follow the steps to set up.( EasyBuilder8000 does not support Siemens S7-1200 firmware V4.0 and later versions).

Right click on the PLC program, and then click **[Properties]**.



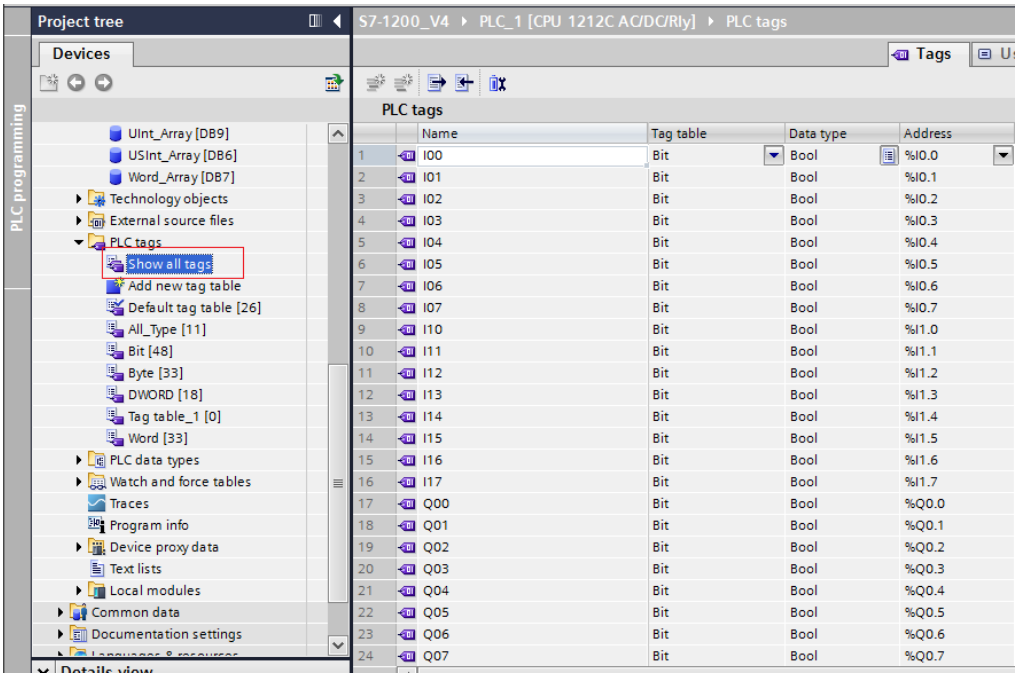

Select **[Protection]**, and then select **[Permit access with PUT/GET communication from remote partner (PLC,HMI,OPC,…]**.



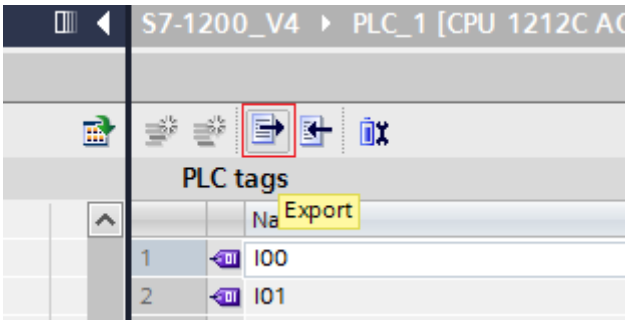
The following part introduces how to export S7-1200 PLC Tags and Program Blocks.

**Exporting PLC Tags (I,Q,M tags)**

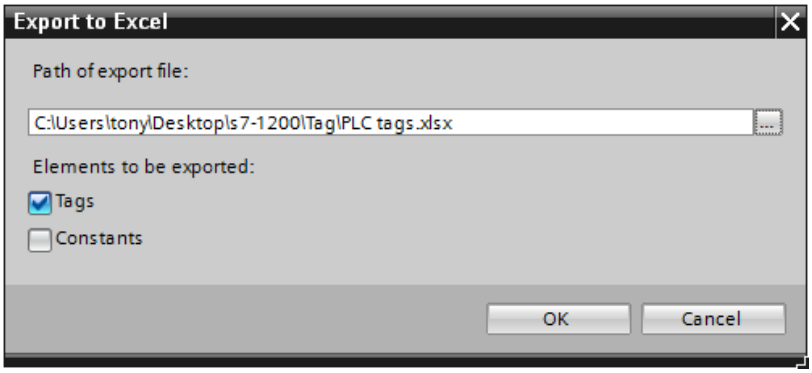
1. Under **[PLC tags]** select **[Show all tags]**.




2. Click **[Export]** to export the tags.

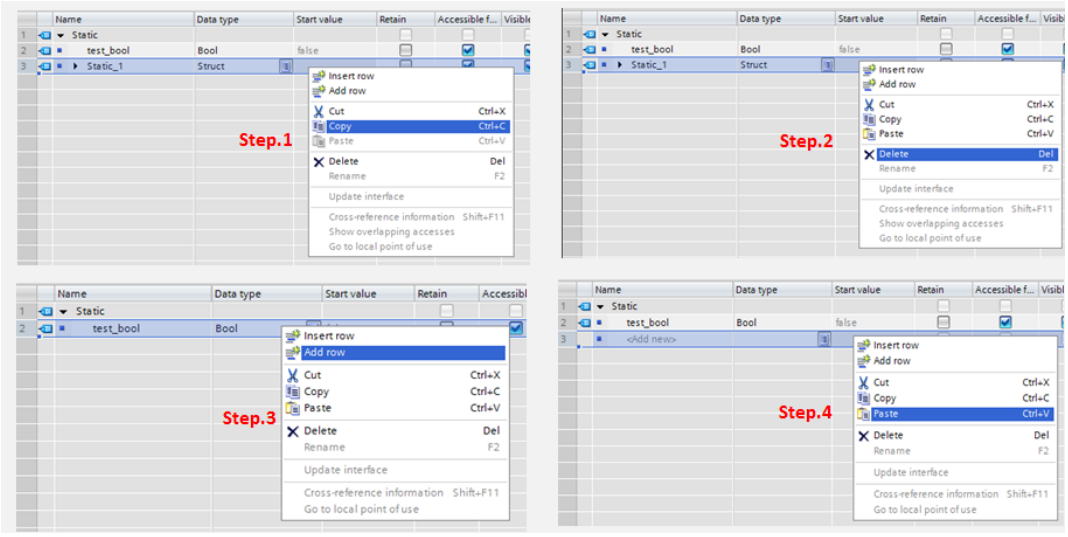



3. Browse for the directory to save the exported file and then click **[OK]**.

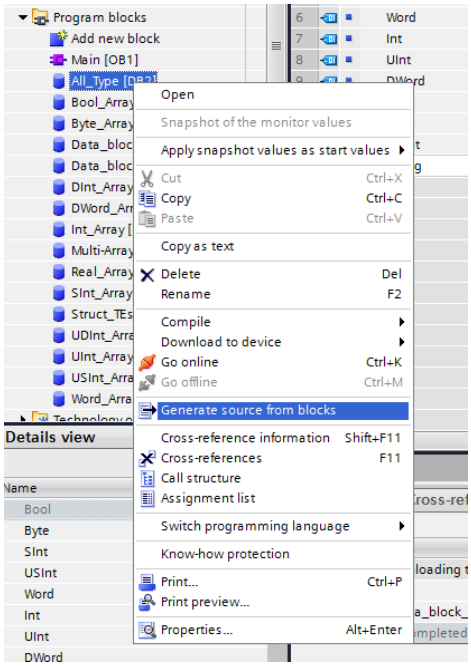


## Exporting Program Blocks(DB)

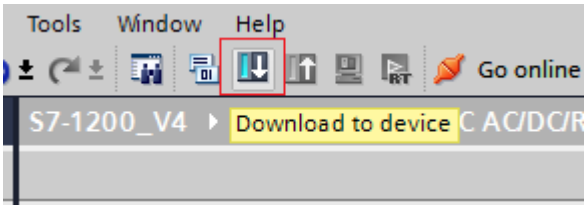
1. When the database contains Struct data type, please note the following restrictions.
   Please at least add one data member that doesn't belong to Struct data type into DB, otherwise, the data cannot be imported to EasyBuilder.
   Multidimensional Arrays and Multilayer Structs are not supported.
   After building DB, please do the following actions for Struct address:
   (1) Copy the complete Struct data.
   (2) Delete data.
   (3) Add a new row.
   (4) Paste data.




2. Right click on DB, click **[Generate source from blocks]**, and then enter the file name to save.

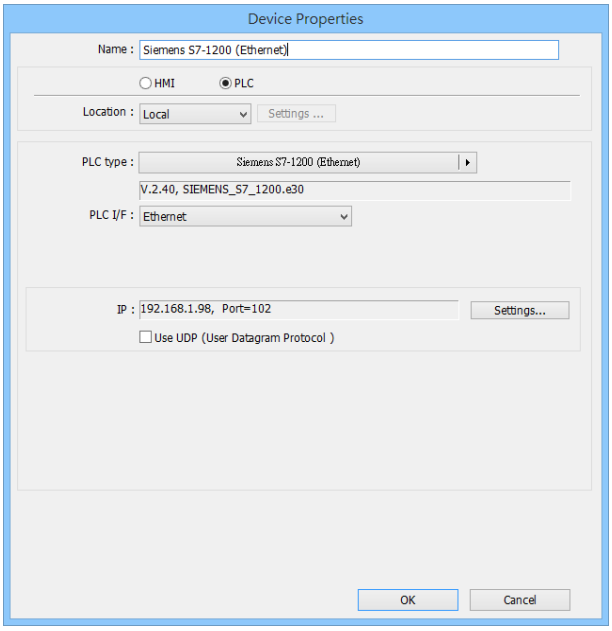


After building and importing PLC Tags and Program Blocks, click **[Download to device]**.

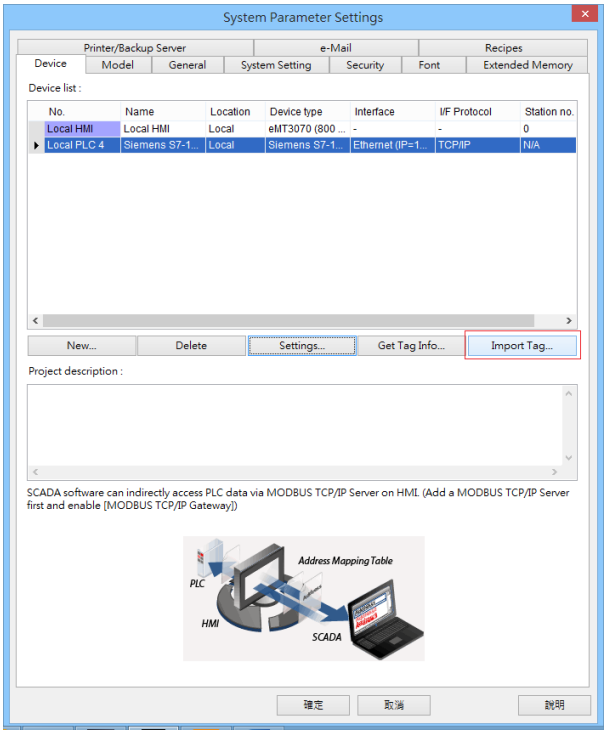



## Importing PLC Tags and Program Blocks(DB)

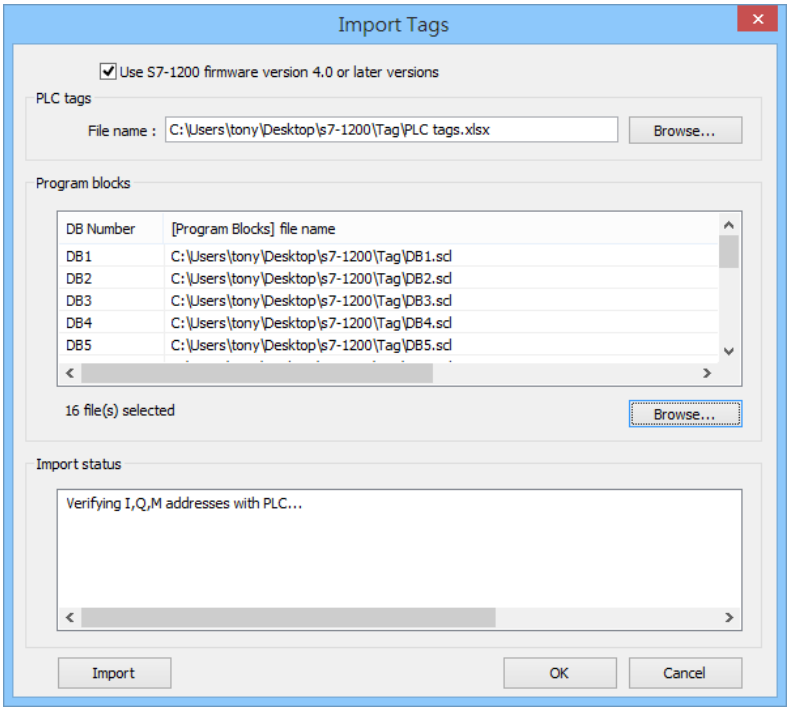
1. Launch EasyBuilder and set the IP address.



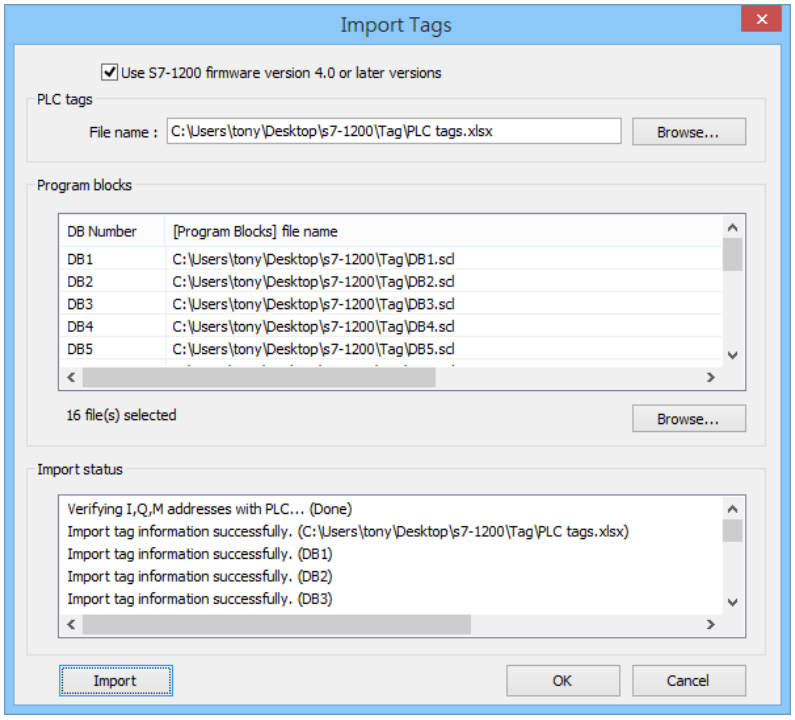

2. Click **[Import Tag…]**.



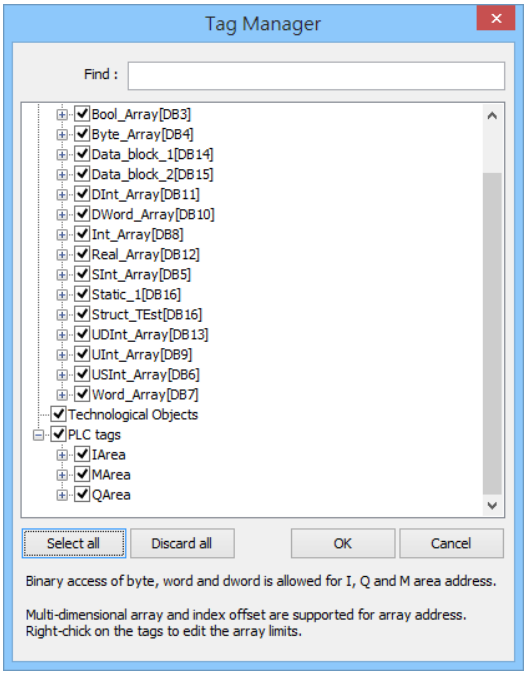
3. Select the PLC Tags and Program Blocks to be imported. Please remember to change DB number, and select **[Use S7-1200 firmware version 4.0 or later versions]**. Click **[Import]** to import the files. The I, Q, and M addresses will be checked, if an error occurs, the communication will fail. If this happens, please check your communication environment, and try to import again.



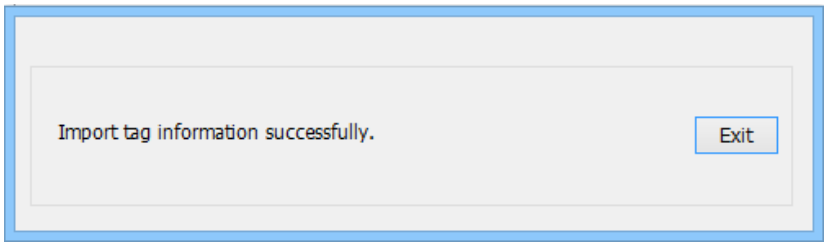

4. The “Import status” field will display the result, click **[OK]**.



5. Select the tags to be imported and then click **[OK]**.




6. The following message is displayed when the import has succedded.



## Support Device Type:

| S7-1200 data type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Byte | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| SInt | 16-bit BCD, Hex, Binary, Signed | 8-bit |
| USInt | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| Array | Word array for ASCII input and ASCII display | Length=word |
| Char | 16-bit BCD, Hex, Binary, Unsigned | USInt |
| CREF | | Struct |
| Date | 16-bit BCD, Hex, Binary, Unsigned | UInt |
| DTL | | Struct |
| ErrorStruct | | Struct |
| IEC_COUNTER | | Struct |
| IEC_DCOUNTER | | Struct |
| IEC_SCOUNTER | | Struct |
| IEC_TIMER | | Struct |
| IEC_UCOUNTER | | Struct |

| S7-1200 data type | EasyBuilder data format | Memo |
|---|---|---|
| IEC_UDCOUNTER | | Struct |
| IEC_USCOUNTER | | Struct |
| NREF | | Struct |
| Time | 32-bit BCD, Hex, Binary, Unsigned | DWord |
| Time_Of_Day | 32-bit BCD, Hex, Binary, Unsigned | DWord |
| Struct | | Bool, Byte, SINT, USInt, Word, Int, UInt, DWord, Dint, Real, UDInt |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.70 | Oct/7/2011 | Add data type: Byte,SInt,UInt,UDInt |
| V1.90 | Apr/26/2012 | Add data type: USInt |
| V2.40 | Aug/04/2014 | Support firmware V4.0 |
| V2.50 | Aug/29/2014 | Support cMT-SVR |

# Siemens S7-1500 (Ethernet)

Supported Series: Siemens S7-1500/1200 series Ethernet.
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7-1500 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 2 | | |
| Rack | 0 | | |
| CPU slot | 1 | | |

| | | | |
|---|---|---|---|
| On-line simulator | Yes | Multi-HMI connect | Yes (Max:3 HMI) |

## Support Device Type:

| S7-1200 data type | EasyBuilder data format | Memo |
|---|---|---|
| Bool | bit | |
| Byte | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| SInt | 16-bit BCD, Hex, Binary, Signed | 8-bit |
| USInt | 16-bit BCD, Hex, Binary, Unsigned | 8-bit |
| Word | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| Int | 16-bit BCD, Hex, Binary, Signed | 16-bit |
| UInt | 16-bit BCD, Hex, Binary, Unsigned | 16-bit |
| DWord | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| DInt | 32-bit BCD, Hex, Binary, Signed | 32-bit |
| Real | 32-bit Float | 32-bit |
| UDInt | 32-bit BCD, Hex, Binary, Unsigned | 32-bit |
| Array | Word array for ASCII input and display | Length=word |

## Device Address:

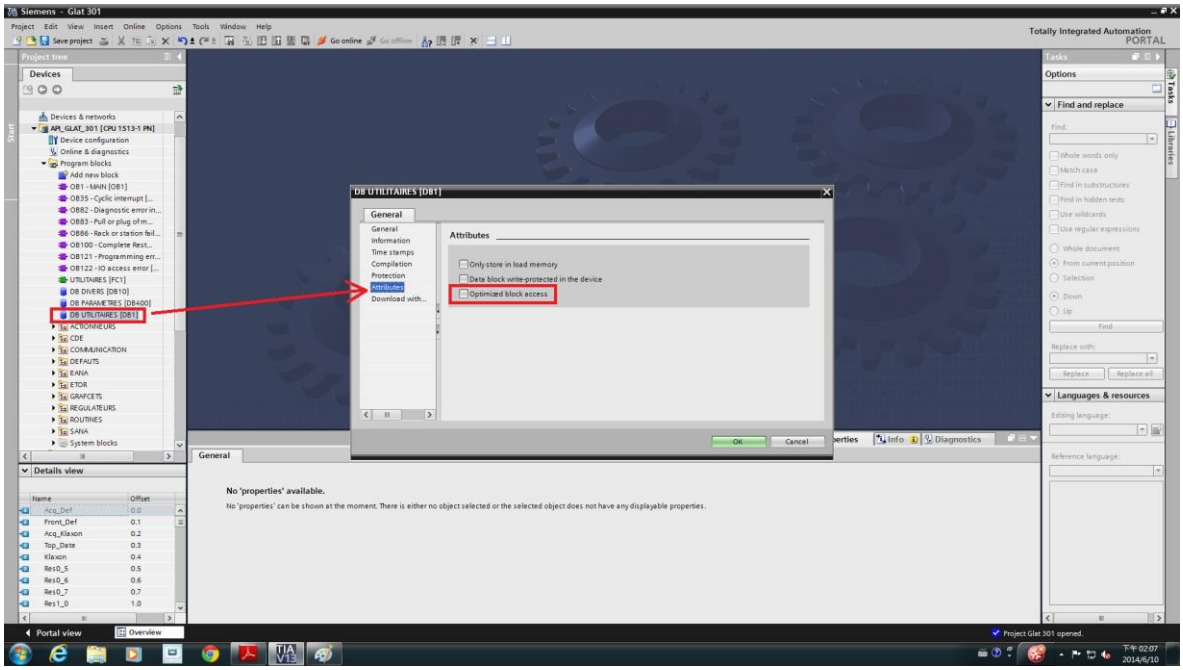
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFFDDDDo | 0 ~ 6553599997 | |
| B | DB1Bit-DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | Bit Memory Double Word |
| W | DBn | FFFFFDDDD | 0 ~ 655359999 | Data Register (must be even) |
| DW | DBDn | FFFFFDDDD | 0 ~ 655359999 | Data Register Double Word |
| W | DBn_String | FFFFFDDDD | 0 ~ 655359999 | |
| DW | DBDn_String | FFFFFDDDD | 0 ~ 655359999 | |
| W | DB1 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register(must be even) |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFFDDDD | 0 ~ 655359999 | Data Register Byte |
| DW | ID | DDDD | 0 ~ 4094 | |
| Byte | IB | DDDD | 0 ~ 9095 | |
| DW | QD | DDDD | 0 ~ 4094 | |
| Byte | QB | DDDD | 0 ~ 4095 | |

- Double word and floating point value must use DBDn device type.

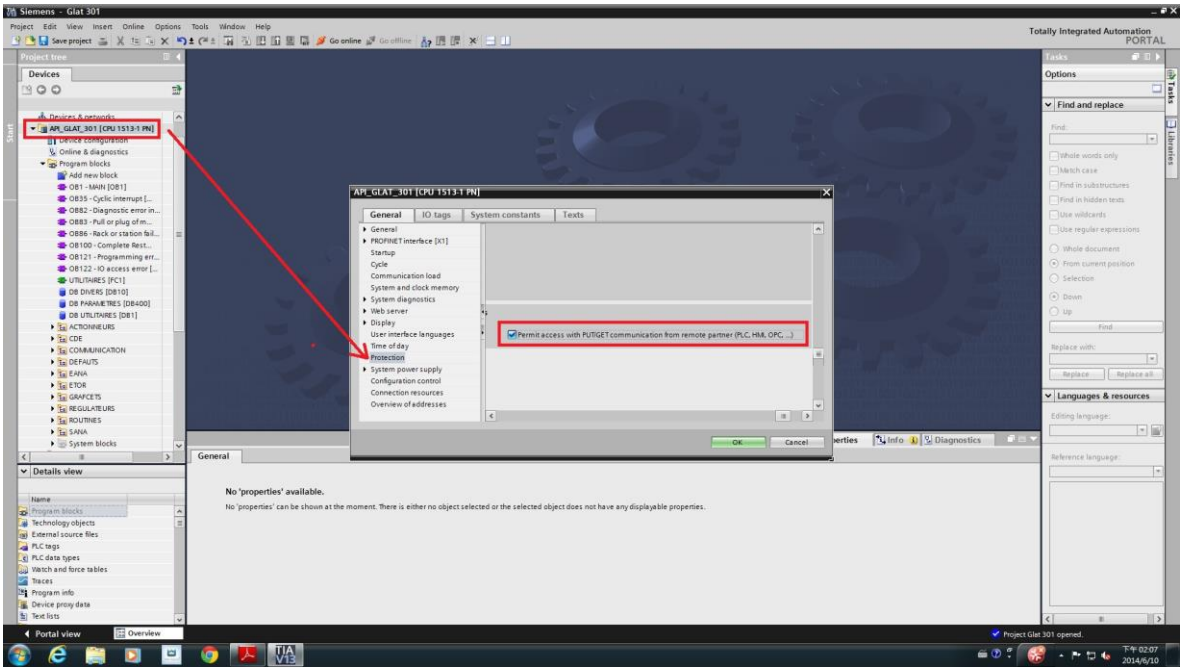
# PLC Setting:

Note: Please follow the settings below, or the communication may fail.

1. Do not check [DB UTILITAIRES] -> [Attributes] -> [Optimized block access]



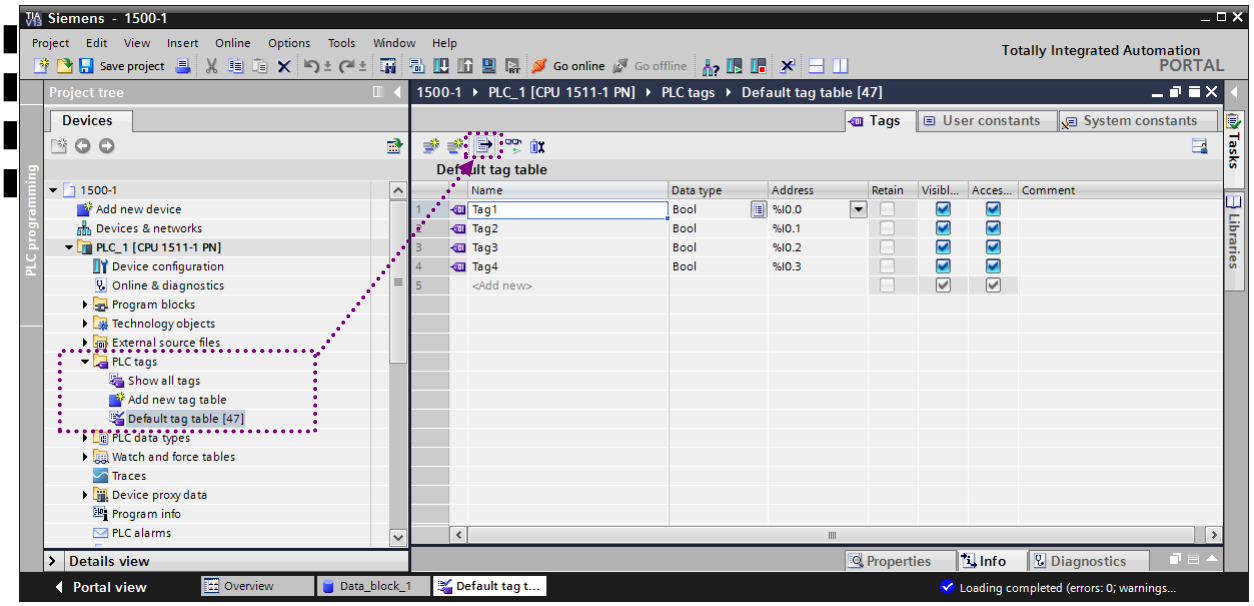

2. Check [General] -> [Protection] -> [Permit access with PUT/GET communication from remote partner]



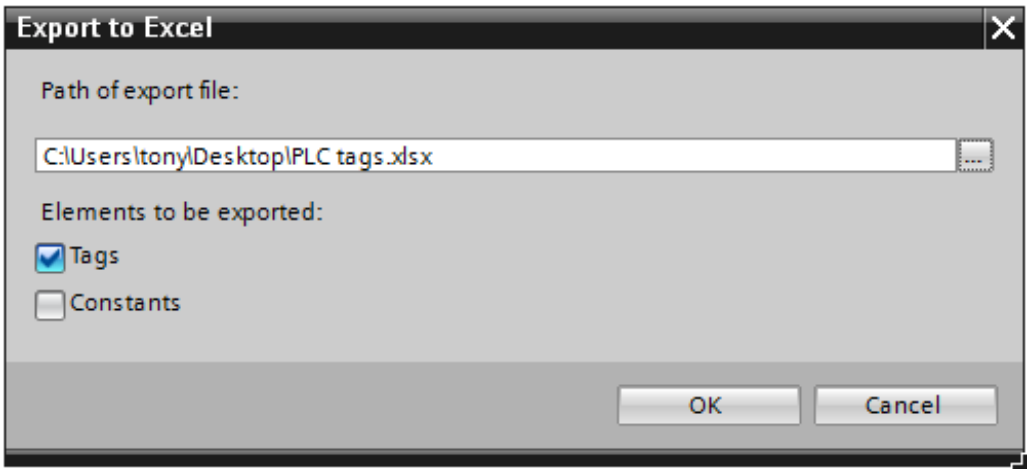
# How to import address tags using TIA portal?

1. Exporting PLC Tags (.xlsx file format).

1.1 Under [PLC tags] create the address tags and then click the Export icon.

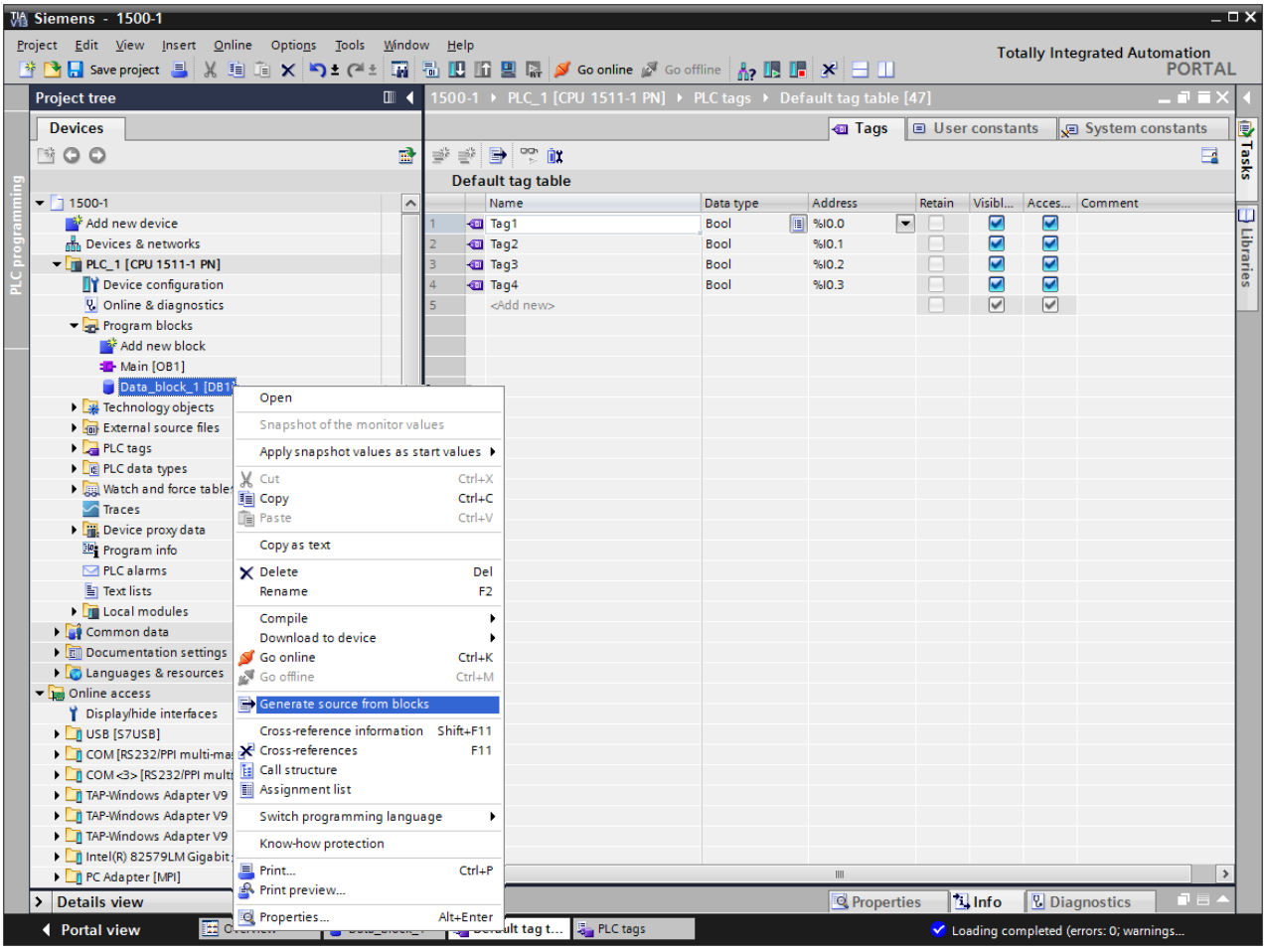



1.2 Designate the directory to save the file and click OK button.

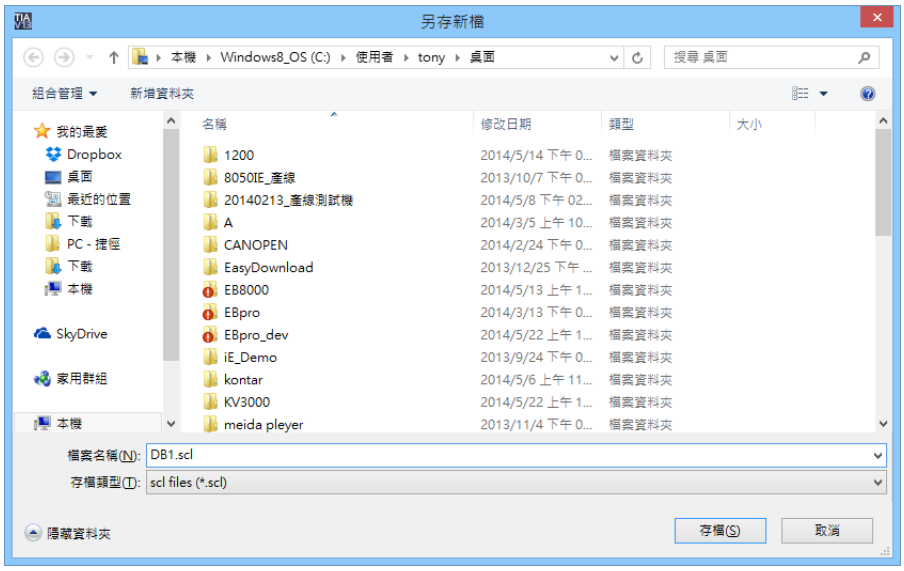


2. Exporting Program Blocks (.scl file format).

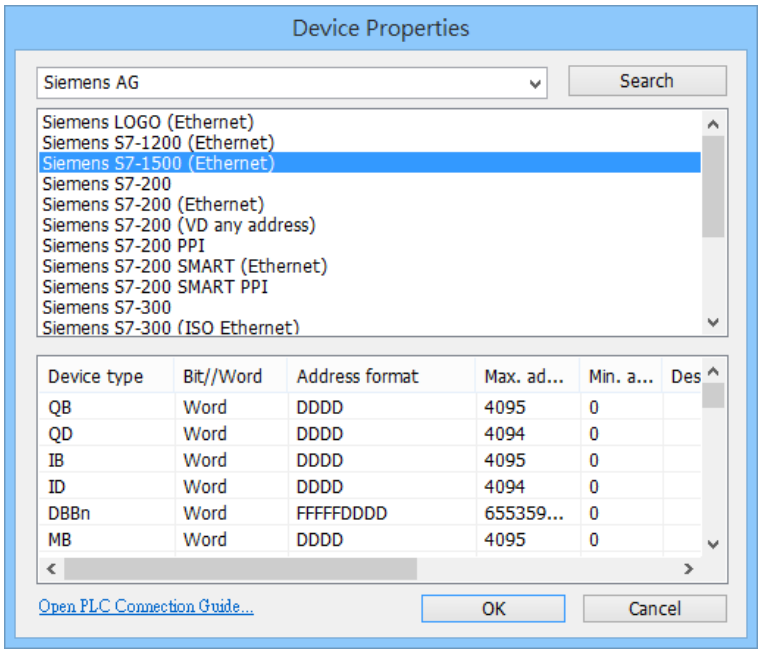
2.1 Under [Program blocks] create “Data_block_1 [DB1]” as shown in the following figure. Click the right mouse button on [DB1] and then click [Generate source from blocks].

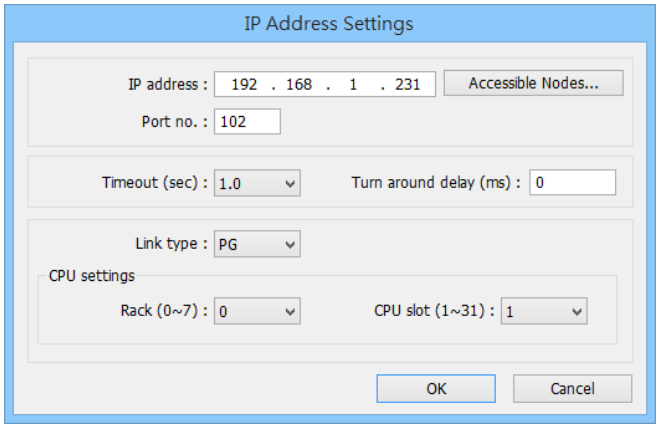



2.2 Designate the directory to save the file.

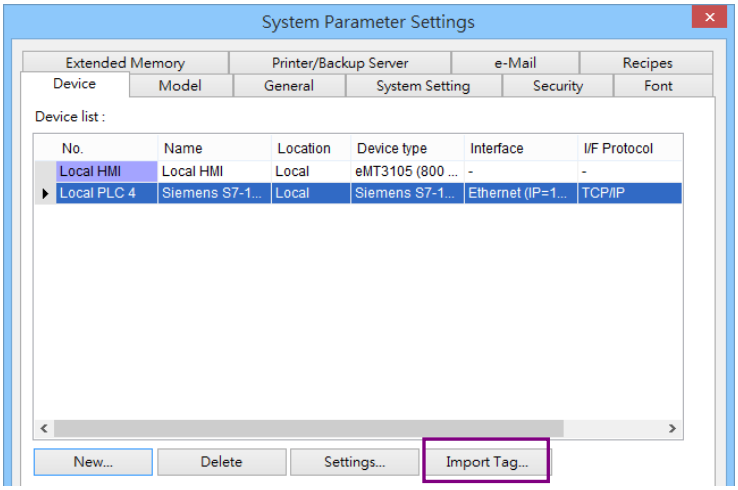


3. In EasyBuilder click [New PLC…], select *Siemens S7-1500 (Ethernet)* PLC type, and then click [Settings…] to set the parameters.

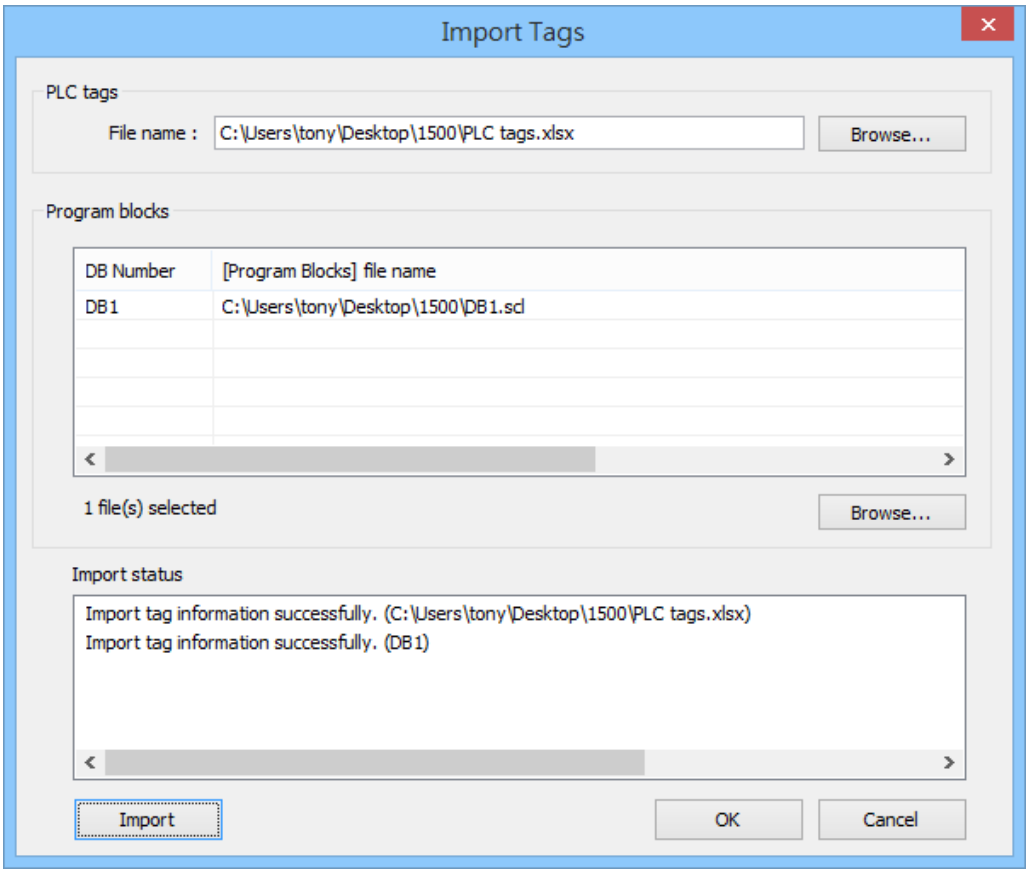


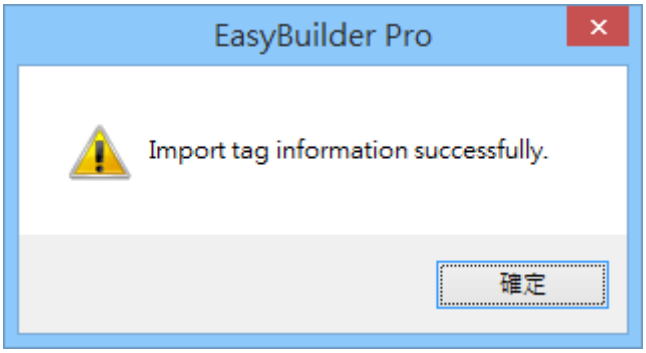

4. Click [Import Tag…] button.



5. Select the PLC Tags and Program Blocks to be imported, click [Import] button, and then click [OK] to leave when the tags are imported successfully.




6. The following message window is shown if the import has succeeded.



## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/02/2014 | Driver released. |

# Siemens S7-200

Supported Series: Siemens S7-200 series PLC
(CPU212/214/215/216/221/222/224/226/226XM)
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommend | Options | Notes |
|---|---|---|---|
| PLC type | SIEMENS S7-200 | | |
| PLC I/F | RS485 2w | RS485 2w | |
| Baud rate | 9600 | 9600, 19200, 187.5K | The HMI which has a sticker "MPI187.5" on the rear cover supports 187.5K |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 2 | 1 ~ 126 | |
| Turn around delay (ms) | 5 | | |
| Send ACK delay(ms) | 30 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Set station number to 2 |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | VW_Bit | DDDDDo | 0 ~ 102397 | V Memory Bit Address |
| B | S | DDDDo | 0 ~ 40957 | SCR |
| B | SM | DDDDo | 0 ~ 40957 | Special Memory |
| B | T_Bit | DDD | 0 ~ 255 | Timer |

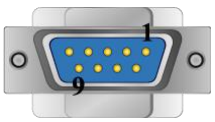
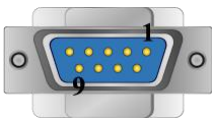
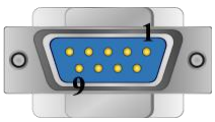
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | C_Bit | DDD | 0 ~ 255 | Counter |
| Byte | VB | DDDDD | 0 ~ 10239 | V Memory |
| W | VW | DDDDD | 0 ~ 10239 | V Memory |
| W | VW_Odd | DDDDD | 0 ~ 10239 | V Memory |
| DW | VD | DDDDD | 0 ~ 10239 | V Memory Double Word |
| DW | VD_Odd | DDDDD | 0 ~ 10239 | V Memory Double Word |
| W | VW_String | DDDDD | 0 ~ 10239 | String |
| W | VW_String_Odd | DDDDD | 0 ~ 10239 | String |
| DW | VD_String | DDDDD | 0 ~ 10239 | String |
| DW | VD_String_Odd | DDDDD | 0 ~ 10239 | String |
| Byte | MB | DDDDD | 0 ~ 10239 | Byte Memory |
| W | MW | DDDDD | 0 ~ 10239 | Word Memory |
| W | MW_Odd | DDDDD | 0 ~ 10239 | Word Memory |
| DW | MD | DDDDD | 0 ~ 10239 | Word Memory |
| Byte | SB | DDDDD | 0 ~ 10239 | SCR |
| W | SW | DDDDD | 0 ~ 10239 | SCR |
| DW | SD | DDDDD | 0 ~ 10239 | SCR |
| Byte | SMB | DDDDD | 0 ~ 10239 | Special Memory |
| W | SMW | DDDDD | 0 ~ 10239 | Special Memory |
| DW | SMD | DDDDD | 0 ~ 10239 | Special Memory |
| W | T | DDD | 0 ~ 255 | Timer |
| W | C | DDD | 0 ~ 255 | Counter |

- Double word and floating point value must use VD device type.

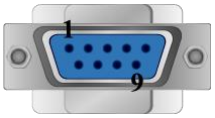
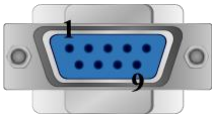
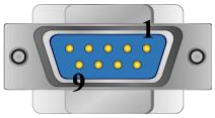
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

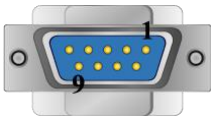
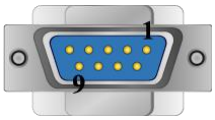
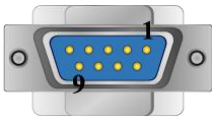
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

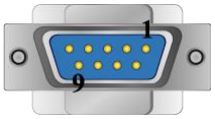
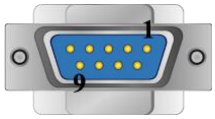
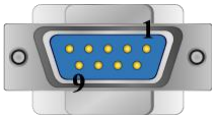
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

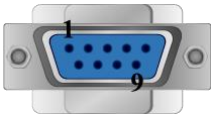
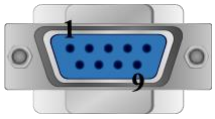
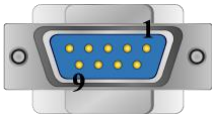
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.30 | Aug/17/2009 | |
| V2.40 | Nov/01/2011 | Add device type : MD |
| V2.60 | Jan/03/2013 | Add device types : S,SB,SW,SD,SM,SMB,SMW,SMD |
| V2.90 | Set/06/2013 | Add device types : T_Bit,C_Bit |

# Siemens S7-200 (Ethernet)

Supported Series: Siemens S7/200 Ethernet Series PLC
(CPU212/214/215/216/221/222/224/226/226XM) with CP243-1 Ethernet module

Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

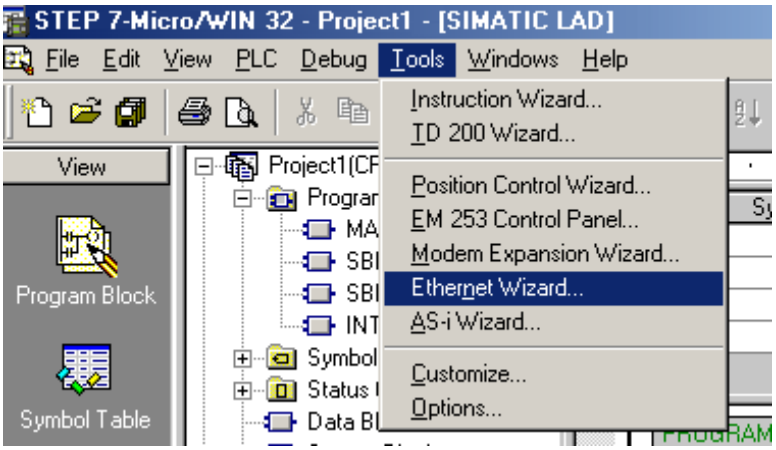
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SIEMENS S7-200 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 1 | 0-31 | |

## PLC Setting:

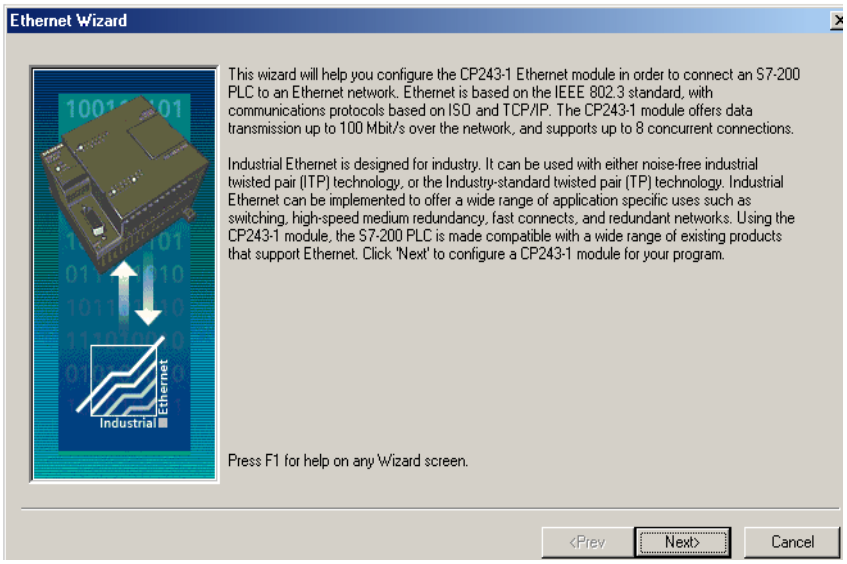
**S7/200 Ethernet Multi-Connection Settings**

Step 1: Launching the Ethernet Wizard

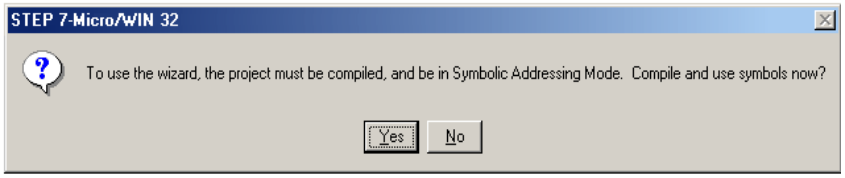
1. In the Micro/WIN main menu, click **Tools** / **Ethernet Wizard**.



2. Then, click **Next**.

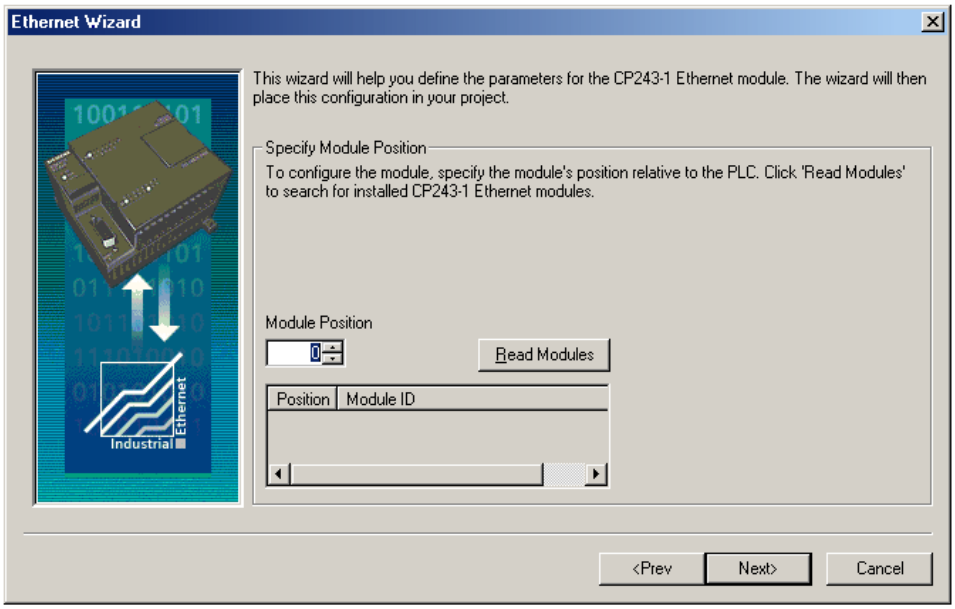



3. Click **Yes** to proceed.

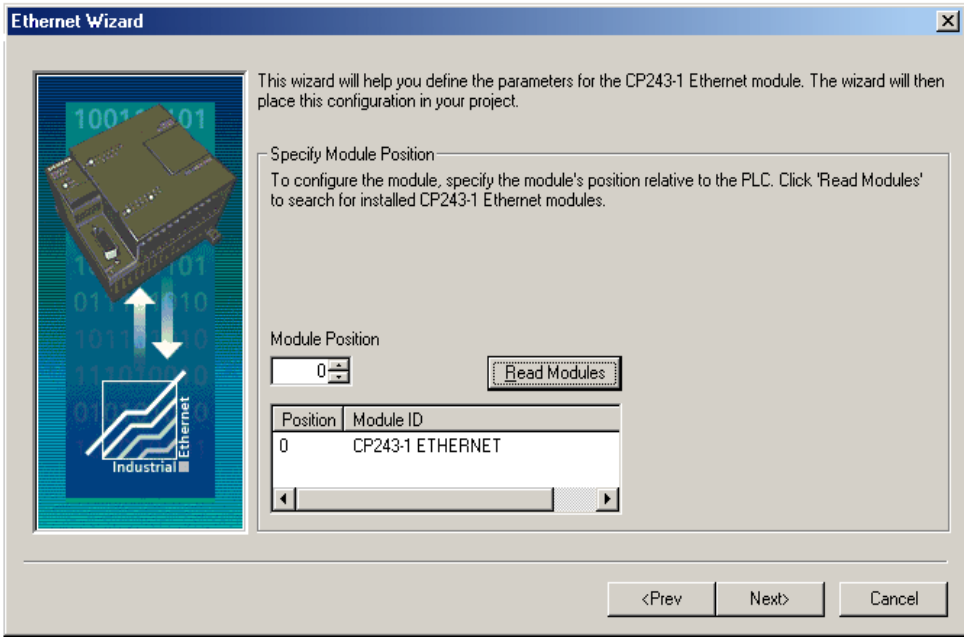



Step 2: Setting CP243-1 Module Position

1. Click **Read Modules**.

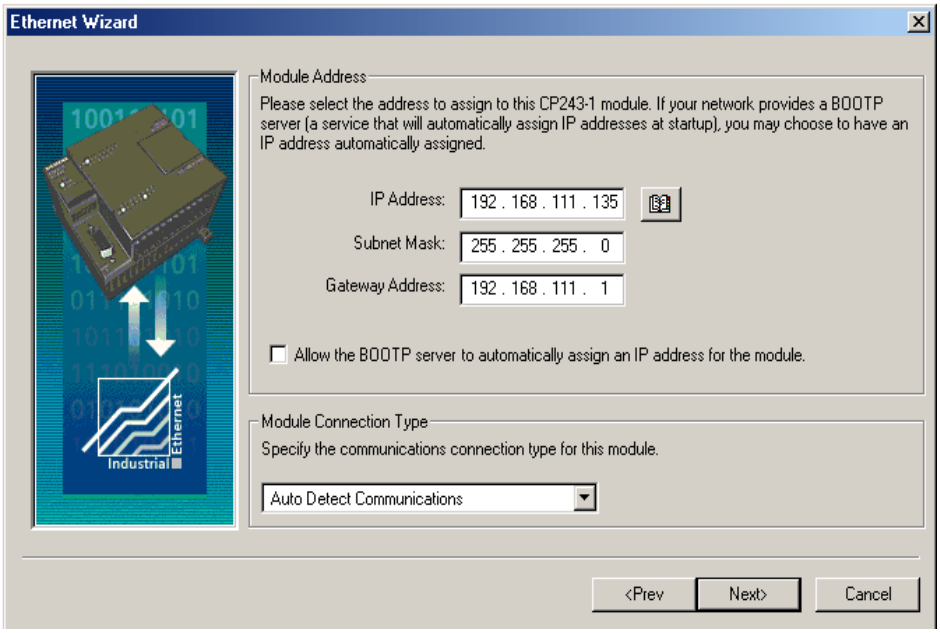


2. To view the results of Read Modules, select the **Ethernet module**. Click **Next**.

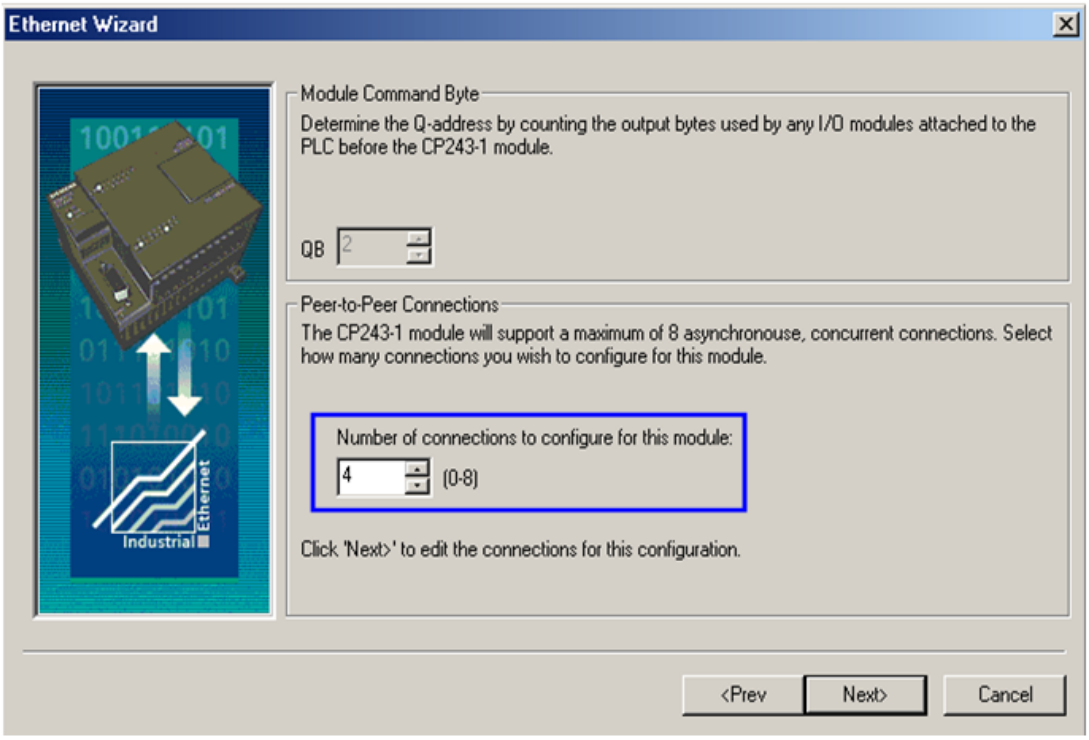



Step 3: Assigning Module Address

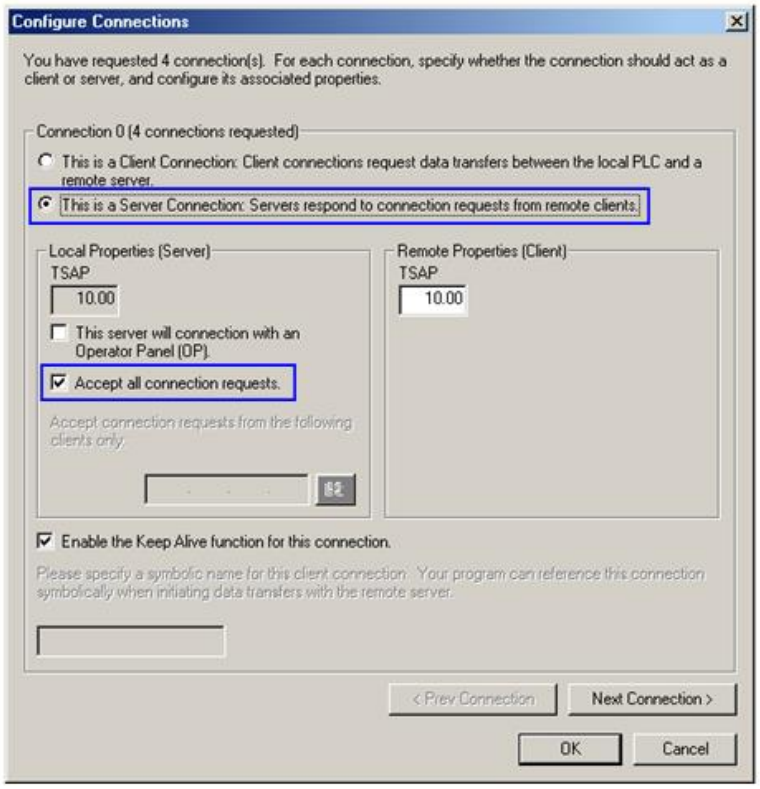
1. Click **Next**.



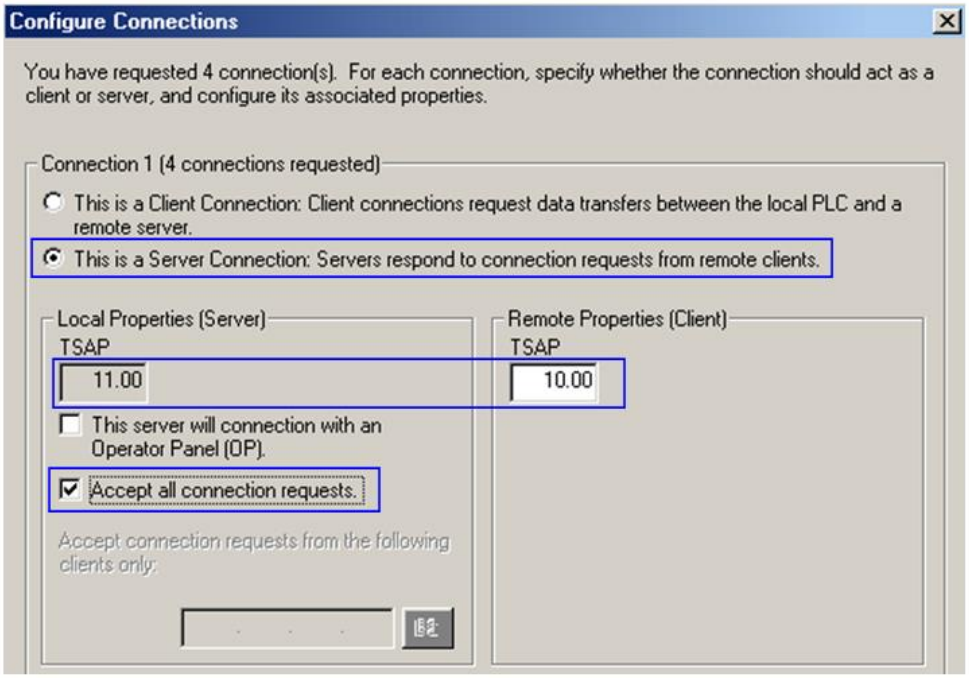
2. Enter the number of desired available connections for this device. If 0 is entered, the only connection available will be the PG mode. The image below shows there are 4 connections for this module.



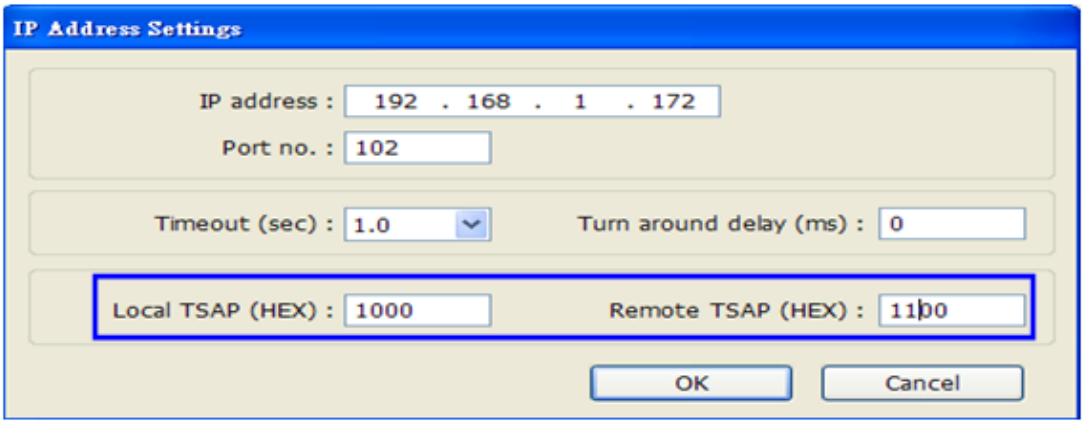

3. Connection0 -> Select **This is a Server Connection...**.
   Notice the **Local TSAP** automatically incremented to **10.00**.



4. Connection1，Select **This is a Server Connection...**.
   Notice the **Local TSAP** automatically incremented to **11.00**.




5. Upon completion of the settings above, set parameters in EasyBuilder. Set the value of Local TSAP here to the value of Remote TSAP in Micro/WIN and vice versa to realize multi-connection.



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | VW_Bit | DDDDDo | 0 ~ 102397 | V Memory Bit Address |
| B | S | DDDDo | 0 ~ 40957 | SCR |
| B | SM | DDDDo | 0 ~ 40957 | Special Memory |
| W | VW | DDDDD | 0 ~ 10239 | V Memory |
| DW | VD | DDDDD | 0 ~ 10239 | V Memory Double Word |
| W | VW_String | DDDDD | 0 ~ 10239 | String |
| DW | VD_String | DDDDD | 0 ~ 10239 | String |
| DW | MD | DDDDD | 0 ~ 10239 | Word Memory |
| Byte | SB | DDDDD | 0 ~ 10239 | SCR |
| W | SW | DDDDD | 0 ~ 10239 | SCR |
| DW | SD | DDDDD | 0 ~ 10239 | SCR |
| Byte | SMB | DDDDD | 0 ~ 10239 | Special Memory |
| W | SMW | DDDDD | 0 ~ 10239 | Special Memory |
| DW | SMD | DDDDD | 0 ~ 10239 | Special Memory |

- Double word and floating point value must use VD device type.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Dec/30/2008 | |
| V1.40 | Nov/15/2011 | Add device type : MD |
| V1.60 | Jan/07/2013 | Add device types : S,SB,SW,SD,SM,SMB,SMW,SMD |

# Siemens S7-200 (VD any address)

Supported Series: Siemens S7-200 series PLC
(CPU212/214/215/216/221/222/224/226/226XM)
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommend | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7-200 (VD any address) | | |
| PLC I/F | RS485 2w | RS485 2w | |
| Baud rate | 9600 | 9600, 19200, 187.5K | The HMI which has a sticker "MPI187.5" on the rear cover supports 187.5K |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 2 | 1 ~ 126 | |
| Turn around delay (ms) | 5 | | |
| Reserved 1 | 30 | | ACK delay time |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Set station number to 2 |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | VW_Bit | DDDDDo | 0 ~ 102397 | V Memory Bit Address |
| B | S | DDDDo | 0 ~ 40957 | SCR |
| B | SM | DDDDo | 0 ~ 40957 | Special Memory |

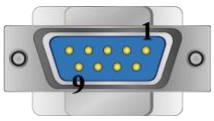
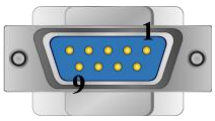
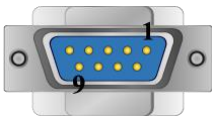
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | VW | DDDDD | 0 ~ 10239 | V Memory |
| DW | VD | DDDDD | 0 ~ 10239 | V Memory Double Word |
| W | VW_String | DDDDD | 0 ~ 10239 | String |
| DW | VD_String | DDDDD | 0 ~ 10239 | String |
| W | MW | DDDDD | 0 ~ 10239 | Word Memory |
| W | T | DDD | 0 ~ 255 | Timer |
| W | C | DDD | 0 ~ 255 | Counter |
| DW | MD | DDDDD | 0 ~ 10239 | Word Memory |
| Byte | SB | DDDDD | 0 ~ 10239 | SCR |
| W | SW | DDDDD | 0 ~ 10239 | SCR |
| DW | SD | DDDDD | 0 ~ 10239 | SCR |
| Byte | SMB | DDDDD | 0 ~ 10239 | Special Memory |
| W | SMW | DDDDD | 0 ~ 10239 | Special Memory |
| DW | SMD | DDDDD | 0 ~ 10239 | Special Memory |

- Double word and floating point value must use VD device type.
- VD register can set to any value, not necessarily a multiple of 4.

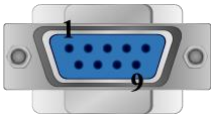
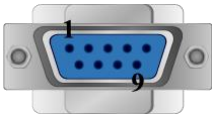
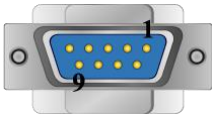
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

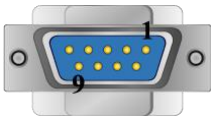
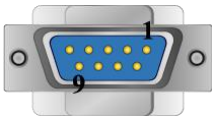
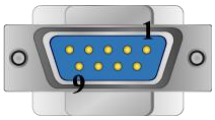
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

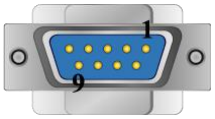
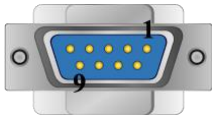
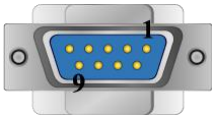
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

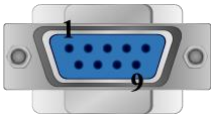
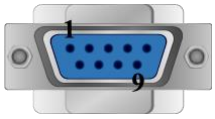
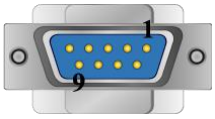
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Nov/16/2011 | Add device type : MD |
| V1.40 | Jan/07/2013 | Add device types : S,SB,SW,SD,SM,SMB,SMW,SMD |

# Siemens S7-200 PPI

Supported Series: Siemens S7-200 series PLC
(CPU212/214/215/216/221/222/224/226/226XM)
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SIEMENS S7-200 PPI | | |
| PLC I/F | RS485 2w | RS485 2w | |
| Baud rate | 9600 | 9600, 19200, 187.5K | Only MT6000/8000V2 support baud rate 187.5 K |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| Turn around delay (ms) | 5 | | |
| ACK delay time (ms) | 30 | | |
| PLC sta. no. | 2 | 1 ~ 126 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | YES |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| PLC setting | PLC sta. no. can not be the same as HMI sta. no. |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | VW_Bit | DDDDDo | 0 ~ 102397 | V Memory Bit Address |
| B | S | DDDDo | 0 ~ 40957 | SCR |
| B | SM | DDDDo | 0 ~ 40957 | Special Memory |
| B | T_Bit | DDD | 0 ~ 255 | Timer |
| B | C_Bit | DDD | 0 ~ 255 | Counter |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| Byte | VB | DDDDD | 0 ~ 10239 | |
| W | VW | DDDDD | 0 ~ 10239 | V Memory |
| W | VW_Odd | DDDDD | 0 ~ 10239 | V Memory |
| DW | VD | DDDDD | 0 ~ 10239 | V Memory Double Word |
| DW | VD_Odd | DDDDD | 0 ~ 10239 | V Memory Double Word |
| W | VW_String | DDDDD | 0 ~ 10239 | String |
| W | VW_String_Odd | DDDDD | 0 ~ 10239 | String |
| DW | VD_String | DDDDD | 0 ~ 10239 | String |
| DW | VD_String_Odd | DDDDD | 0 ~ 10239 | String |
| Byte | MB | DDDDD | 0 ~ 10239 | Byte Memory |
| W | MW | DDDDD | 0 ~ 10239 | Word Memory |
| W | MW_Odd | DDDDD | 0 ~ 10239 | Word Memory |
| W | T | DDD | 0 ~ 255 | Timer |
| W | C | DDD | 0 ~ 255 | Counter |
| DW | MD | DDDDD | 0 ~ 10239 | Word Memory |
| Byte | SB | DDDDD | 0 ~ 10239 | SCR |
| W | SW | DDDDD | 0 ~ 10239 | SCR |
| DW | SD | DDDDD | 0 ~ 10239 | SCR |
| Byte | SMB | DDDDD | 0 ~ 10239 | Special Memory |
| W | SMW | DDDDD | 0 ~ 10239 | Special Memory |
| DW | SMD | DDDDD | 0 ~ 10239 | Special Memory |

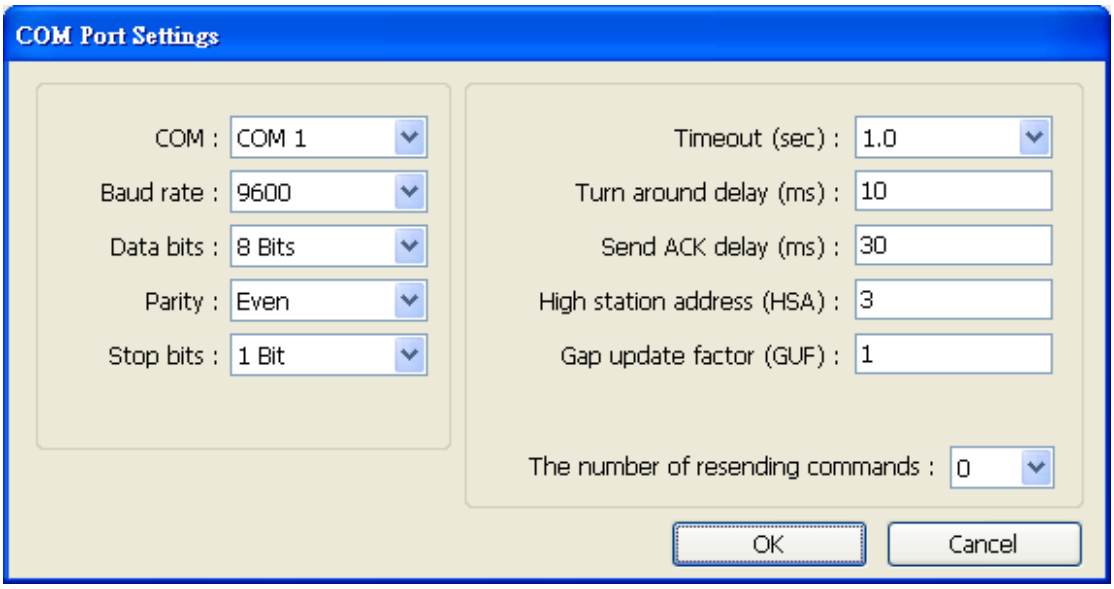
- Double Word and floating point value must use VD device type.

## Multi-HMIs-Multi-PLCs Communication Setting:



For S7-200 PLC, Multi-HMIs-Multi-PLCs communication can be achieved using S7/200 PPI driver, please refer to the settings below.

IN EasyBuilder COM Port Settings, two important parameters must be set:

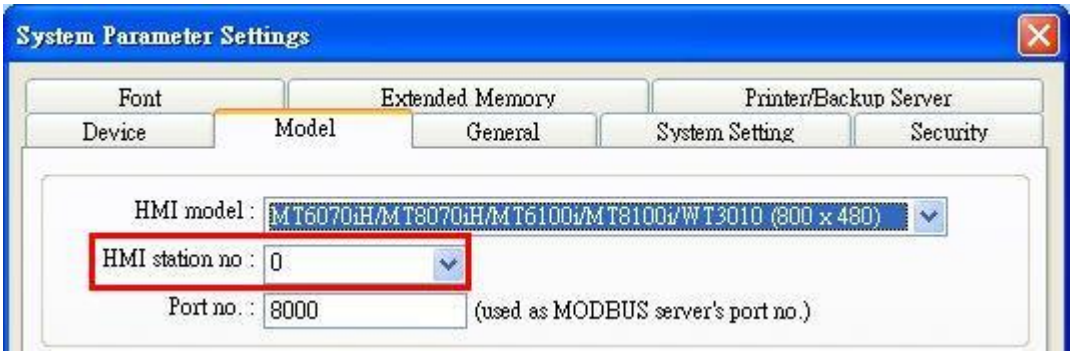



**1. [High station address (HSA)]:**

Setting Max. Station Number of HMI in PPI network.

For the effectiveness of system operation, it is highly recommended that the HMI station number starts from zero and go on sequentially. If there are 4 HMI in PPI network, set station no. from 0~3, and [High station address (HSA)] to 3.

Set HMI station number in [System Parameters] / [Model] / [HMI station no.]:




**2. [Gap update factor(GUF)]:**

The condition to pass a Token. In PPI network only HMI can hold a Token, PLC can only be controlled.

When the HMI that holds Token communicates with PLC for a number of times that equals to the value set here, HMI will pass the Token (control of PLC) to the next HMI. For example, if GUF is set to “1”, HMI will pass the control of PLC to the next HMI when read or write the value in an address.

If GUF is set to a bigger value, the HMI that holds Token will control the PLC for a longer time and therefore the Token won't be passed to another HMI and cause failure in communicating with PLC.

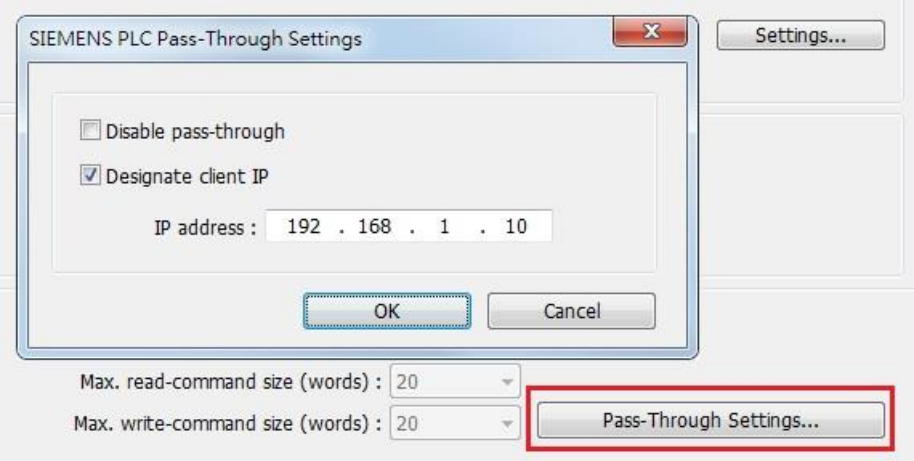
A complete communication means HMI reads / writes PLC value for one time.

## Note:

- HMI sta. no. can not be the same as PLC sta. no.
- Highly recommended that HMI sta. no. starts from 0 and go on sequentially for the effectiveness of operation.
- Available for EasyBuilder V4.50 and later.

## Pass-Through Settings:

[Designate client IP]: In Pass-through mode designate the client IP address to connect HMI. The "client" usually refers to Siemens Step 7 application.




**The following lists the system registers relevant to Siemens S7-200 PPI and Siemens S7-300 MPI Pass-through feature.**

- [LW-10850: disable/enable (0 : disable, 1 : normal, 2 : IP limited) (siemens pass-through)]
- [LW-10851: destination COM port (siemens pass-through)]: Generally refers to the COM port connected with PLC.
- [LW-10852: destination PLC station no. (siemens pass-through)]
- [LW-10853: communication protocol (0 : invalid, 1 : PPI, 2 : MPI) (siemens pass-through)]
- [LW-10854 to LW-10857: IP of connecting client (siemens pass-through)]: Displays current client IP address connected with HMI.

- [LW-10858 to LW-10861: IP of designated client (siemens pass-through)]: If LW-10850 is set to 1, the system registers can be used to designate the client IP connected with HMI.
- [LW-10862: connection status (0 : ready, 1 : client connecting) (siemens pass-through)]
- [LW-10863: execution status (0 : normal, 1 : error) (siemens pass-through)]
- [LW-10864: the last error (siemens pass-through)]

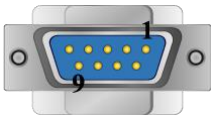
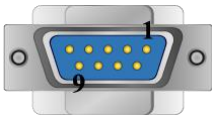
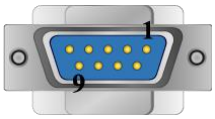
**The following table lists the error codes, the description of each code, and the possible reason.**

| Error Code | Description | Possible Reason |
|---|---|---|
| 0 | Successfully executed | |
| 1 | Prohibit client from connecting HMI | HMI is already running pass-through and won't accept any request from other client. |
| 2 | Prohibit client from connecting HMI | When LW-10850 is set to 1, the client IP for connecting HMI is different from the IP specified in LW-10858 ~ LW-10861. |
| 3 | Invalid communication protocol | Invalid setting in LW-10853. |
| 4 | Invalid PLC station number | The PLC station number specified in LW-10852 does not exist. |
| 5 | Delayed communication | PLC connection failure. |
| 6 | Busy communication | PLC does not accept pass-through request, please confirm PLC settings. |
| 7 | Invalid pass-through request | Environment setup failure. |

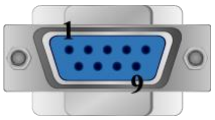
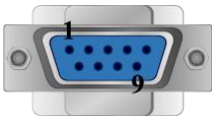
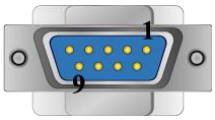
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

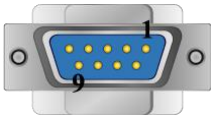
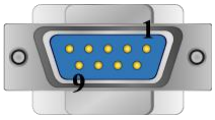
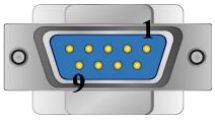
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

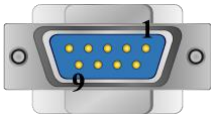
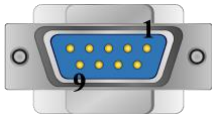
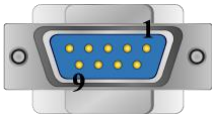
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

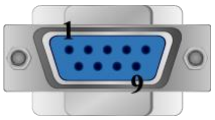
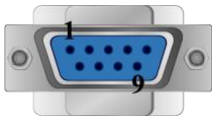
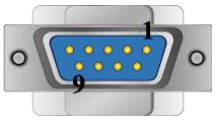
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/15/2011 | Driver released. |
| V1.10 | Nov/17/2011 | Add device type : MD |
| V1.50 | Jan/07/2013 | Add device types : S,SB,SW,SD,SM,SMB,SMW,SMD |
| V2.00 | Set/06/2013 | Add device type : T_Bit,C_Bit |

# Siemens S7-200 SMART (Ethernet)

Supported Series: Siemens S7/200 SMART Series Ethernet Module.
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7-200 SMART (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 2 | | |

| | | | |
|---|---|---|---|
| Online simulator | Yes | Mutiple HMI connection | Yes |

*At most four HMIs can be connected with PLC simultaneously.

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDo | 0 ~ 317 | Input |
| B | Q | DDo | 0 ~ 317 | Output |
| B | M | DDo | 0 ~ 317 | Bit Memory |
| B | V | DDDDDo | 0 ~ 204797 | V Memory bit |
| B | S | DDo | 0 ~ 317 | SCR |
| B | SM | DDDDo | 0 ~ 15357 | Special Memory Bit |
| B | Timer | DDD | 0 ~ 255 | Timer |
| B | Counter | DDD | 0 ~ 255 | Counter |
| W | MW | DD | 0 ~ 30 | Word Memory |
| W | VW | DDDDD | 0 ~ 20478 | V Memory |
| W | SMW | DDDD | 0 ~ 1534 | Special Memory |
| W | T | DDD | 0 ~ 255 | Timer |
| W | C | DDD | 0 ~ 255 | Counter |
| W | AIW | DDD | 0 ~ 110 | Analog input |
| W | AQW | DDD | 0 ~ 110 | Analog Output |
| DW | VD | DDDDD | 0 ~ 20476 | V Memory (Double Word) |

- Double word and floating point value must use VD device type.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/5/2012 | Driver released. |
| V1.20 | Jun/14/2013 | The function of connecting multiple HMIs simultaneously is added. |

# Siemens S7-200 SMART PPI

Supported Series: Siemens S7-200 SMART series PLC
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7-200 SMART PPI | | |
| PLC I/F | RS485 2W | RS485 2W | |
| Baud rate | 9600 | 9600, 19200, 187.5K | Only MT6000/8000V2 support baud rate 187.5 K |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| Turn around delay (ms) | 5 | | |
| ACK delay time (ms) | 30 | | |
| PLC sta. no. | 2 | 1 ~ 126 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| PLC setting | PLC sta. no. can not be the same as HMI sta. no. |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDo | 0 ~ 317 | Input |
| B | Q | DDo | 0 ~ 317 | Output |
| B | M | DDo | 0 ~ 317 | Bit Memory |
| B | V | DDDDDo | 0 ~ 204797 | V Memory bit |
| B | S | DDo | 0 ~ 317 | SCR |
| B | SM | DDDDo | 0 ~ 15357 | Special Memory Bit |
| B | Timer | DDD | 0 ~ 255 | Timer |
| B | Counter | DDD | 0 ~ 255 | Counter |
| W | MW | DD | 0 ~ 30 | Word Memory |

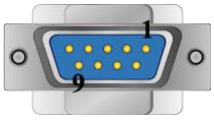
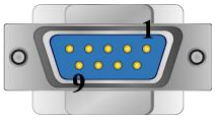
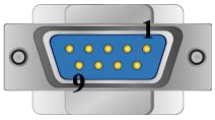
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | VW | DDDDD | 0 ~ 20478 | V Memory |
| W | SMW | DDDD | 0 ~ 1534 | Special Memory |
| W | T | DDD | 0 ~ 255 | Timer |
| W | C | DDD | 0 ~ 255 | Counter |
| W | AIW | DDD | 0 ~ 110 | Analog input |
| W | AQW | DDD | 0 ~ 110 | Analog Output |
| DW | VD | DDDDD | 0 ~ 20476 | V Memory (Double Word) |

- Double Word and floating point value must use VD device type.

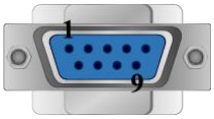
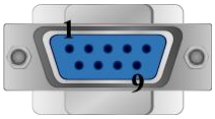
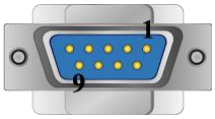
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

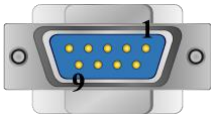
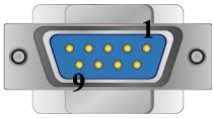
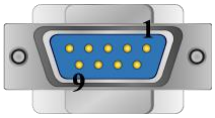
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

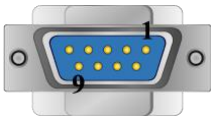
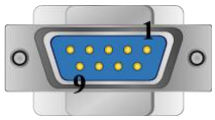
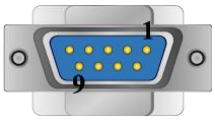
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

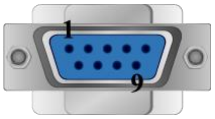
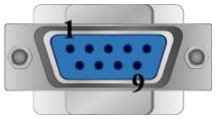
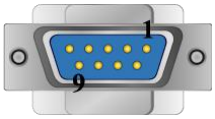
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/5/2012 | Driver released. |

# Siemens S7-300

Supported Series: Siemens S7-300 series PLC

Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SIEMENS S7-300 | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600~187.5K | Must be same as the PLC setting.<br>The HMI which has a sticker MPI187.5 on the rear cover supports 187.5K. |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 2 | | Must be same as the PLC setting. |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFDDDDo | 0 ~ 409681927 | Data Register Bit |
| B | DB1Bit ~ DB99Bit | DDDDo | 0 ~ 81927 | |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFDDDD | 0 ~ 40968192 | Data Register Byte |
| W | DBn | FFFFDDDD | 0 ~ 40968192 | Data Register (must be even) |
| DW | DBDn | FFFFDDDD | 0 ~ 40968192 | Data Register Double Word (must be multiple of 4) |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | DBn_String | FFFFDDDD | 0 ~ 40968192 | Data Register Double Word (must be multiple of 4) |
| DW | DBDn_String | FFFFDDDD | 0 ~ 40968192 | Data Register Double Word (must be multiple of 4) |
| W | DB1-DB99 | DDDD | 0 ~ 8192 | Data Register (must be even) |

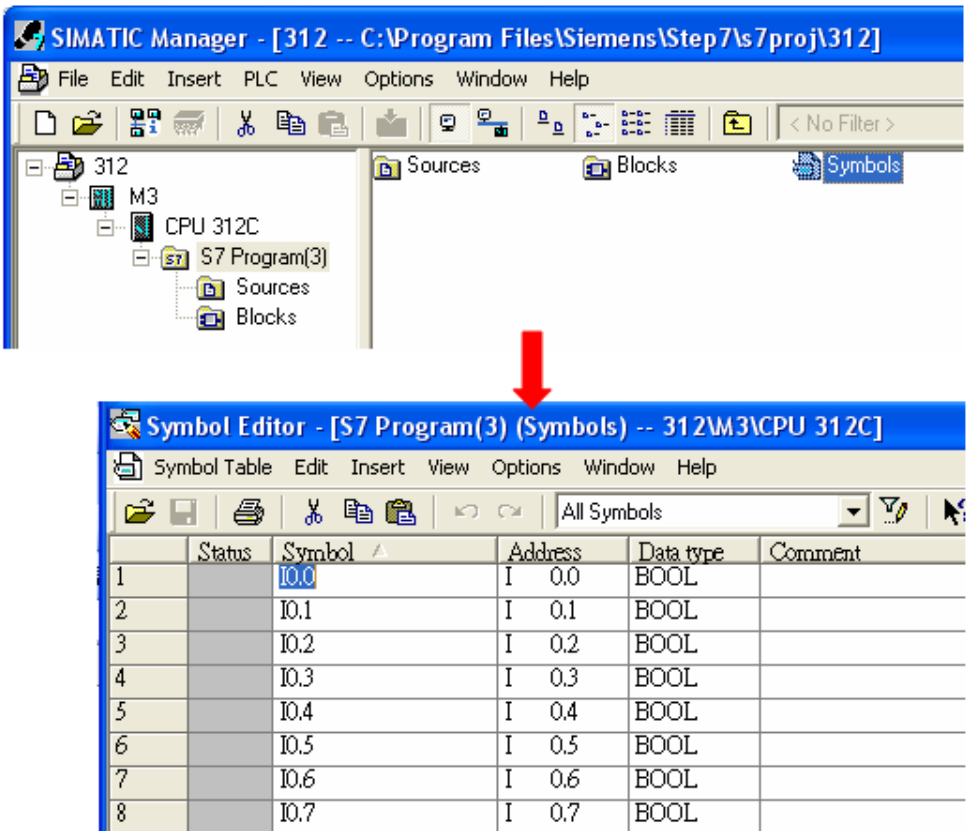
* Double word and floating point value must use DBDn device type.

## How to Import Tag:

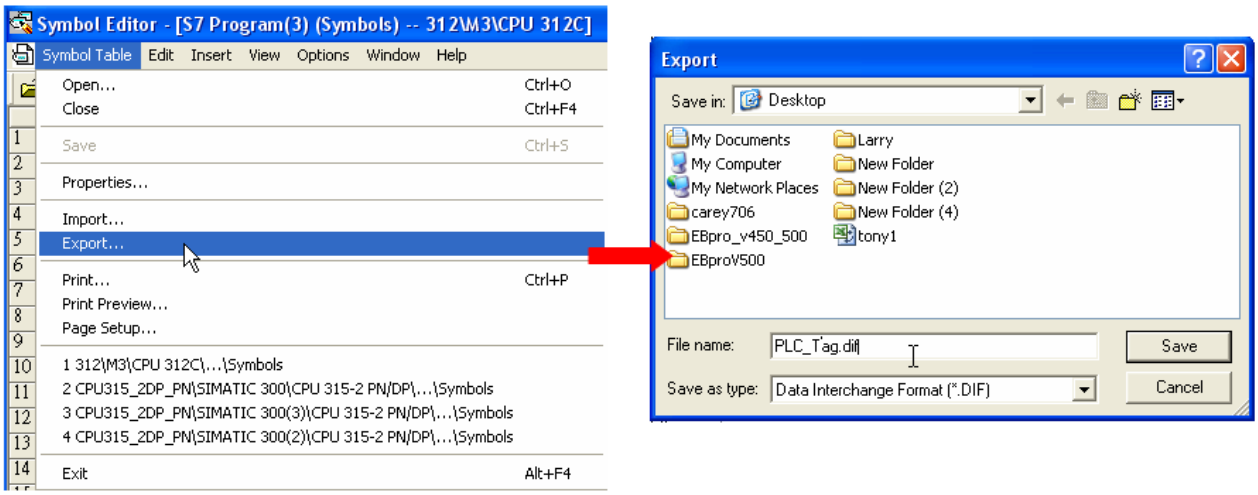
SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

**1. Building *.dif File**

a、 In “Symbols” create user-defined tag.

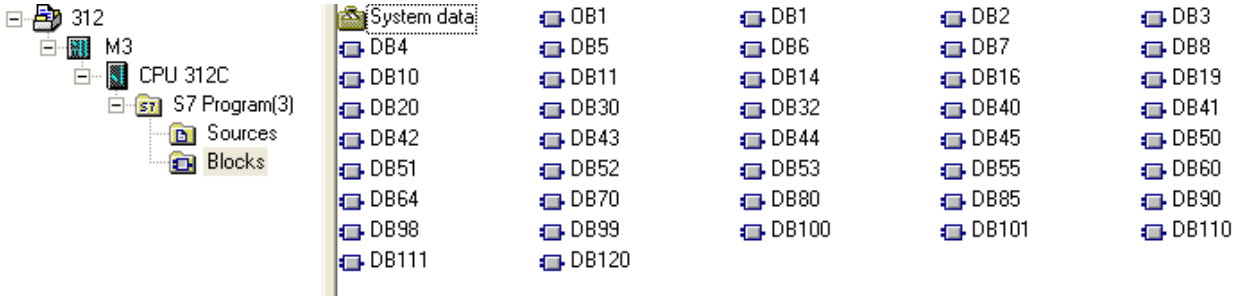


b、 Click **Export** to export the edited file and click **Save**.

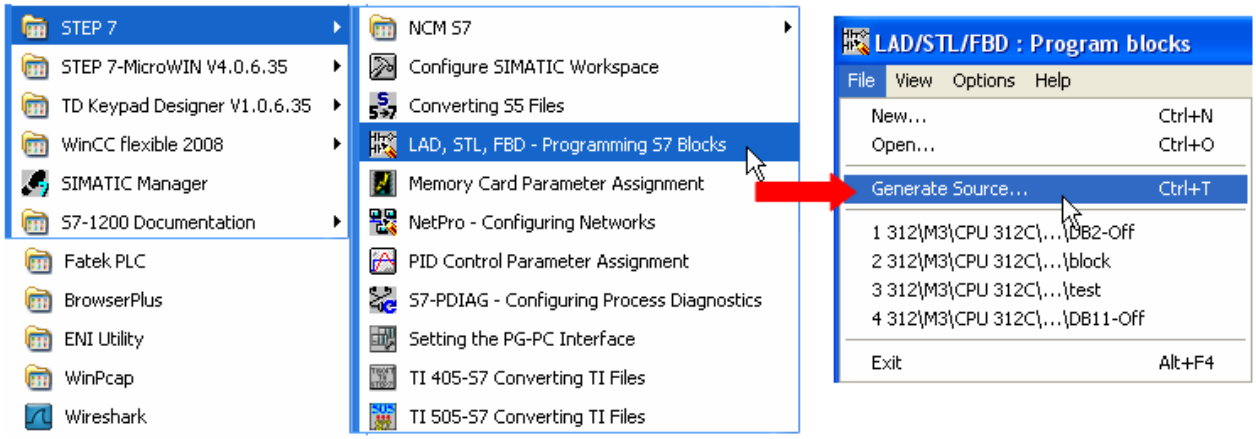



## 2. Building *.AWF File

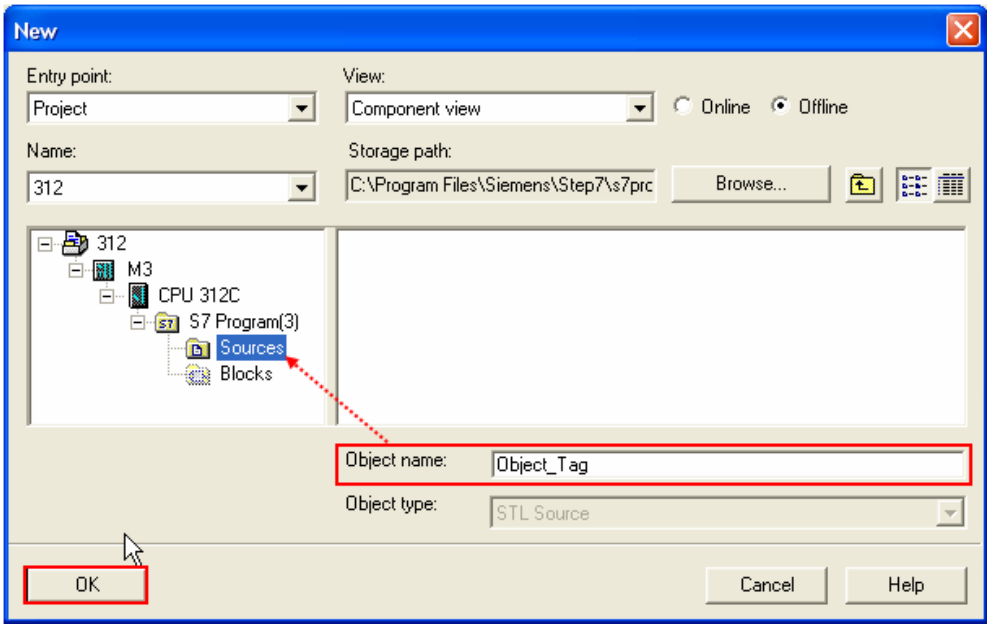
a、 In **Blocks** create items as shown below:



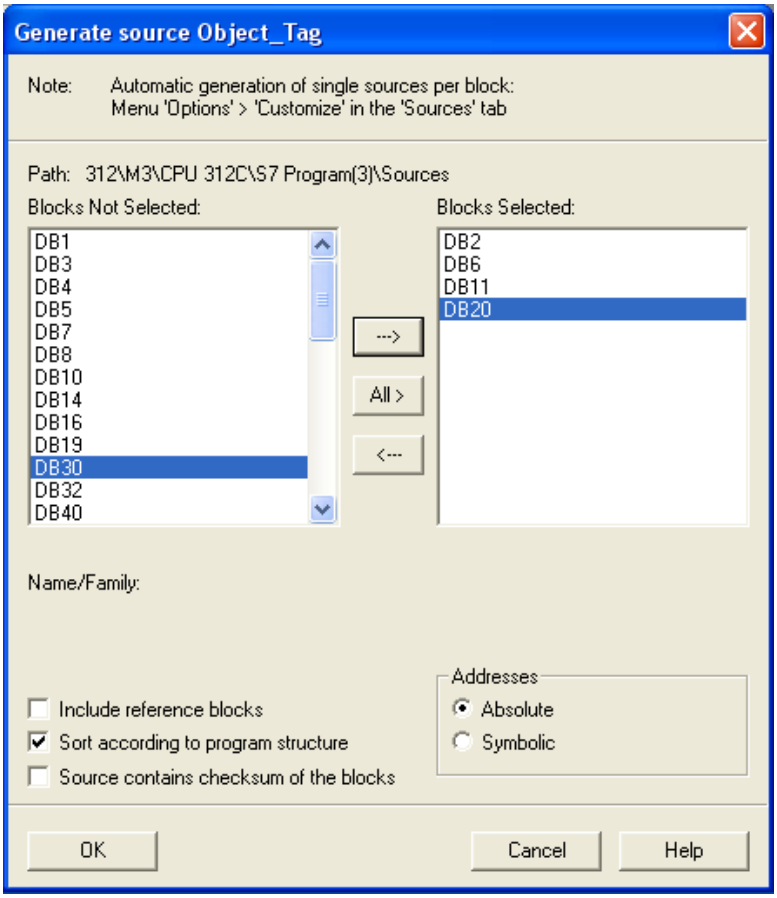

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



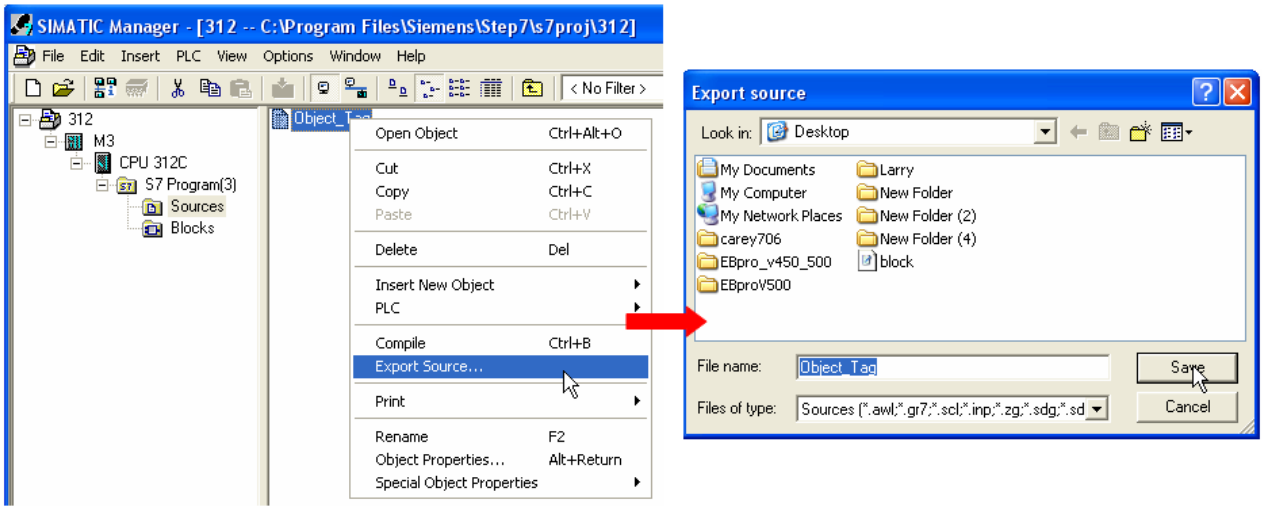
c、 Select **Sources** as storage path, specify the file name then click **OK**.



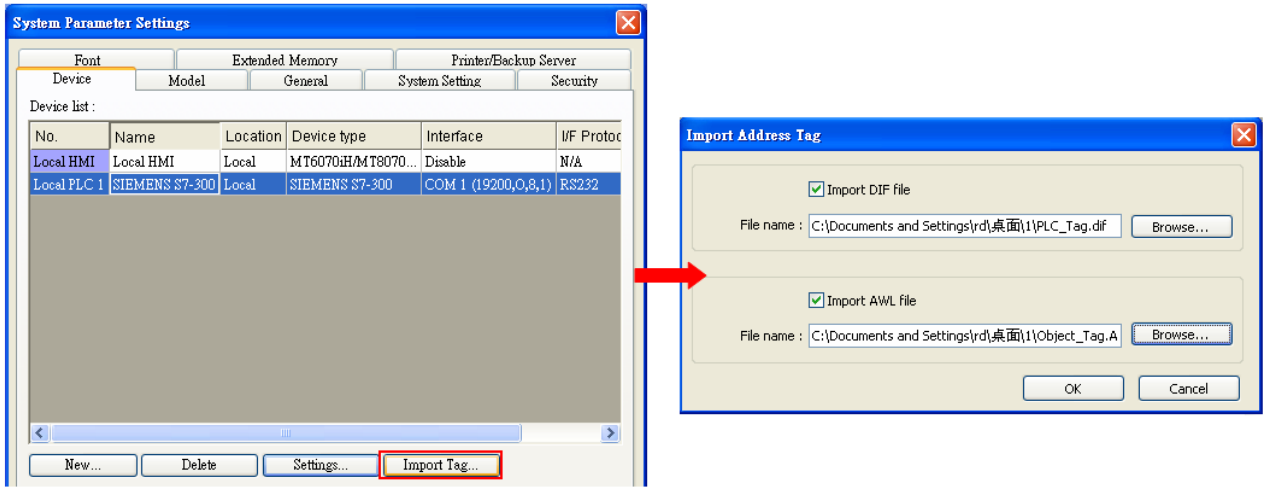

d、 Select the objects to be exported then click **OK**.



e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.




The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.




Tag information successfully imported.

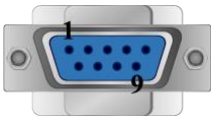
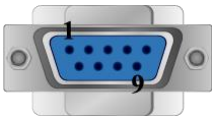
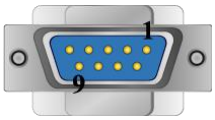


## Wiring Diagram:

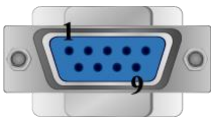
**The following is the view from the soldering point of a cable.**

Siemens S7-300 PC Adapter : 9P D-Sub to 9P D-Sub:

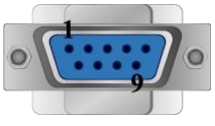
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  |  | |  | |

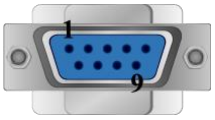
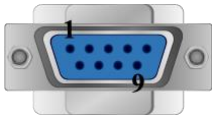
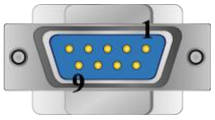
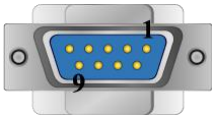
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

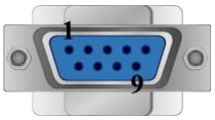
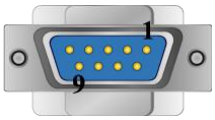
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

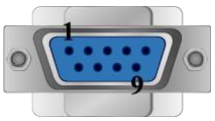
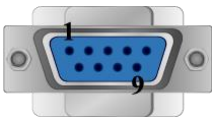
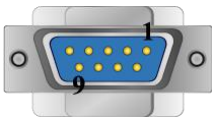
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

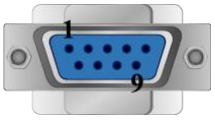
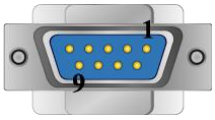
**The following is the view from the soldering point of a cable.**

Systeme Helmholz SSW7-TS : 9P D-Sub to 9P D-Sub

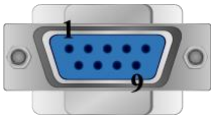
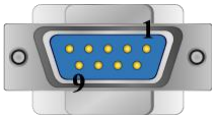
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  |  | |  | |

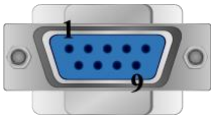
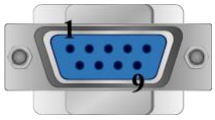
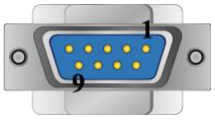
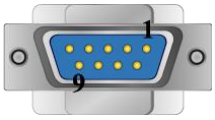
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

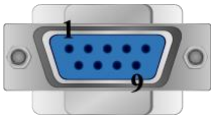
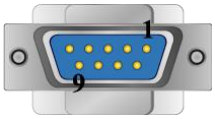
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V3.10 | May/24/2011 | Added registers: MB & DBBn. |

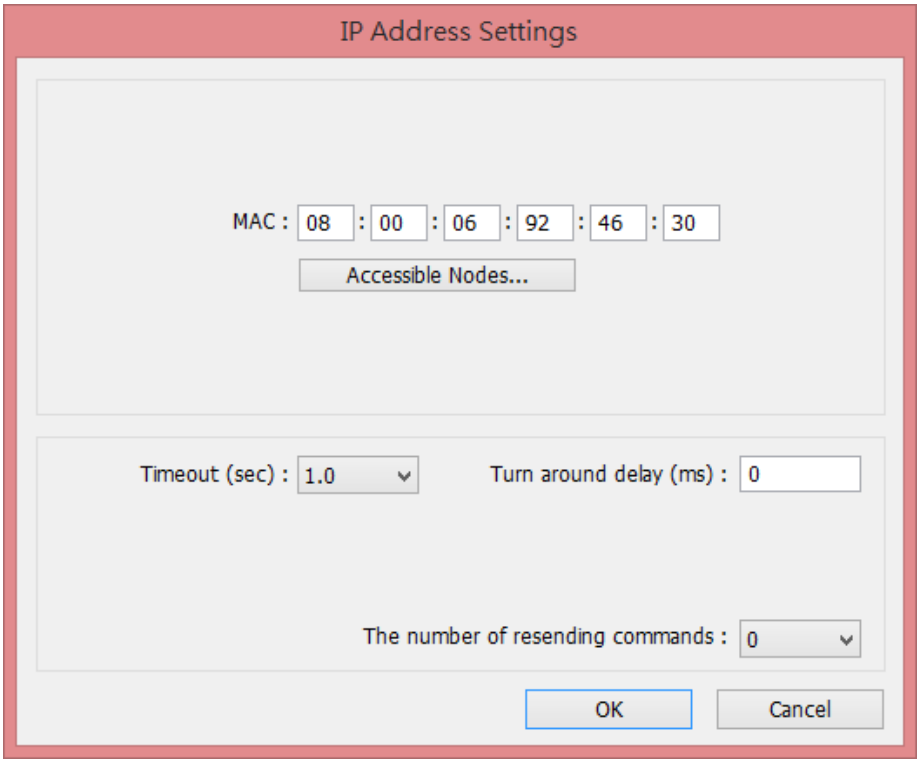
# Siemens S7-300 (ISO Ethernet)

Supported Series: Siemens S7-300 Ethernet Series PLC, Ethernet module CP-343-1, CPU315-2 PN/DP, CPU317-2 PN/DP, CPU319-3 PN/DP, and ET200S.
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7-300 (ISO Ethernet) | | |
| PLC I/F | Ethernet | | |

| | |
|---|---|
| Online simulator | No |



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFDDDDo | 0 ~ 409699997 | |
| B | DB0Bit-DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | Bit Memory Double Word |
| DW | MD_Anyaddr | DDDD | 0 ~ 4094 | Bit Memory Double Word (must be even) |
| W | DBn | FFFFDDDD | 0 ~ 40969999 | Data Register (must be even) |
| DW | DBDn | FFFFDDDD | 0 ~ 40969999 | Data Register Double Word (must be multiple of 4) |
| DW | DBDn_Anyaddr | FFFFDDDD | 0 ~ 40969999 | Data Register Double Word (must be even) |
| W | DBn_String | FFFFDDDD | 0 ~ 40969999 | |
| DW | DBDn_String | FFFFDDDD | 0 ~ 40969999 | |
| W | DB0 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register(must be even) |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFDDDD | 0 ~ 40969999 | Data Register Byte |

- Double word and floating point value must use DBDn device type.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jan/15/2014 | Driver released. |
| V1.10 | Feb/21/2014 | 1. Fixed the problem where the value will be cleared to 0 first when writing a value in the register.<br>2. Supports Multi-HMI connection. |

# Siemens S7-300 MPI

Supported Series: Siemens S7-300 series PLC
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SIEMENS S7-300 MPI | | |
| PLC I/F | RS-485 2W | | |
| Baud rate | 187.5K | | Only HMI with a sticker “MPI 187.5K” on the rear cover supports MPI communication. |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 2 | 2 ~ 31 | |

| | | | |
|---|---|---|---|
| Online simulator | NO | Extend address mode | Yes (X Series does not support) |
| Broadcast command | NO | | |

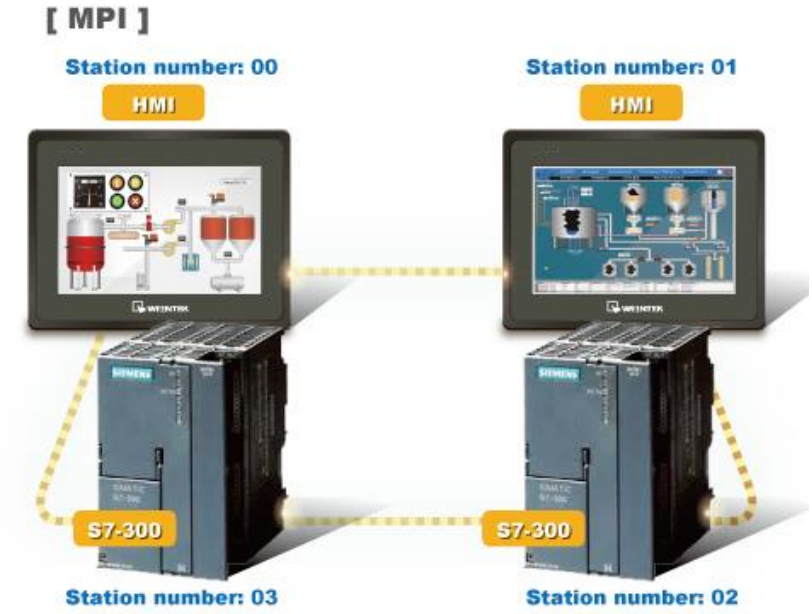
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFDDDDo | 0 ~ 409699997 | Data Register Bit |
| B | DB1Bit ~ DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFDDDD | 0 ~ 40969999 | Data Register |
| W | DBn | FFFFDDDD | 0 ~ 40969999 | Data Register (must be even) |

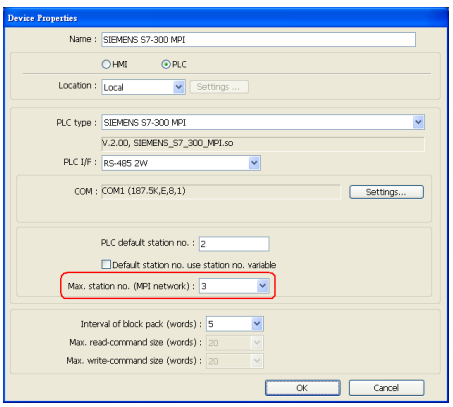
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| DW | DBDn | FFFFDDDD | 0 ~ 40969999 | Data Register Double Word (multiple of 4) |
| W | DBn_String | FFFFDDDD | 0 ~ 40969999 | |
| DW | DBDn_String | FFFFDDDD | 0 ~ 40969999 | |
| W | DB1 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register (must be even) |

- Double word and floating point value must use DBDn device type.

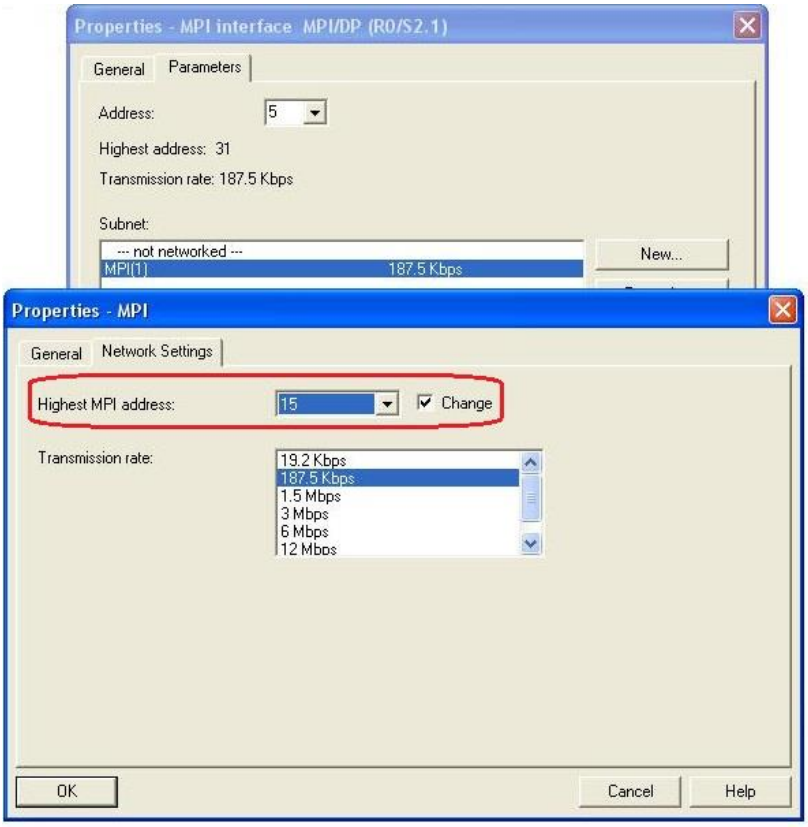
## Multi-HMIs-Multi-PLCs Communication Setting:




For SIEMENS S7-300 MPI driver in Multi-HMIs-Multi-PLCs communication, [Max. station no. (MPI network)] parameter must be correctly set. This setting is relevant to the station no. of the devices, as shown, two HMI (station no. 0, 1) and two PLC (station no. 2, 3) are in MPI network, Max. Station No. should be set to 3.



For the effectiveness of communication, users may set PLC device in STEP 7 as shown below. In Properties MPI / Network Settings, set Highest MPI address to the number closest to the actual device station number.



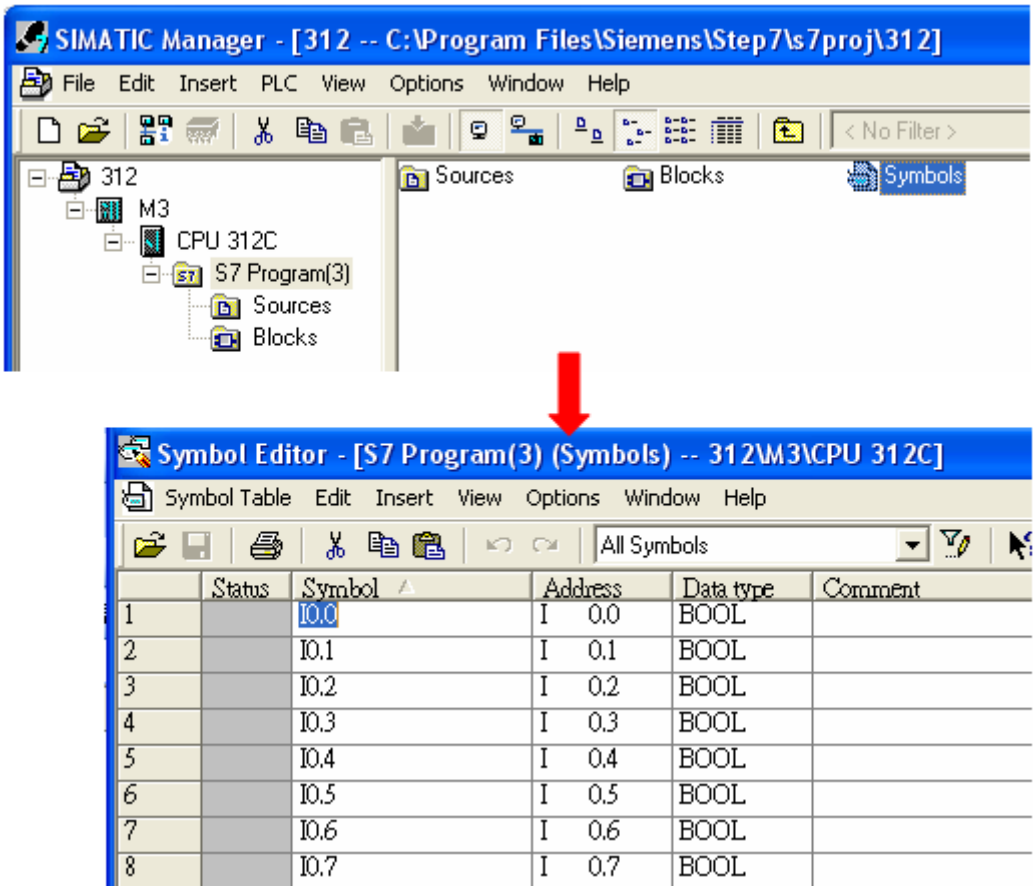

- HMI sta. no. can not be the same as PLC sta. no.
- Highly recommended that the device station numbers start from 0 sequentially and correctly set [Max. station no. (MPI network)].
- Available for EasyBuilder V4.50 and later.
- X Series does not support multiple-HMI-to-multiple-PLC communication, and supports only 1-HMI-to-1-PLC communication.

## How to Import Tag:

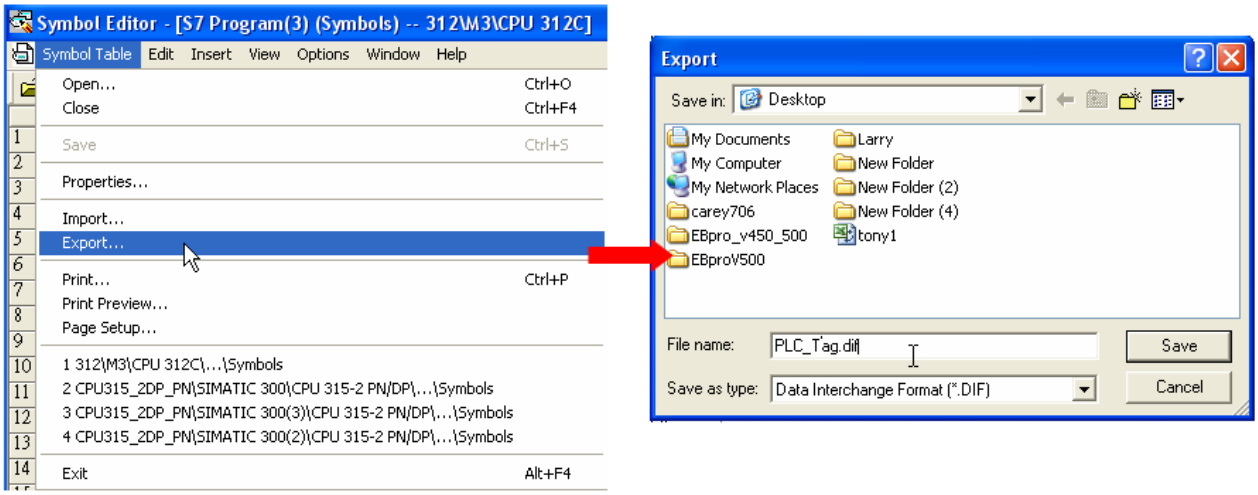
SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

## 1. Building *.dif File

a、 In “Symbols” create user-defined tag.

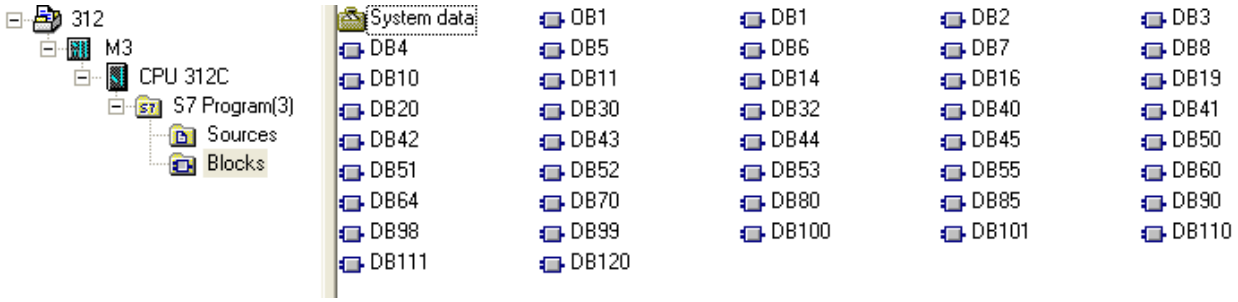



b、 Click **Export** to export the edited file and click **Save**.

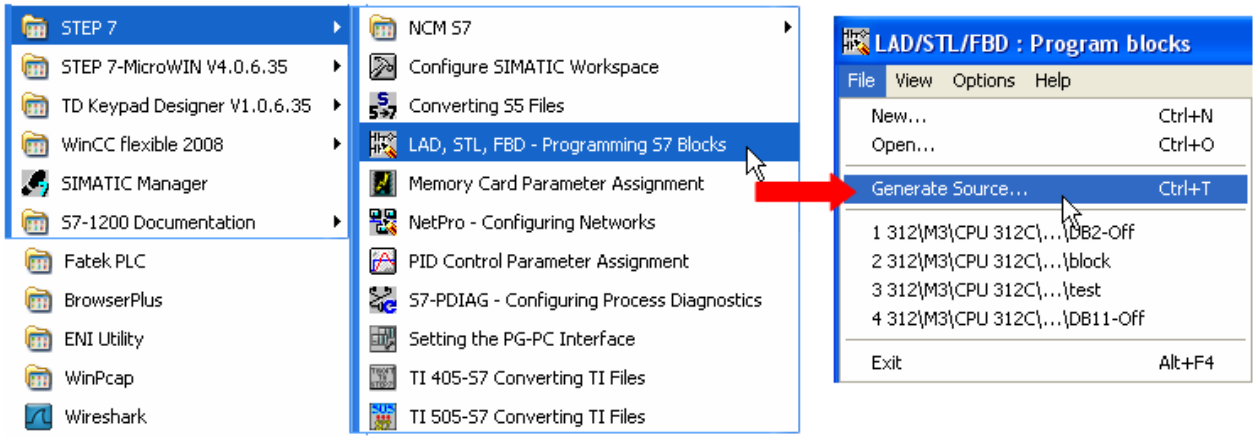


## 2. Building *.AWF File

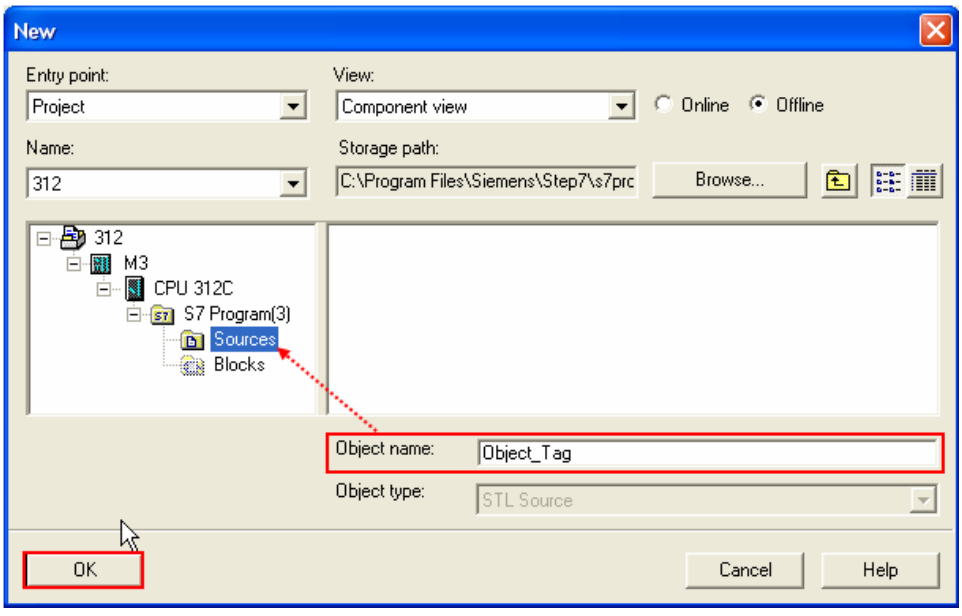
a、 In **Blocks** create items as shown below:



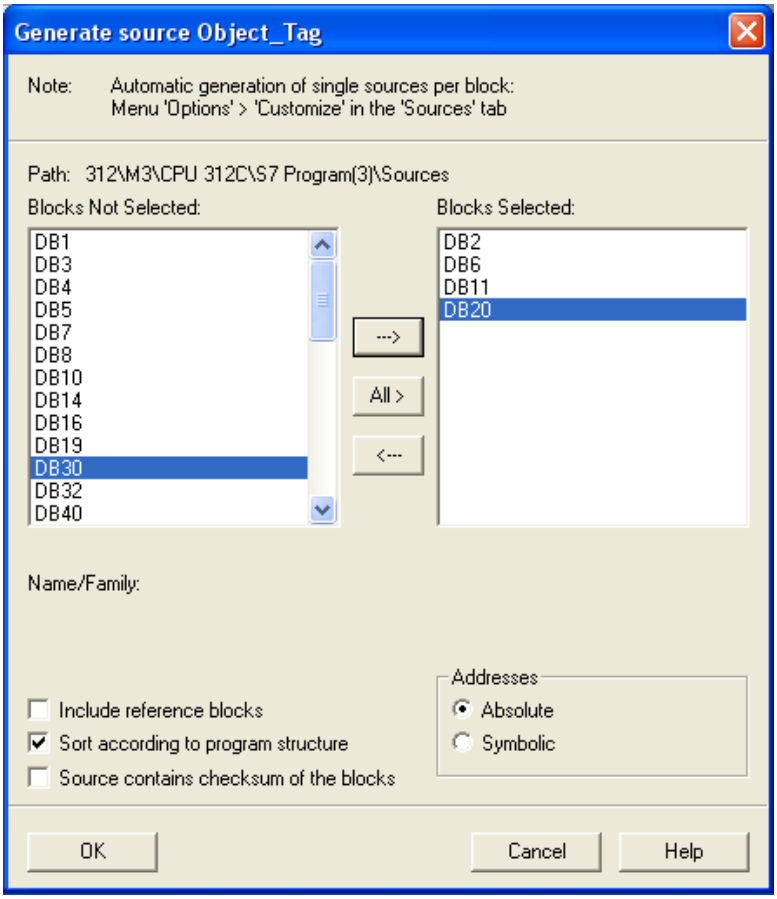

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



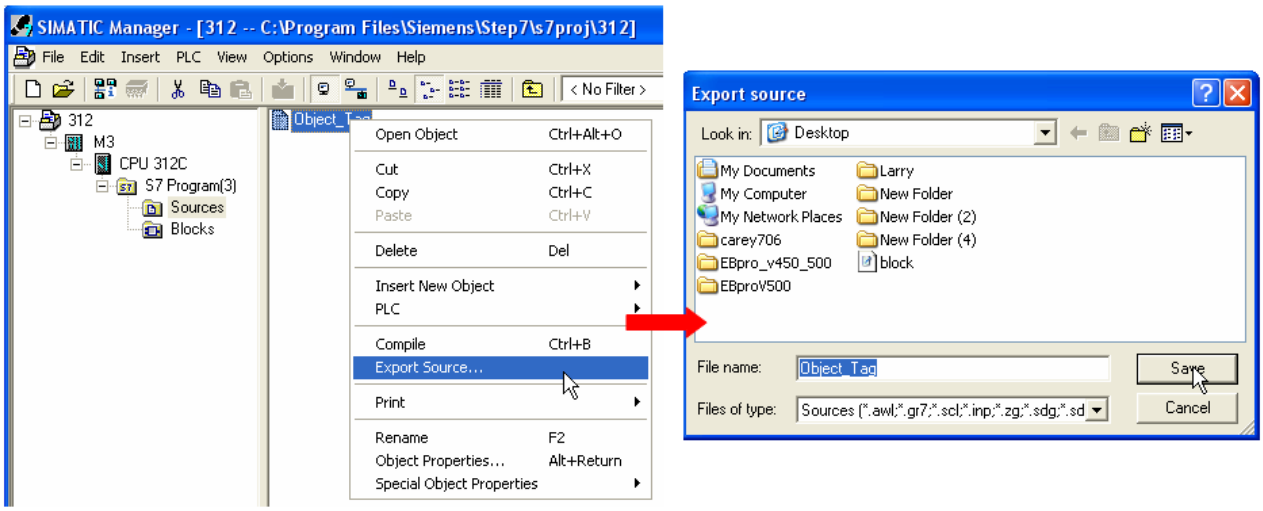

c、 Select **Sources** as storage path, specify the file name then click **OK**.



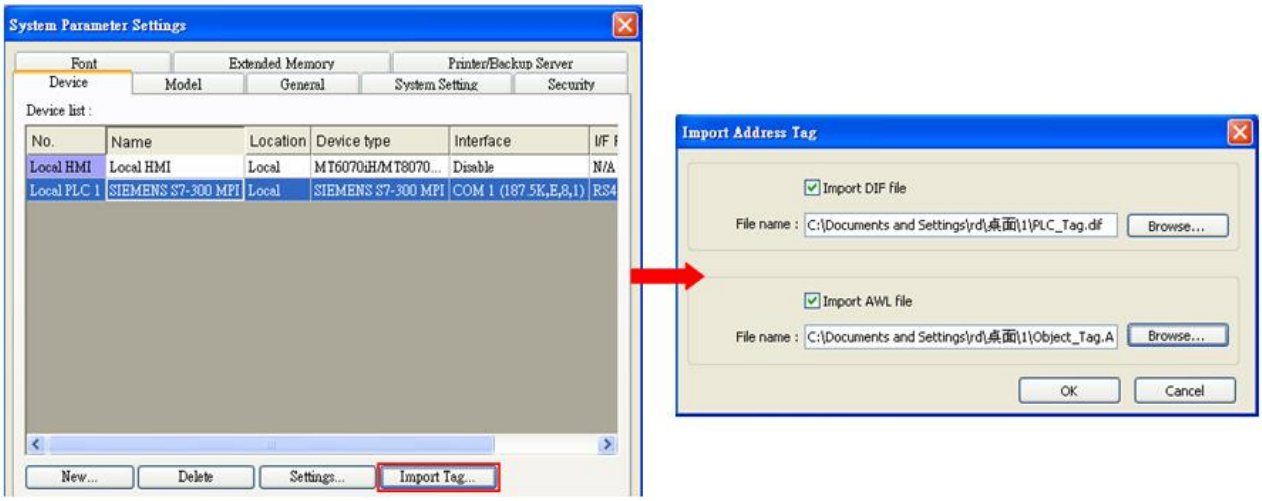
d、 Select the objects to be exported then click **OK**.




e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.



The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.

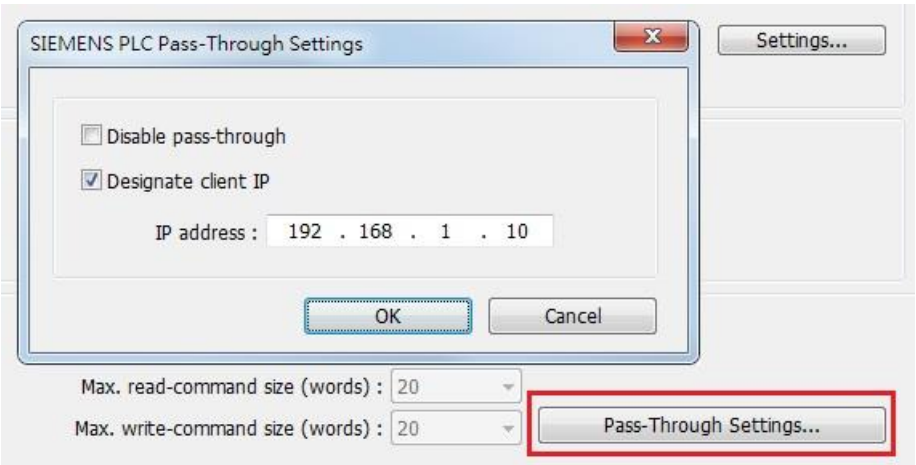



Tag information successfully imported.




## Pass-Through Settings:

[Designate client IP]: In Pass-through mode designate the client IP address to connect HMI. The “client” usually refers to Siemens Step 7 application.



**The following lists the system registers relevant to Siemens S7-200 PPI and Siemens S7-300 MPI Pass-through feature.**

- [LW-10850: disable/enable (0 : disable, 1 : normal, 2 : IP limited) (siemens pass-through)]
- [LW-10851: destination COM port (siemens pass-through)]: Generally refers to the COM port connected with PLC.
- [LW-10852: destination PLC station no. (siemens pass-through)]
- [LW-10853: communication protocol (0 : invalid, 1 : PPI, 2 : MPI) (siemens pass-through)]
- [LW-10854 to LW-10857: IP of connecting client (siemens pass-through)]: Displays current client IP address connected with HMI.
- [LW-10858 to LW-10861: IP of designated client (siemens pass-through)]: If LW-10850 is set to 1, the system registers can be used to designate the client IP connected with HMI.
- [LW-10862: connection status (0 : ready, 1 : client connecting) (siemens pass-through)]
- [LW-10863: execution status (0 : normal, 1 : error) (siemens pass-through)]
- [LW-10864: the last error (siemens pass-through)]

**The following table lists the error codes, the description of each code, and the possible reason.**

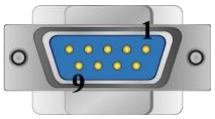
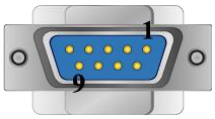
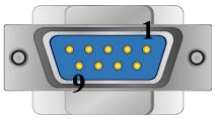
| Error Code | Description | Possible Reason |
|---|---|---|
| 0 | Successfully executed | |
| 1 | Prohibit client from connecting HMI | HMI is already running pass-through and won't accept any request from other client. |
| 2 | Prohibit client from connecting HMI | When LW-10850 is set to 1, the client IP for connecting HMI is different from the IP specified in LW-10858 ~ LW-10861. |
| 3 | Invalid communication protocol | Invalid setting in LW-10853. |
| 4 | Invalid PLC station number | The PLC station number specified in LW-10852 does not exist. |
| 5 | Delayed communication | PLC connection failure. |
| 6 | Busy communication | PLC does not accept pass-through request, please confirm PLC settings. |
| 7 | Invalid pass-through request | Environment setup failure. |

## Wiring Diagram:

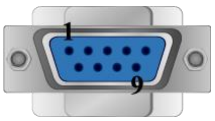
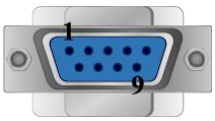
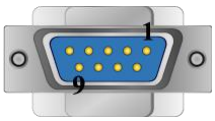
**The following is the view from the soldering point of a cable.**

S7-200 PPI , S7-300 MPI :RS485 2W

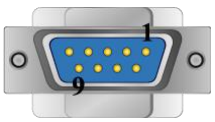
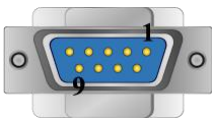
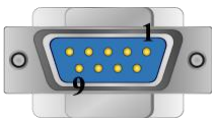
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

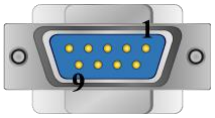
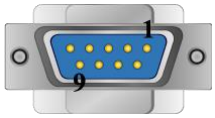
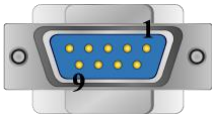
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

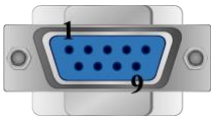
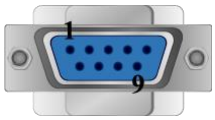
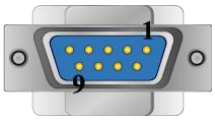
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.90 | May/26/2011 | Added registers: MB & DBBn |
| V2.00 | Aug/19d/2011 | i Series HMI support Multi HMIs-Multi PLCs communication. |

# Siemens S7-300/ET200S (Ethernet)

Supported Series: Siemens S7-300 Ethernet Series PLC, Ethernet module CP-343-1, CPU315-2 PN/DP, CPU317-2 PN/DP, CPU319-3 PN/DP, and ET200S.
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SIEMENS S7-300/ET200S (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 1 | 0-31 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFDDDDo | 0 ~ 409699997 | |
| B | DB1Bit-DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | Bit Memory Double Word |
| DW | MD_Anyaddr | DDDD | 0 ~ 4094 | Bit Memory Double Word (must be even) |
| W | DBn | FFFFDDDD | 0 ~ 40969999 | Data Register (must be even) |
| DW | DBDn | FFFFDDDD | 0 ~ 40969999 | Data Register Double Word (must be multiple of 4) |
| DW | DBDn_Anyaddr | FFFFDDDD | 0 ~ 40969999 | Data Register Double Word (must be even) |
| W | DBn_String | FFFFDDDD | 0 ~ 40969999 | |
| DW | DBDn_String | FFFFDDDD | 0 ~ 40969999 | |
| W | DB1 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register(must be even) |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFDDDD | 0 ~ 40969999 | Data Register Byte |

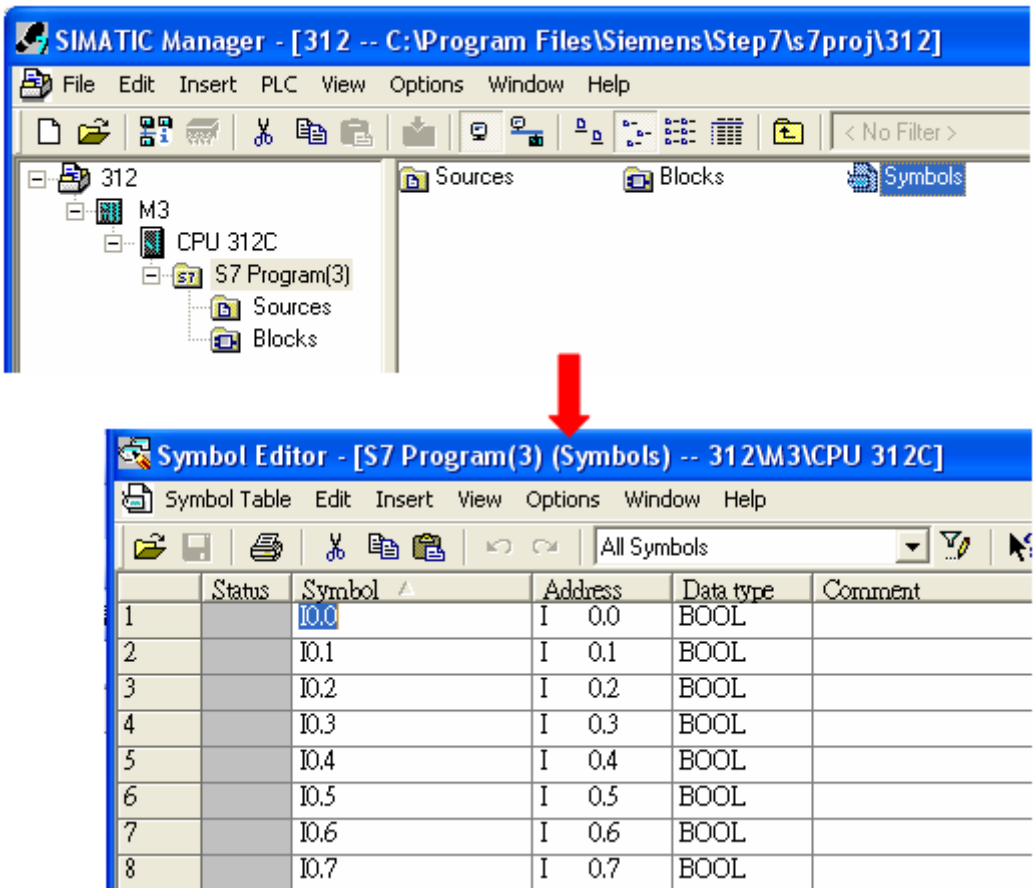
- Double word and floating point value must use DBDn device type.

## How to Import Tag:

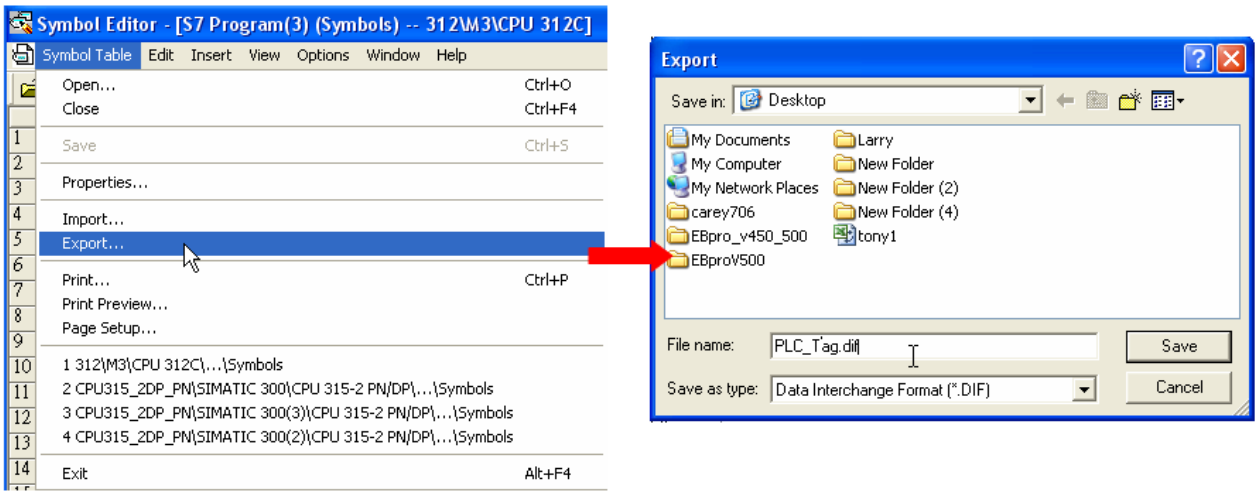
SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

### 1. Building *.dif File

a、 In “Symbols” create user-defined tag.

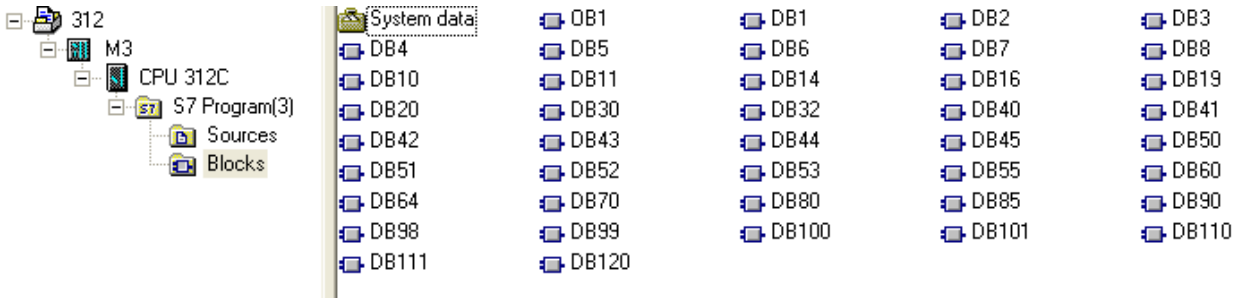


b、 Click **Export** to export the edited file and click **Save**.

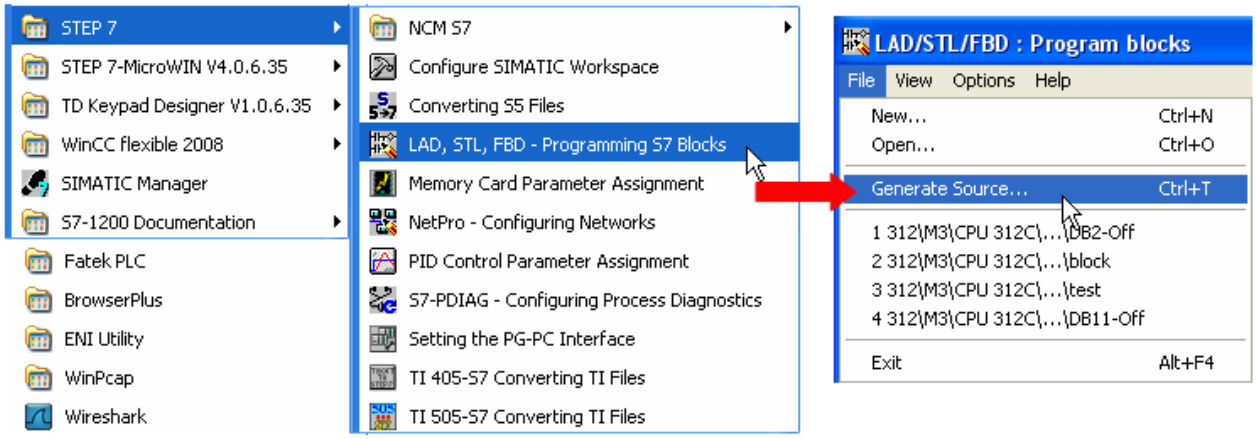



## 2. Building *.AWF File

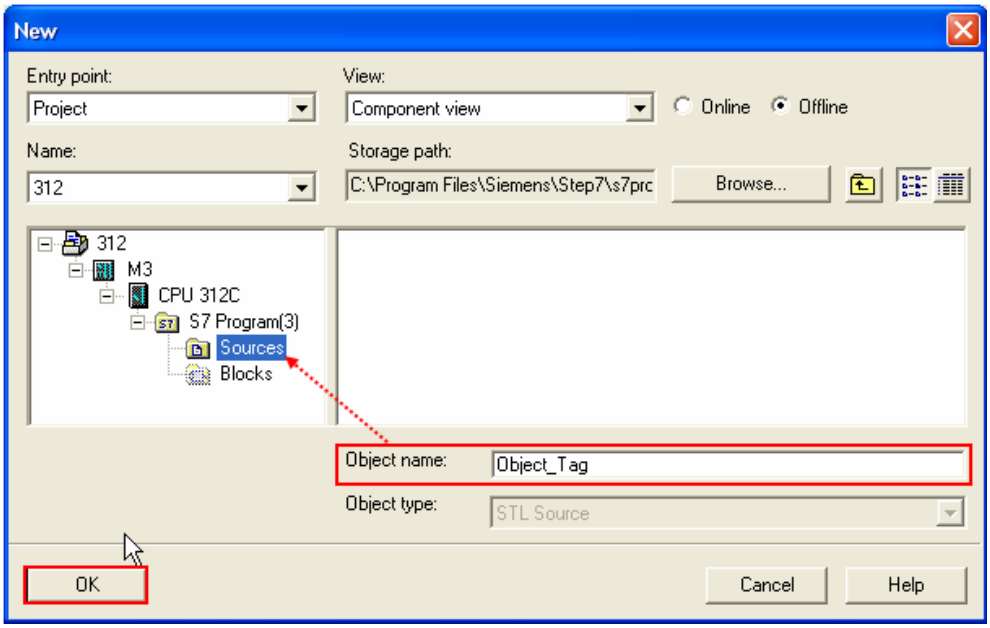
a、 In **Blocks** create items as shown below:



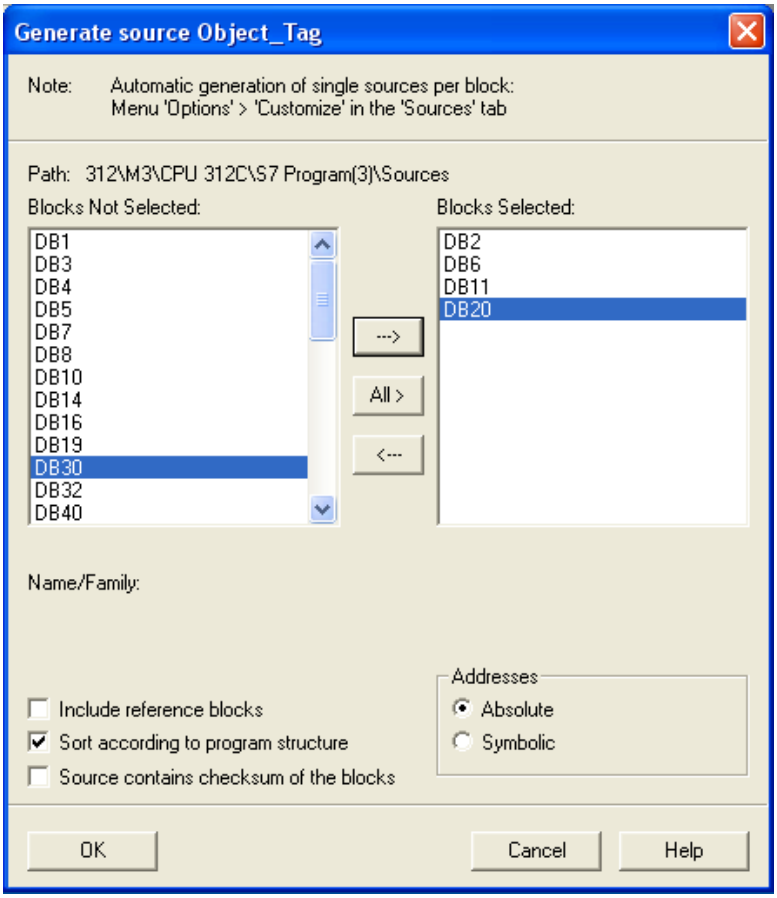

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



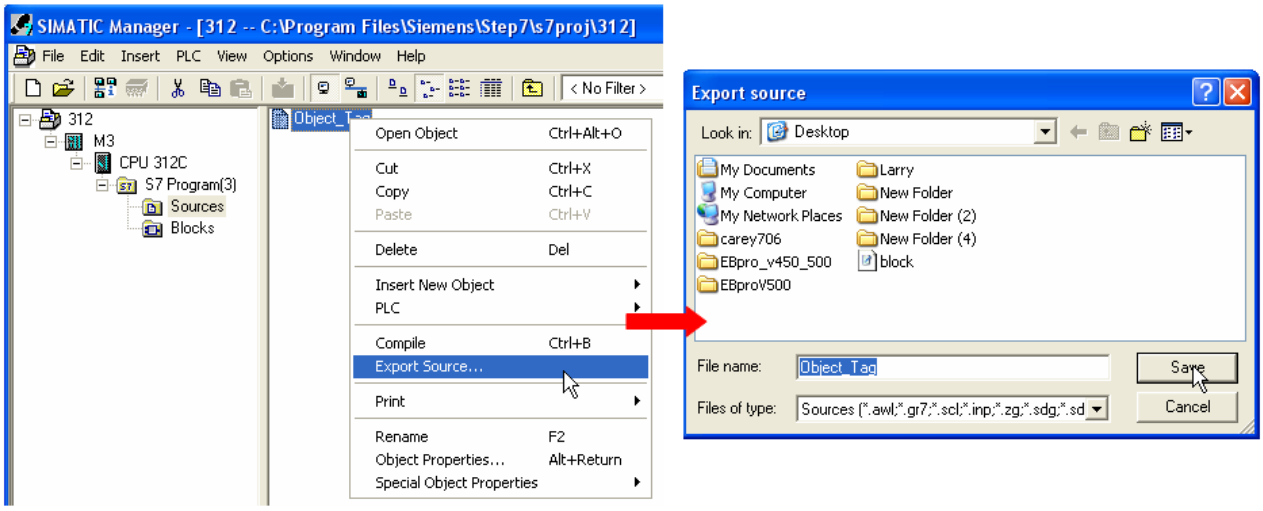
c、 Select **Sources** as storage path, specify the file name then click **OK**.



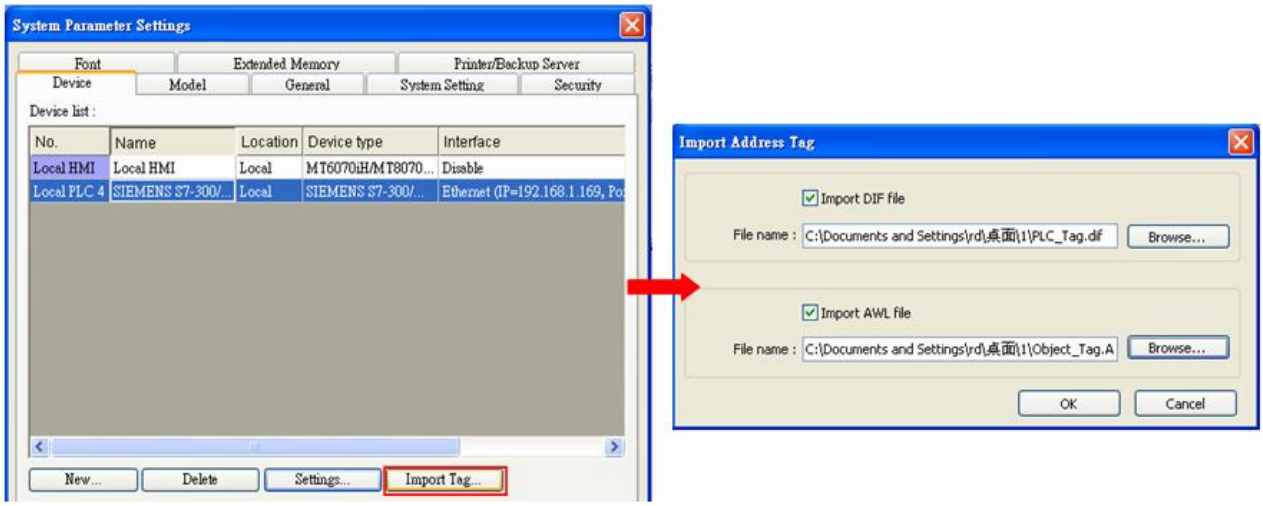

d、 Select the objects to be exported then click **OK**.



e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.




The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.




Tag information successfully imported.



## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.10 | May/21/2011 | Added registers: MB & DBBn. |
| V2.20 | Apr/25/2012 | Added registers: MD_Anyaddr & DBDn_Anyaddr. |

# Siemens S7-400 (Ethernet)

Supported Series: Siemens S7-400/1200 Ethernet PLC.
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens S7-400 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| Link type | PG | PC, OP | |
| Rack | 0 | 0-7 | |
| CPU slot | 3 | 1-31 | To Connect with S7-1200,slot 1 must be selected. |
| PLC sta. no. | 0 | 0-31 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFFDDDDo | 0 ~ 6553599997 | |
| B | DB1Bit-DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | |
| W | DBn | FFFFFDDDD | 0 ~ 655359999 | Data Register (must be even) |
| DW | DBDn | FFFFFDDDD | 0 ~ 655359999 | Data Register Double Word (must be multiple of 4) |
| W | DBn_String | FFFFFDDDD | 0 ~ 655359999 | |
| DW | DBDn_String | FFFFFDDDD | 0 ~ 655359999 | |
| W | DB1 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register (must be even) |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFFDDDD | 0 ~ 655359999 | Data Register Byte |

* Double word and floating point value must use DBDn device type.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



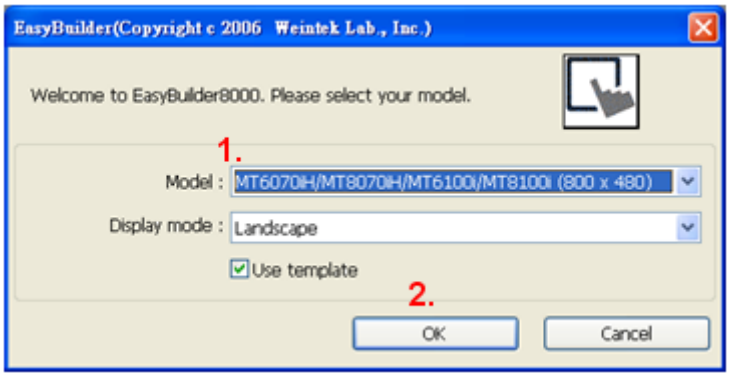

Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



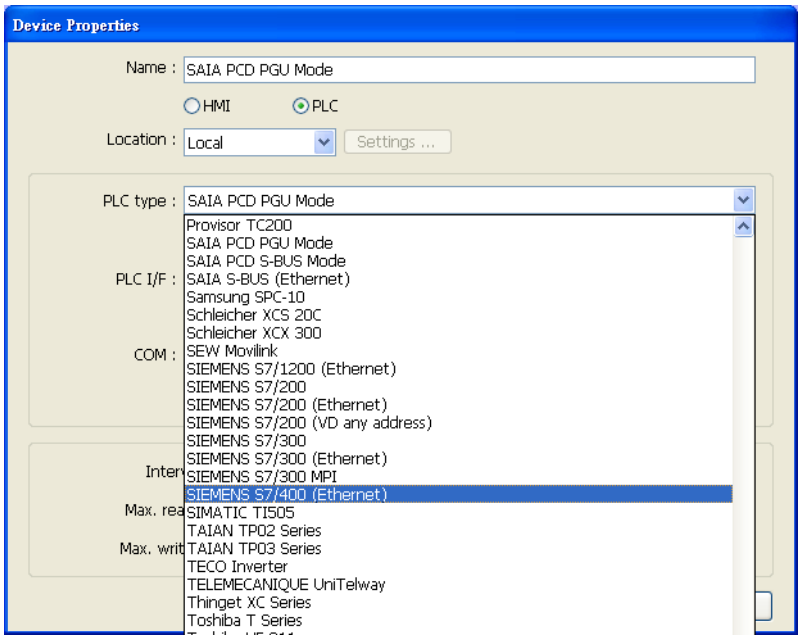
# EasyBuilder Device Setting Steps

1. Open EasyBuilder, File/NEW, select HMI model and press [OK].



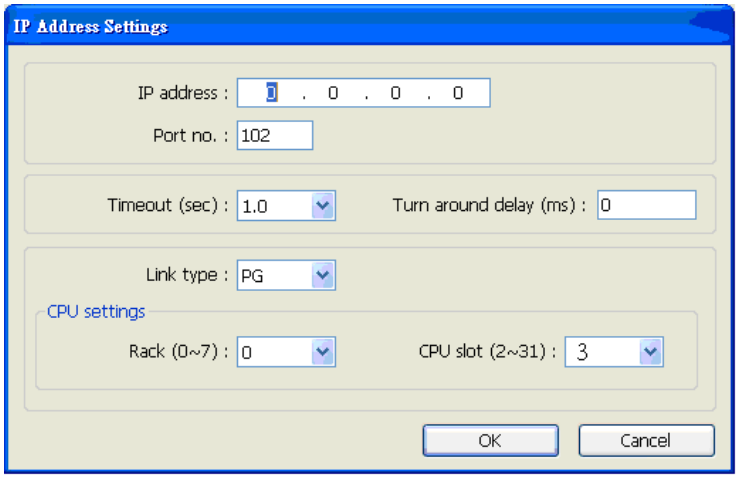

2. ”System Parameter Settings” window is shown, click [New].

3. Select “SIEMENS S7-400(ETHERNET)”.

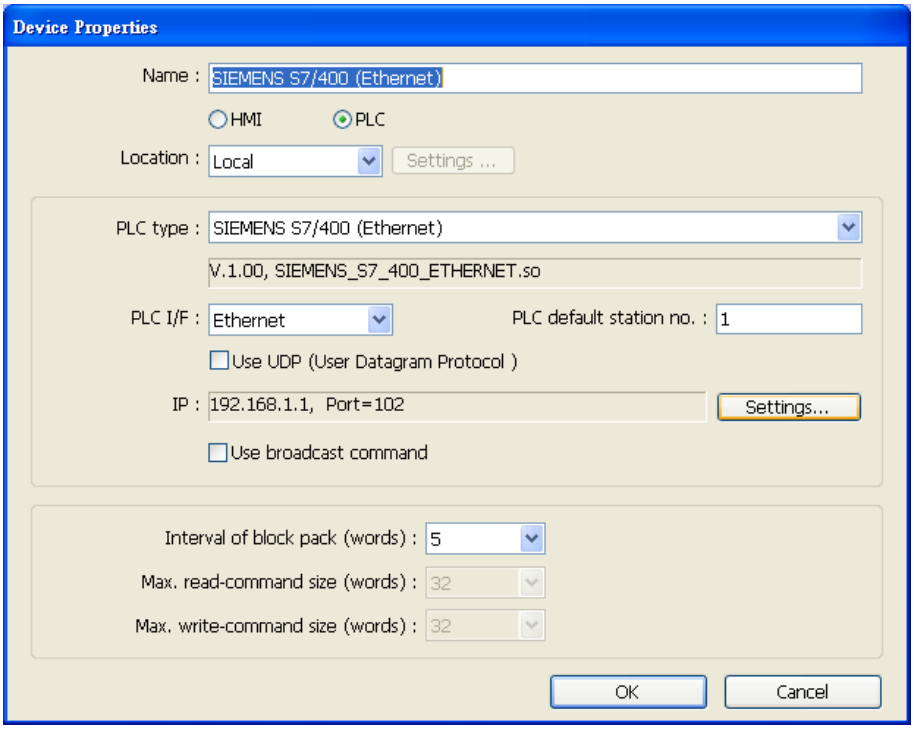



4. Press [Settings].

5. Set S7-400 IP, Port no., Link type, Rack and CPU slot. (must match PLC settings)




6. The setting will be finished as below.

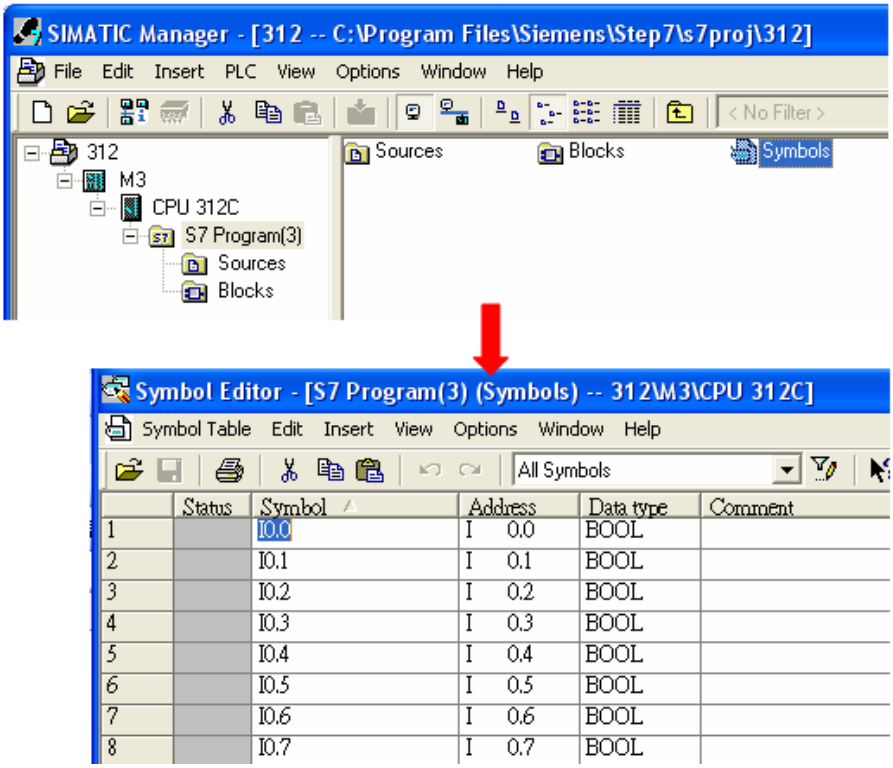


# How to Import Tag:

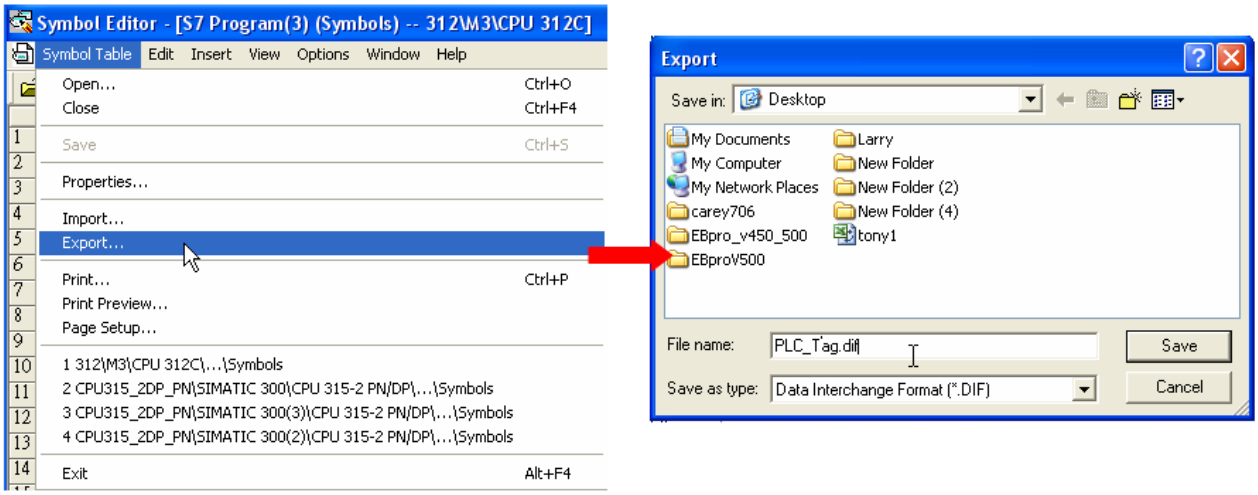
SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

## 1. Building *.dif File

a、 In “Symbols” create user-defined tag.

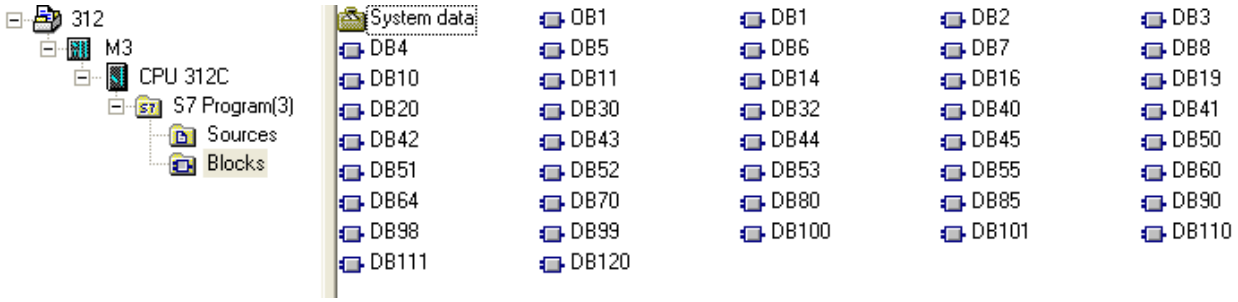



b、 Click **Export** to export the edited file and click **Save**.

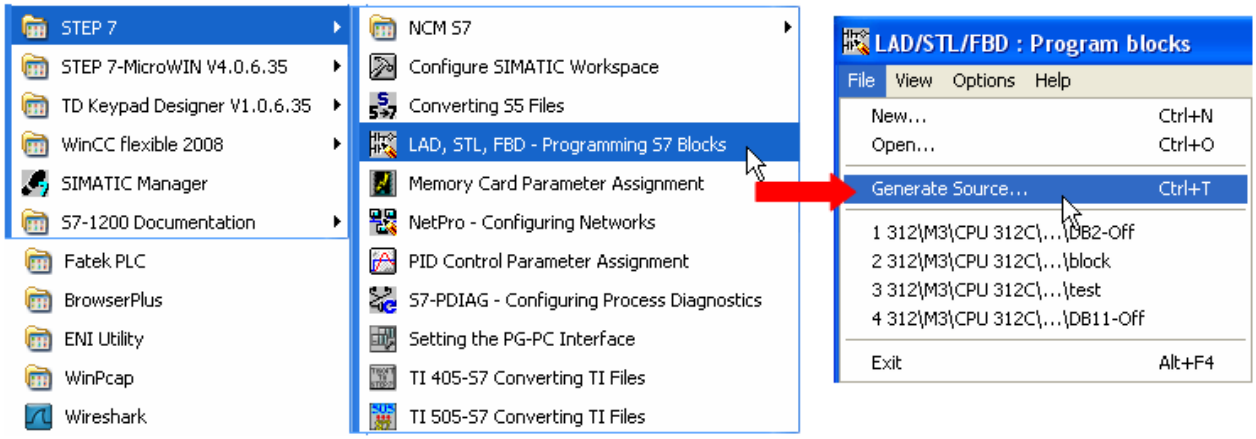


## 2. Building *.AWF File

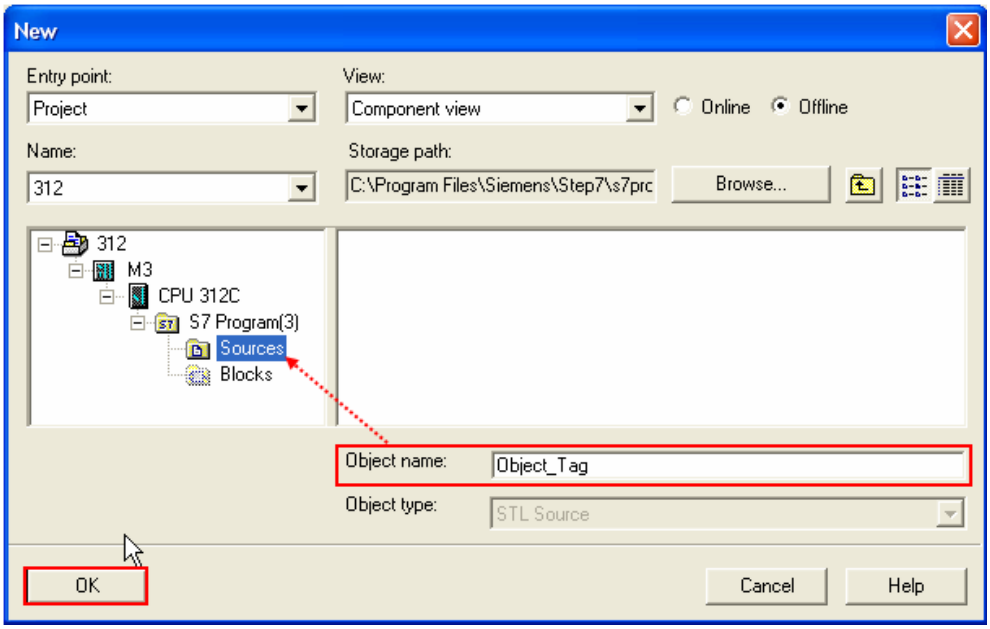
a、 In **Blocks** create items as shown below:



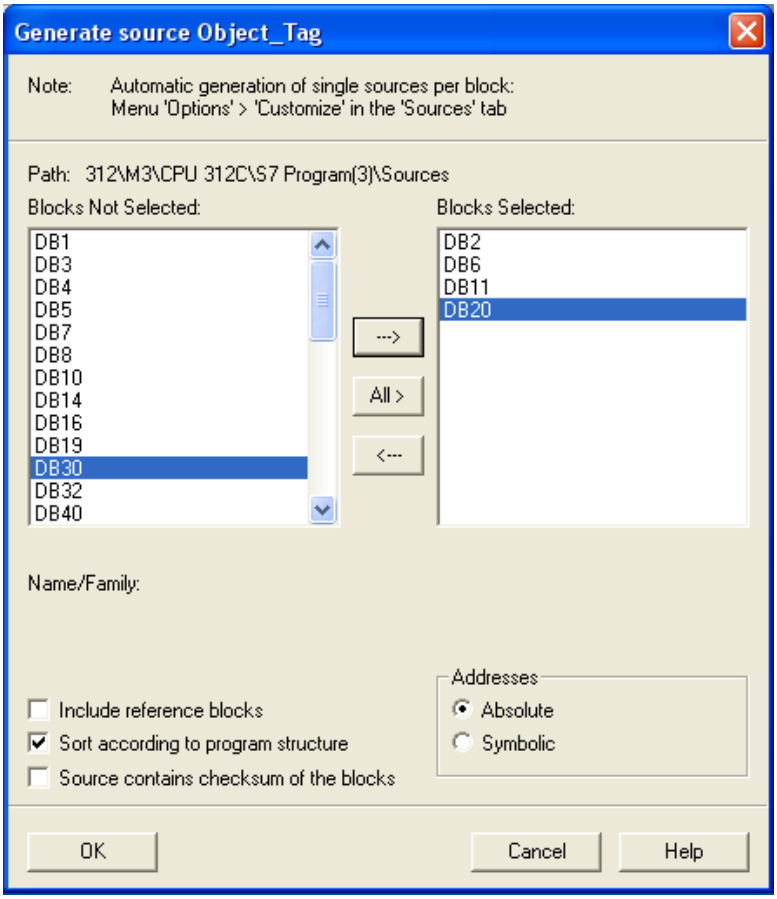

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



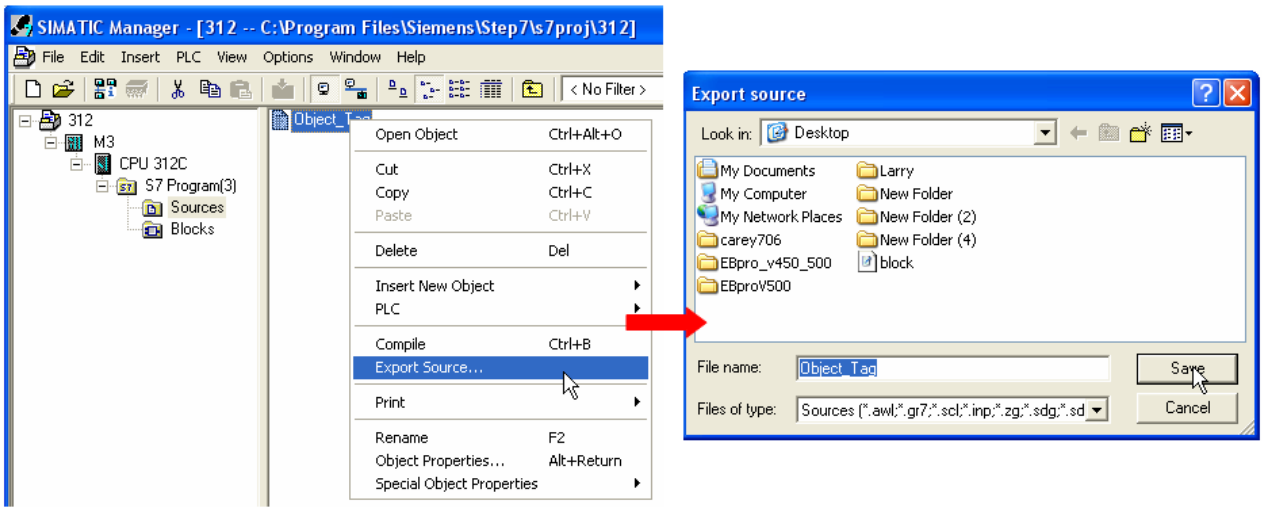

c、 Select **Sources** as storage path, specify the file name then click **OK**.



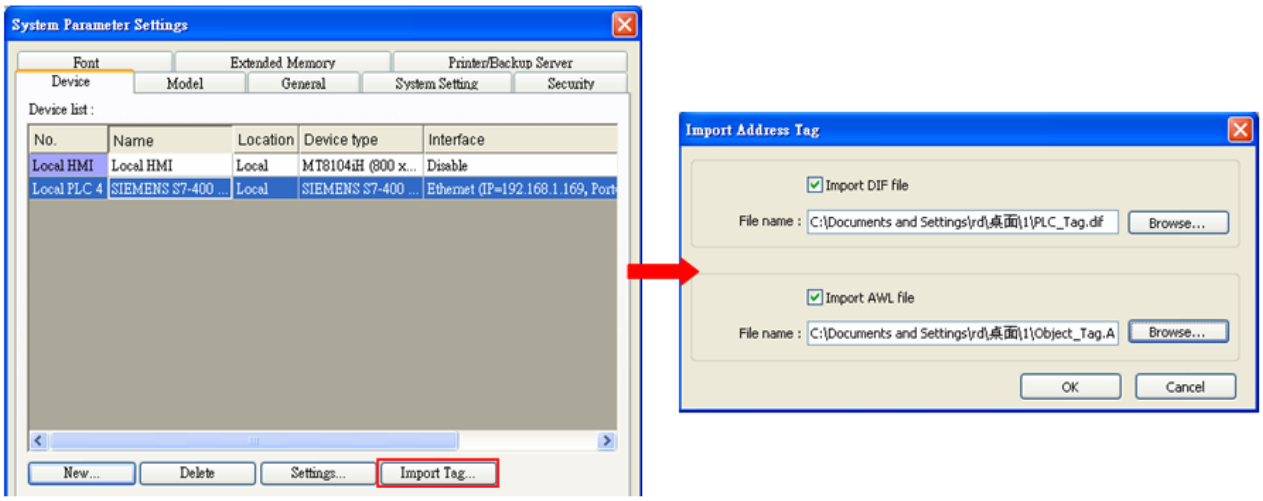
d、 Select the objects to be exported then click **OK**.




e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.



The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.




Tag information successfully imported.




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.40 | May/25/2011 | Added registers: MB & DBBn |
| V1.50 | Aug/03/2012 | Device types DBn, DBDn is extended to 655359999. |

# Siemens TI505

Supported Series: SIMATIC TI505 Series PLCs: TI520, TI525, TI530, TI535, TI545, TI555, TI560, TI565, TI575. Use NITP protocol in a point-to-point, single master, single slave format.

Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SIMATIC TI505 | | NITP protocol |
| PLC I/F | RS232 | RS232, | |
| Baud rate | 19200 | 19200 | |
| Data bits | 7 | 7 | |
| Parity | Odd | Odd | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | Does not apply | |

## Device Address:

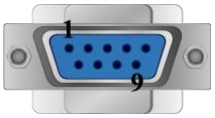
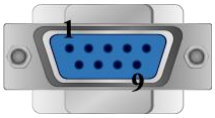
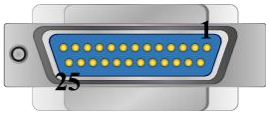
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CR | DDDDD | 1 ~ 65535 | Internal Relay |
| B | X | DDDDD | 1 ~ 65535 | Discrete Input Coils |
| B | Y | DDDDD | 1 ~ 65535 | Discrete Output Coils |
| B | V_Bit | DDDDDdd | 101 ~ 6553616 | |
| W | V | DDDDD | 1 ~ 65535 | User Data Registers |
| DW | VD | DDDDD | 1 ~ 65536 | User Data Registers (32bit) |
| W | STW | DDDDD | 1 ~ 65535 | Status Word Registers |
| W | TCP | DDDDD | 1 ~ 65535 | Timer/Counter Preset Values |
| W | TCC | DDDDD | 1 ~ 65535 | Timer/Counter Current Values |
| W | WX | DDDDD | 1 ~ 65535 | Word Discrete Inputs |
| W | WY | DDDDD | 1 ~ 65535 | Word Discrete Outputs |

## Wiring Diagram:

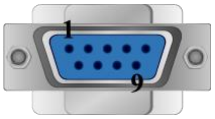
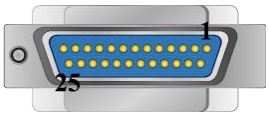
**The following is the view from the soldering point of a cable.**

SIMATIC TI505 RS232 : 9P D-Sub to 25P D-Sub

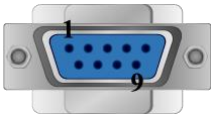
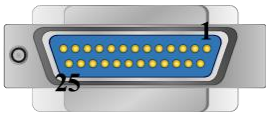
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  |  | |  | |

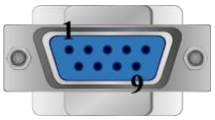
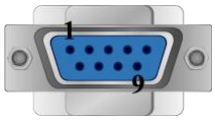
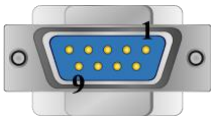
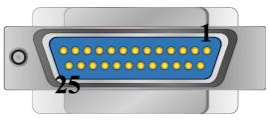
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  | | |  | |

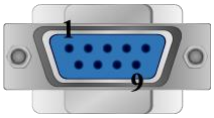
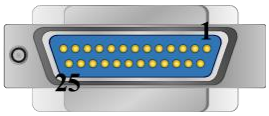
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  |  |  |  | |

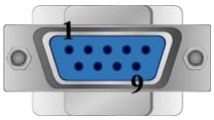
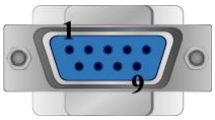
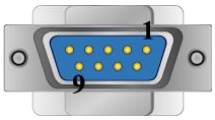
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TXD | |
| 6 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  | | |  | |

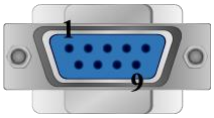
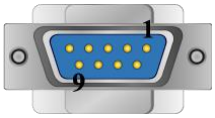
**The following is the view from the soldering point of a cable.**

SIMATIC TI505 RS232 : 9P D-Sub to 9P D-Sub

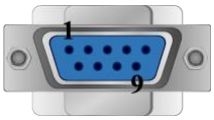
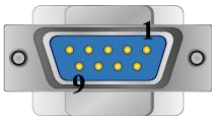
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  |  | |  | |

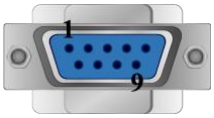
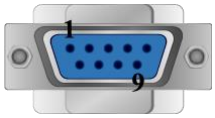
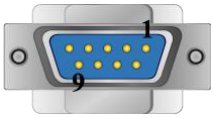
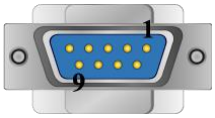
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  | | |  | |

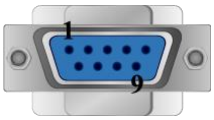
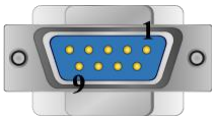
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | 7 RTS |
| | | | 8 CTS | 8 CTS |
| | | | 1 DCD | 1 DCD |
| | | | 4 DTR | 4 DTR |
| | | | 6 DSR | |
|  |  |  |  | |

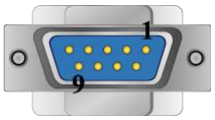
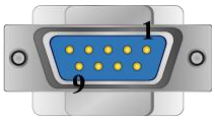
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  | | |  | |

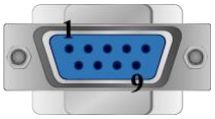
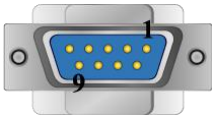
**The following is the view from the soldering point of a cable.**

SIMATIC TI505 RS485 4W : 9P D-Sub to 9P D-Sub

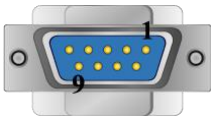
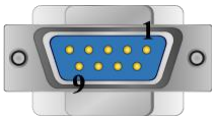
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

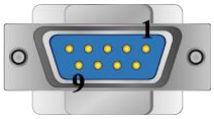
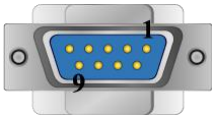
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | 7 DO (-) |
| 6 RX+ | | | 1 DO (+) |
| 9 TX- | | | 8 DI (-) |
| 8 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

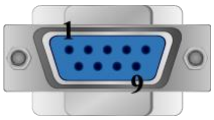
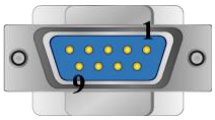
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Apr/22/2009 | |
| V1.40 | Jun/08/2014 | Added register: VD |
| V1.50 | Nov/18/2014 | Added register: V_Bit |

# Siemens TI505 (Ethernet)

Supported Series: SIMATIC TI505 Series PLCs: TI520, TI525, TI530, TI535, TI545, TI555, TI560, TI565, TI575 with ethernet module.

Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Siemens TI505 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 1505 | | |
| PLC sta. no. | 1 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CR | DDDDD | 1 ~ 65536 | Internal Relay |
| B | X | DDDDD | 1 ~ 65536 | Discrete Input Coils |
| B | Y | DDDDD | 1 ~ 65536 | Discrete Output Coils |
| B | V_Bit | DDDDDdd | 101 ~ 6553616 | |
| W | V | DDDDD | 1 ~ 65536 | User Data Registers |
| DW | VD | DDDDD | 1 ~ 65535 | User Data Registers (32bit) |
| W | STW | DDDDD | 1 ~ 65536 | Status Word Registers |
| W | TCP | DDDDD | 1 ~ 65536 | Timer/Counter Preset Values |
| W | TCC | DDDDD | 1 ~ 65536 | Timer/Counter Current |
| W | WX | DDDDD | 1 ~ 65536 | Word Discrete Inputs |
| W | WY | DDDDD | 1 ~ 65536 | Word Discrete Outputs |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Green | 3 RX+ |
| 2 TX- | Orange | Green | 6 RX- |
| 3 RX+ | White/Green | White/Orange | 1 TX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Orange | 2 TX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | Wire Color | PLC RJ45 Male |
|---|---|---|---|
| 1 TX+ | White/Orange | White/Orange | 1 TX+ |
| 2 TX- | Orange | Orange | 2 TX- |
| 3 RX+ | White/Green | White/Green | 3 RX+ |
| 4 BD4+ | Blue | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | White/Blue | 5 BD4- |
| 6 RX- | Green | Green | 6 RX- |
| 7 BD3+ | White/Brown | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Feb/10/2014 | Driver released. |
| V1.20 | Jun/08/2014 | Added register: VD |
| V1.30 | Nov/18/2014 | Added register: V_Bit |

# Siemens TI565/C400

Supported Series: CTI565-C400,CTI 2500-C200
Website: http://www.siemens.com/entry/cc/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SIMATIC TI565/C400 | | |
| PLC I/F | RS232 | RS232, RS485(4W) | |
| Baud rate | 19200 | 19200 | |
| Data bits | 7 | 7 | |
| Parity | Odd | Odd | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 0 | Does not apply | |

## Device Address:

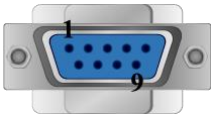
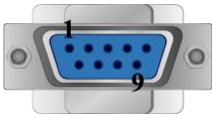
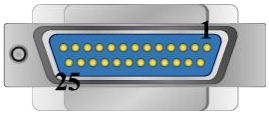
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | CR | DDDDD | 1 ~ 65535 | Internal Relay |
| B | X | DDDDD | 1 ~ 65535 | Discrete Input Coils |
| B | Y | DDDDD | 1 ~ 65535 | Discrete Output Coils |
| B | V_Bit | DDDDDdd | 101 ~ 6553616 | |
| W | V | DDDDD | 1 ~ 65535 | User Data Registers |
| DW | VD | DDDDD | 1 ~ 65535 | User Data Registers (32bit) |
| W | STW | DDDDD | 1 ~ 65535 | Status Word Registers |
| W | TCP | DDDDD | 1 ~ 65535 | Timer/Counter Preset Values |
| W | TCC | DDDDD | 1 ~ 65535 | Timer/Counter Current Values |
| W | WX | DDDDD | 1 ~ 65535 | Word Discrete Inputs |
| W | WY | DDDDD | 1 ~ 65535 | Word Discrete Outputs |

## Wiring Diagram:

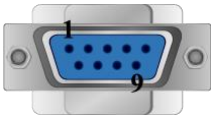
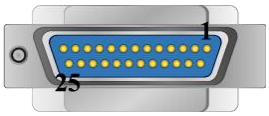
**The following is the view from the soldering point of a cable.**

9P D-Sub to 25P D-Sub: RS232

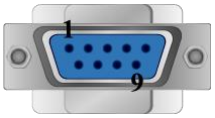
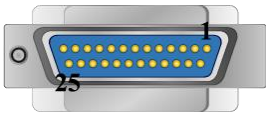
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  |  | |  | |

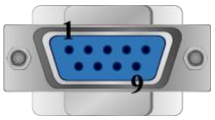
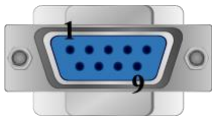
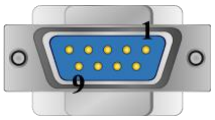
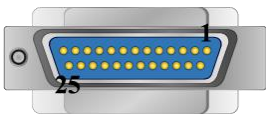
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  | | |  | |

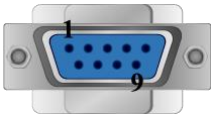
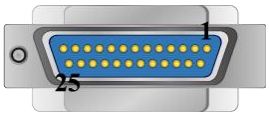
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  |  |  |  | |

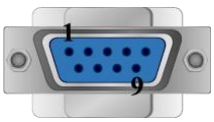
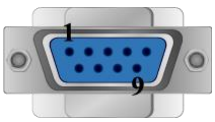
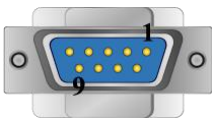
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 25P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TXD | |
| 6 TX | | | 3 RXD | |
| 5 GND | | | 7 GND | |
| | | | 4 RTS | short |
| | | | 5 CTS | |
| | | | 6 DSR | short |
| | | | 8 DCD | |
| | | | 20 DTR | |
|  | | |  | |

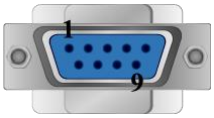
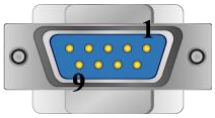
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: RS232

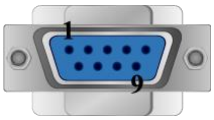
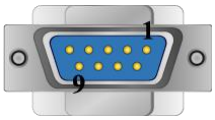
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  |  | |  | |

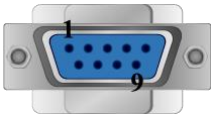
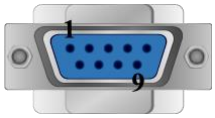
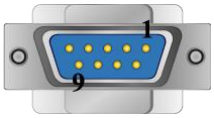
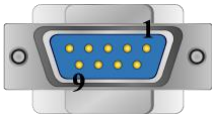
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  | | |  | |

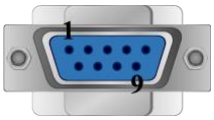
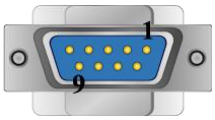
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  |  |  |  | |

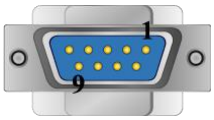
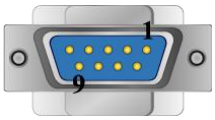
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 1 DCD | short |
| | | | 4 DTR | |
| | | | 6 DSR | |
|  | | |  | |

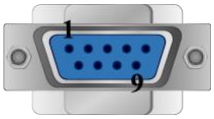
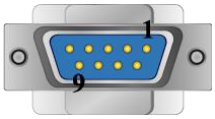
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: RS-485 4W

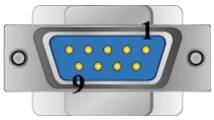
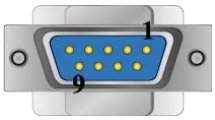
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

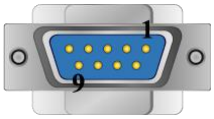
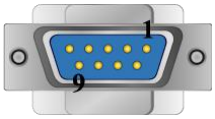
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | 7 DO (-) |
| 6 RX+ | | | 1 DO (+) |
| 9 TX- | | | 8 DI (-) |
| 8 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

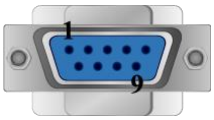
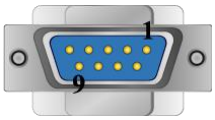
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

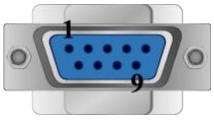
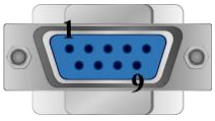
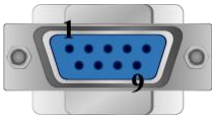
| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

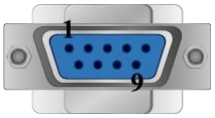
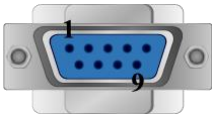
| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 7 DO (-) |
| 2 RX+ | | | 1 DO (+) |
| 3 TX- | | | 8 DI (-) |
| 4 TX+ | | | 5 DI (+) |
| 5 GND | | | 6 GND |
|  | | |  |

**The following is the view from the soldering point of a cable.**

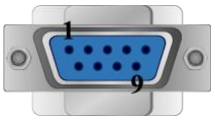
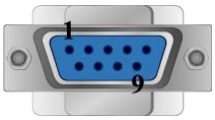
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | CTI2500-C200 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

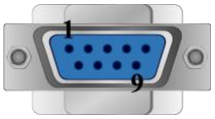
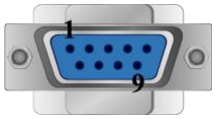
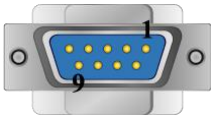
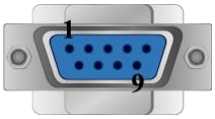
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CTI2500-C200 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

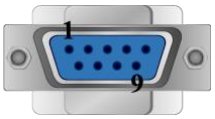
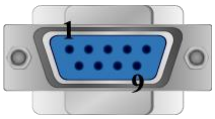
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CTI2500-C200 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | CTI2500-C200 RS232 9P D-Sub Female |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | CTI2500-C200 RS232 9P D-Sub Female |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/31/2011 | Driver released. |
| V1.20 | Jun/08/2014 | Added register: VD |
| V1.30 | Nov/18/2014 | Added register: V_Bit |

# SSTC SSD Series

Supported Series: SSTC SSD Series

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | SSTC SSD Series | | |
| PLC I/F | RS232 | RS232/RS485 2W | |
| Baud rate | 19200 | 9600~115200 | |
| Data bits | 8 | 8 | |
| Parity | None | None,Odd | |
| Stop bits | 1 | 1 | |
| PLC sta. no. | 1 | 1~32 | |

X Series does not support RS-485 2W communication.

## Device Address:

| Bit/Word | Device Type | Format | Range | Memo |
|---|---|---|---|---|
| W | ID | DDDDD | 0 ~ 99999 | |
| W | ID_30 | DDDDD | 30 | Use Unicode |
| W | ID_35000 | DDDDD | 35000 | String |
| W | ID_35001 | DDDDD | 35001 | String |

## ID Address List:

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 1 | BYT2 | UDEC | Yes/Yes | 1 |
| 30 | BYT4 | HEX | No/Yes | Hex |
| 36 | BYT4 | SDEC | Yes/Yes | 0.0001 |
| 38 | BYT4 | UDEC | Yes/Yes | 0.0001 |
| 39 | BYT4 | SDEC | Yes/Yes | 0.0001 |
| 40 | BYT4 | SDEC | No/Yes | 0.0001 |
| 41 | BYT4 | SDEC | No/Yes | 0.0001 |
| 43 | BYT2 | UDEC | Yes/Yes | 1 |
| 47 | BYT4 | SDEC | Yes/Yes | 1 |
| 48 | BYT4 | SDEC | Yes/Yes | 1 |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 49 | BYT4 | SDEC | Yes/Yes | 1 |
| 50 | BYT4 | SDEC | Yes/Yes | 1 |
| 51 | BYT4 | SDEC | Yes/Yes | 1 |
| 53 | BYT4 | SDEC | Yes/Yes | 1 |
| 55 | BYT2 | UDEC | Yes/Yes | 1 |
| 57 | BYT4 | UDEC | Yes/Yes | 1 |
| 80 | BYT2 | SDEC | Yes/Yes | 0.1 |
| 82 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 83 | BYT2 | SDEC | Yes/Yes | 0.1 |
| 84 | BYT2 | SDEC | No/Yes | 0.1 |
| 85 | BYT2 | UDEC | Yes/Yes | 1 |
| 100 | BYT2 | UDEC | Yes/Yes | 1 |
| 101 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 102 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 103 | BYT4 | SDEC | Yes/Yes | 1 |
| 104 | BYT2 | UDEC | Yes/Yes | 1 |
| 109 | BYT4 | UDEC | Yes/Yes | 0.001 |
| 110 | BYT4 | UDEC | No/Yes | 0.001 |
| 111 | BYT4 | UDEC | Yes/Yes | 0.001 |
| 112 | BYT4 | UDEC | No/Yes | 0.001 |
| 113 | BYT4 | UDEC | Yes/Yes | 0.0001 |
| 116 | BYT4 | UDEC | Yes/Yes | 1 |
| 124 | BYT4 | SDEC | Yes/Yes | 0.0001 |
| 125 | BYT4 | SDEC | Yes/Yes | 0.0001 |
| 126 | BYT2 | SDEC | Yes/Yes | 0.1 |
| 136 | BYT4 | SDEC | Yes/Yes | 1 |
| 137 | BYT4 | SDEC | Yes/Yes | 1 |
| 147 | BYT2 | HEX | Yes/Yes | Hex |
| 150 | BYT4 | SDEC | Yes/Yes | 1 |
| 153 | BYT4 | SDEC | Yes/Yes | 1 |
| 154 | BUT2 | HEX | Yes/Yes | Hex |
| 157 | BYT4 | SDEC | Yes/Yes | 0.0001 |
| 159 | BYT4 | UDEC | Yes/Yes | 1 |
| 173 | BYT4 | SDEC | Yes/Yes | 1 |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 193 | BYT2 | UDEC | Yes/Yes | 1 |
| 209 | BYT4 | UDEC | Yes/Yes | 0.0001 |
| 210 | BYT4 | UDEC | Yes/Yes | 0.0001 |
| 211 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 212 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 222 | BYT4 | SDEC | Yes/Yes | 1 |
| 225 | BYT2 | HEX | Yes/Yes | Hex |
| 228 | BYT4 | UDEC | Yes/Yes | 1 |
| 230 | BYT4 | UDEC | Yes/Yes | 1 |
| 268 | BYT4 | UDEC | Yes/Yes | 1 |
| 278 | BYT4 | UDEC | Yes/Yes | 1 |
| 32768 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 32769 | BYT4 | UDEC | Yes/Yes | 0.001 |
| 32770 | BYT4 | UDEC | Yes/Yes | 0.001 |
| 32771 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 32772 | BYT4 | UDEC | Yes/Yes | 0.0001 |
| 32773 | BYT4 | HEX | Yes/Yes | Hex |
| 32774 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 32775 | BYT2 | UDEC | Yes/Yes | 1 |
| 32776 | BYT2 | UDEC | Yes/Yes | 1 |
| 32777 | BYT2 | SDEC | Yes/Yes | 0.1 |
| 32778 | BYT4 | SDEC | Yes/Yes | 0.0001 |
| 32779 | BYT4 | SDEC | Yes/Yes | 0.0001 |
| 32780 | BYT4 | UDEC | Yes/Yes | 0.1 |
| 32781 | BYT4 | UDEC | Yes/Yes | 0.1 |
| 32782 | BYT4 | UDEC | Yes/Yes | 0.1 |
| 32783 | BYT2 | UDEC | Yes/Yes | 1 |
| 32784 | BYT4 | SDEC | Yes/Yes | 1 |
| 32785 | BYT2 | UDEC | Yes/Yes | 1 |
| 32786 | BYT4 | SDEC | Yes/Yes | 1 |
| 32787 | BYT4 | UDEC | Yes/Yes | 1 |
| 32788 | BYT4 | SDEC | Yes/Yes | 1 |
| 32789 | BYT4 | UDEC | Yes/Yes | 1 |
| 32790 | BYT4 | SDEC | Yes/Yes | 1 |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 32791 | BYT4 | UDEC | Yes/Yes | 1 |
| 32792 | BYT4 | SDEC | Yes/Yes | 1 |
| 32793 | BYT4 | UDEC | Yes/Yes | 1 |
| 32794 | BYT4 | SDEC | Yes/Yes | 1 |
| 32797 | BYT4 | HEX | No/Yes | Hex |
| 32798 | BYT4 | HEX | No/No | Hex |
| 32799 | BYT4 | HEX | No/No | Hex |
| 32800 | BYT4 | HEX | Yes/Yes | Hex |
| 32801 | BYT4 | HEX | Yes/Yes | Hex |
| 32802 | BYT4 | HEX | Yes/Yes | Hex |
| 32803 | BYT4 | HEX | Yes/Yes | Hex |
| 32804 | BYT4 | HEX | Yes/Yes | Hex |
| 32805 | BYT4 | HEX | Yes/Yes | Hex |
| 32806 | BYT4 | UDEC | Yes/Yes | 1 |
| 32807 | BYT4 | UDEC | Yes/Yes | 1 |
| 32808 | BYT4 | UDEC | Yes/Yes | 1 |
| 32809 | BYT4 | UDEC | Yes/Yes | 1 |
| 32836 | BYT2 | UDEC | No/Yes | 1 |
| 32845 | BYT2 | UDEC | Yes/Yes | 1 |
| 32846 | BYT2 | SDEC | Yes/Yes | 1 |
| 32847 | BYT2 | SDEC | Yes/Yes | 1 |
| 32848 | BYT2 | UDEC | Yes/Yes | 1 |
| 32849 | BYT2 | SDEC | Yes/Yes | 1 |
| 32850 | BYT2 | SDEC | Yes/Yes | 1 |
| 32851 | BYT2 | SDEC | Yes/Yes | 1 |
| 32852 | BYT2 | SDEC | Yes/Yes | 1 |
| 32853 | BYT2 | SDEC | Yes/Yes | 1 |
| 32854 | BYT2 | SDEC | Yes/Yes | 1 |
| 32865 | BYT2 | UDEC | Yes/Yes | 1 |
| 32866 | BYT2 | UDEC | Yes/Yes | 1 |
| 32867 | BYT2 | UDEC | Yes/Yes | 1 |
| 32868 | BYT2 | UDEC | Yes/Yes | 1 |
| 32874 | BYT2 | UDEC | Yes/Yes | 1 |
| 32875 | BYT2 | UDEC | Yes/Yes | 1 |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 32876 | BYT2 | UDEC | Yes/Yes | 1 |
| 32877 | BYT2 | UDEC | Yes/Yes | 1 |
| 32880 | BYT2 | UDEC | Yes/Yes | 1 |
| 32881 | BYT2 | UDEC | Yes/Yes | 1 |
| 32882 | BYT2 | UDEC | Yes/Yes | 1 |
| 32883 | BYT2 | UDEC | Yes/Yes | 1 |
| 32891 | BYT2 | UDEC | Yes/Yes | 1 |
| 32892 | BYT4 | UDEC | Yes/Yes | 1 |
| 32893 | BYT4 | UDEC | Yes/Yes | 1 |
| 32922 | BYT2 | UDEC | Yes/Yes | 1 |
| 32925 | BYT2 | HEX | Yes/Yes | Hex |
| 32926 | BYT2 | HEX | Yes/Yes | Hex |
| 32927 | BYT2 | HEX | Yes/Yes | Hex |
| 32928 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 32929 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 32934 | BYT2 | UDEC | Yes/Yes | 1 |
| 32935 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 32936 | BYT4 | HEX | Yes/Yes | Hex |
| 32940 | BYT4 | SDEC | Yes/Yes | 1 |
| 32947 | BYT4 | UDEC | Yes/Yes | 1 |
| 32952 | BYT4 | UDEC | Yes/Yes | 1 |
| 32953 | BYT2 | HEX | Yes/Yes | Hex |
| 32956 | BYT2 | UDEC | Yes/Yes | 1 |
| 32958 | BYT2 | UDEC | Yes/Yes | 1 |
| 32959 | BYT2 | UDEC | Yes/Yes | 1 |
| 32964 | BYT2 | UDEC | Yes/Yes | 1 |
| 32966 | BYT2 | SDEC | Yes/Yes | 1 |
| 32967 | BYT2 | UDEC | Yes/Yes | 1 |
| 32968 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 32978 | BYT2 | UDEC | Yes/Yes | 1 |
| 32979 | BYT2 | UDEC | Yes/Yes | 1 |
| 32980 | BYT2 | UDEC | Yes/Yes | 1 |
| 32981 | BYT2 | UDEC | Yes/Yes | 1 |
| 32992 | BYT2 | UDEC | Yes/Yes | 0.1 |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 32993 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 33700 | BYT2 | UDEC | Yes/Yes | 1 |
| 33701 | BYT2 | UDEC | Yes/Yes | 1 |
| 33702 | BYT2 | UDEC | Yes/Yes | 1 |
| 33703 | BYT2 | UDEC | Yes/Yes | 1 |
| 33704 | BYT2 | UDEC | Yes/Yes | 1 |
| 33705 | BYT2 | UDEC | Yes/Yes | 1 |
| 33706 | BYT2 | UDEC | Yes/Yes | 1 |
| 33707 | BYT2 | UDEC | Yes/Yes | 1 |
| 33708 | BYT2 | UDEC | Yes/Yes | 1 |
| 33709 | BYT2 | UDEC | Yes/Yes | 1 |
| 33710 | BYT2 | UDEC | Yes/Yes | 1 |
| 33711 | BYT2 | UDEC | Yes/Yes | 1 |
| 33712 | BYT2 | UDEC | Yes/Yes | 1 |
| 33713 | BYT2 | UDEC | Yes/Yes | 1 |
| 33714 | BYT2 | UDEC | Yes/Yes | 1 |
| 33721 | BYT2 | UDEC | Yes/Yes | 1 |
| 33722 | BYT2 | UDEC | Yes/Yes | 1 |
| 33724 | BYT2 | UDEC | Yes/Yes | 1 |
| 33725 | BYT2 | UDEC | Yes/Yes | 1 |
| 33729 | BYT2 | UDEC | Yes/Yes | 1 |
| 33730 | BYT2 | UDEC | Yes/Yes | 1 |
| 33731 | BYT2 | UDEC | Yes/Yes | 1 |
| 33732 | BYT2 | UDEC | No/Yes | 1 |
| 33800 | BYT2 | UDEC | Yes/Yes | 1 |
| 33801 | BYT2 | UDEC | Yes/Yes | 1 |
| 33802 | BYT2 | UDEC | Yes/Yes | 1 |
| 33803 | BYT2 | UDEC | Yes/Yes | 1 |
| 33804 | BYT2 | UDEC | Yes/Yes | 1 |
| 33805 | BYT2 | UDEC | Yes/Yes | 1 |
| 33806 | BYT2 | UDEC | Yes/Yes | 1 |
| 33807 | BYT2 | UDEC | Yes/Yes | 1 |
| 33808 | BYT2 | UDEC | Yes/Yes | 1 |
| 33809 | BYT2 | UDEC | Yes/Yes | 1 |

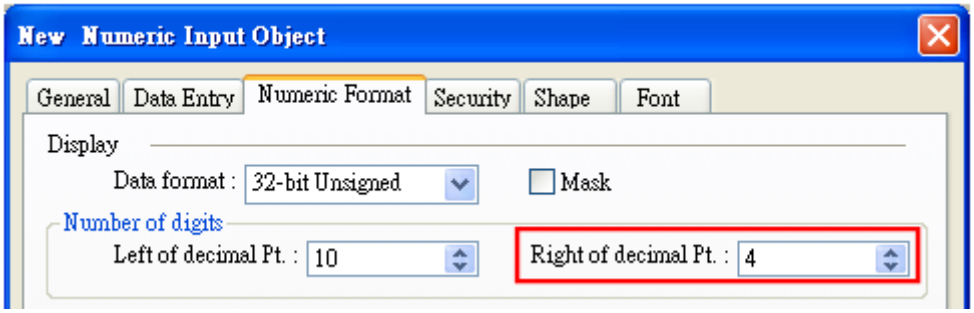
| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 33810 | BYT2 | UDEC | Yes/Yes | 1 |
| 33811 | BYT2 | UDEC | Yes/Yes | 1 |
| 33812 | BYT2 | UDEC | Yes/Yes | 1 |
| 33813 | BYT2 | UDEC | Yes/Yes | 1 |
| 33814 | BYT2 | UDEC | Yes/Yes | 1 |
| 33815 | BYT2 | UDEC | Yes/Yes | 1 |
| 33816 | BYT2 | UDEC | Yes/Yes | 1 |
| 33817 | BYT2 | UDEC | Yes/Yes | 1 |
| 33818 | BYT2 | UDEC | Yes/Yes | 1 |
| 33819 | BYT2 | UDEC | Yes/Yes | 1 |
| 33820 | BYT2 | UDEC | Yes/Yes | 1 |
| 33839 | BYT2 | UDEC | Yes/Yes | 1 |
| 33840 | BYT2 | UDEC | Yes/Yes | 1 |
| 33859 | BYT2 | UDEC | Yes/Yes | 1 |
| 33860 | BYT2 | UDEC | Yes/Yes | 1 |
| 33869 | BYT2 | UDEC | Yes/Yes | 1 |
| 33880 | BYT2 | UDEC | Yes/Yes | 1 |
| 33889 | BYT2 | UDEC | Yes/Yes | 1 |
| 33890 | BYT2 | UDEC | Yes/Yes | 1 |
| 33899 | BYT2 | UDEC | Yes/Yes | 1 |
| 34000 | BYT2 | UDEC | Yes/Yes | 1 |
| 34001 | BYT2 | UDEC | Yes/Yes | 1 |
| 34002 | BYT2 | UDEC | Yes/Yes | 1 |
| 34003 | BYT2 | UDEC | Yes/Yes | 1 |
| 34004 | BYT2 | UDEC | Yes/Yes | 1 |
| 34005 | BYT2 | UDEC | Yes/Yes | 1 |
| 34006 | BYT2 | UDEC | Yes/Yes | 1 |
| 34007 | BYT2 | UDEC | Yes/Yes | 1 |
| 34008 | BYT2 | UDEC | Yes/Yes | 1 |
| 34009 | BYT2 | UDEC | Yes/Yes | 1 |
| 34010 | BYT2 | UDEC | Yes/Yes | 1 |
| 34011 | BYT2 | UDEC | Yes/Yes | 1 |
| 34012 | BYT2 | UDEC | Yes/Yes | 1 |
| 34013 | BYT2 | UDEC | Yes/Yes | 1 |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 34014 | BYT2 | UDEC | Yes/Yes | 1 |
| 34015 | BYT2 | UDEC | Yes/Yes | 1 |
| 34016 | BYT2 | UDEC | Yes/Yes | 1 |
| 34017 | BYT2 | UDEC | Yes/Yes | 1 |
| 34018 | BYT2 | UDEC | Yes/Yes | 1 |
| 34019 | BYT2 | UDEC | Yes/Yes | 1 |
| 34023 | BYT2 | UDEC | Yes/Yes | 1 |
| 34025 | BYT2 | UDEC | Yes/Yes | 1 |
| 34042 | BYT2 | UDEC | Yes/Yes | 1 |
| 34043 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34044 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34045 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34046 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34047 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34048 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34049 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34050 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 34051 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34052 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 34053 | BYT2 | UDEC | Yes/Yes | 1 |
| 34054 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 34055 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 34056 | BYT2 | UDEC | Yes/Yes | 1 |
| 34070 | BYT2 | UDEC | Yes/Yes | 1 |
| 34148 | BYT2 | UDEC | Yes/Yes | 0.001 |
| 34149 | BYT2 | UDEC | Yes/Yes | 0.1 |
| 34164 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34167 | BYT2 | UDEC | Yes/Yes | 0.01 |
| 34177 | BYT2 | UDEC | Yes/Yes | 1 |
| 34178 | BYT2 | UDEC | Yes/Yes | 1 |
| 34179 | BYT2 | UDEC | Yes/Yes | 1 |
| 34180 | BYT2 | UDEC | Yes/Yes | 1 |
| 34182 | BYT4 | SDEC | Yes/Yes | 1 |
| 35000 | /* Depends on Text */ 0 | ASCI | No/Yes | ASCII |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 35001 | /* Depends on Text */ 0 | ASCI | No/Yes | ASCII |
| 35002 | BYT4 | HEX | No/Yes | 1 |
| 35003 | BYT2 | HEX | No/Yes | Hex |
| 35004 | BYT2 | UDEC | No/Yes | 0.1 |
| 35005 | BYT2 | UDEC | No/Yes | 0.1 |
| 35006 | BYT2 | UDEC | No/Yes | 0.1 |
| 35007 | BYT2 | UDEC | No/Yes | 0.1 |
| 35008 | BYT2 | UDEC | No/Yes | 0.1 |
| 35009 | BYT2 | UDEC | No/Yes | 0.1 |
| 35010 | BYT2 | UDEC | No/Yes | 0.1 |
| 35011 | BYT2 | UDEC | No/Yes | 1 |
| 36000 | BYT2 | UDEC | No/Yes | 1 |
| 36001 | BYT2 | UDEC | No/Yes | 1 |
| 36002 | BYT4 | SDEC | No/Yes | 1 |
| 36003 | BYT4 | SDEC | No/Yes | 1 |
| 36004 | BYT4 | UDEC | No/Yes | 1 |
| 36005 | BYT4 | UDEC | No/Yes | 1 |
| 36006 | BYT2 | UDEC | No/Yes | 1 |
| 36007 | BYT2 | UDEC | No/Yes | 1 |
| 36008 | BYT2 | UDEC | No/Yes | 1 |
| 36009 | BYT2 | UDEC | No/Yes | 1 |
| 36010 | BYT2 | UDEC | No/Yes | 1 |
| 36011 | BYT2 | UDEC | No/Yes | 1 |
| 36012 | BYT4 | UDEC | No/Yes | 1 |
| 36013 | BYT4 | UDEC | No/Yes | 1 |
| 36019 | BYT2 | UDEC | Yes/Yes | 1 |
| 36020 | BYT2 | UDEC | Yes/Yes | 1 |
| 36021 | BYT2 | UDEC | Yes/Yes | 1 |
| 36022 | BYT2 | UDEC | Yes/Yes | 1 |
| 36023 | BYT2 | UDEC | Yes/Yes | 1 |
| 36100 | BYT4 | UDEC | Yes/Yes | 1 |
| 36101 | BYT4 | UDEC | Yes/Yes | 1 |
| 36102 | BYT4 | UDEC | Yes/Yes | 1 |
| 36103 | BYT4 | UDEC | Yes/Yes | 1 |

| ID No. | Data Length | Data Type | Write / Read | Decimal Place* |
|---|---|---|---|---|
| 36104 | BYT4 | UDEC | Yes/Yes | 1 |

*Note: If the decimal place of ID is 0.0001, please set [Right of decimal Pt.] of the object to "4".

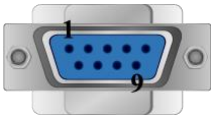
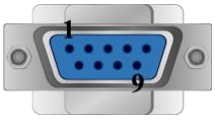
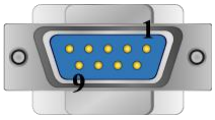



## Wiring Diagram:

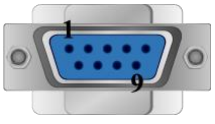
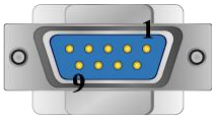
**The following is the view from the soldering point of a cable.**

RS-232

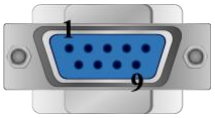
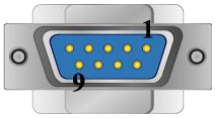
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | X5 Port RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

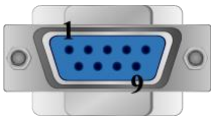
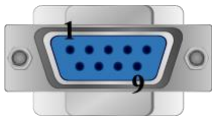
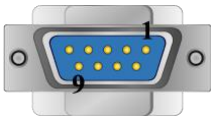
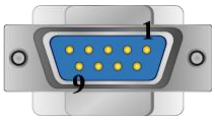
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | X5 Port RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

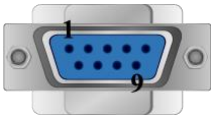
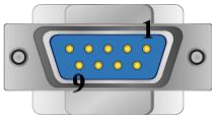
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | X5 Port RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | X5 Port RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

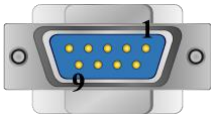
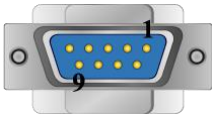
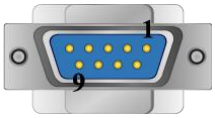
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | X5 Port RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 5 GND |
|  | | |  |

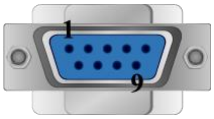
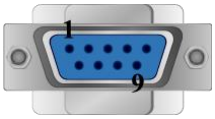
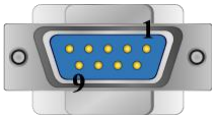
**The following is the view from the soldering point of a cable.**

RS485 2W

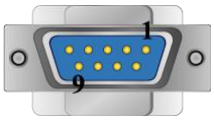
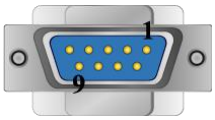
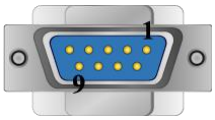
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | X5 Port RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 4 RS485- |
| 2 RX+ | 9 Data+ | | 1 RS485+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

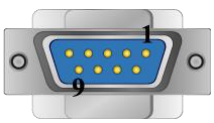
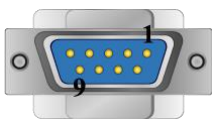
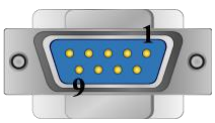
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | X5 Port RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 4 RS485- |
| 6 RX+ | 1 Data+ | | 1 RS485+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

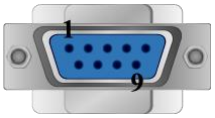
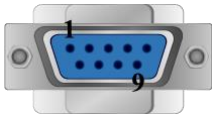
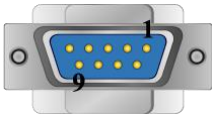
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | X5 Port RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 4 RS485- |
| 2 RX+ | 8 Data+ | | 1 RS485+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | X5 Port RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 4 RS485- |
| 2 RX+ | 9 Data+ | | 1 RS485+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | X5 Port RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 4 RS485- |
| 2 RX+ | 8 Data+ | | 1 RS485+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/27/2012 | Driver released. |
| V1.10 | Jul/20/2012 | The newly supported software SSTS_PAS_V2.3 supports ID address. |

# TECHSOFT Intelligent Servo

Supported Series: Intelligent Servo supports IDM640, IDM240.

Website: http://www.techsoftmotion.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Intelligent Servo | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 1 | | |

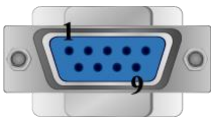
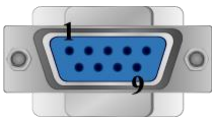
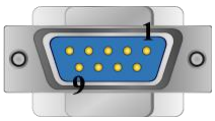
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Register_32bit | HHHH | 0 ~ 270f | 32bit signed |
| DW | Register_H | HHHH | 0 ~ 270f | 32bit Hex |
| W | UPD | HHHHH | 0 ~ 1869f | Send UDP command |
| W | STOP | HHHHH | 0 ~ 1869f | Send STOP command |

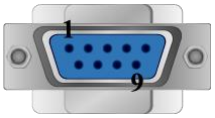
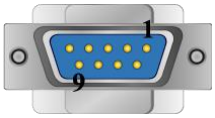
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

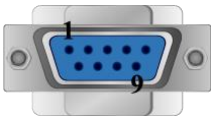
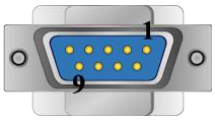
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Servo RS232 D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TD |
| 3 TX | 7 TX | | 3 RD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

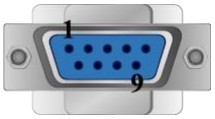
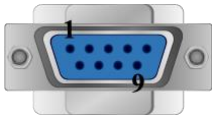
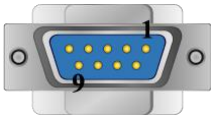
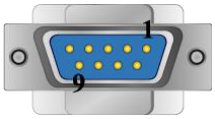
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Servo RS232 D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
|  | | |  |

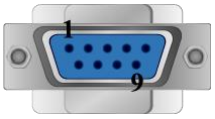
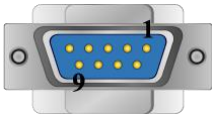
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Servo RS232 D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TD |
| 3 TX | | | 3 RD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Servo RS232 D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TD |
| 3 TX | 4 TX | 7 TX | 3 RD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Servo RS232 D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TD |
| 6 TX | | | 3 RD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/06/2009 | Driver released. |

# TECO Inverter

Supported Series: TECO Inverter series, 7300CV model.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | TECO Inverter | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 38400 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 0x | DDDDD | 1 ~ 65535 | Output Bit |
| B | 1x | DDDDD | 1 ~ 65535 | Input Bit (read only) |
| B | 3x_Bit | DDDDDdd | 100 ~ 6553515 | Input Register Bit (read only) |
| B | 4x_Bit | DDDDDdd | 100 ~ 6553515 | Output Register Bit |
| B | 6x_Bit | DDDDDdd | 100 ~ 6553515 | |
| B | 0x (0x0f) | DDDDD | 1 ~ 65535 | Write Multiple Coils |
| W | 3x | DDDDD | 1 ~ 65535 | Input Register (read only) |
| W | 4x | DDDDD | 1 ~ 65535 | Output Register |
| DW | 5x | DDDDD | 1 ~ 65535 | 4x Double Word Swap |
| W | 6x | DDDDD | 1 ~ 65535 | 4x Single Word Write |

## Wiring Diagram:



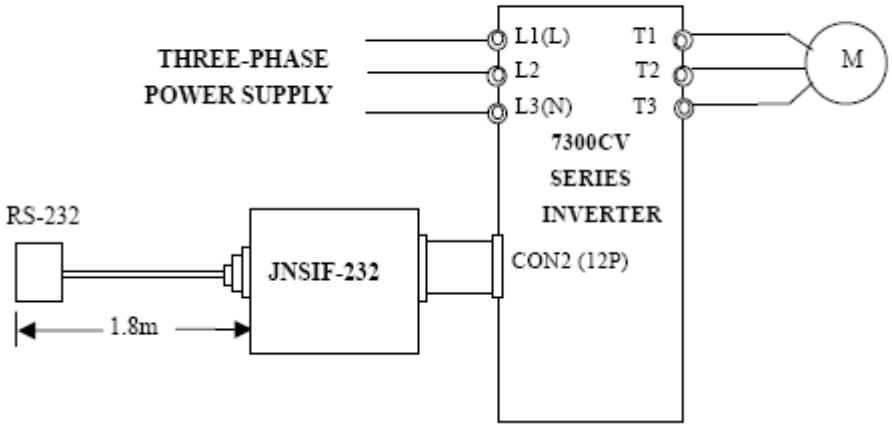
MT8000



JNSIF-232



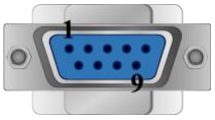
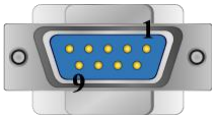

**JNSIF-232Wiring Diagram:**



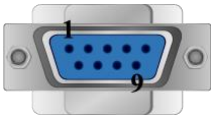
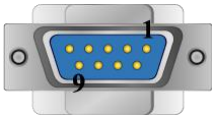

**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub:

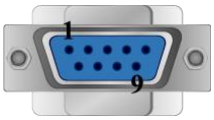
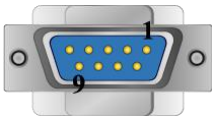
eMT3000 series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
| 7 RTS | | | 7 VCC |
|  | | |  |

MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
| 7 RTS | | | 7 VCC |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 5 GND |
| 7 RTS | | | 7 VCC |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jul/27/2009 | Driver released. |

# TECO TP02 Series

Supported Series: TAIAN TP02 series
Website: http://www.taian-technology.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | TECO TP02 Series | | |
| PLC I/F | RS485 4W/2W | RS485 4W/2W | MMI 422 port: 4W; RS485 terminals: 2W |
| Baud rate | 19200 | 9600, 19200, 38400 | |
| Data bits | 7 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 2 | 1, 2 | |
| PLC sta. no. | 1 | 0-255 | |

## PLC Setting:

RS422 port: WS041=120, WS042=1;
RS485 terminals: WS044=120, WS045=1.

## Device Address:

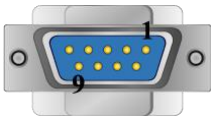
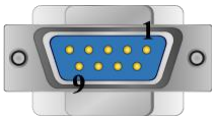
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDD | 1 ~ 384 | Input relay |
| B | Y | DDD | 1 ~ 384 | Output relay |
| B | C | DDDD | 1 ~ 2048 | Auxiliary relay |
| W | X | DDD | 1 ~ 369 | Input register (must be 1 or a multiple of plus 1) |
| W | Y | DDD | 1 ~ 369 | Output register (must be 1 or a multiple of plus 1) |
| W | V | DDDD | 1 ~ 1024 | Auxiliary register |
| W | D | DDDD | 1 ~ 2048 | Auxiliary register |
| W | WS | DDD | 1 ~ 128 | System register |
| W | C | DDDD | 1 ~ 2033 | Auxiliary relay register (must be 1 or a multiple of plus 1) |
| W | WC | DDD | 1 ~ 912 | Constant register |

## Wiring Diagram:

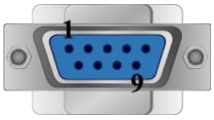
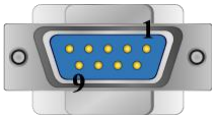
**The following is the view from the soldering point of a cable.**

TP02 Series MMI RS422 port : 9P D-Sub to 9P D-Sub

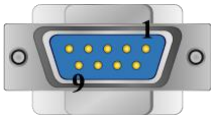
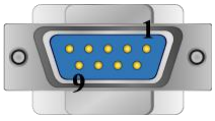
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 8 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 7 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | |
|  | | |  |

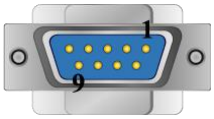
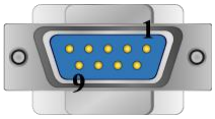
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | 8 TX- |
| 6 RX+ | | | 3 TX+ |
| 9 TX- | | | 7 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | |
|  | | |  |

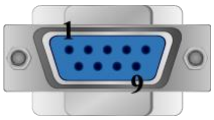
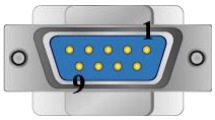
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 8 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 7 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 8 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 7 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | |
|  | | |  |

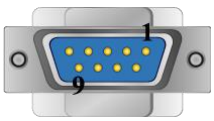
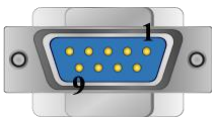
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | 8 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 7 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | |
|  | | |  |

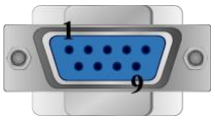
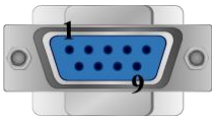
**The following is the view from the soldering point of a cable.**

TP02 Series RS485 Terminal : 9P D-Sub to 9P D-Sub

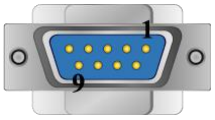
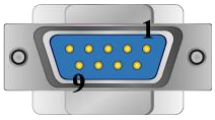
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | T/R- |
| 2 RX+ | 9 Data+ | | T/R+ |
| 5 GND | 5 GND | | |
|  |  | |  |

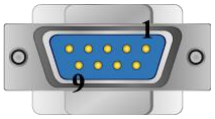
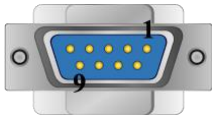
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | T/R- |
| 6 RX+ | 1 Data+ | | T/R+ |
| 5 GND | 5 GND | | |
|  |  | |  |

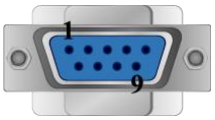
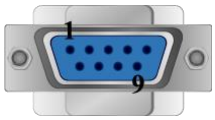
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | T/R- |
| 2 RX+ | 8 Data+ | | T/R+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | T/R- |
| 2 RX+ | 9 Data+ | | T/R+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | T/R- |
| 2 RX+ | 8 Data+ | | T/R+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jan/25/2010 | |

# TECO TP03 Series

Supported Series: TECO (TAIAN TP03) series PLC.

Website: http://www.teco.com.tw/sa/en/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | TECO TP03 Series | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | 8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 2 | 1 | |
| PLC sta. no. | 1 | 1-31 | |

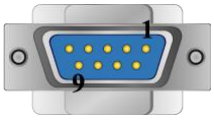
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | C | DDDD | 0 ~ 9999 | |
| B | M | DDDD | 0 ~ 9999 | |
| B | S | DDDD | 0 ~ 9999 | |
| B | T | DDDD | 0 ~ 9999 | |
| B | X | OOO | 0 ~ 377 | |
| B | Y | OOO | 0 ~ 377 | |
| W | D | DDDD | 0 ~ 9999 | |
| W | V | DDDD | 0 ~ 9999 | |
| W | Z | DDDD | 0 ~ 9999 | |
| W | T_Curent | DDDD | 0 ~ 9999 | |
| W | C_Curent | DDDD | 0 ~ 9999 | |
| W | T_Preset | DDDD | 0 ~ 9999 | |
| W | C_Preset | DDDD | 0 ~ 9999 | |

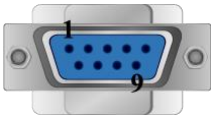
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

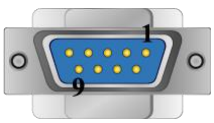
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

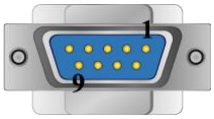
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 8P Mini-DIN Female socket |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 7 TX+ |
| 9 TX- | | | 1 RX- |
| 8 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

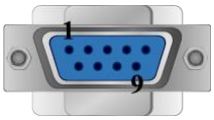
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 8P Mini-DIN Female socket |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 7 TX+ |
| 3 TX- | | | 1 RX- |
| 4 TX+ | | | 2 RX+ |
| 5 GND | | | 3 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Nov/13/2009 | |

# TINHAO

Website: www.chinastrand.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | TINHAO | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 19200 | | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

## Device Address:

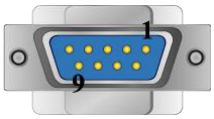
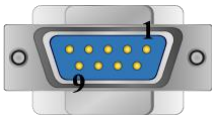
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Commend1 | DDD | 0 ~ 255 | |
| W | Commend2 | DDD | 0 ~ 255 | |
| W | Commend3 | DDD | 0 ~ 255 | |
| W | Commend4 | DDD | 0 ~ 255 | |
| W | Commend5 | DDD | 0 ~ 255 | |
| W | Commend6 | DDD | 0 ~ 255 | |
| W | Commend7 | DDD | 0 ~ 255 | |
| W | Commend8 | DDD | 0 ~ 255 | |
| W | Commend9 | DDD | 0 ~ 255 | |
| W | Commend10 | DDD | 0 ~ 255 | |
| W | Commend11 | DDD | 0 ~ 255 | |
| W | Commend12 | DDD | 0 ~ 255 | |
| W | Commend13 | DDD | 0 ~ 255 | |
| W | Commend14 | DDD | 0 ~ 255 | |
| W | Commend15 | DDD | 0 ~ 255 | |
| W | Commend16 | DDD | 0 ~ 255 | |
| W | Commend17 | DDD | 0 ~ 255 | |
| W | Commend18 | DDD | 0 ~ 255 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | Commend19 | DDD | 0 ~ 255 | |
| W | Commend20 | DDD | 0 ~ 255 | |
| W | Commend21 | DDD | 0 ~ 255 | |
| W | Commend22 | DDD | 0 ~ 255 | |

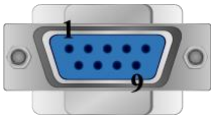
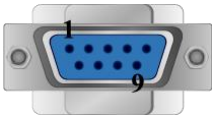
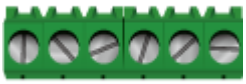
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

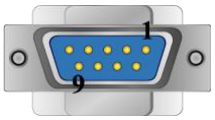
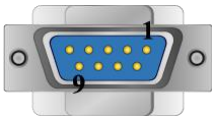
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

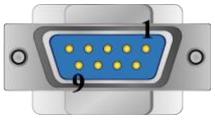
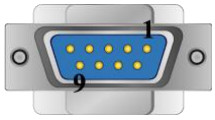
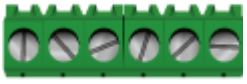
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

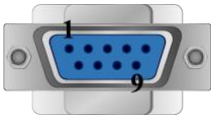
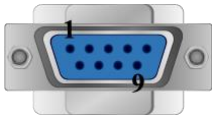
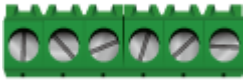
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Oct/14/2011 | Driver released. |

# Toptek Topvert

Supported Series: TOPVERT G1/H1/P1 series.

Website: http://www.toptek.biz/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Toptek Topvert | | |
| PLC I/F | RS485 2W | | |
| Baud rate | 9600 | | |
| Data bits | 7 | | |
| Parity | None | | |
| Stop bits | 2 | | |
| PLC sta. no. | 1 | | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | Broadcast station no. | 0 |

## PLC Setting:

| | |
|---|---|
| Communication mode | Pr 7-15 = 0 (7, N, 2 ASCII) |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | PR_Bit | DDDDDdd | 0 ~ 6553515 | G=Groups, F=Function no.<br>dd=0~15 bit no. |
| W | PR | DDDDD | 0 ~ 65535 | G=Groups, F=Function no. |

## Note:

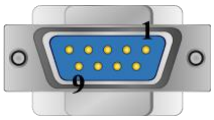
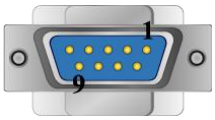
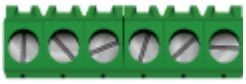
Max.read-command size (words): 16
Max.write-command size (words): 1
For G1/H1/P1 Series Inverter, if standard parameter address is in decimal= 100*G+F:
G=Group (parameter group code0~9); F=Function no. (parameter number 0~99)
For example: Pr5-20 (decimal Dec.) parameter address is expressed as 100*5+20=520.

| Parameter (PrX-XX) | Address (decimal) |
|---|---|
| 0-00 | 0*100+0=0 |
| 0-14 | 0*100+14=14 |
| 1-00 | 1*100+0=100 |

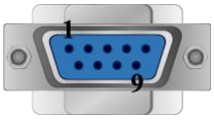
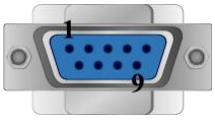
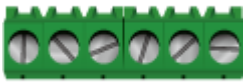
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

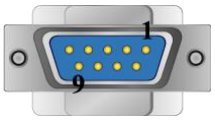
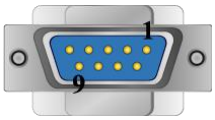
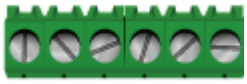
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | SG- |
| 2 RX+ | 9 Data+ | | SG+ |
| 5 GND | 5 GND | | |
|  |  | |  |

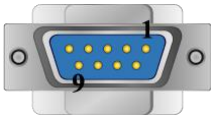
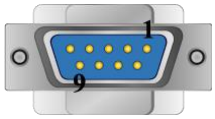
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | SG- |
| 6 RX+ | 1 Data+ | | SG+ |
| 5 GND | 5 GND | | |
|  |  | |  |

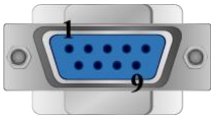
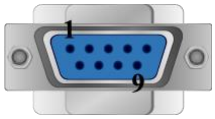
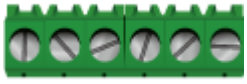
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | SG- |
| 2 RX+ | 8 Data+ | | SG+ |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | SG- |
| 2 RX+ | 9 Data+ | | SG+ |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W Terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | SG- |
| 2 RX+ | 8 Data+ | | SG+ |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/08/2010 | Driver released. |

# TOSHIBA INVERTER VF

Supported Series: Toshiba Invertor Protocol (ASCII code).

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | TOSHIBA INVERTER VF | | |
| PLC I/F | RS485 2W | RS422, RS485 | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | 0-99 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | YES |
| Broadcast command | YES | | |

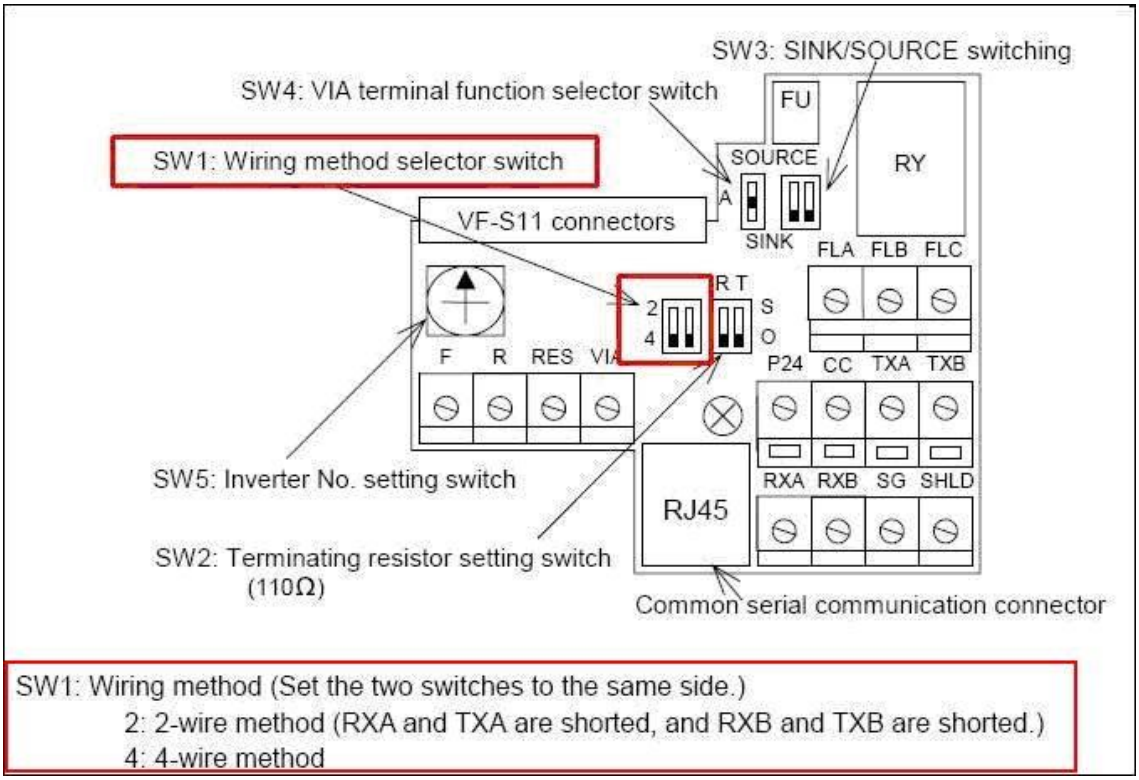
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Cmd. No B | HHHHdd | 0 ~ 270f15 | |
| W | Cmd. No | HHHH | 0 ~ ffff | Parameters and data memory |

## Wiring Diagram:

Note:

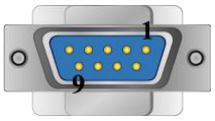
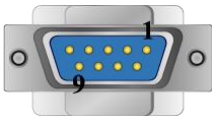
Before connecting with TOSHIBA INVERTER VF, make sure the SW1 of both sides are in the correct position. (SW1: wiring method selector switch)



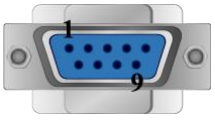
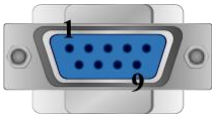

## RS-485

**The following is the view from the soldering point of a cable.**

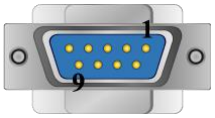
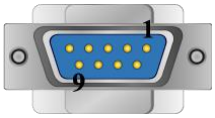
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 5 Data- |
| 2 RX+ | 9 Data+ | | 4 Data+ |
| 5 GND | 5 GND | | 8 Gnd |
|  |  | |  |

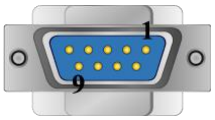
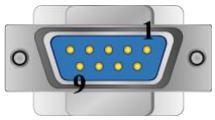
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 5 Data- |
| 6 RX+ | 1 Data+ | | 4 Data+ |
| 5 GND | 5 GND | | 8 Gnd |
|  |  | |  |

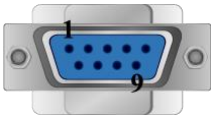
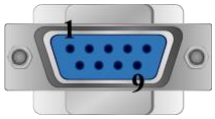
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 5 Data- |
| 2 RX+ | 8 Data+ | | 4 Data+ |
| 5 GND | 9 GND | | 8 Gnd |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 5 Data- |
| 2 RX+ | 9 Data+ | | 4 Data+ |
| 5 GND | 5 GND | | 8 Gnd |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 5 Data- |
| 2 RX+ | 8 Data+ | | 4 Data+ |
| 5 GND | 5 GND | | 8 Gnd |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Apr/03/2013 | TOSHIBA VF-S11 driver is renamed to TOSHIBA INVERTER VF. |

# TOSHIBA T Series

Supported Series: Toshiba T series, S2E.

Website: http://www.tic.toshiba.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | TOSHIBA T Series | | |
| PLC I/F | RS232 | RS232/RS485 | In accordance with PLC port |
| Baud rate | 9600 | 9600, 19200, 38400, 57600, 115200 | |
| Data bits | 8 | 7,8 | |
| Parity | Odd | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 0 | 0-255 | Must be same as the PLC setting |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | YES |

## PLC Setting:

| | |
|---|---|
| Communication mode | Must set PLC node ID |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDh | 0 ~ 4095f | Input Bit |
| B | Y | DDDDh | 0 ~ 4095f | Output Bit |
| B | R | DDDDh | 0 ~ 8191f | Auxiliary Bit |
| B | S | DDDDh | 0 ~ 4095f | Special Bit |
| B | L | DDDDh | 0 ~ 4095f | |
| B | Z | DDDDh | 0 ~ 8191f | |
| W | T | DDD | 0 ~ 999 | Timer Register |
| W | C | DDD | 0 ~ 511 | Counter Register |
| W | D | DDDD | 0 ~ 8191 | Data Memory |
| W | SW | DDD | 0 ~ 255 | Special Register |
| W | XW | DDD | 0 ~ 255 | Input Register |

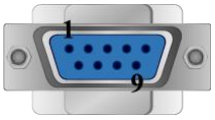
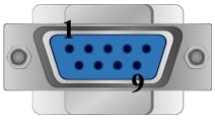
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | YW | DDD | 0 ~ 255 | Output Register |
| W | RW | DDD | 0 ~ 999 | Auxiliary Register |
| W | LW | DDD | 0 ~ 255 | |
| W | W | DDDD | 0 ~ 1023 | |
| W | F | DDDD | 0 ~ 8191 | |

## Wiring Diagram:

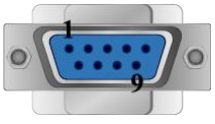
**The following is the view from the soldering point of a cable.**

Toshiba T1 PRG RS232 : 9P D-Sub to 8P Mini- DIN

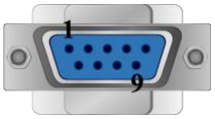
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 6 TXD | |
| 3 TX | 7 TX | | 8 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 4 RTS | short |
| | | | 7 CTS | |
|  |  | |  | |

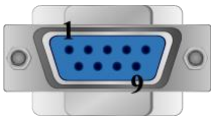
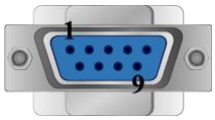
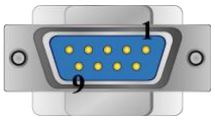
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 6 TXD | |
| 3 TX | | | 8 RXD | |
| 5 GND | | | 5 GND | |
| | | | 4 RTS | short |
| | | | 7 CTS | |
|  | | |  | |

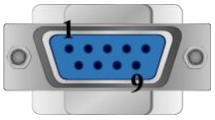
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | | | 6 TXD | |
| 3 TX | | | 8 RXD | |
| 5 GND | | | 5 GND | |
| | | | 4 RTS | short |
| | | | 7 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 6 TXD | |
| 3 TX | 4 TX | 7 TX | 8 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 4 RTS | short |
| | | | 7 CTS | |
|  |  |  |  | |

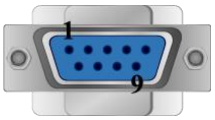
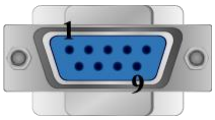
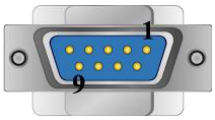
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-DIN Female socket | |
|---|---|---|---|---|
| 9 RX | | | 6 TXD | |
| 6 TX | | | 8 RXD | |
| 5 GND | | | 5 GND | |
| | | | 4 RTS | short |
| | | | 7 CTS | |
|  | | |  | |

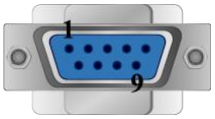
**The following is the view from the soldering point of a cable.**

Toshiba T2 PRG RS232 : 9P D-Sub to 9P D-Sub

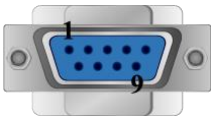
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  |  | |  | |

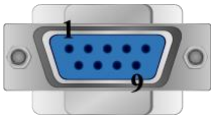
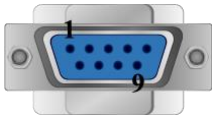
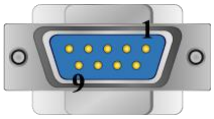
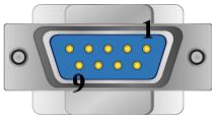
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

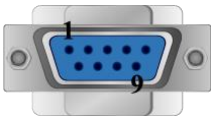
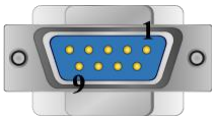
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  |  |  |  | |

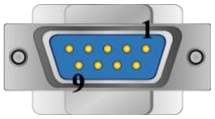
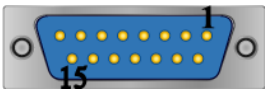
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

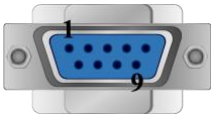
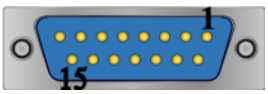
**The following is the view from the soldering point of a cable.**

Toshiba T2 LINK Port RS485 4W : 9P D-Sub to 15P D-Sub

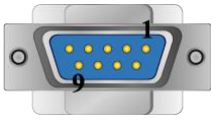
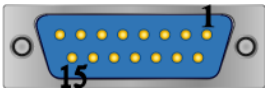
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 11 TXB | |
| 2 RX+ | | | 3 TXA | |
| 3 TX- | | | 10 RXB | |
| 4 TX+ | | | 2 RXA | |
| 5 GND | | | 7 SG | |
| | | | 5 RTSA | short |
| | | | 4 CTSA | |
| | | | 13 RTSB | short |
| | | | 12 CTSB | |
|  | | |  | |

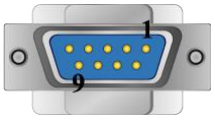
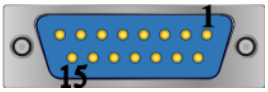
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 7 RX- | | | 11 TXB | |
| 6 RX+ | | | 3 TXA | |
| 9 TX- | | | 10 RXB | |
| 8 TX+ | | | 2 RXA | |
| 5 GND | | | 7 SG | |
| | | | 5 RTSA | short |
| | | | 4 CTSA | |
| | | | 13 RTSB | short |
| | | | 12 CTSB | |
|  | | |  | |

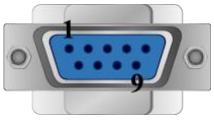
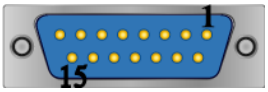
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 11 TXB | |
| 2 RX+ | | | 3 TXA | |
| 3 TX- | | | 10 RXB | |
| 4 TX+ | | | 2 RXA | |
| 5 GND | | | 7 SG | |
| | | | 5 RTSA | short |
| | | | 4 CTSA | |
| | | | 13 RTSB | short |
| | | | 12 CTSB | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 11 TXB | |
| 2 RX+ | | | 3 TXA | |
| 3 TX- | | | 10 RXB | |
| 4 TX+ | | | 2 RXA | |
| 5 GND | | | 7 SG | |
| | | | 5 RTSA | short |
| | | | 4 CTSA | |
| | | | 13 RTSB | short |
| | | | 12 CTSB | |
|  | | |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 15P D-Sub Male | |
|---|---|---|---|---|
| 1 RX- | | | 11 TXB | |
| 2 RX+ | | | 3 TXA | |
| 3 TX- | | | 10 RXB | |
| 4 TX+ | | | 2 RXA | |
| 5 GND | | | 7 SG | |
| | | | 5 RTSA | short |
| | | | 4 CTSA | |
| | | | 13 RTSB | short |
| | | | 12 CTSB | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | May/13/2011 | TOSHIBA T Series driver can now correctly read and write “L”, “LW”, “F” address types. |

# TOSHIBA MACHINE Provisor TC200

Supported Series: TOSHIBA MACHINE CO., JAPAN

WebSite: http://www.toshiba-machine.co.jp

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | TOSHIBA MACHINE Provisor TC200 | | |
| PLC I/F | RS232 | RS232 | In accordance with PLC port |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 8 | 7,8 | |
| Parity | None | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |

## Device Address:

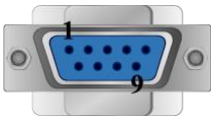
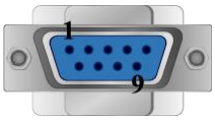
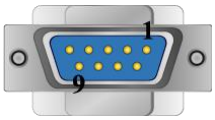
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | R_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | X_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | Y_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | L_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | G_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | H_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | T_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | C_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | S_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| B | E_bit | HHHh | 0 ~ ffff | h : Bit no.(0~f) |
| W | P | HHH | 0 ~ fff | |
| W | V | HHH | 0 ~ fff | |
| W | X | HHH | 0 ~ fff | |
| W | Y | HHH | 0 ~ fff | |
| W | D | HHH | 0 ~ fff | |
| W | R | HHH | 0 ~ fff | |
| W | L | HHH | 0 ~ fff | |
| W | B | HHH | 0 ~ fff | |
| W | G | HHH | 0 ~ fff | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | H | HHH | 0 ~ fff | |
| W | T | HHH | 0 ~ fff | |
| W | C | HHH | 0 ~ fff | |
| W | S | HHH | 0 ~ fff | |
| W | E | HHH | 0 ~ fff | |

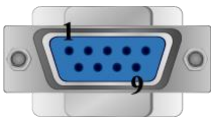
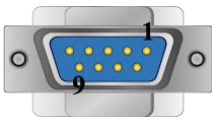
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

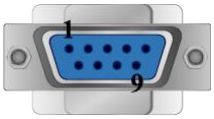
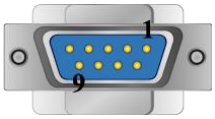
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | TC mini series RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

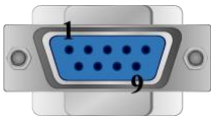
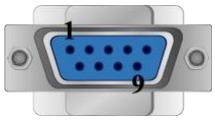
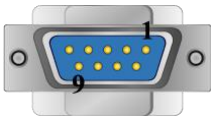
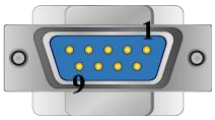
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | TC mini series RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

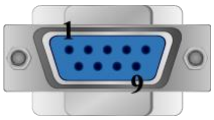
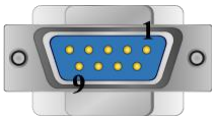
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | TC mini series RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | TC mini series RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | TC mini series RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TXD | |
| 6 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Aug/17/2012 | Added register: B,G,H,T,C,S,F. |

# Trio MODBUS RTU, TCP/IP

Website : http://www.triomotion.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Trio MODBUS RTU, TCP/IP | | |
| PLC I/F | RS485 | RS232/RS485/Ethernet | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |
| PLC mode | 4 (16bit signed integer) |

## Device Address:

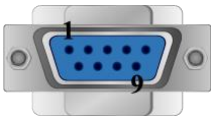
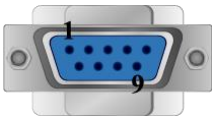
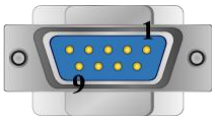
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | VR_Bit | DDDDdd | 0 ~ 409615 | |
| B | Table_Bit | DDDDDdd | 0 ~ 3199915 | |
| W | VR | DDDD | 0 ~ 4096 | |
| W | Table | DDDDD | 0 ~ 31999 | |

## Wiring Diagram:

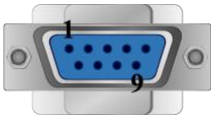
**The following is the view from the soldering point of a cable.3**

Trio : RS232

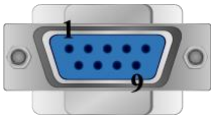
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

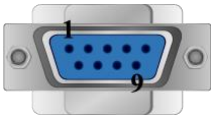
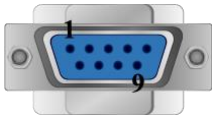
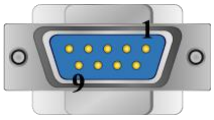
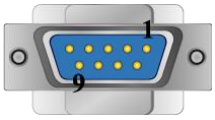
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

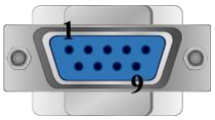
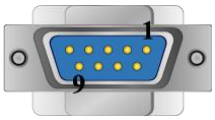
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

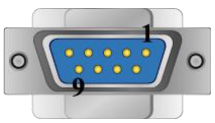
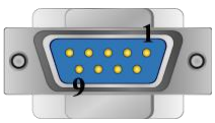
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

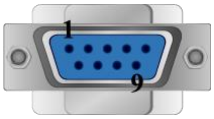
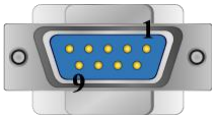
**The following is the view from the soldering point of a cable.**

Trio : RS485 4W

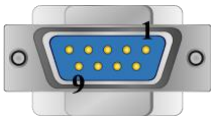
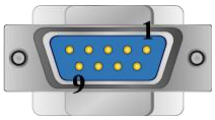
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

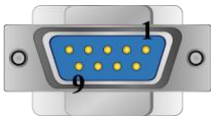
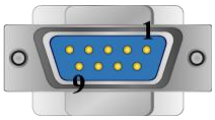
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

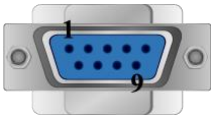
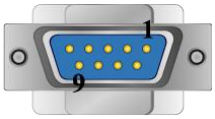
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

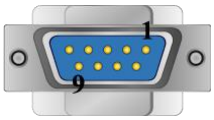
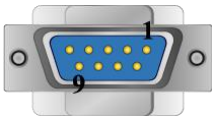
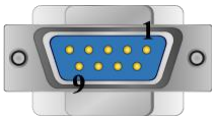
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

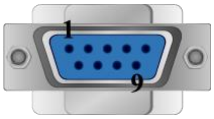
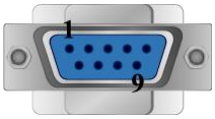
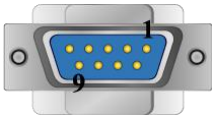
**The following is the view from the soldering point of a cable.**

Trio : RS485 2W

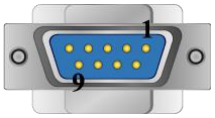
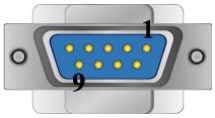
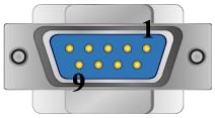
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

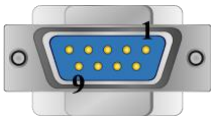
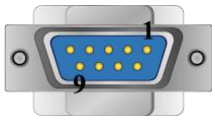
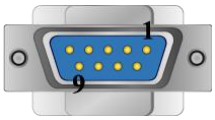
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

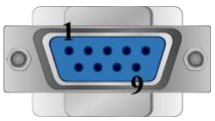
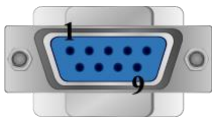
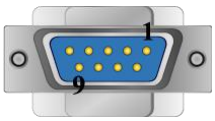
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | May/27/2011 | Driver released. |
| V1.20 | Oct/29/2014 | Device types VR is extended to 4096. |

# Trio MODBUS RTU, TCP/IP (Mode 7)

Website : http://www.triomotion.com

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | Trio MODBUS RTU, TCP/IP (Mode 7) | | |
| PLC I/F | RS485 | RS232/RS485/Ethernet | |
| Baud rate | 9600 | 9600~115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| Port no. | 502 | | |
| PLC sta. no. | 1 | 0-255 | |

| | | | |
|---|---|---|---|
| Online simulator | YES | Broadcast command | YES |
| Extend address mode | YES | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Modbus RTU protocol |
| PLC mode | 7 (IEEE floating point) |

## Device Address:

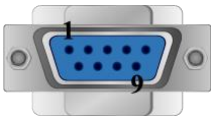
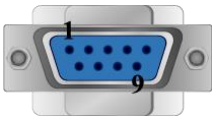
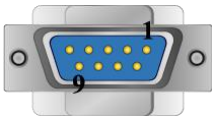
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | VR_Bit | DDDDdd | 0 ~ 409631 | |
| B | VR_INT_Bit | DDDDdd | 0 ~ 409631 | |
| B | Table_Bit | DDDDDdd | 0 ~ 3199931 | |
| W | VR | DDDD | 0 ~ 4096 | |
| W | VR_INT | DDDD | 0 ~ 4096 | |
| W | Table | DDDDD | 0 ~ 31999 | |
| W | Table_INT | DDDDD | 0 ~ 31999 | |

## Wiring Diagram:

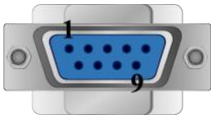
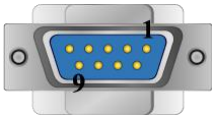
**The following is the view from the soldering point of a cable.3**

Trio : RS232

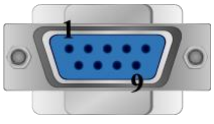
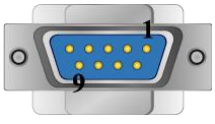
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | TXD | |
| 3 TX | 7 TX | | RXD | |
| 5 GND | 5 GND | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  | |  | |

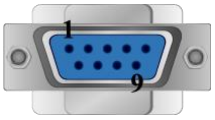
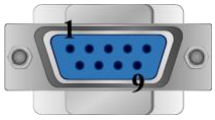
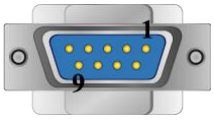
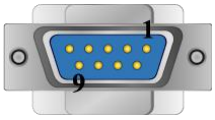
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

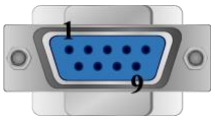
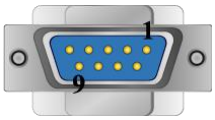
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | TXD | |
| 3 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TXD | |
| 3 TX | 4 TX | 7 TX | RXD | |
| 5 GND | 5 GND | 5 GND | GND | |
| | | | RTS | short |
| | | | CTS | |
|  |  |  |  | |

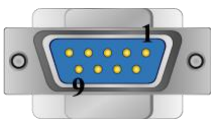
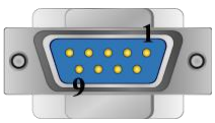
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | TXD | |
| 6 TX | | | RXD | |
| 5 GND | | | GND | |
| | | | RTS | short |
| | | | CTS | |
|  | | |  | |

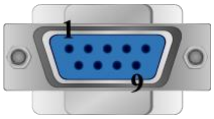
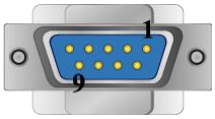
**The following is the view from the soldering point of a cable.**

Trio : RS485 4W

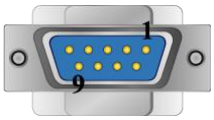
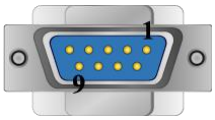
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

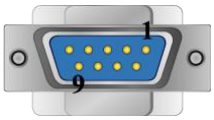
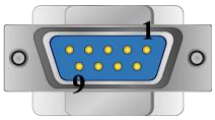
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

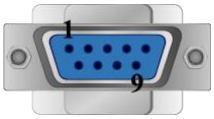
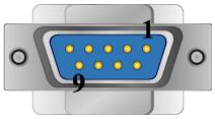
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

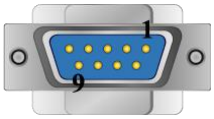
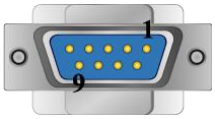
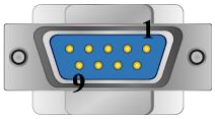
MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | GND |
|  | | |  |

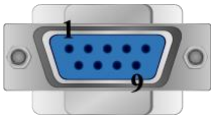
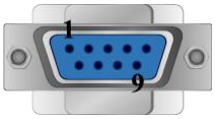
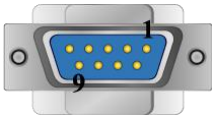
**The following is the view from the soldering point of a cable.**

Trio : RS485 2W

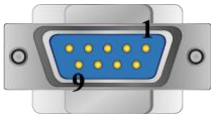
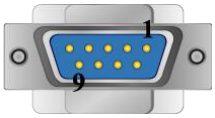
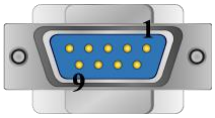
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

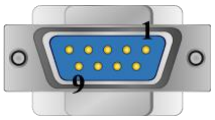
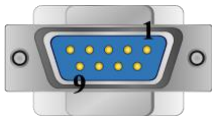
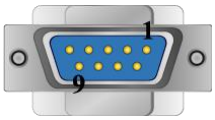
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

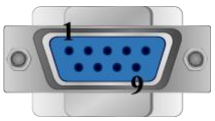
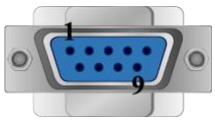
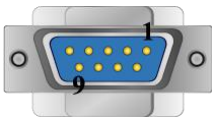
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | GND |
|  |  | |  |

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Apr/20/2012 | Driver released. |
| V1.30 | Oct/29/2014 | Device types VR is extended to 4096. |

# VIGOR

Supported Series: VIGOR M Series and VB Series.

Website: http://www.vigorplc.com.tw/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIGOR | | |
| PLC I/F | RS485 2W | RS232, RS485 4W | |
| Baud rate | 19200 | | |
| Data bits | 8 | | Select "7' for V1.10 and previous versions. |
| Parity | None | | Select "Even" for V1.10 and previous versions. |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

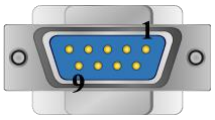
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 377 | |
| B | Y | OOO | 0 ~ 377 | |
| B | M | DDDD | 0 ~ 7999 | |
| B | T | DDD | 0 ~ 255 | |
| B | C | DDD | 0 ~ 255 | |
| B | SM | DDDD | 9000 ~ 9255 | |
| B | S | DDD | 0 ~ 999 | |
| W | TV | DDD | 0 ~ 255 | |
| W | CV | DDD | 0 ~ 199 | |
| W | D | DDDD | 0 ~ 9255 | |
| W | CV2 | DDD | 200 ~ 255 | |
| W | SD | DDDD | 9000 ~ 9255 | |

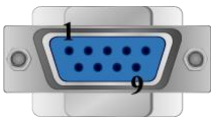
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

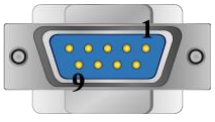
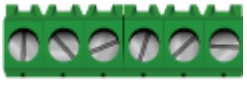
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | Vigor M series RS485 4W 6P Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | SG |
|  | | |  |

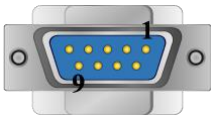
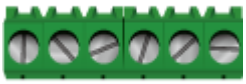
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | Vigor M series RS485 4W 6P Terminal |
|---|---|---|---|
| 7 RX- | | | TX- |
| 6 RX+ | | | TX+ |
| 9 TX- | | | RX- |
| 8 TX+ | | | RX+ |
| 5 GND | | | SG |
|  | | |  |

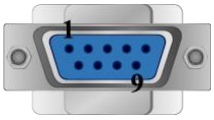
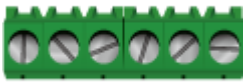
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | Vigor M series RS485 4W 6P Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | SG |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

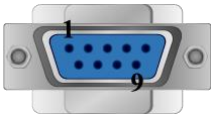
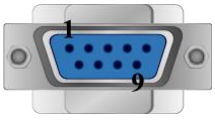
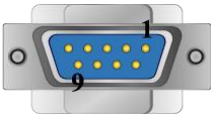
| COM1 RS485 4W 9P D-Sub Male | | | Vigor M series RS485 4W 6P Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | SG |
|  | | |  |

MT6050i/MT8050i/MT8050iE

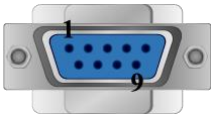
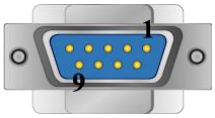
| COM1 RS485 4W 9P D-Sub Female | | | Vigor M series RS485 4W 6P Terminal |
|---|---|---|---|
| 1 RX- | | | TX- |
| 2 RX+ | | | TX+ |
| 3 TX- | | | RX- |
| 4 TX+ | | | RX+ |
| 5 GND | | | SG |
|  | | |  |

**The following is the view from the soldering point of a cable.**

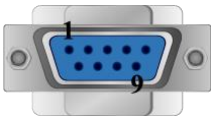
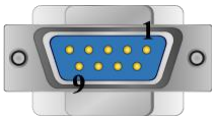
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | Vigor M series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD |
| 3 TX | 7 TX | | 2 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

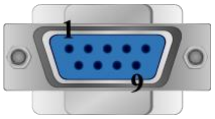
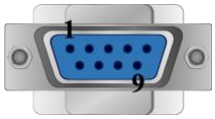
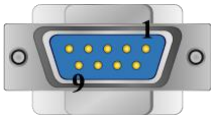
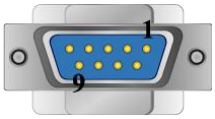
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | Vigor M series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

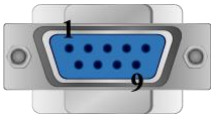
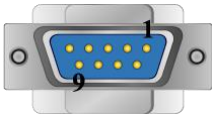
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | Vigor M series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 3 TXD |
| 3 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | Vigor M series RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD |
| 3 TX | 4 TX | 7 TX | 2 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | Vigor M series RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 3 TXD |
| 6 TX | | | 2 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Dec/30/2008 | |
| V1.20 | Mar/26/2014 | 1.Added register: S<br>2.Supports Pass-Through feature. |

# VIGOR VS Series

Supported Series: VIGOR VS Series.
Website: http://www.vigorplc.com.tw/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIGOR VS Series | | |
| PLC I/F | RS485 2W | RS232, RS485 2W | |
| Baud rate | 19200 | 300 ~ 115200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | 0 ~ 254 | |

*Support communications between HMI and PLC in pass-through mode
*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

## Device Address:

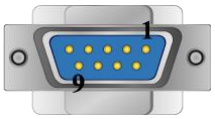
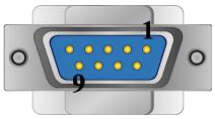
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | OOO | 0 ~ 571 | |
| B | Y | OOO | 0 ~ 571 | |
| B | M | DDDD | 0 ~ 8191 | |
| B | S | DDDD | 0 ~ 4095 | |
| B | SM | DDDD | 9000 ~ 9511 | |
| B | D_Bit | DDDDh | 0 ~ 8999f | |
| B | R_Bit | DDDDDh | 0 ~ 25999f | |
| B | T_Coil | DDD | 0 ~ 511 | |
| B | T_Contact | DDD | 0 ~ 511 | |
| B | C_Coil | DDD | 0 ~ 255 | |
| B | C_Contact | DDD | 0 ~ 255 | |
| W | XW | OO | 0 ~ 21 | |
| W | YW | OO | 0 ~ 21 | |
| W | MW | DDD | 0 ~ 511 | |
| W | SW | DDD | 0 ~ 255 | |
| W | D | DDDD | 0 ~ 8999 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | SD | DDDD | 9000 ~ 9511 | |
| W | R | DDDDD | 0 ~ 25999 | |
| W | T | DDD | 0 ~ 511 | |
| W | C | DDD | 0 ~ 199 | |
| DW | C_32Bit | DDD | 200 ~ 255 | |

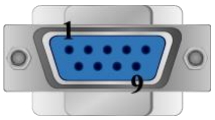
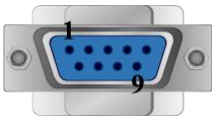
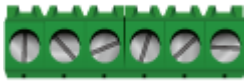
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

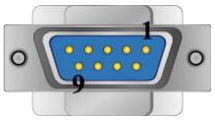
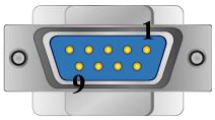
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | CP1 RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | SG |
|  |  | |  |

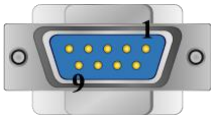
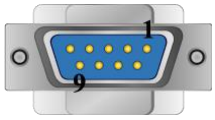
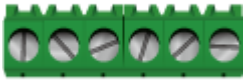
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | CP1 RS485 2W terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | D- |
| 6 RX+ | 1 Data+ | | D+ |
| 5 GND | 5 GND | | SG |
|  |  | |  |

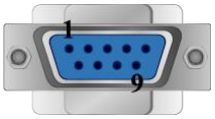
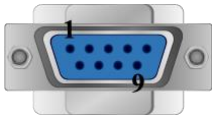
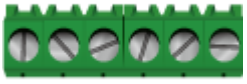
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | CP1 RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 9 GND | | SG |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

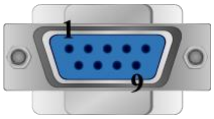
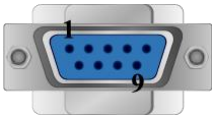
| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | CP1 RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | D- |
| 2 RX+ | 9 Data+ | | D+ |
| 5 GND | 5 GND | | SG |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

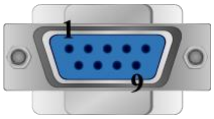
| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | CP1 RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | D- |
| 2 RX+ | 8 Data+ | | D+ |
| 5 GND | 5 GND | | SG |
|  |  | |  |

**The following is the view from the soldering point of a cable.**

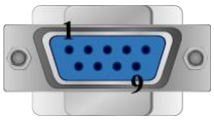
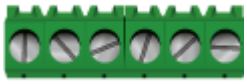
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | CP2 RS232 terminal |
|---|---|---|---|
| 2 RX | 8 RX | | TX |
| 3 TX | 7 TX | | RX |
| 5 GND | 5 GND | | SG |
|  |  | |  |

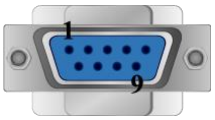
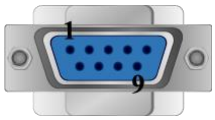
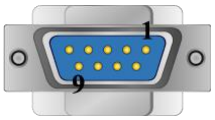
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | CP2 RS232 terminal |
|---|---|---|---|
| 2 RX | | | TX |
| 3 TX | | | RX |
| 5 GND | | | SG |
|  | | |  |

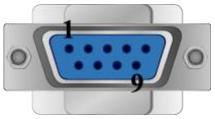
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | CP2 RS232 terminal |
|---|---|---|---|
| 2 RX | | | TX |
| 3 TX | | | RX |
| 5 GND | | | SG |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | CP2 RS232 terminal |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | TX |
| 3 TX | 4 TX | 7 TX | RX |
| 5 GND | 5 GND | 5 GND | SG |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | CP2 RS232 terminal |
|---|---|---|---|
| 9 RX | | | TX |
| 6 TX | | | RX |
| 5 GND | | | SG |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jul/22/2014 | Driver released. |

# VIPA 200

## HMI Setting:

| Parameters | Recommend | Options | Notes |
|---|---|---|---|
| PLC type | VIPA 200 | | |
| PLC I/F | RS485 2w | RS485 2w | |
| Baud rate | 9600 | 9600, 19200, 187.5K | The HMI which has a sticker "MPI187.5" on the rear cover supports 187.5K |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 2 | 1 ~ 126 | |
| Turn around delay (ms) | 5 | | |
| Reserved 1 | 30 | | ACK delay time |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Set station number to 2 |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | VW_Bit | DDDDDo | 0 ~ 102397 | V Memory Bit Address |
| Byte | VB | DDDDD | 0 ~ 10239 | |
| W | VW | DDDDD | 0 ~ 10239 | V Memory |
| W | VW_Odd | DDDDD | 0 ~ 10239 | V Memory |
| DW | VD | DDDDD | 0 ~ 10239 | V Memory Double Word |
| DW | VD_Odd | DDDDD | 0 ~ 10239 | V Memory Double Word |
| W | VW_String | DDDDD | 0 ~ 10239 | String |

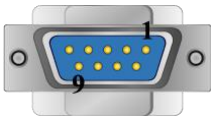
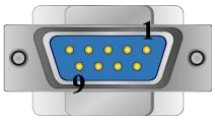
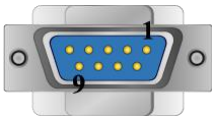
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | VW_String_Odd | DDDDD | 0 ~ 10239 | String |
| DW | VD_String | DDDDD | 0 ~ 10239 | String |
| DW | VD_String_Odd | DDDDD | 0 ~ 10239 | String |
| Byte | MB | DDDDD | 0 ~ 10239 | Byte Memory |
| W | MW | DDDDD | 0 ~ 10239 | Word Memory |
| DW | MD | DDDDD | 0 ~ 10239 | Word Memory |
| W | MW_Odd | DDDDD | 0 ~ 10239 | Word Memory |
| W | T | DDD | 0 ~ 127 | Timer |
| W | C | DDD | 0 ~ 127 | Counter |

- Double word and floating point value must use VD device type.

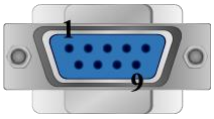
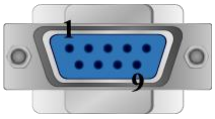
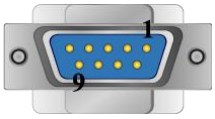
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

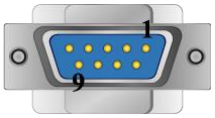
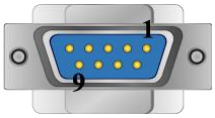
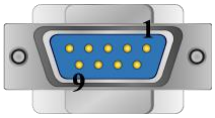
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

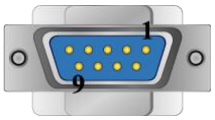
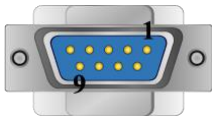
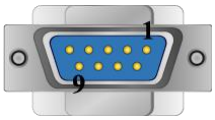
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

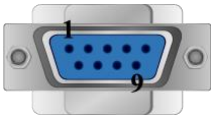
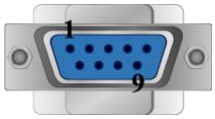
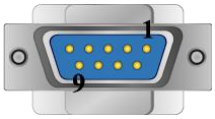
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.30 | Aug/17/2009 | |
| V2.40 | Nov/1/2011 | Add device type : MD |

# VIPA 200 (VD any address)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIPA 200 (VD any address) | | |
| PLC I/F | RS485 2w | RS485 2w | |
| Baud rate | 9600 | 9600, 19200, 187.5K | The HMI which has a sticker "MPI187.5" on the rear cover supports 187.5K |
| Data bits | 8 | 7,8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 2 | 1 ~ 126 | |
| Turn around delay | 5 | | |
| Reserved 1 | 30 | | ACK delay time |

| | | | |
|---|---|---|---|
| Online simulator | YES | Extend address mode | NO |
| Broadcast command | NO | | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Set station number to 2 |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | VW_Bit | DDDDDo | 0 ~ 102397 | V Memory Bit Address |
| W | VW | DDDDD | 0 ~ 10239 | V Memory |
| DW | VD | DDDDD | 0 ~ 10239 | V Memory Double Word |
| W | VW_String | DDDDD | 0 ~ 10239 | String |
| DW | VD_String | DDDDD | 0 ~ 10239 | String |
| W | MW | DDDDD | 0 ~ 10239 | Word Memory |
| W | T | DDD | 0 ~ 127 | Timer |

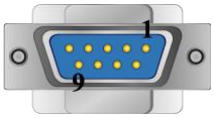
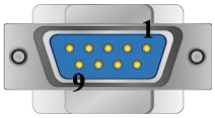
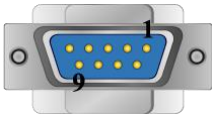
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | C | DDD | 0 ~ 127 | Counter |
| DW | MD | DDDDD | 0 ~ 10239 | Word Memory |

- Double word and floating point value must use VD device type.
- VD register can set to any value, not necessarily a multiple of 4.

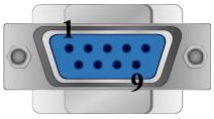
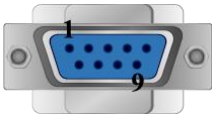
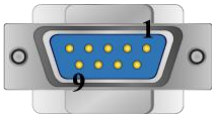
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

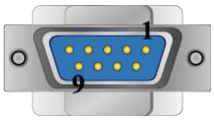
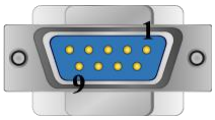
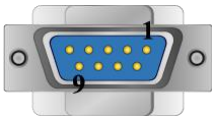
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

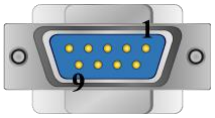
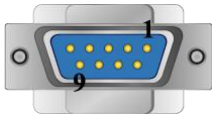
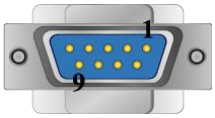
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

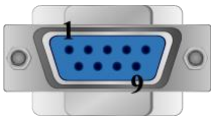
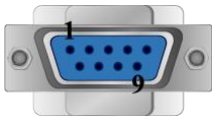
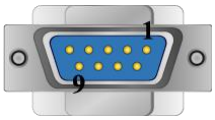
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Nov/16/2011 | Add device type : MD |

# VIPA 200, for ex. 214-2BT10 (Ethernet)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIPA 200, for ex. 214-2BT10 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 1 | 0-31 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | VW_Bit | DDDDDo | 0 ~ 102397 | V Memory Bit Address |
| W | VW | DDDDD | 0 ~ 10239 | V Memory |
| DW | VD | DDDDD | 0 ~ 10239 | V Memory Double Word |
| W | VW_String | DDDDD | 0 ~ 10239 | String |
| DW | VD_String | DDDDD | 0 ~ 10239 | String |
| DW | MD | DDDDD | 0 ~ 10239 | Word Memory |

- Double word and floating point value must use VD device type.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Dec/30/2008 | |
| V1.40 | Nov/15/2011 | Add device type : MD |

# VIPA 200/300 MPI

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIPA 200/300 MPI | | |
| PLC I/F | RS-485 2W | | |
| Baud rate | 187.5K | | Only HMI with a sticker “MPI 187.5K” on the rear cover supports MPI communication. |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 2 | 2 ~ 31 | |

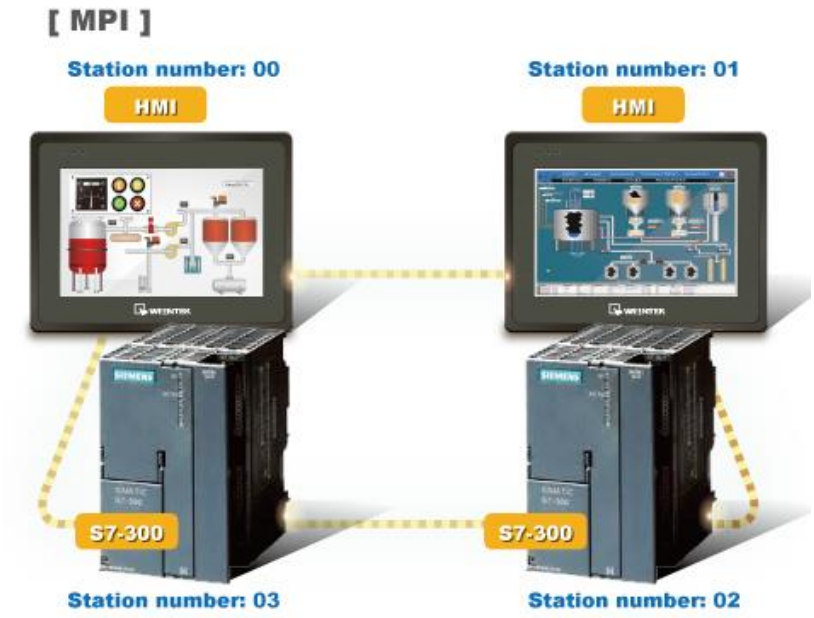
| | | | |
|---|---|---|---|
| Online simulator | NO | Extend address mode | Yes |
| Broadcast command | NO | | |

## Device Address:

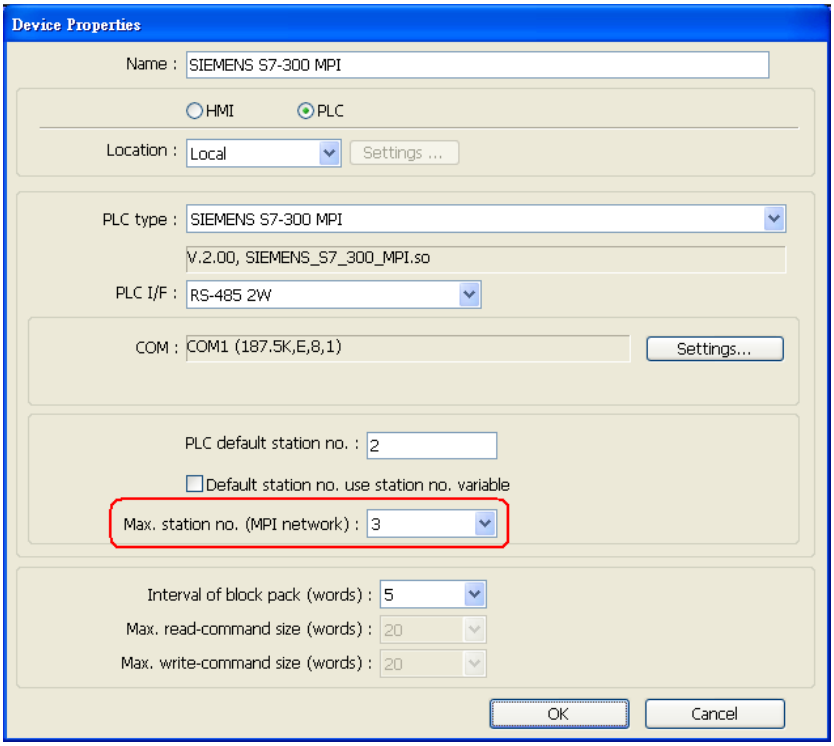
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFDDDDo | 0 ~ 409699997 | Data Register Bit |
| B | DB0Bit ~ DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFDDDD | 0 ~ 40969999 | Data Register |
| W | DBn | FFFFDDDD | 0 ~ 40969999 | Data Register (must be even) |
| DW | DBDn | FFFFDDDD | 0 ~ 40969999 | Data Register Double Word |
| W | DBn_String | FFFFDDDD | 0 ~ 40969999 | |
| DW | DBDn_String | FFFFDDDD | 0 ~ 40969999 | |
| W | DB0 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register (must be even) |

* Double word and floating point value must use DBDn device type.

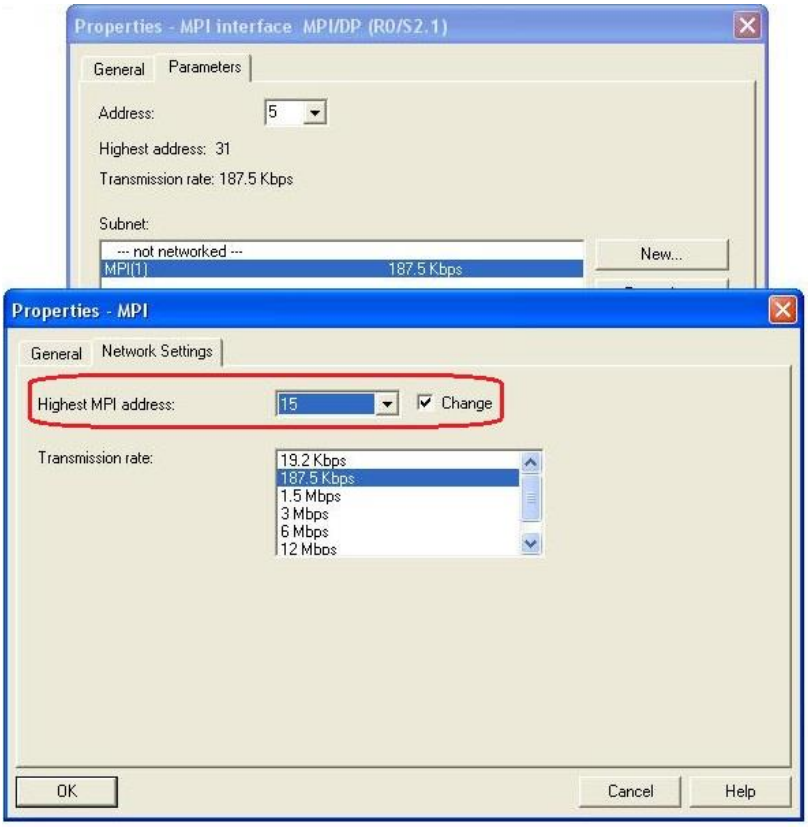
# Multi-HMIs-Multi-PLCs Communication Setting:




For SIEMENS S7-300 MPI driver in Multi-HMIs-Multi-PLCs communication, [Max. station no. (MPI network)] parameter must be correctly set. This setting is relevant to the station no. of the devices, as shown, two HMI (station no. 0, 1) and two PLC (station no. 2, 3) are in MPI network, Max. Station No. should be set to 3.



For the effectiveness of communication, users may set PLC device in STEP 7 as shown below. In Properties MPI / Network Settings, set Highest MPI address to the number closest to the actual device station number.




## Note:

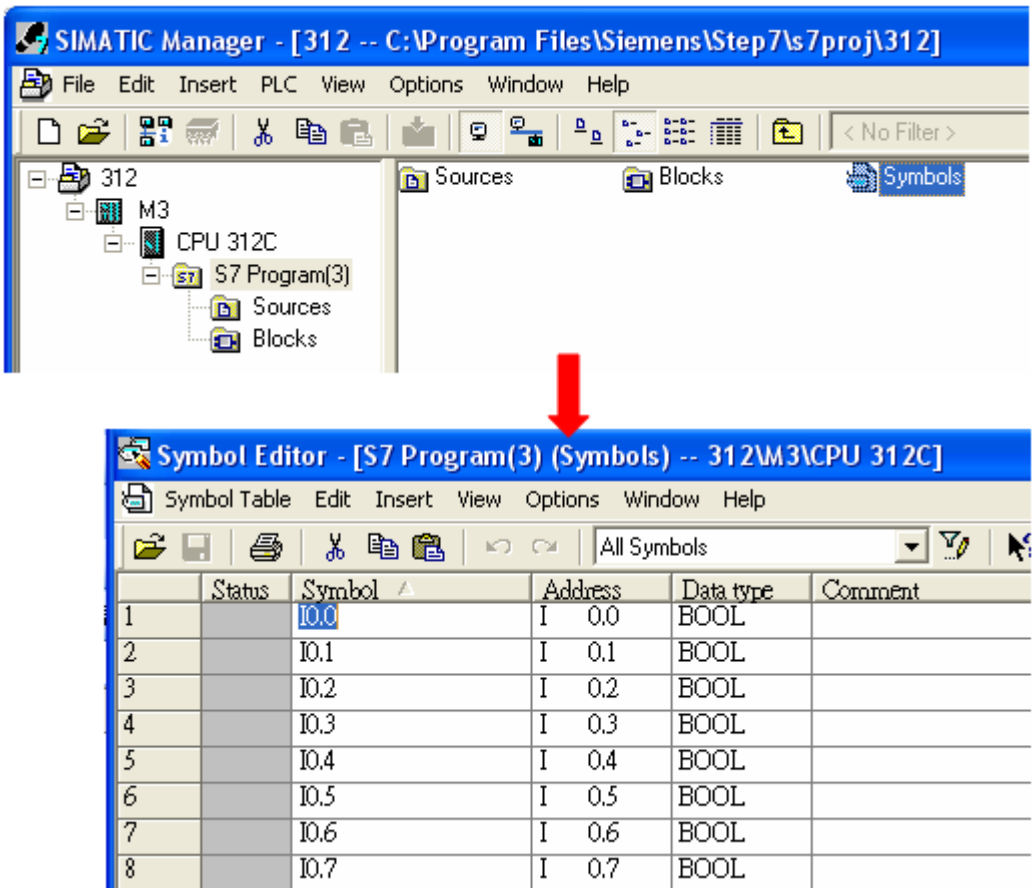
- HMI sta. no. can not be the same as PLC sta. no.
- Highly recommended that the device station numbers start from 0 sequentially and correctly set [Max. station no. (MPI network)].
- Available for EasyBuilder V4.50 and later.

# How to Import Tag:

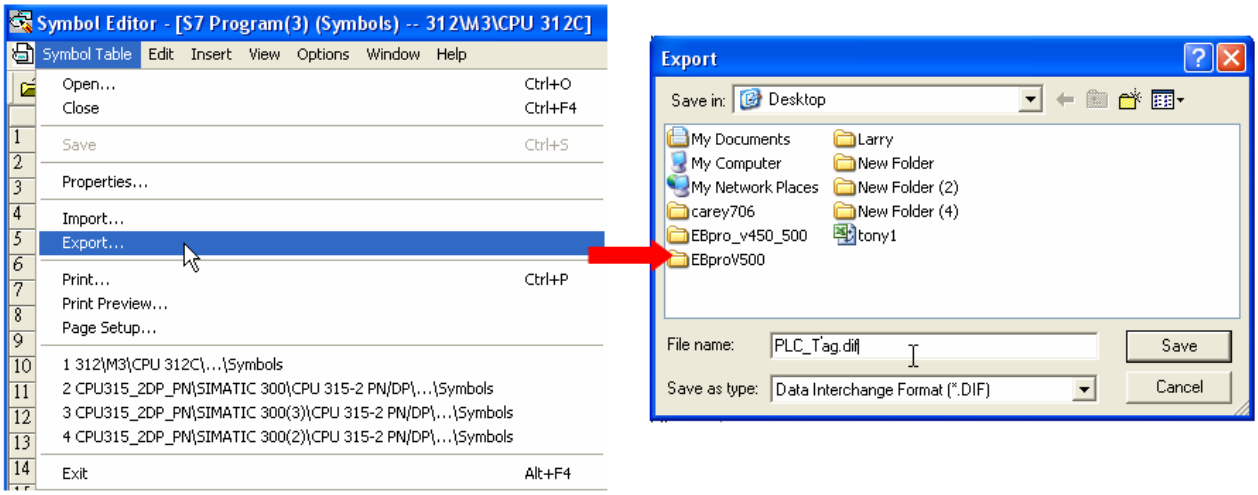
SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

## 1. Building *.dif File

a、 In “Symbols” create user-defined tag.

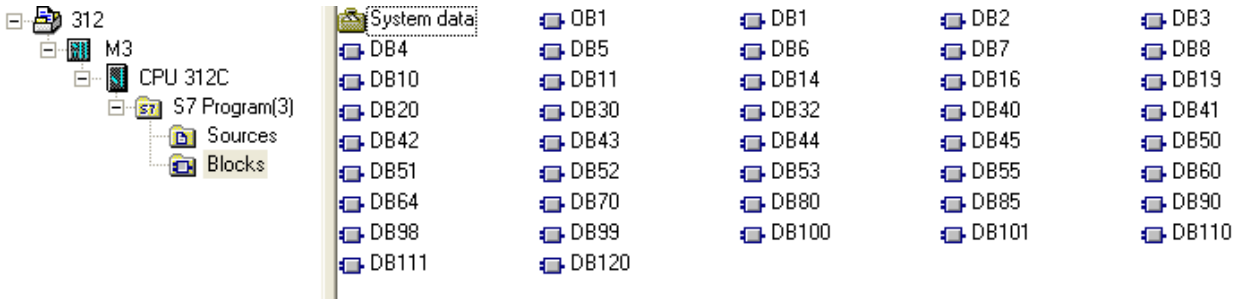



b、 Click **Export** to export the edited file and click **Save**.

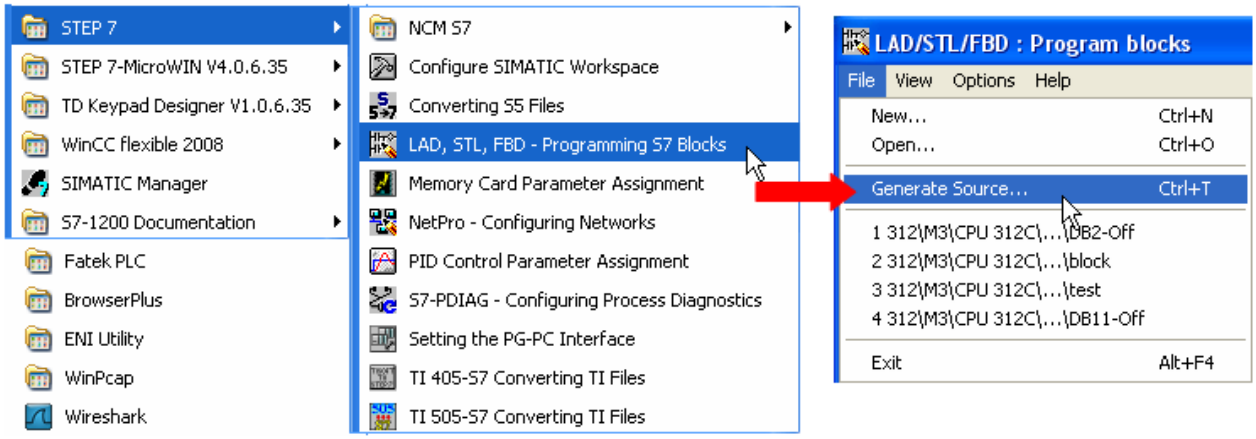


## 2. Building *.AWF File

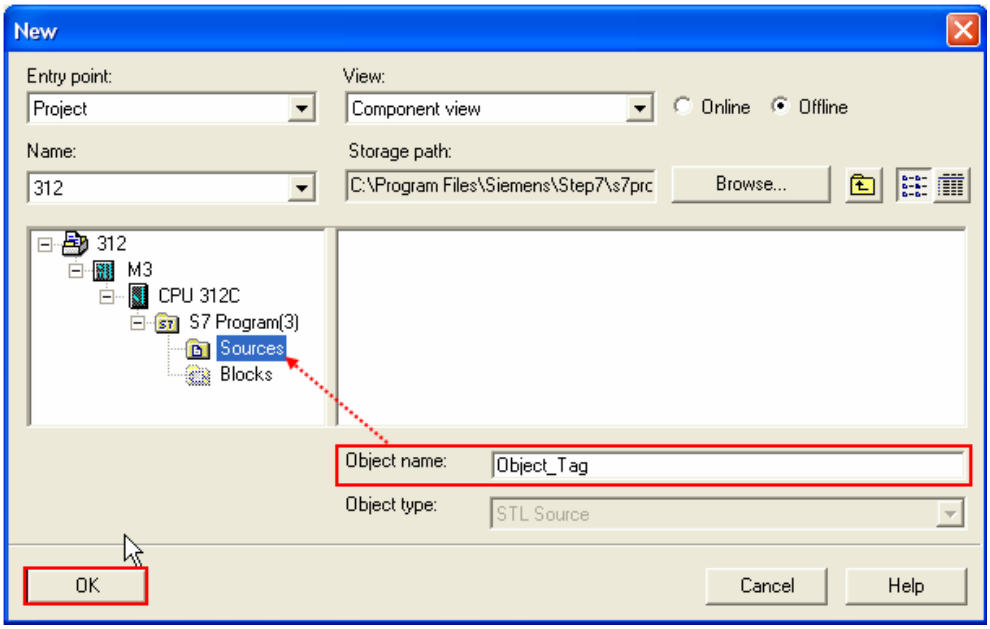
a、 In **Blocks** create items as shown below:



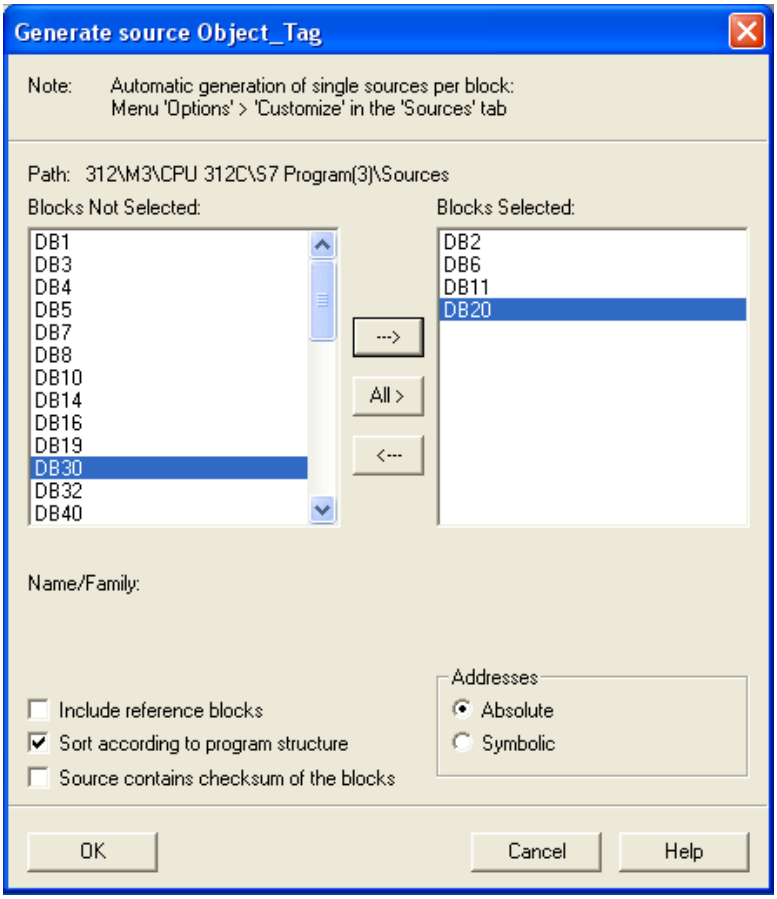

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



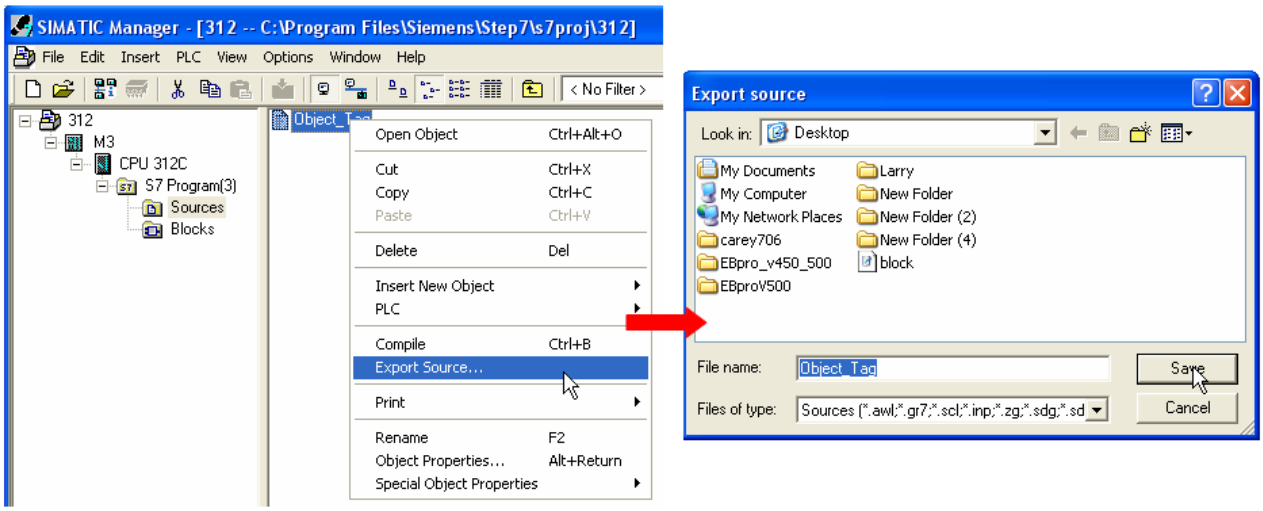

c、 Select **Sources** as storage path, specify the file name then click **OK**.



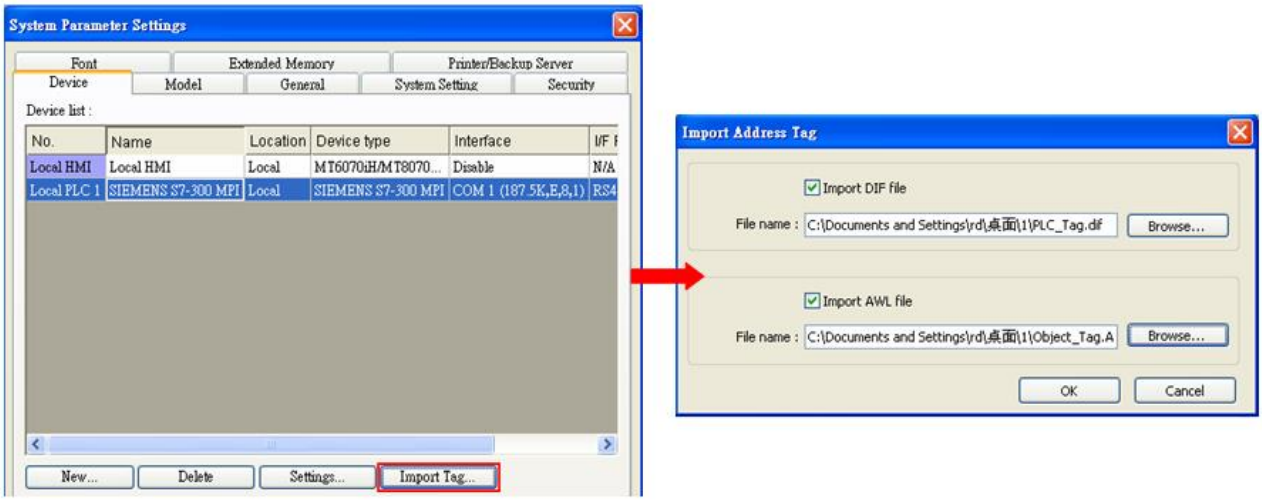
d、 Select the objects to be exported then click **OK**.




e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.



The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.




Tag information successfully imported.

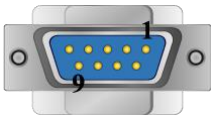
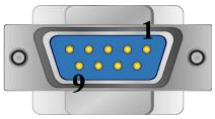
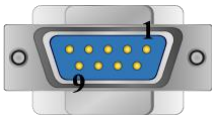


## Wiring Diagram:

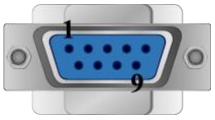
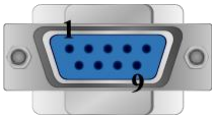
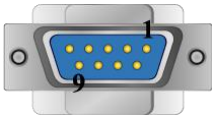
**The following is the view from the soldering point of a cable.**

S7-200 PPI , S7-300 MPI :RS485 2W

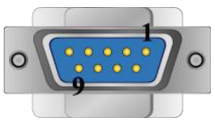
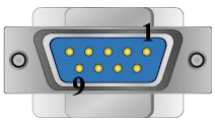
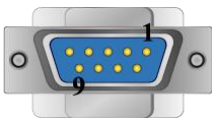
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

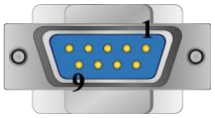
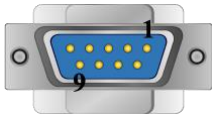
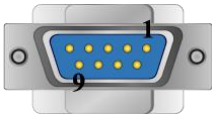
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 7 RX- | 4 Data- | | 8 D- |
| 6 RX+ | 1 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

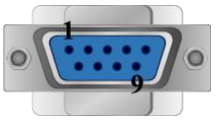
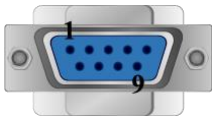
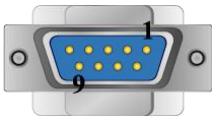
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 9 GND | | 5 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 6 Data- | | 8 D- |
| 2 RX+ | 9 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W 9P D-Sub Male |
|---|---|---|---|
| 1 RX- | 7 Data- | | 8 D- |
| 2 RX+ | 8 Data+ | | 3 D+ |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.90 | May/26/2011 | Added registers: MB & DBBn |
| V2.00 | Aug/19d/2011 | i Series HMI support Multi HMIs-Multi PLCs communication. |

# VIPA 300

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIPA 300 | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200, 38400, 187.5K | 9600~187.5K | Must be same as the PLC setting.<br>The HMI which has a sticker MPI187.5 on the rear cover supports 187.5K. |
| Data bits | 8 | | |
| Parity | Odd | | |
| Stop bits | 1 | | |
| PLC sta. no. | 2 | | Must be same as the PLC setting. |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFDDDDo | 0 ~ 409681927 | Data Register Bit |
| B | DB0Bit ~ DB99Bit | DDDDo | 0 ~ 81927 | |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFDDDD | 0 ~ 40968192 | Data Register Byte |
| W | DBn | FFFFDDDD | 0 ~ 40968192 | Data Register<br>(must be even) |
| DW | DBDn | FFFFDDDD | 0 ~ 40968192 | Data Register Double Word<br>(must be multiple of 4) |
| W | DBn_String | FFFFDDDD | 0 ~ 40968192 | Data Register Double Word<br>(must be multiple of 4) |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| DW | DBDn_String | FFFFDDDD | 0 ~ 40968192 | Data Register Double Word (must be multiple of 4) |
| W | DB0-DB99 | DDDD | 0 ~ 8192 | Data Register (must be even) |

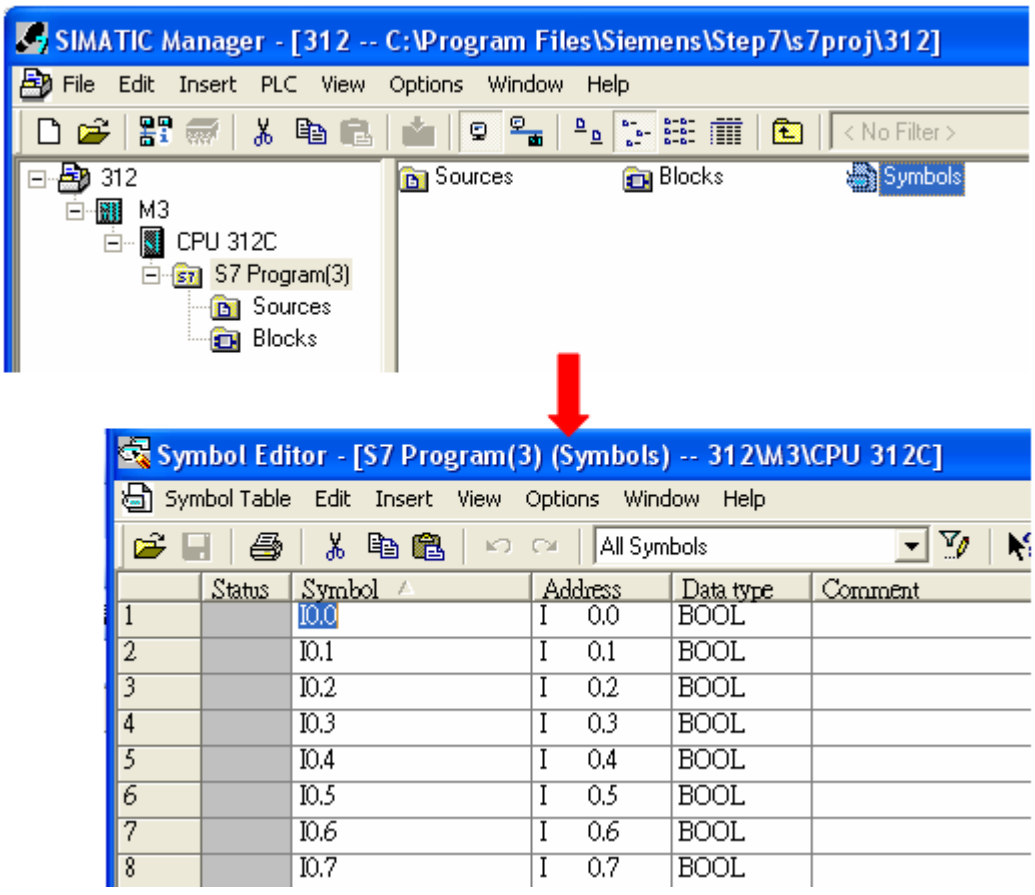
* Double word and floating point value must use DBDn device type.

## How to Import Tag:

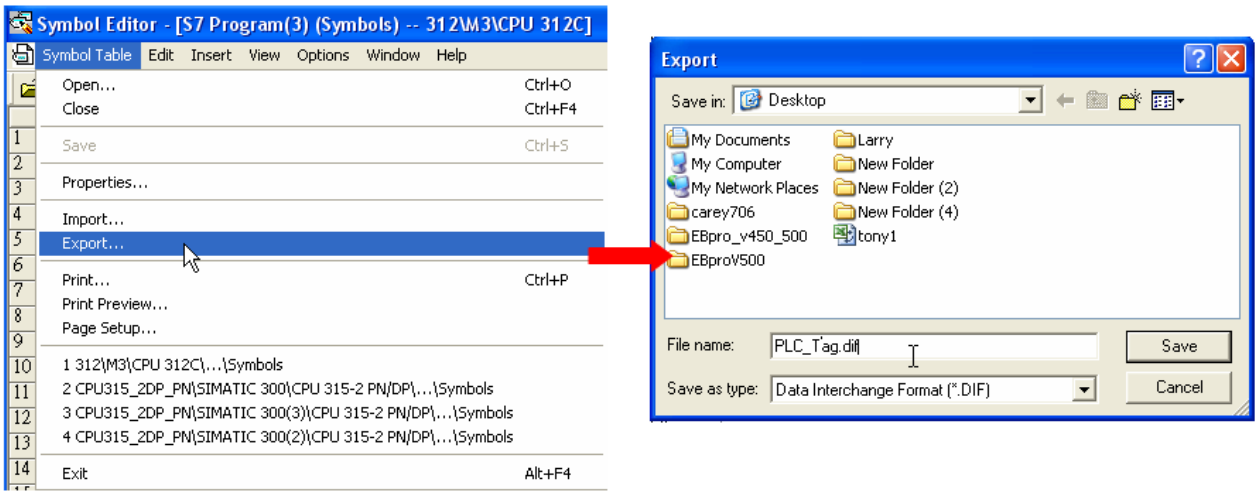
SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

**1. Building *.dif File**

a、 In “Symbols” create user-defined tag.

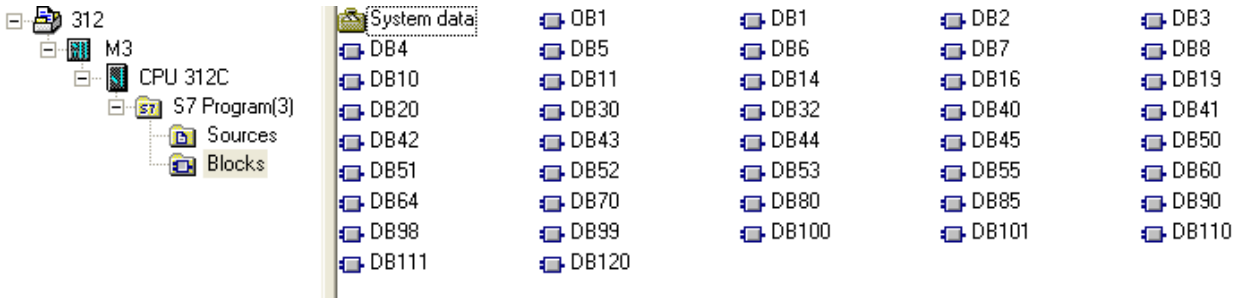


b、 Click **Export** to export the edited file and click **Save**.

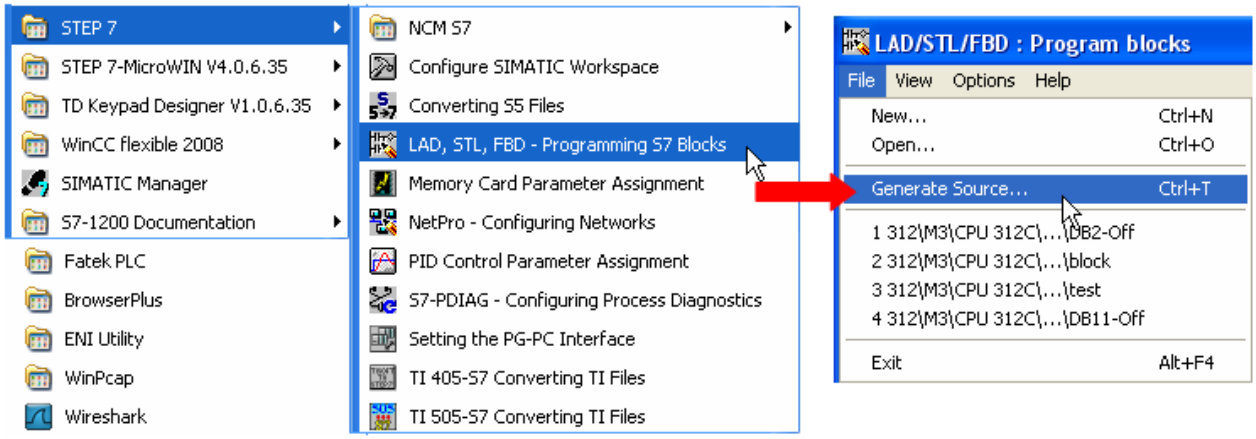



## 2. Building *.AWF File

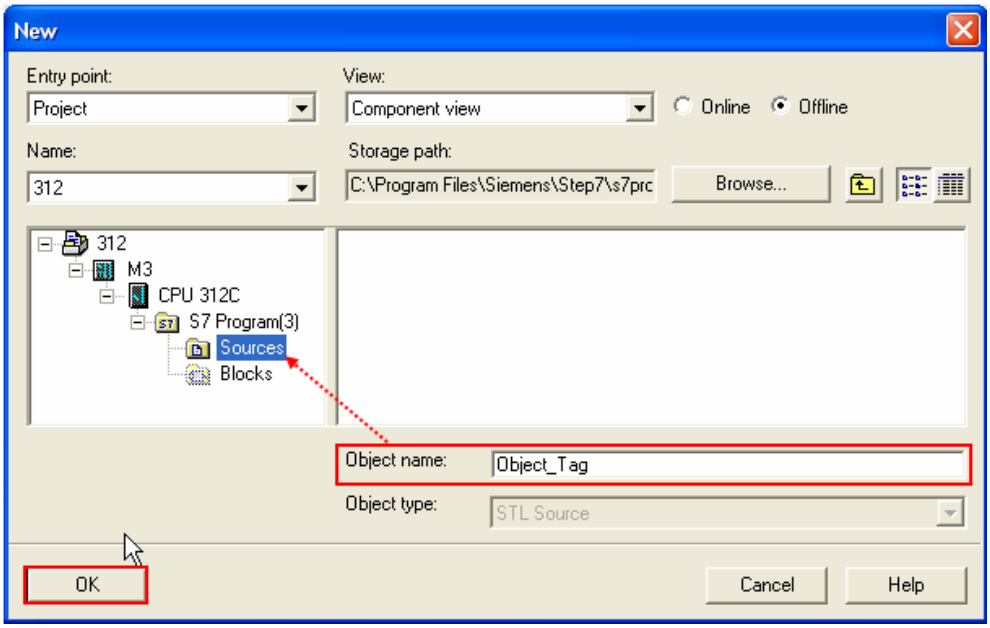
a、 In **Blocks** create items as shown below:



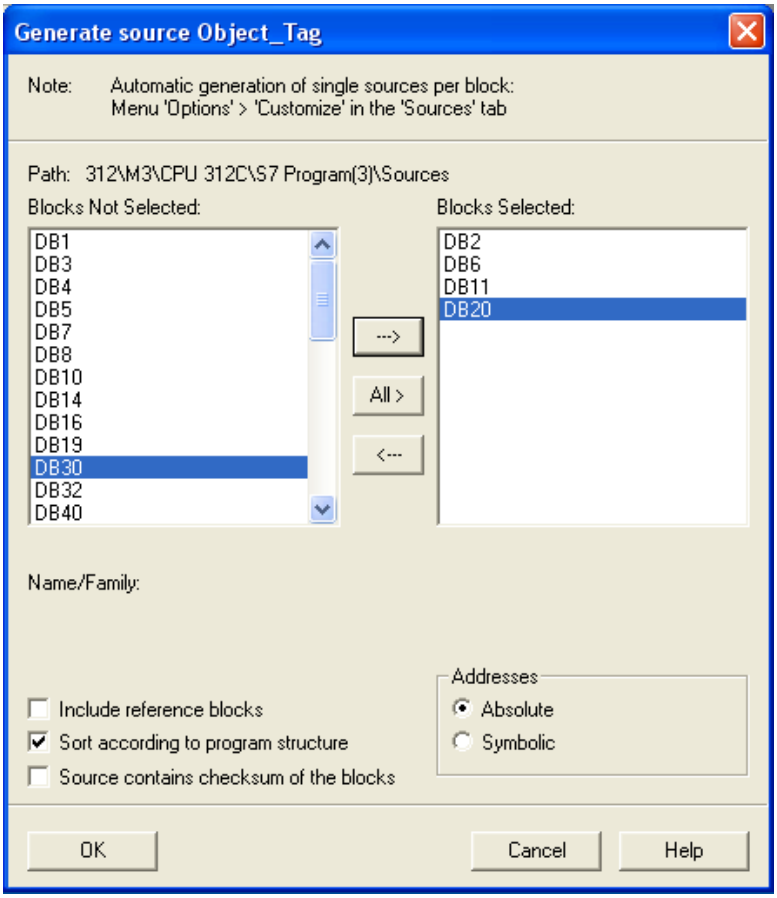

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



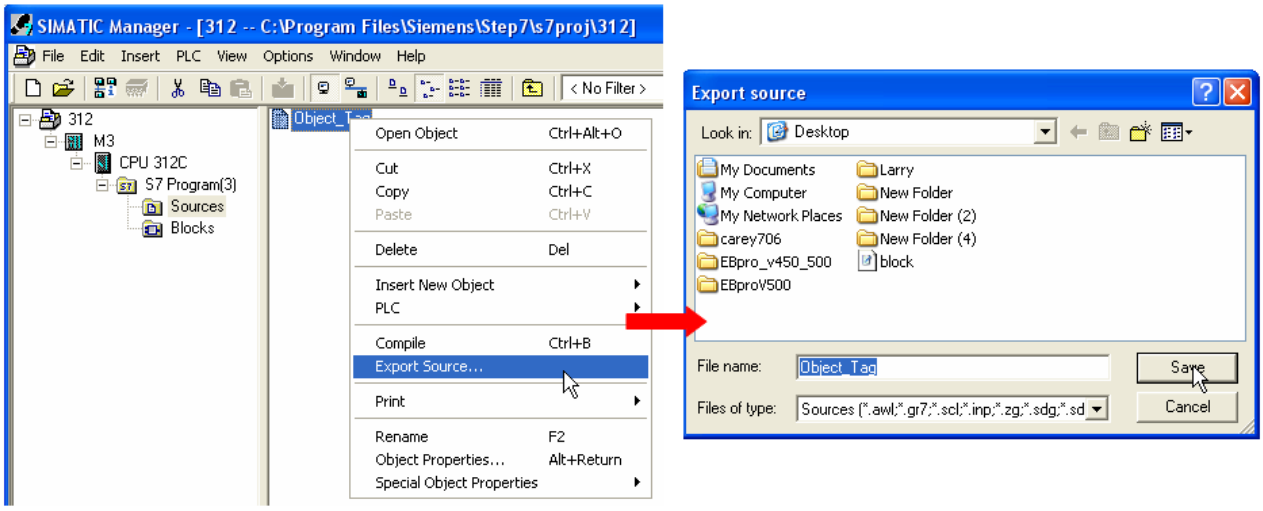
c、 Select **Sources** as storage path, specify the file name then click **OK**.



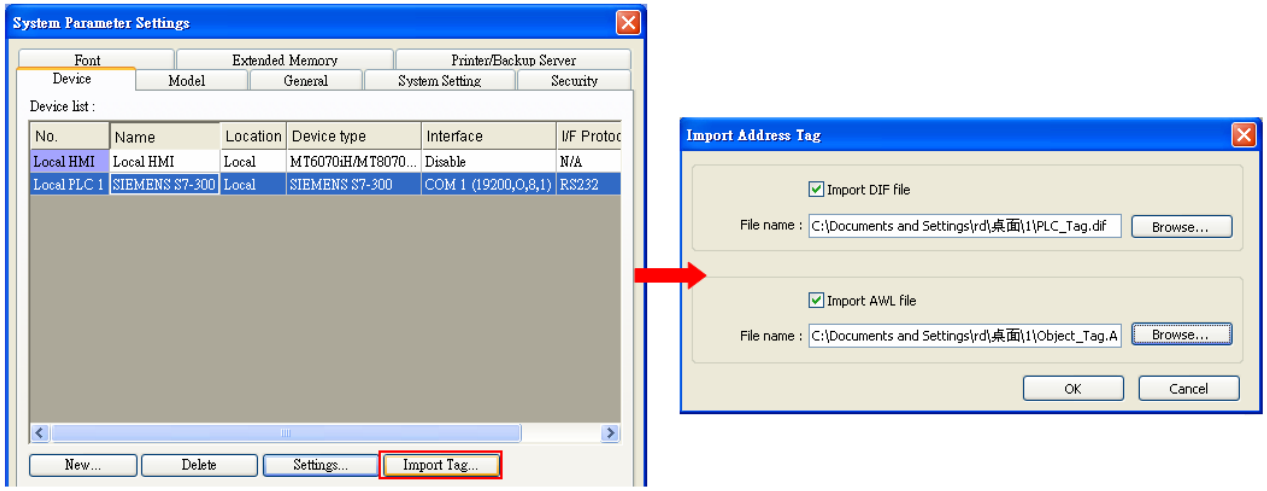

d、 Select the objects to be exported then click **OK**.



e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.




The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.




Tag information successfully imported.

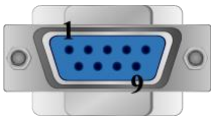
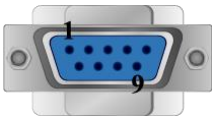
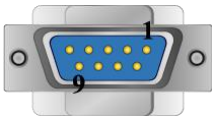


## Wiring Diagram:

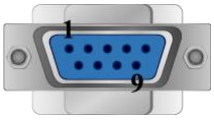
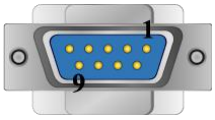
**The following is the view from the soldering point of a cable.**

Siemens S7-300 PC Adapter : 9P D-Sub to 9P D-Sub:

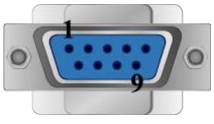
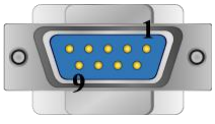
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  |  | |  | |

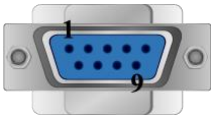
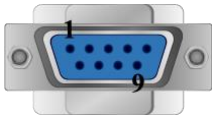
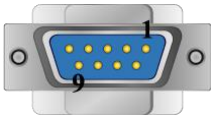
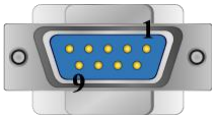
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

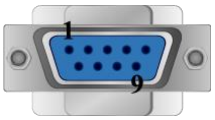
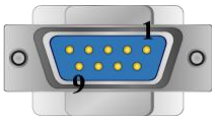
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

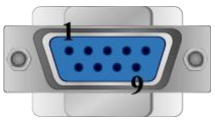
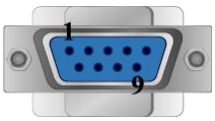
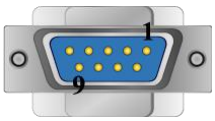
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

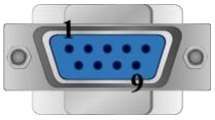
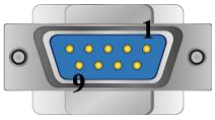
**The following is the view from the soldering point of a cable.**

Systeme Helmholz SSW7-TS : 9P D-Sub to 9P D-Sub

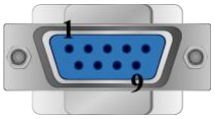
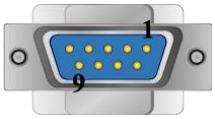
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  |  | |  | |

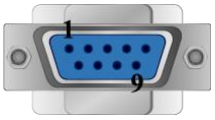
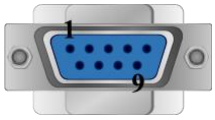
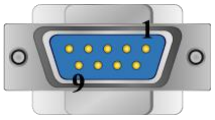
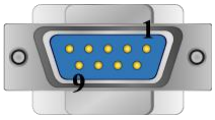
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

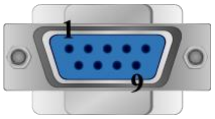
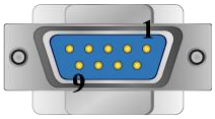
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
| | | | 4 DTR | short |
| | | | 6 DSR | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V3.10 | May/24/2011 | Added registers: MB & DBBn. |

# VIPA 300S (Ethernet)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIPA 300S (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| Link type | PG | PC, OP | |
| Rack | 0 | 0-7 | |
| CPU slot | 3 | 2-31 | |
| PLC sta. no. | 0 | 0-31 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFFFDDDDo | 0 ~ 6553599997 | |
| B | DB0Bit-DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | |
| W | DBn | FFFFFDDDD | 0 ~ 655359999 | Data Register (must be even) |
| DW | DBDn | FFFFFDDDD | 0 ~ 655359999 | Data Register Double Word |
| W | DBn_String | FFFFFDDDD | 0 ~ 655359999 | |
| DW | DBDn_String | FFFFFDDDD | 0 ~ 655359999 | |
| W | DB0 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFFDDDD | 0 ~ 655359999 | Data Register Byte |

* Double word and floating point value must use DBDn device type.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



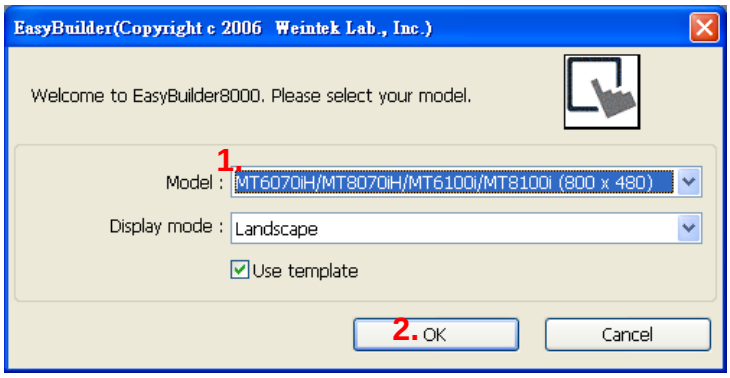

Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |

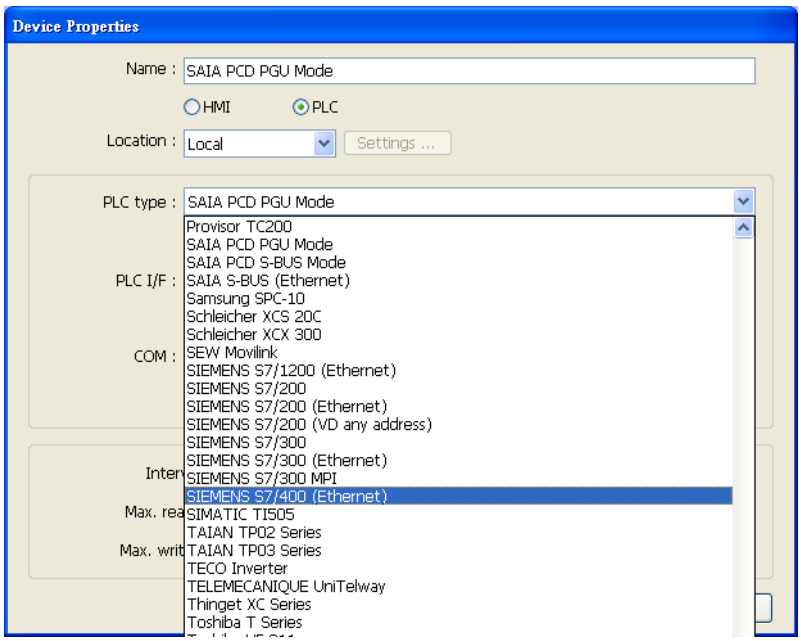


# EasyBuilder Device Setting Steps

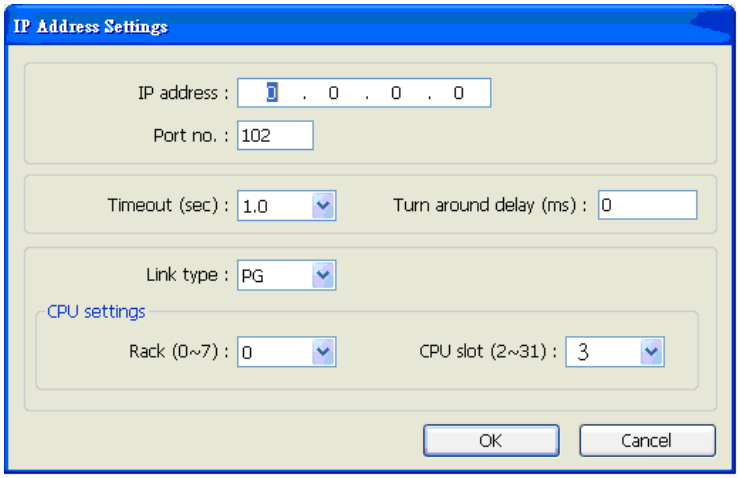
1. Open EasyBuilder, File/NEW, select HMI model and press [OK].



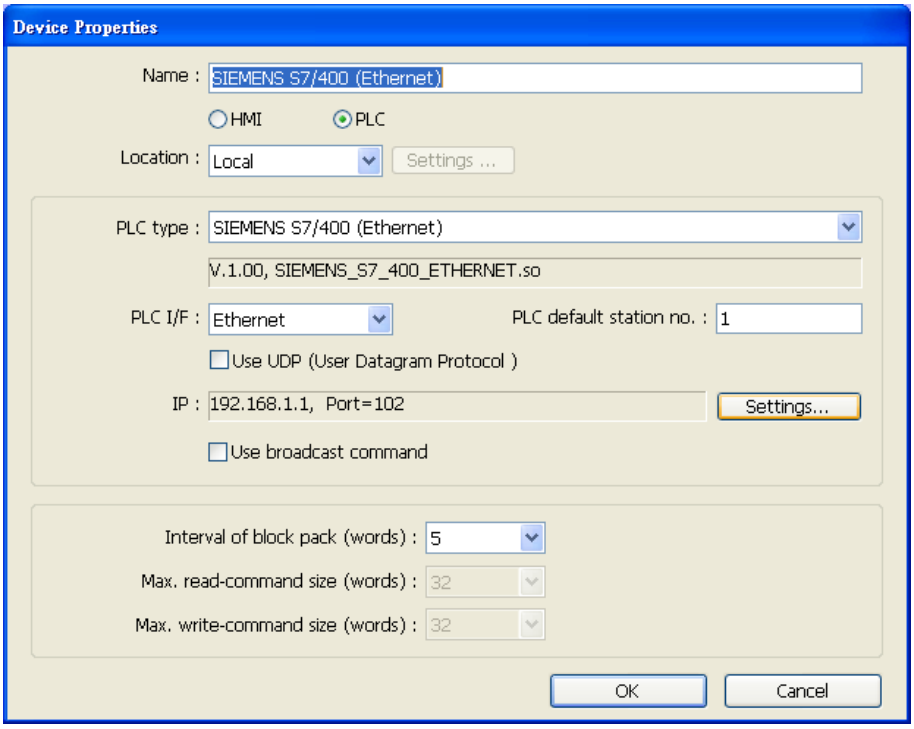

2. ”System Parameter Settings” window is shown, click [New].
3. Select “SIEMENS S7-400(ETHERNET)”.




4. Press [Settings].
5. Set S7-400 IP, Port no., Link type, Rack and CPU slot. (must match PLC settings)



6. The setting will be finished as below.

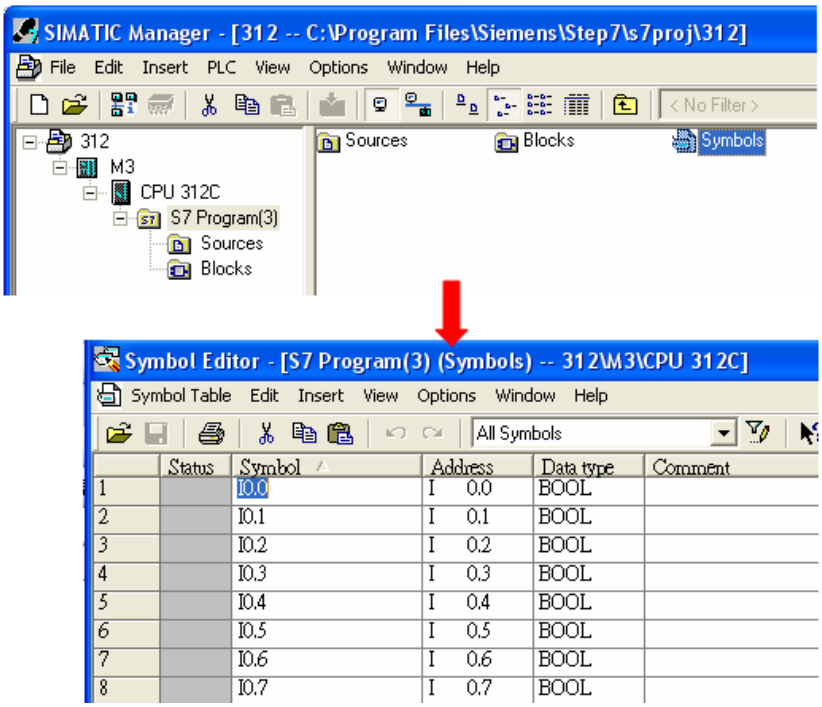



## How to Import Tag:

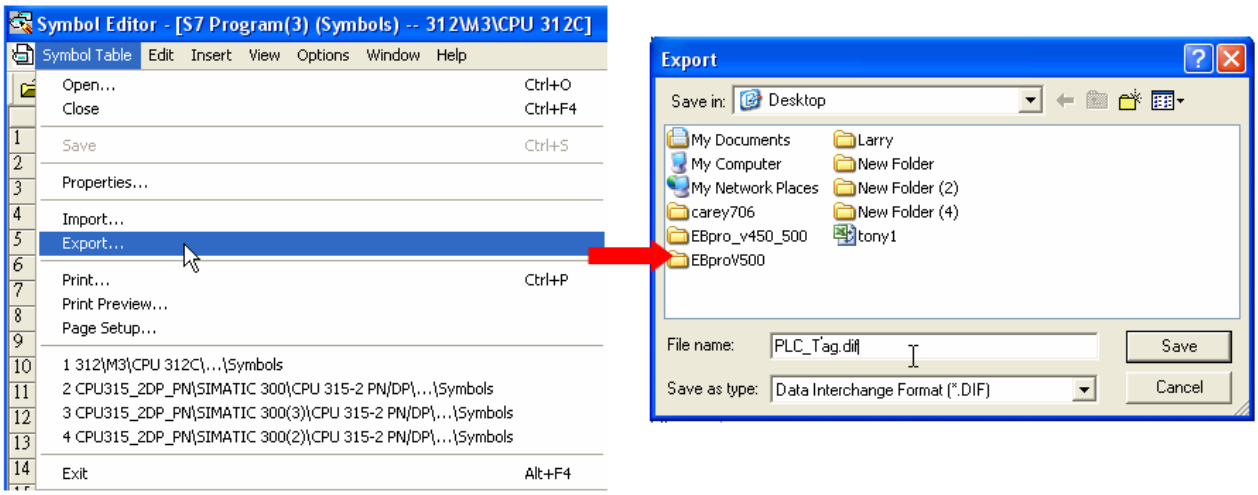
SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

**1. Building *.dif File**

a、 In “Symbols” create user-defined tag.

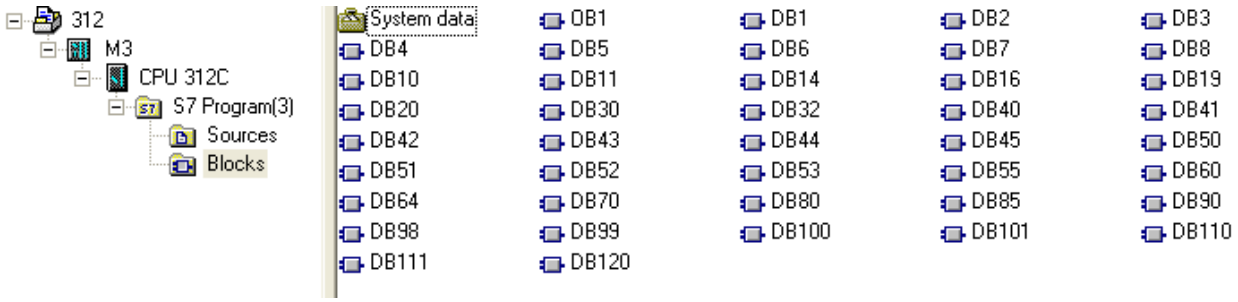


b、 Click **Export** to export the edited file and click **Save**.

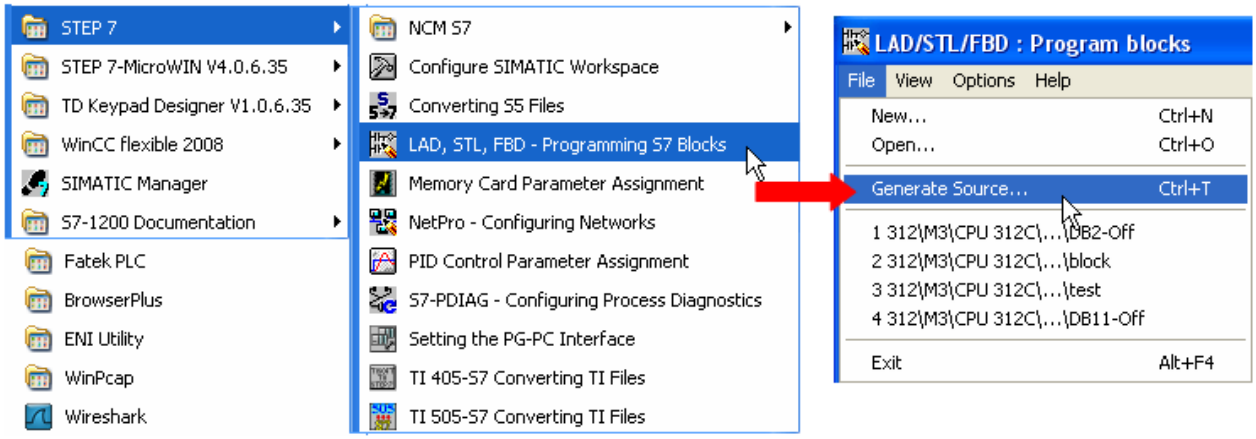



## 2. Building *.AWF File

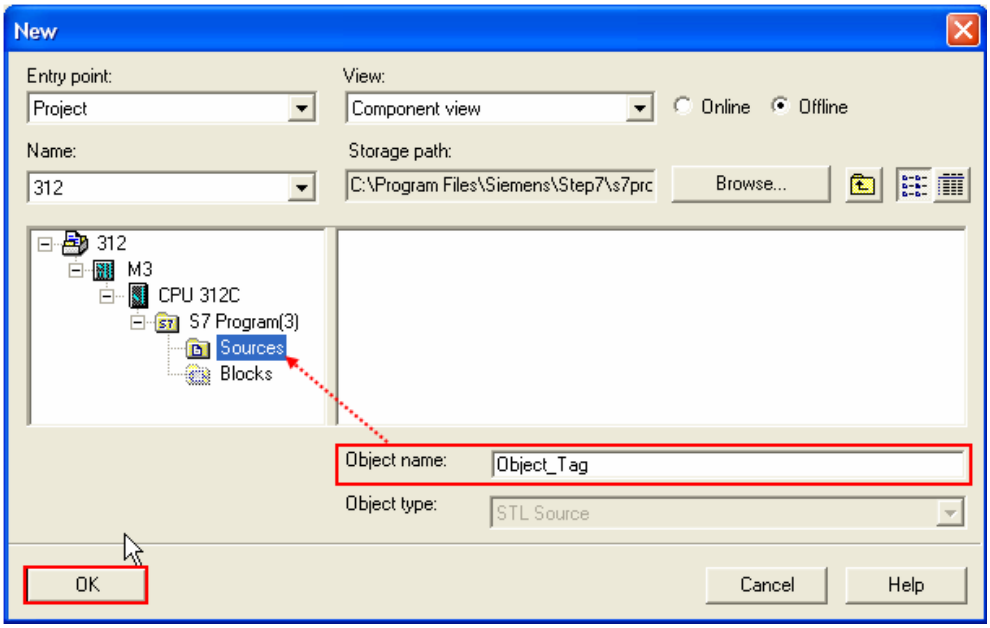
a、 In **Blocks** create items as shown below:



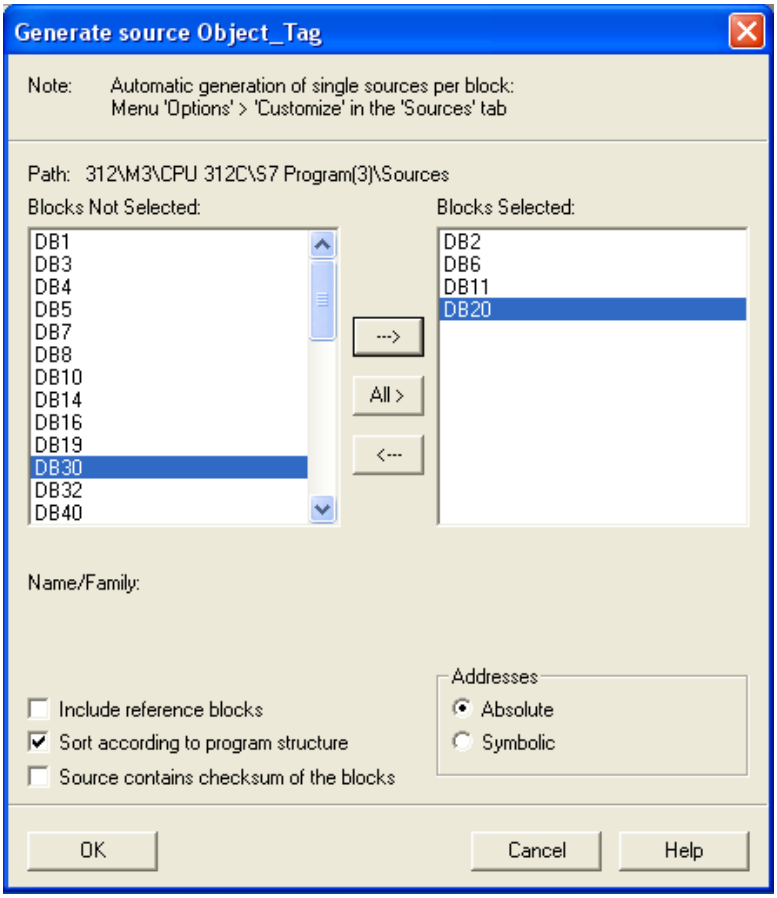

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



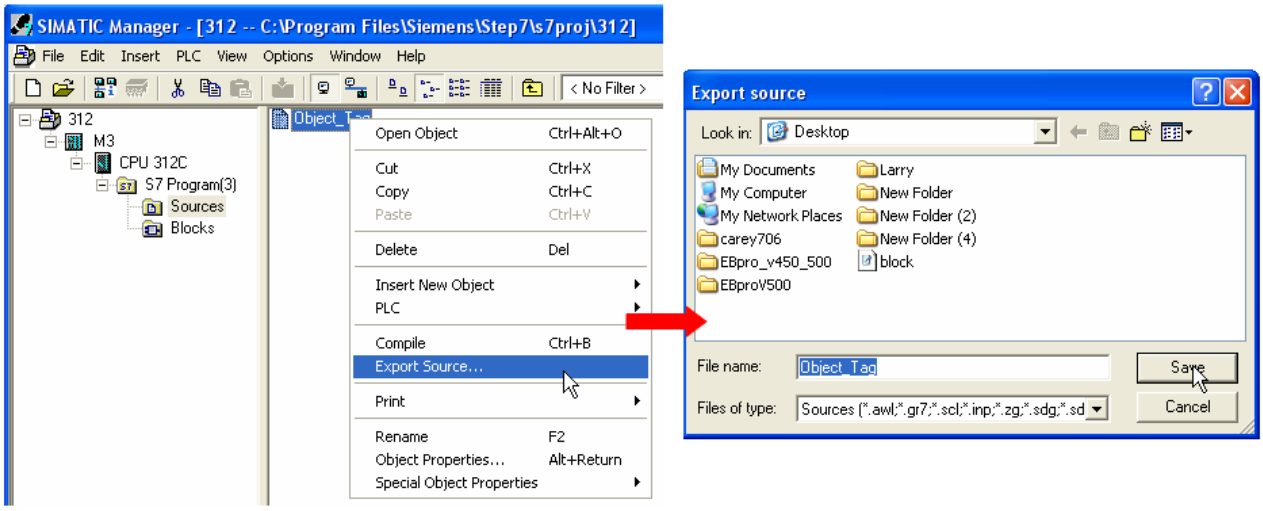
c、 Select **Sources** as storage path, specify the file name then click **OK**.



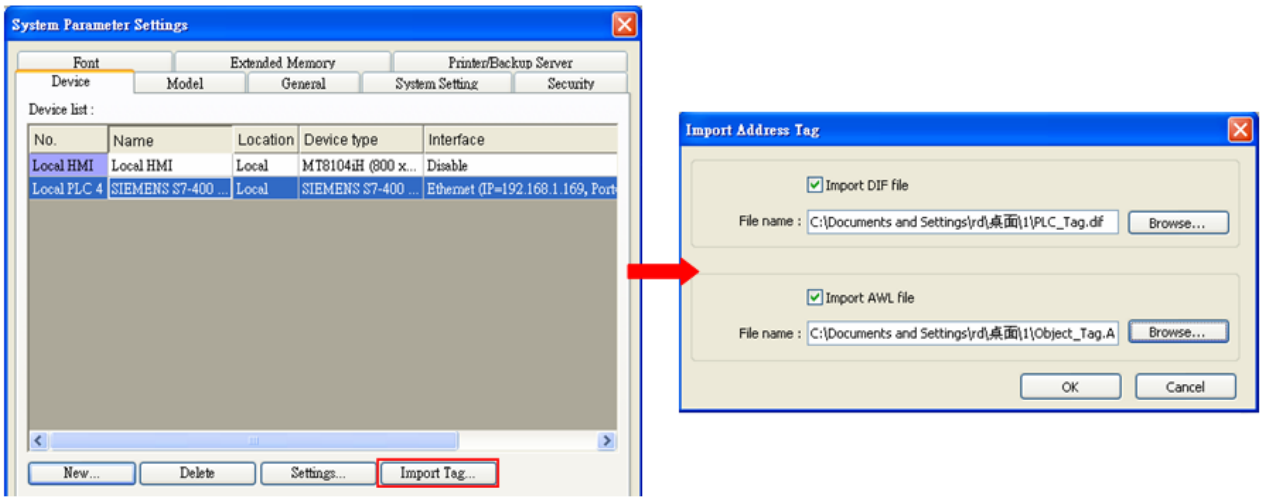

d、 Select the objects to be exported then click **OK**.



e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.




The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.




Tag information successfully imported.




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.50 | Aug/03/2012 | Device types DBn, DBDn is extended to 655359999. |

# VIPA 300S, for ex. 315-4NE12 (Ethernet)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | VIPA 300S, for ex. 315-4NE12 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 102 | | |
| PLC sta. no. | 1 | 0-31 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDDDo | 0 ~ 40957 | Input (I) |
| B | Q | DDDDo | 0 ~ 40957 | Output (O) |
| B | M | DDDDo | 0 ~ 40957 | Bit Memory |
| B | DBnBit | FFFFDDDDo | 0 ~ 409699997 | |
| B | DB0Bit-DB99Bit | DDDDDo | 0 ~ 655327 | Data Register Bit |
| W | IW | DDDD | 0 ~ 4095 | Input (I) |
| W | QW | DDDD | 0 ~ 4095 | Output (O) |
| W | MW | DDDD | 0 ~ 4095 | Bit Memory |
| DW | MD | DDDD | 0 ~ 4094 | Bit Memory Double Word |
| W | DBn | FFFFDDDD | 0 ~ 40969999 | Data Register<br>(must be even) |
| DW | DBDn | FFFFDDDD | 0 ~ 40969999 | Data Register Double Word<br>(must be multiple of 4) |
| W | DBn_String | FFFFDDDD | 0 ~ 40969999 | |
| DW | DBDn_String | FFFFDDDD | 0 ~ 40969999 | |
| W | DB0 ~ DB99 | DDDDD | 0 ~ 65532 | Data Register<br>(must be even) |
| Byte | MB | DDDD | 0 ~ 4095 | Bit Memory Byte |
| Byte | DBBn | FFFFDDDD | 0 ~ 40969999 | Data Register Byte |

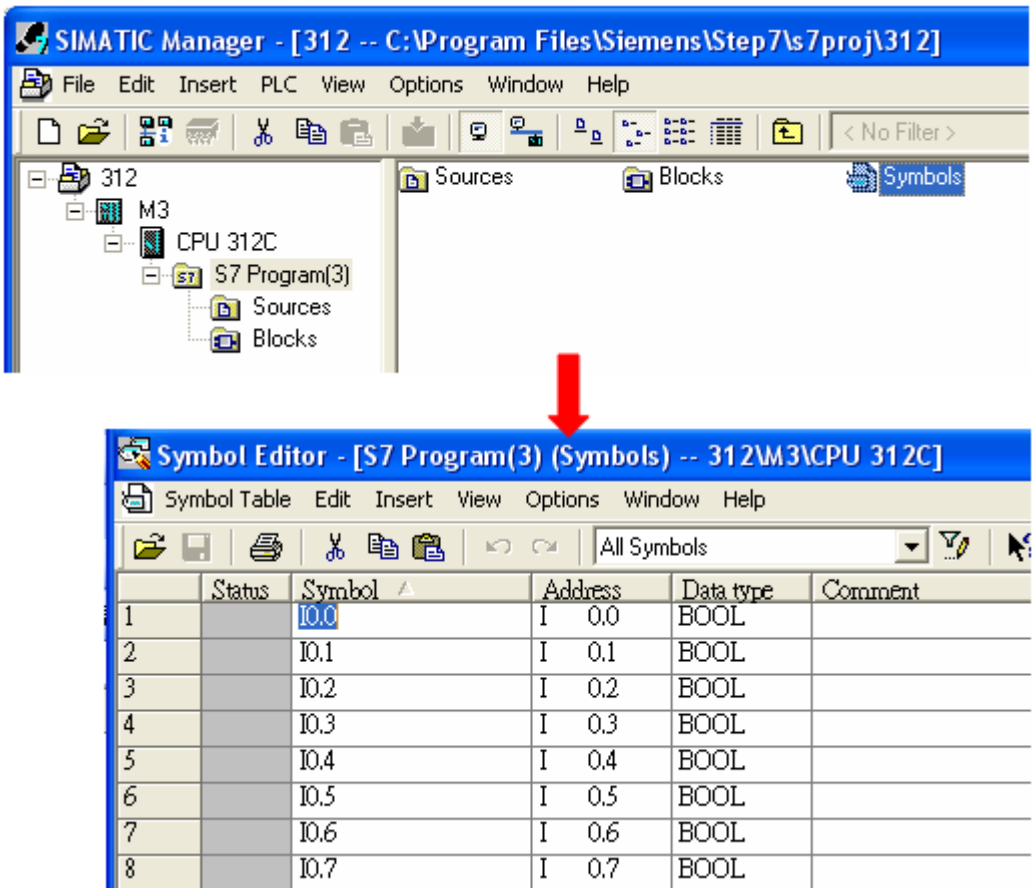
- Double word and floating point value must use DBDn device type.

# How to Import Tag:

SIEMENS STEP 7 program allows building files of user-defined tag (***.dif** file and ***.AWL** file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

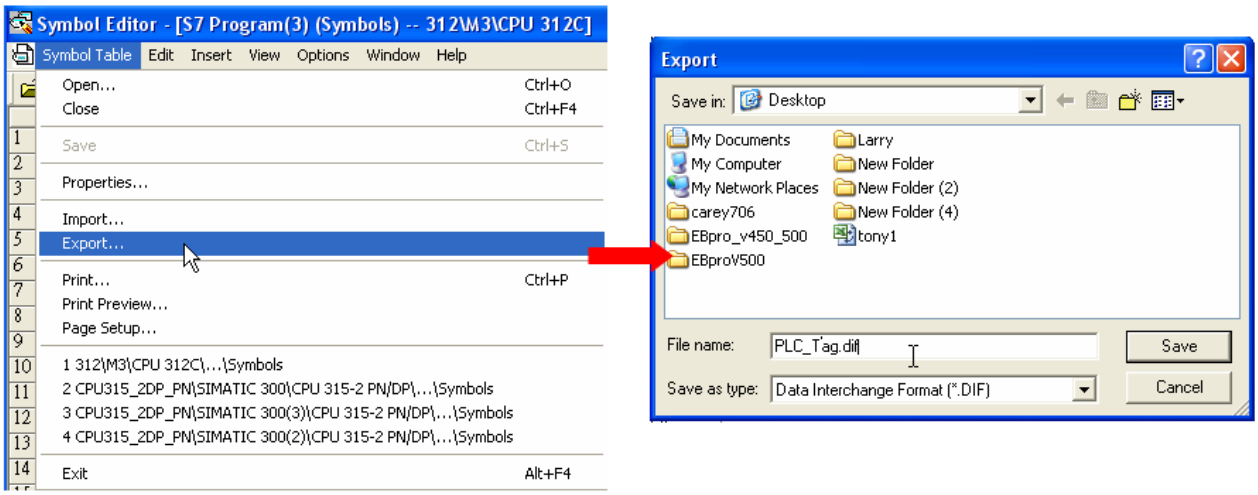
## 1. Building *.dif File

a、 In “Symbols” create user-defined tag.



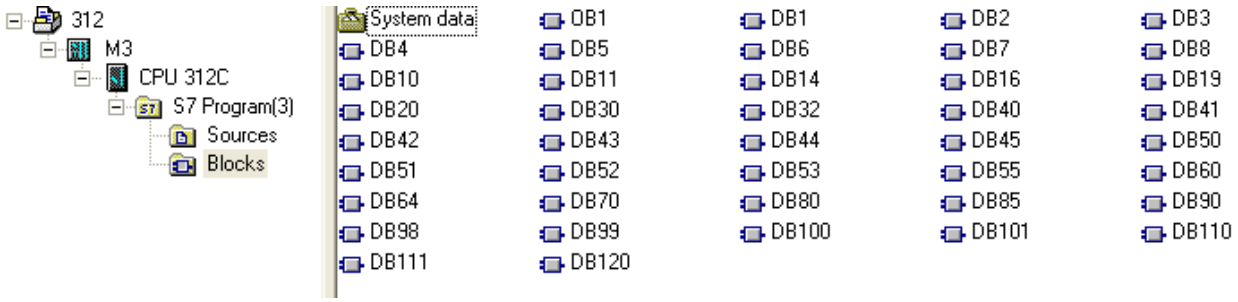

| | Status | Symbol | Address | Data type | Comment |
|---|---|---|---|---|---|
| 1 | | I0.0 | I 0.0 | BOOL | |
| 2 | | I0.1 | I 0.1 | BOOL | |
| 3 | | I0.2 | I 0.2 | BOOL | |
| 4 | | I0.3 | I 0.3 | BOOL | |
| 5 | | I0.4 | I 0.4 | BOOL | |
| 6 | | I0.5 | I 0.5 | BOOL | |
| 7 | | I0.6 | I 0.6 | BOOL | |
| 8 | | I0.7 | I 0.7 | BOOL | |

b、 Click **Export** to export the edited file and click **Save**.

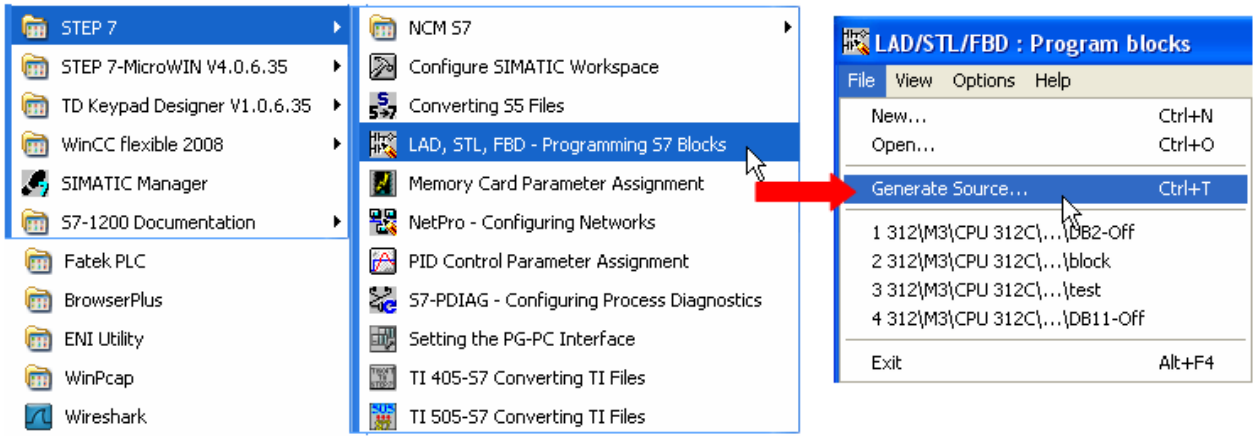



## 2. Building *.AWF File

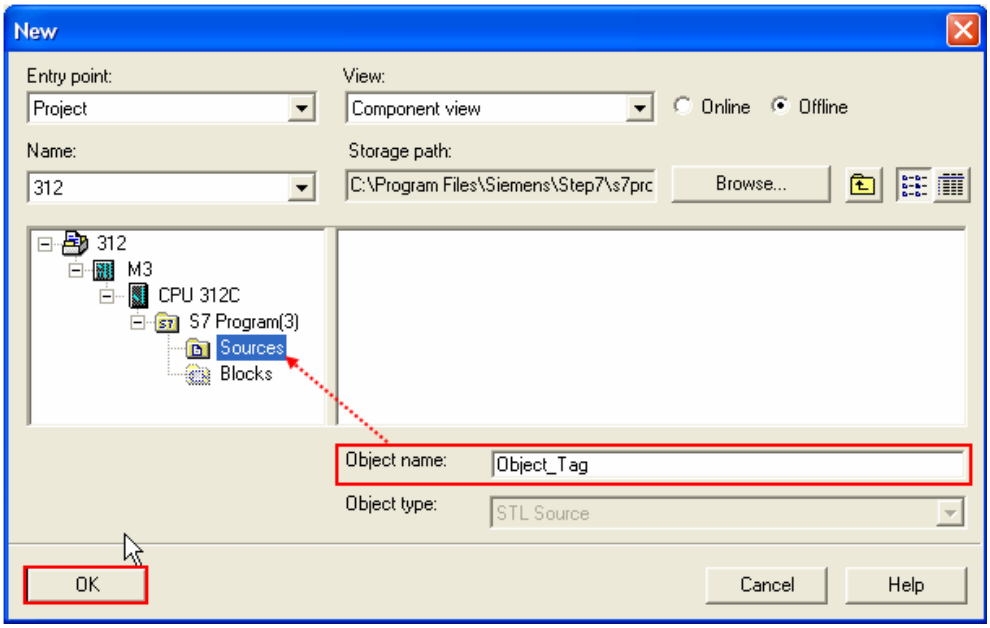
a、 In **Blocks** create items as shown below:



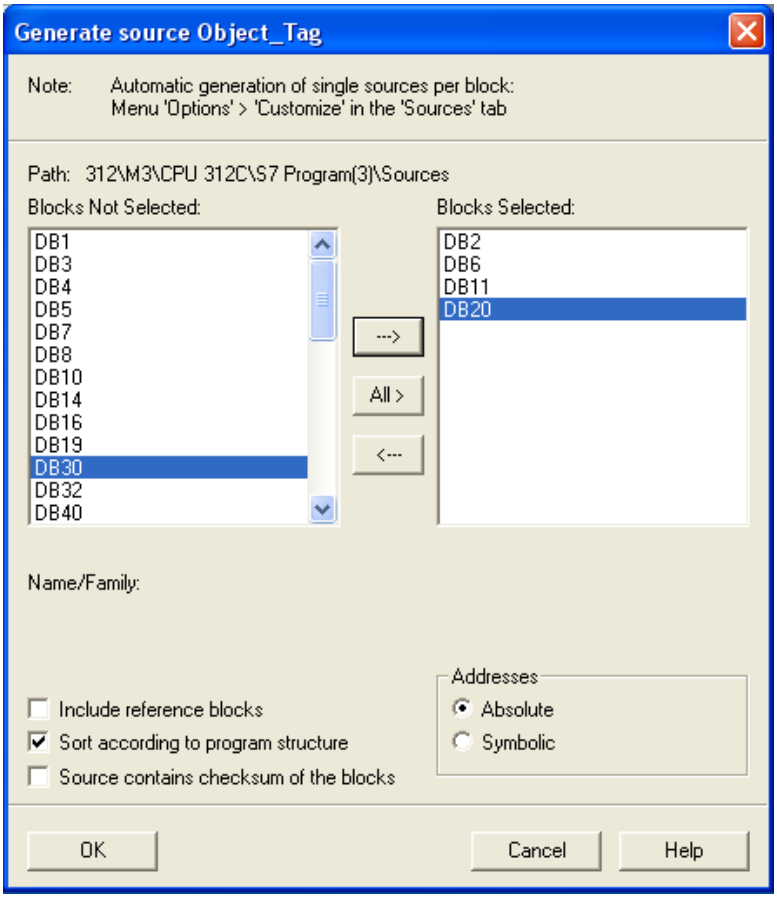

b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File** -> **Generate Source.**



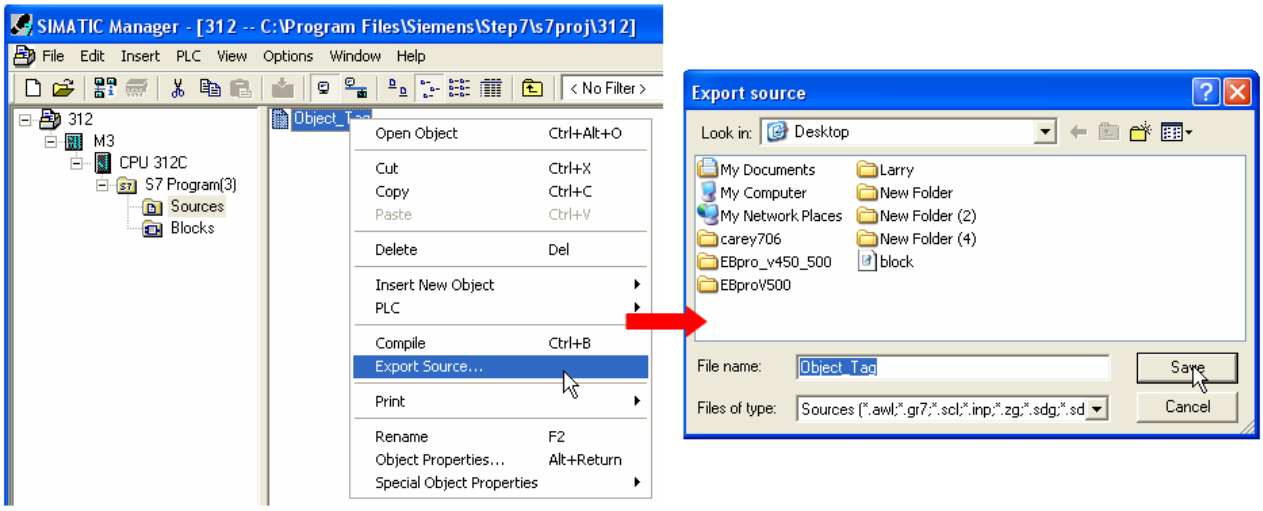
c、 Select **Sources** as storage path, specify the file name then click **OK**.



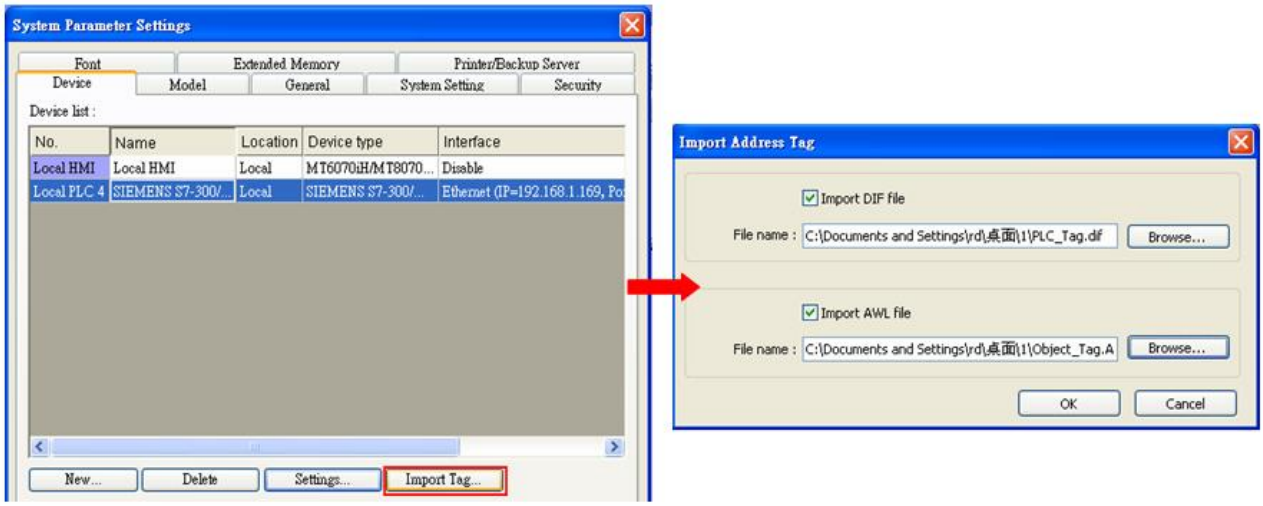

d、 Select the objects to be exported then click **OK**.



e、 Under **Sources** there will be names of the saved files, select **Export Source** to build ***.AWL** file.




The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.




Tag information successfully imported.



## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V2.10 | May/21/2011 | Added registers: MB & DBBn. |

# WIELAND SAMOS PRO

Supported Series: Samos Pro controllers SP-SCON-P1-K, SP-SCON-NET-PA-K
Website: http://www.wieland-electric.com/en/products/safety-technology

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | WIELAND SAMOS PRO | | |
| PLC I/F | RS232 | | |
| Baud rate | 115200 | 9600,19200,38400,57600,115200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |
| PLC sta. no. | 0 | | |

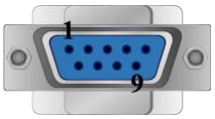
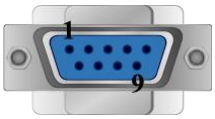
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | I | DDo | 0 ~ 967 | Input |
| B | Q | DDo | 0 ~ 487 | Output |
| B | Logic result | DDo | 0 ~ 327 | Logic Result |
| B | RS-232 | DDo | 0 ~ 327 | RS-232 |
| B | Samos Pro to RS-232_Bit | DDo | 0 ~ 997 | |
| B | Module Status Bit Array_Bit | DDo | 0 ~ 597 | |
| B | Operating Data Block_Bit | Do | 0 ~ 97 | |
| B | Configuration CRCs_Bit | DDo | 0 ~ 197 | |
| B | CPU Module Type Key_Bit | DDo | 0 ~ 177 | |
| B | Extension Modules Type_Bit | DDDo | 0 ~ 3377 | |
| W | RS-232 to Samos Pro | D | 0 ~ 2 | |
| W | Samos Pro to RS-232 | DD | 0 ~ 98 | |
| W | Module Status Bit Array | DD | 0 ~ 58 | |
| W | Operating Data Block | D | 0 ~ 8 | |
| W | Configuration CRCs | DD | 0 ~ 18 | |
| W | CPU Module Type Key | DD | 0 ~ 16 | |
| W | Extension Modules Type | DDD | 0 ~ 336 | |

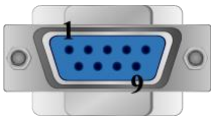
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

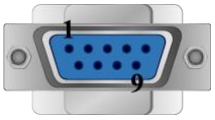
eMT3000 series

| COM1 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Female | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 3 TX |
| 3 TX | 7 TX | | 2 RX |
| 5 GND | 5 GND | | 4 GND |
|  |  | |  |

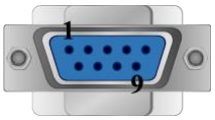
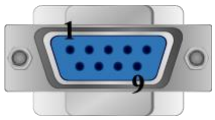
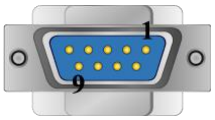
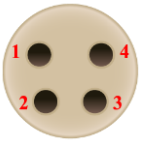
cMT/mTV series

| COM1 RS232 9P<br>D-Sub Female | | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 4 GND |
|  | | |  |

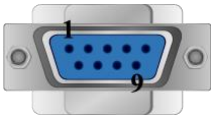
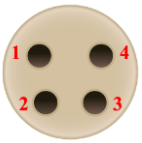
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | | | 3 TX |
| 3 TX | | | 2 RX |
| 5 GND | | | 4 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P<br>D-Sub Female | COM2 RS232 9P<br>D-Sub Female | COM3 RS232 9P<br>D-Sub Male | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX |
| 3 TX | 4 TX | 7 TX | 2 RX |
| 5 GND | 5 GND | 5 GND | 4 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P<br>D-Sub Female | | | CPU0 Port0 4P<br>Mini-DIN Female socket |
|---|---|---|---|
| 9 RX | | | 3 TX |
| 6 TX | | | 2 RX |
| 5 GND | | | 4 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Mar/14/2014 | |

# XINJE XC Series

Supported Series: XINJE XC Series

Website: http://www.xinje.com/0/index.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | XINJE XC Series | | |
| PLC I/F | RS232 | RS232 | |
| Baud rate | 19200 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 0-255 | |

*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

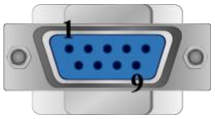
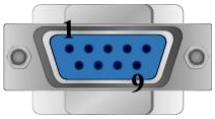
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | M | DDDD | 0 ~ 8511 | |
| B | X | OOOO | 0 ~ 1037 | |
| B | Y | OOOO | 0 ~ 1037 | |
| B | S | DDDD | 0 ~ 1023 | |
| B | T | DDD | 0 ~ 618 | |
| B | C | DDD | 0 ~ 634 | |
| W | D | DDDD | 0 ~ 8511 | |
| W | TD | DDD | 0 ~ 618 | |
| W | CD | DDD | 0 ~ 634 | |
| W | FD_1 | DDDD | 0 ~ 5000 | |
| W | FD_2 | DDDD | 8000 ~ 8511 | |

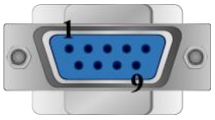
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

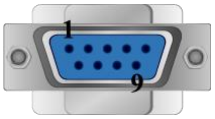
Driver Version: eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 8P Mini-Din Female socket |
|---|---|---|---|
| 2 RX | 8 RX | | 5 TX |
| 3 TX | 7 TX | | 4 RX |
| 5 GND | 5 GND | | 8 GND |
|  |  | |  |

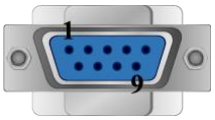
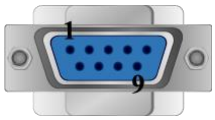
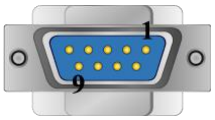
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-Din Female socket |
|---|---|---|---|
| 2 RX | | | 5 TX |
| 3 TX | | | 4 RX |
| 5 GND | | | 8 GND |
|  | | |  |

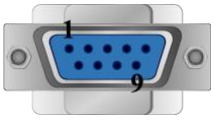
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-Din Female socket |
|---|---|---|---|
| 2 RX | | | 5 TX |
| 3 TX | | | 4 RX |
| 5 GND | | | 8 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 8P Mini-Din Female socket |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 5 TX |
| 3 TX | 4 TX | 7 TX | 4 RX |
| 5 GND | 5 GND | 5 GND | 8 GND |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 8P Mini-Din Female socket |
|---|---|---|---|
| 9 RX | | | 5 TX |
| 6 TX | | | 4 RX |
| 5 GND | | | 8 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jul/02/2009 | Driver released. |

# YAMAHA ERCD

## HMI Setting:

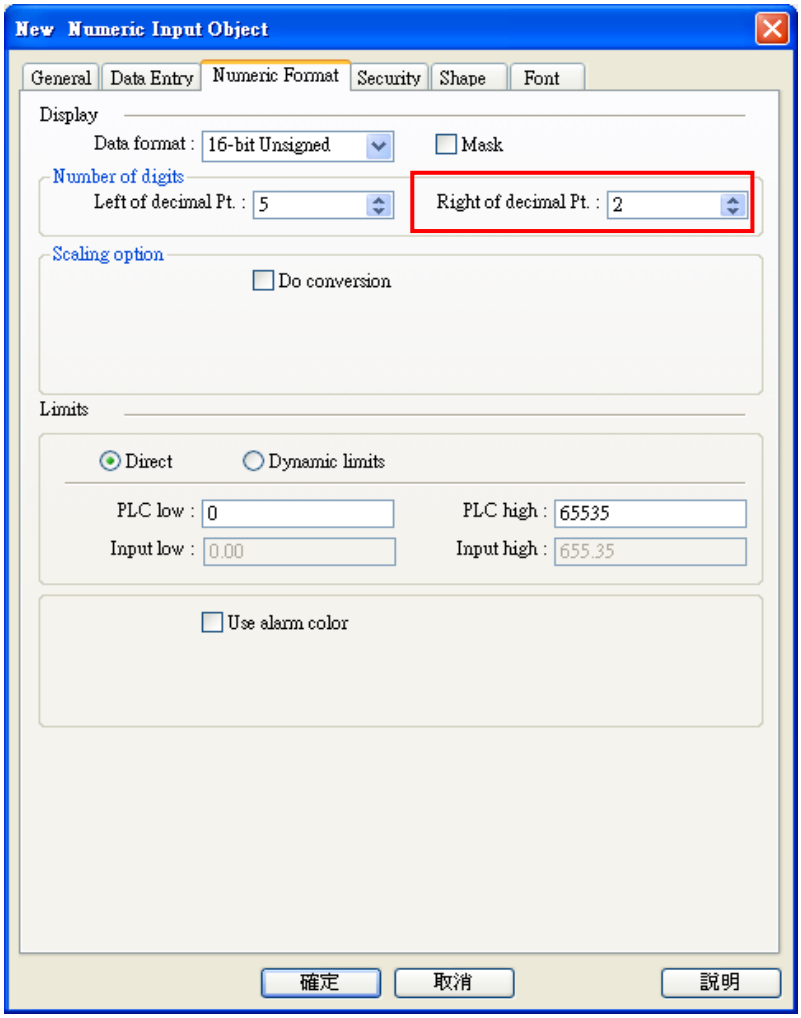
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YAMAHA ERCD | | |
| PLC I/F | RS232 | | |
| Baud rate | 9600 | 1200-19200 | |
| Data bits | 8 | 7 or 8 | |
| Parity | Odd | None/Even/Odd | |
| Stop bits | 1 | 1 or 2 | |
| PLC sta. no. | 0 | | Needn't to set the station No. |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| Bit | DI | DD | 0 ~ 15 | Sequence Input (Read only) |
| Bit | DO | D | 0 ~ 7 | Sequence Output (Read only) |
| Bit | EMG | D | 0 | Emergency stop status (Read only) |
| Bit | SRVO | D | 0 | Servo Status (Read/Write) |
| Bit | ORG_Sensor | D | 0 | Original sensor status (Read only) |
| Bit | RESET | D | 0 | Set on to reset program (Write only) |
| Bit | RUN | D | 0 | Set on to execute a program (Write only) |
| Bit | X_ADD | D | 0 | Set on to move robot to + side (Write only) |
| Bit | X_SUB | D | 0 | Set on to move robot to - side (Write only) |
| Word | P | DDD | 0 ~ 999 | PNT point data (Read/Write) *Note |
| Word | PRM | DD | 0 ~ 99 | Parameters (Read/Write) |
| Word | SWI | D | 0 | Switches program number to run<br>RW0=program number (Write only)<br>Set the parameter of RW register, and then enter any value in this register. |
| Word | MOVD | D | 0 | Directly moves to specified position<br>RW1=X-axis position(mm), RW2=speed (Write only)<br>Set the parameter of RW register, and then enter any value in this register. |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| Word | ORG | D | 0 | Return to original activity (Enter any value) , Return to original status (Read/Write) |
| Word | MODE | D | 0 | 動作模式 |
| Word | POS | D | 0 | Current position (Read only) *Note |
| Word | NO | D | 0 | Current program number (Read only) |
| Word | SNO | D | 0 | Current step number (Read only) |
| Word | TNO | D | 0 | Current task number (Read only) |
| Word | PNO | D | 0 | Current selected point number (Read only) |

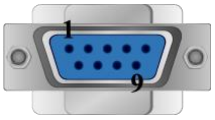
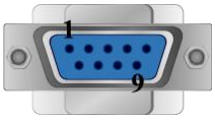
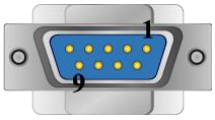
The value read in address types P and POS is timed by 100, therefore, in the object setting in EasyBuilder, set to the second place after the decimal point to get the correct value.



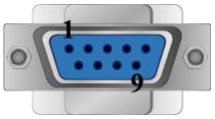
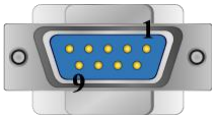
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

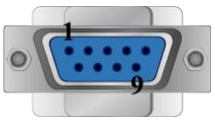
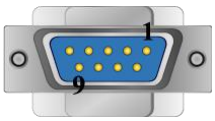
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TX | |
| 3 TX | 7 TX | | 2 RX | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

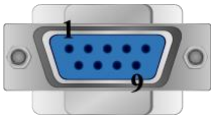
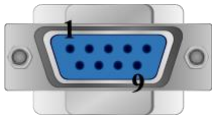
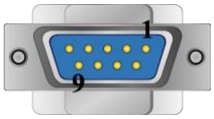
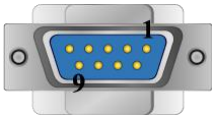
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TX | |
| 3 TX | | | 2 RX | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

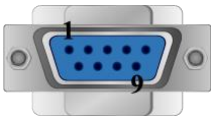
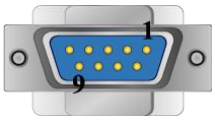
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TX | |
| 3 TX | | | 2 RX | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TX | |
| 3 TX | 4 TX | 7 TX | 2 RX | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TX | |
| 6 TX | | | 2 RX | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Jan/04/2010 | |
| V1.40 | Dec/13/2012 | Added registers: DI、DO、EMG、SRVO、ORG_Sensor、P、PRM、MODE、POS、NO、SNO、TNO、PNO. |

# YASKAWA CCMEP

Supported Series: YASKAWA CCMEP-100/ CCMEP-200

Website: http://www.yaskawa-control.co.jp/english/jigyo/mechotronics.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA CCMEP | | |
| PLC I/F | RS485 4W | | |
| Baud rate | 38400 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | | |

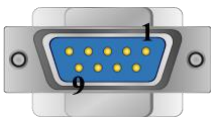
## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | 4_Bit | DDDDDdd | 100 ~ 6553515 | |
| W | 4 | DDDDD | 1 ~ 65535 | |

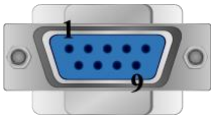
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

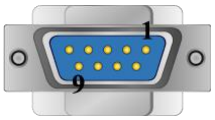
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 1 RX+ |
| 5 GND | | | 8 GND |
|  | | |  |

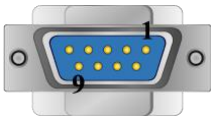
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 7 RX- | | | 4 TX- |
| 6 RX+ | | | 3 TX+ |
| 9 TX- | | | 2 RX- |
| 8 TX+ | | | 1 RX+ |
| 5 GND | | | 8 GND |
|  | | |  |

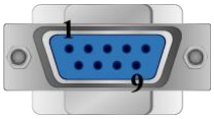
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 1 RX+ |
| 5 GND | | | 8 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 1 RX+ |
| 5 GND | | | 8 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | RS485 4W 8P RJ45 Male |
|---|---|---|---|
| 1 RX- | | | 4 TX- |
| 2 RX+ | | | 3 TX+ |
| 3 TX- | | | 2 RX- |
| 4 TX+ | | | 1 RX+ |
| 5 GND | | | 8 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jun/14/2012 | Driver released. |

# YASKAWA Memobus (MP Series Controllers)

Supported Series: YASKAWA MP2200, MP2300, MP2300S, MP9xx communication module.
Website: http://www.yaskawa.com/

## HMI Setting:

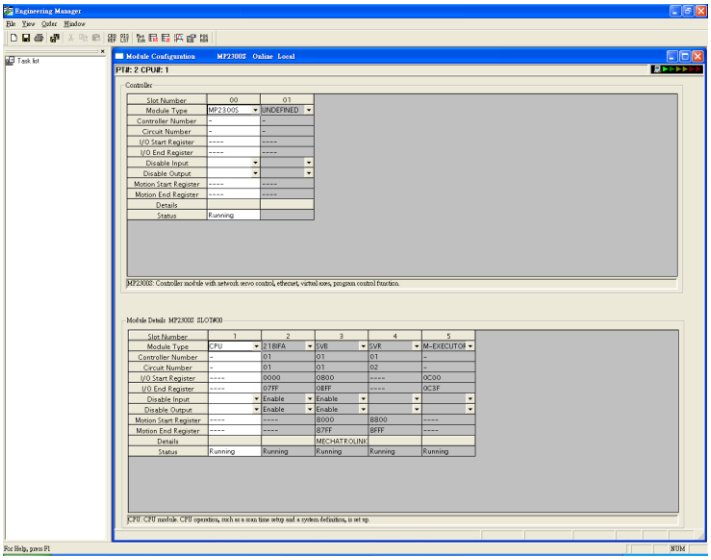
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA Memobus (MP Series Controllers) | | |
| PLC I/F | RS485/Ethernet | RS232/RS485 2w/4w, Ethernet | |
| Baud rate | 19200 | 9600~57600 | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| Port no. | 502 | default | Ethernet Module Only |
| PLC sta. no. | 1 | 1-31 | |

## PLC Setting:

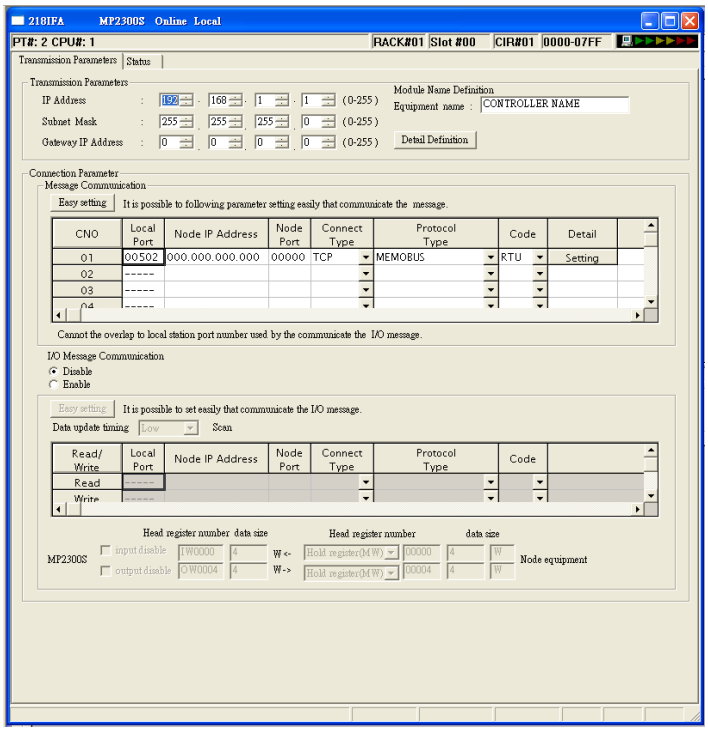
| | |
|---|---|
| Communication mode | MEMOBUS, Slave, RTU |

## PLC Ethernet Setting:

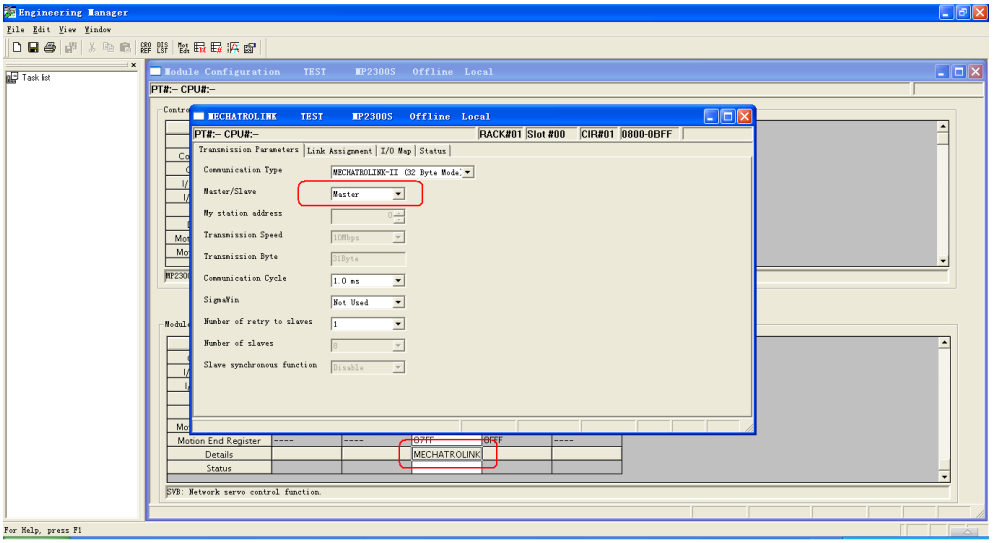
1. Use MPE720 program software, open Module Configuration, double click “218IFA”.



2. In Transmision Parameters input MP2300S IP address, Subnet Mask, Gateway IP. In Connection Parameter, CNO -1 input: Local Port=502, Node IP address=000.000.000.000, Node Port=00000, Connect Type=TCP, Protocol Type=MEMOBUS, Code=RTU.




3. Click MECHATROLINK to set up MP2300S PLC as Master.




4. Close all dialogs and save to MP2300S.

## Note:

1. Only CNO 01 can auto communicate with one HMI. Other CNO need a ladder program created for communication.
2. DIP SW2-2 of MP2300S must be set to OFF position during normal communication, otherwise, IP address will be erased after reset power, and it will be unable to communicate with HMI when set to ON position.

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MB_1 | DDDDh | 0 ~ 9999f | MB 0 ~ 9999 |
| B | MB_2 | DDDDDh | 100000 ~ 65534f | MB 10000 ~ 65535 |
| B | IB | HHHHH | 0 ~ a7ff0 | Read only |
| B | IW_Bit | HHHHdd | 0~ a7ff15 | |
| W | IW | HHHH | 0 ~ a7ff | Read only |
| DW | IL | HHHH | 0 ~ a7ff | Read only |
| DW (F) | IF | HHHH | 0 ~ a7ff | Read only |
| W | MW | DDDDD | 0 ~ 65534 | Holding register |
| DW | ML | DDDDD | 0 ~ 65533 | Double word |
| DW (F) | MF | DDDDD | 0 ~ 65533 | Floating point |

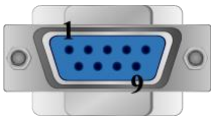
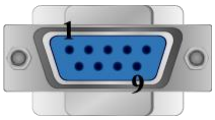
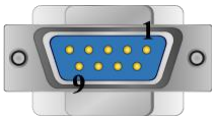
*: When connect via Ethernet interface the max range of IW, IL and IF would be restricted.

## Wiring Diagram:

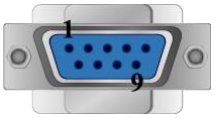
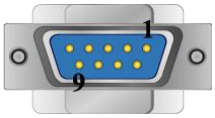
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: 217IF-01, 218IF-01

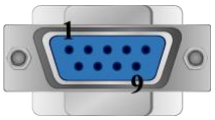
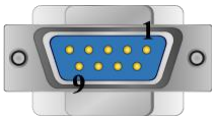
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

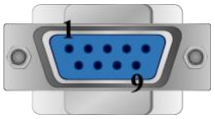
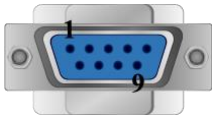
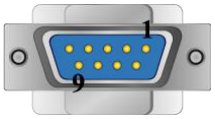
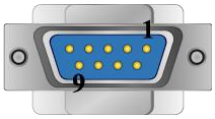
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

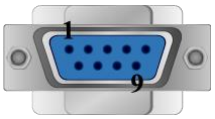
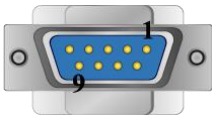
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 7 GND |
|  |  |  |  |

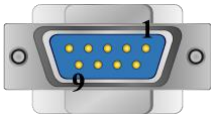
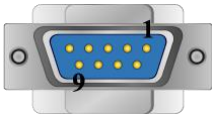
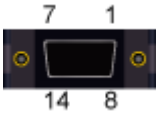
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

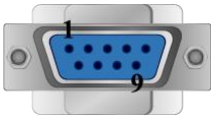
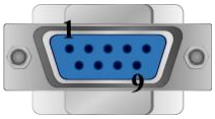
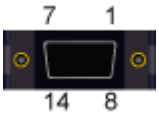
**The following is the view from the soldering point of a cable.**

217IF-01 RS485 2W:

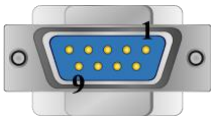
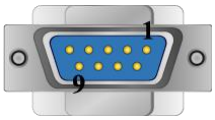
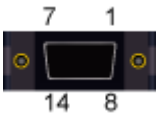
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2, 4 D- |
| 2 RX+ | 9 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

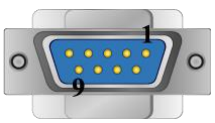
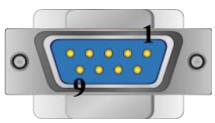
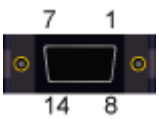
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2, 4 D- |
| 6 RX+ | 1 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

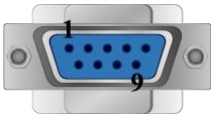
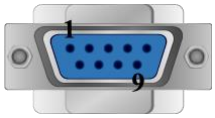
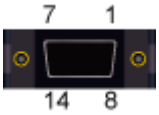
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2, 4 D- |
| 2 RX+ | 8 Data+ | | 1, 3 D+ |
| 5 GND | 9 GND | | 14 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2, 4 D- |
| 2 RX+ | 9 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

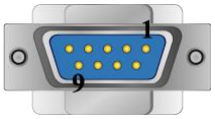
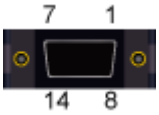
MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2, 4 D- |
| 2 RX+ | 8 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

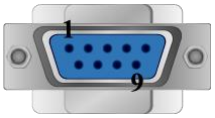
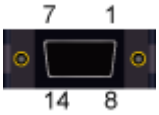
**The following is the view from the soldering point of a cable.**

217IF-01 RS4854W:

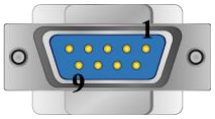
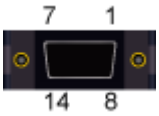
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

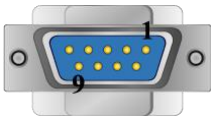
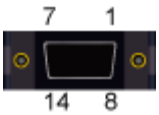
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 7 RX- | | | 2 TX- |
| 6 RX+ | | | 1 TX+ |
| 9 TX- | | | 4 RX- |
| 8 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

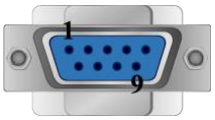
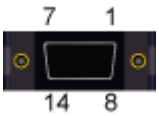
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.70 | Dec/20/2010 | |

# YASKAWA MP Series Ethernet (Extension)

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA MP Series Ethernet (Extension) | | |
| PLC I/F | Ethernet (UDP) | | |
| Port no. | 10000 | | |
| PLC sta. no. | 1 | | |

## PLC Setting:

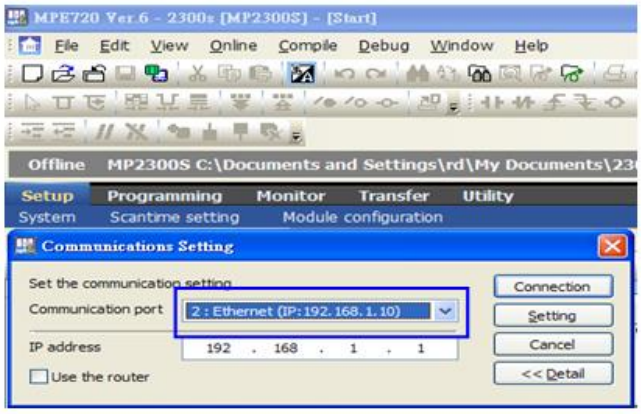
Yaskawa PLC Communication Parameter Settings

(1) PLC Factory Communication Parameter Settings:

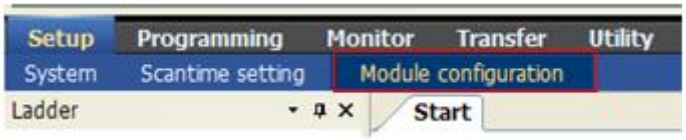
| Item | Set |
|---|---|
| IP Address | 192.168.1.1 |
| Subnet Mask | 255.255.255.0 |
| Gateway IP Address | 0.0.0.0 |
| System Port No. | 10000 (UDP) |
| TCP Zero Window Timer Value | 3 (s) |
| TCP Retry Time | 500 (ms) |
| TCP Close Time | 60 (s) |
| IP Assemble Time | 30 (s) |
| Max. Packet Length | 1500 (bytes) |

(2) Setting Steps:

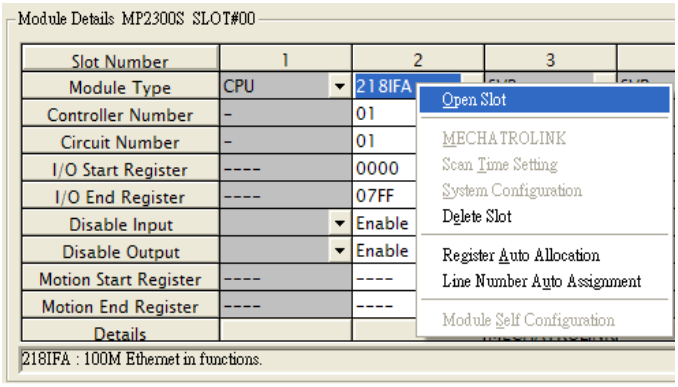
1. Set IP for PLC.



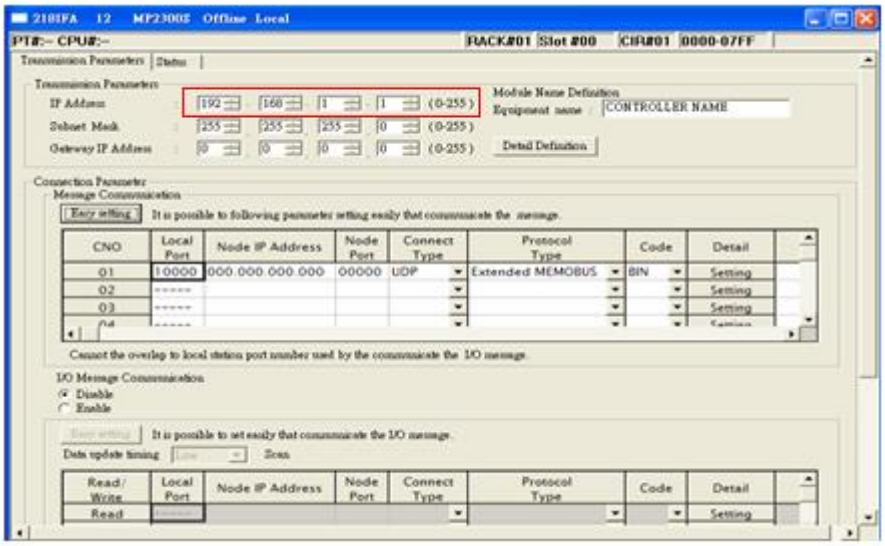
2. Communication parameter setting.




3. Go to Module Details and select [218IFA] for setting relevant parameters for Ethernet transmission.




4. The settings are shown below, PLC IP can't be repeated.



5. Download PLC communication parameters to PLC, and restart the controller.




(3) HMI Settings:

1. Select Ethernet for PLC I/F.
2. Tick [UDP].
3. Set PLC IP and Port, the default Port is 10000.



## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SB | DDDDh | 0 ~ 8191f | |
| B | IB | HHHHh | 0 ~ fffff | |
| B | OB | HHHHh | 0 ~ fffff | |
| B | MB | DDDDDh | 0 ~ 65534f | |
| W | SW | DDDD | 0 ~ 8191 | |
| W | IW | HHHH | 0 ~ ffff | |
| W | OW | HHHH | 0 ~ ffff | |
| W | MW | DDDDD | 0 ~ 65534 | |
| DW | ML | DDDDD | 0 ~ 65534 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Jul/21/2011 | Driver released. |
| V1.30 | Apr/17/2013 | Fixed the error in data transfer. |

# YASKAWA MP Series Memobus (Ethernet)

Supported Series: YASKAWA MP2200, MP2300, MP2300S, MP9xx with 218IF-02 ethernet module.
Website: http://www.yaskawa.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA MP Series Memobus (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 502 | | |

## PLC Setting:

How to connect one Yaskawa Ethernet device with multiple HMIs?
http://www.weintek.com/Download/MT8000/eng/FAQ/FAQ_61_How_to_connect_Yaskawa_Ethernet.pdf

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | MB | DDDDDh | 0 ~ 65534F | |
| B | IB | HHHHH | 0 ~ A7FFF | Read only |
| B | IW_Bit | HHHHdd | 0 ~ A7FF15 | Read only |
| W | IW | HHHH | 0 ~ A7FF | Read only |
| DW | IL | HHHH | 0 ~ A7FF | Read only |
| DW | IF | HHHH | 0 ~ A7FF | Float , Read only |
| W | MW | DDDDD | 0 ~ 65534 | |
| DW | ML | DDDDD | 0 ~ 65533 | |
| DW | MF | DDDDD | 0 ~ 65533 | Float |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Mar/19/2013 | Driver released. |

# YASKAWA MP Series SIO (Extension)

Supported Series: YASKAWA MP2200, MP2300, MP2300S, MP9xx communication module.
Website: http://www.yaskawa.com/

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA MP Series SIO (Extension) | | |
| PLC I/F | RS485 | RS232/RS485 2w/4w | |
| Baud rate | 19200 | 9600~57600 | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 1-31 | |

## Device Address:

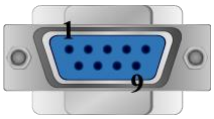
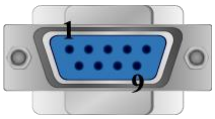
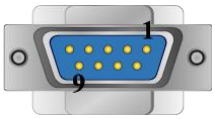
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | SB | DDDDh | 0 ~ 8191F | |
| B | IB | HHHHh | 0 ~ FFFFF | |
| B | OB | HHHHh | 0 ~ FFFFF | |
| B | MB | DDDDDh | 0 ~ 65534F | |
| W | SW | DDDD | 0 ~ 8191 | |
| W | IW | HHHH | 0 ~ FFFF | |
| W | OW | HHHH | 0 ~ FFFF | |
| W | MW | DDDDD | 0 ~ 65534 | |

## Wiring Diagram:

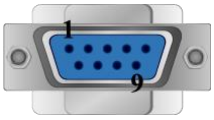
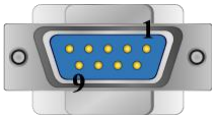
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: 217IF-01, 218IF-01

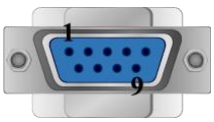
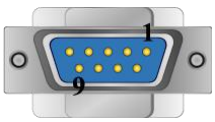
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TX |
| 3 TX | 7 TX | | 3 RX |
| 5 GND | 5 GND | | 7 GND |
|  |  | |  |

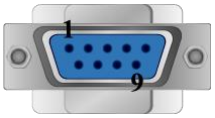
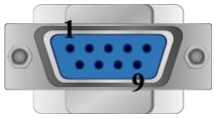
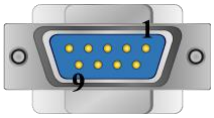
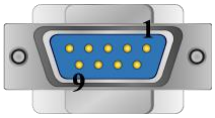
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

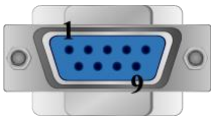
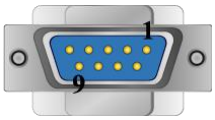
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TX |
| 3 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TX |
| 3 TX | 4 TX | 7 TX | 3 RX |
| 5 GND | 5 GND | 5 GND | 7 GND |
|  |  |  |  |

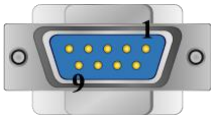
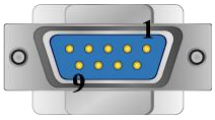
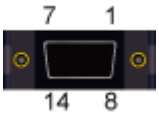
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TX |
| 6 TX | | | 3 RX |
| 5 GND | | | 7 GND |
|  | | |  |

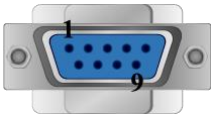
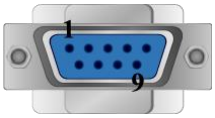
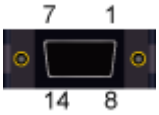
**The following is the view from the soldering point of a cable.**

217IF-01 RS485 2W:

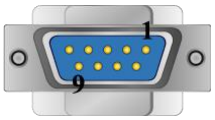
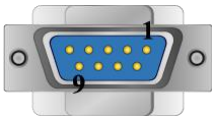
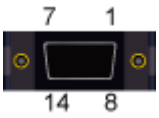
eMT3000 series

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2, 4 D- |
| 2 RX+ | 9 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

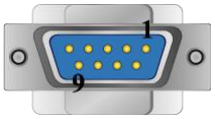
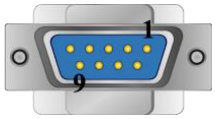
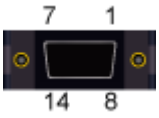
cMT/mTV series

| COM2 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 7 RX- | 4 Data- | | 2, 4 D- |
| 6 RX+ | 1 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

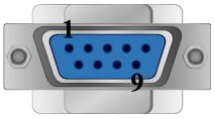
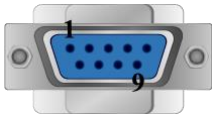
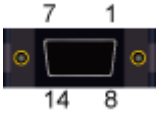
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2, 4 D- |
| 2 RX+ | 8 Data+ | | 1, 3 D+ |
| 5 GND | 9 GND | | 14 GND |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 6 Data- | | 2, 4 D- |
| 2 RX+ | 9 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

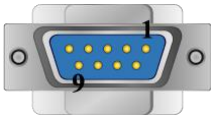
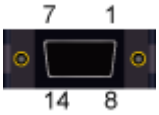
MT6050i/MT8050i/MT8050iE

| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | 217IF-01 RS485 14P Connector |
|---|---|---|---|
| 1 RX- | 7 Data- | | 2, 4 D- |
| 2 RX+ | 8 Data+ | | 1, 3 D+ |
| 5 GND | 5 GND | | 14 GND |
|  |  | |  |

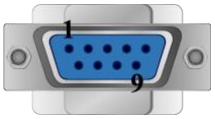
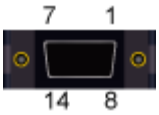
**The following is the view from the soldering point of a cable.**

217IF-01 RS4854W:

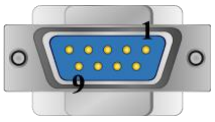
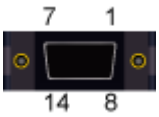
eMT3000 series

| COM1 RS485 4W 9P D-Sub Male | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

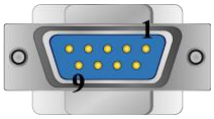
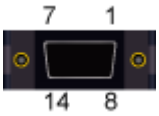
cMT/mTV series

| COM2 RS485 4W 9P D-Sub Female | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 7 RX- | | | 2 TX- |
| 6 RX+ | | | 1 TX+ |
| 9 TX- | | | 4 RX- |
| 8 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

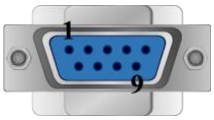
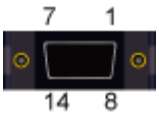
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 4W 9P D-Sub Male | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 4W 9P D-Sub Male | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS485 4W 9P D-Sub Female | | | 217IF-01 RS422 14P Connector |
|---|---|---|---|
| 1 RX- | | | 2 TX- |
| 2 RX+ | | | 1 TX+ |
| 3 TX- | | | 4 RX- |
| 4 TX+ | | | 3 RX+ |
| 5 GND | | | 14 GND |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Jun/25/2013 | Driver released. |

# YASKAWA MP2300Siec

Website: http://www.yaskawa.com/site/home.nsf/home/home.html

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA MP2300Siec | | |
| PLC I/F | Ethernet | | |
| Port no. | 44818 | | |
| Assembly instance | Input::101<br>Output:111 | Input::101~106<br>Output:111~116 | |
| PLC sta. no. | 1 | | |

## PLC Setting:

### MP2300Siec-Motion Works IEC Express (YASKAWA) Settings:

**Step 1.** Before HMI communicates with MP2300Siec using Ethernet/IP, the Instance Input and Instance Output of MP2300Siec device must be set correctly. Multiple Instances are allowed to be built at one time, please click [Save] after setting.

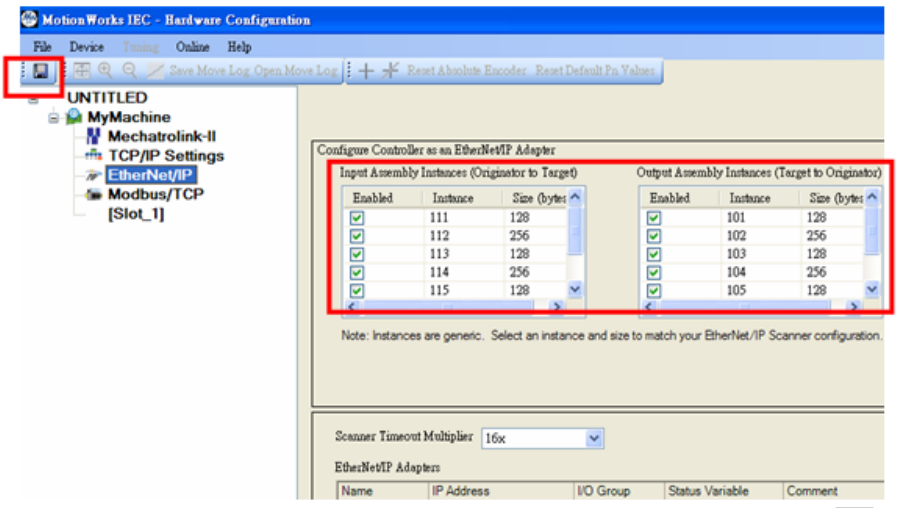



Fig. 1 Assembly Instances

**Step 2.**Global Variables will automatically add in E/IP Input and Output data, Input and Output data name and address type can be user-defined.

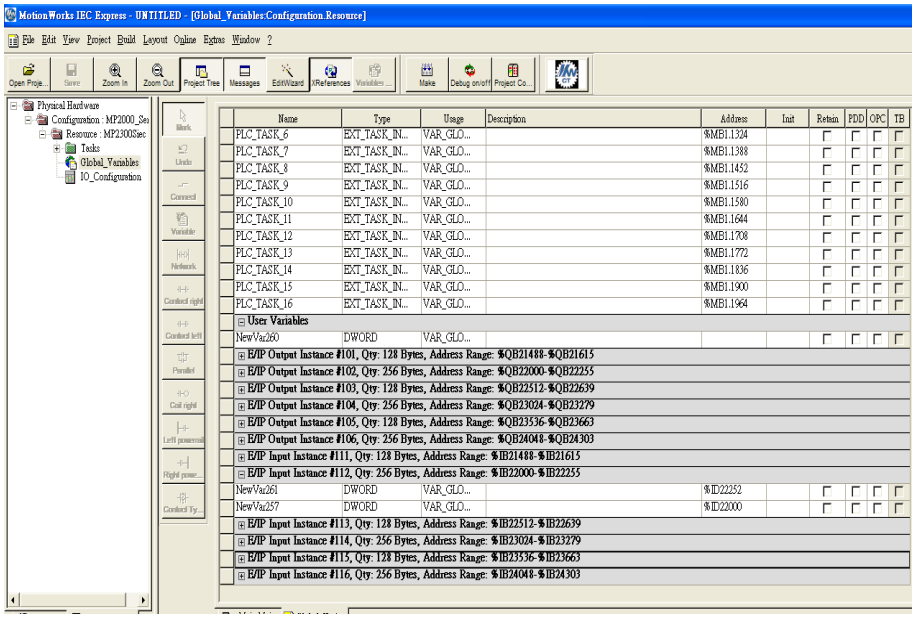



Fig. 2 Global Variables

**Step 3.** When download Project to device (MP2300Siec), please go to (Fig. 3) Resource->Settings to access setting dialog (Fig. 4) for setting MP2300Siec IP address.

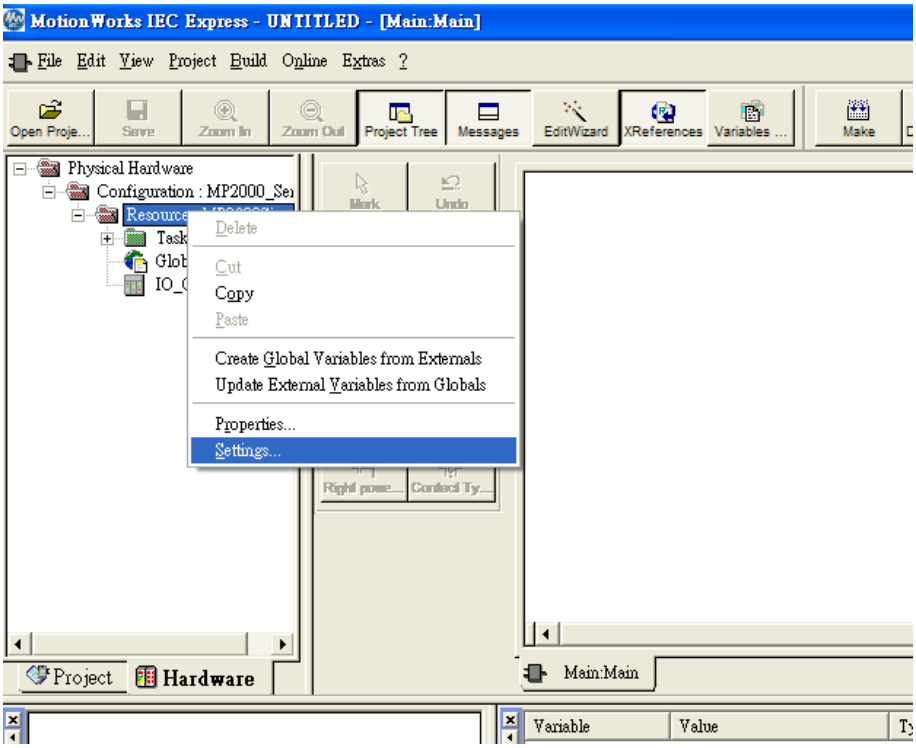



Fig. 3 Motion Works IEC Express – Settings

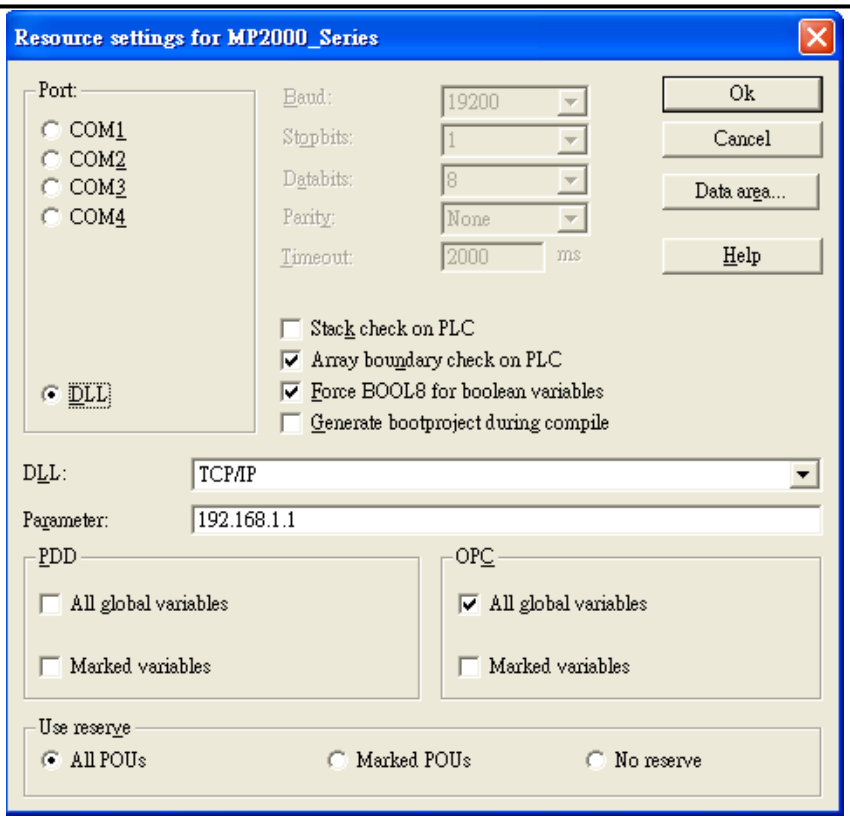



Fig. 4 Resource Settings

**Step 4.** Start compilation.

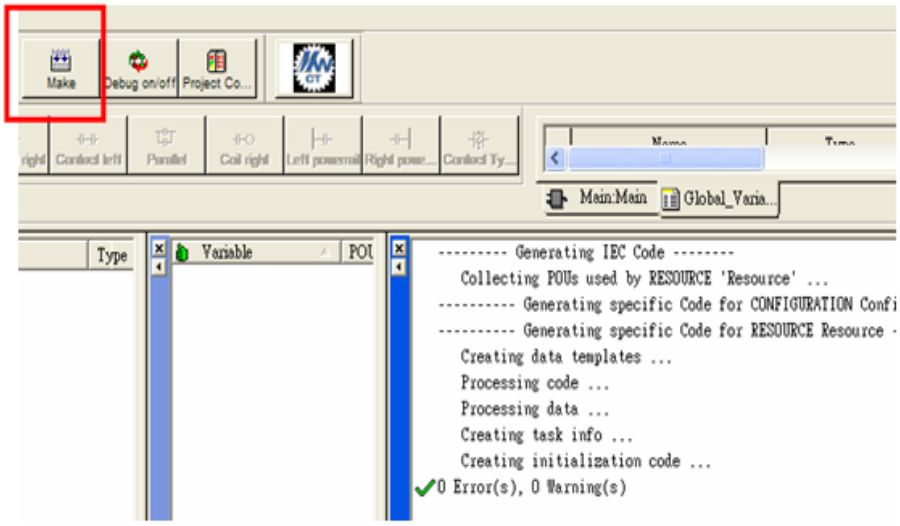



Fig. 5 Editing Screen

**Step 5.** Download project to device- MP2300Siec, and execute Cold.

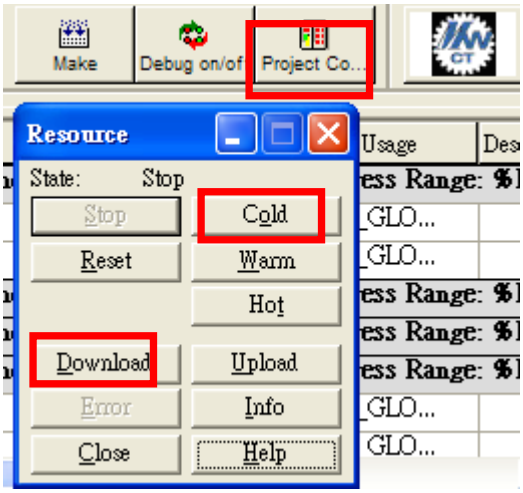



Fig. 6 Project Downloading

## You may use one of the two drivers to connect Yaskawa MP2300Siec:

1. **Yaskawa MP2300Siec driver.**
2. **Rockwell EtherNet/IP (CompactLogix) – Free Tag Names driver.**

## (1) Yaskawa MP2300Siec driver.

### Step 1. System Parameter Settings

Open EasyBuilder project, as shown in Fig. 7, Assembly Instance and Size must match the software default factory settings, and please don't select UDP. Fig.8 below shows how HMI Input / Output address is mapped to MP2300Siec device.

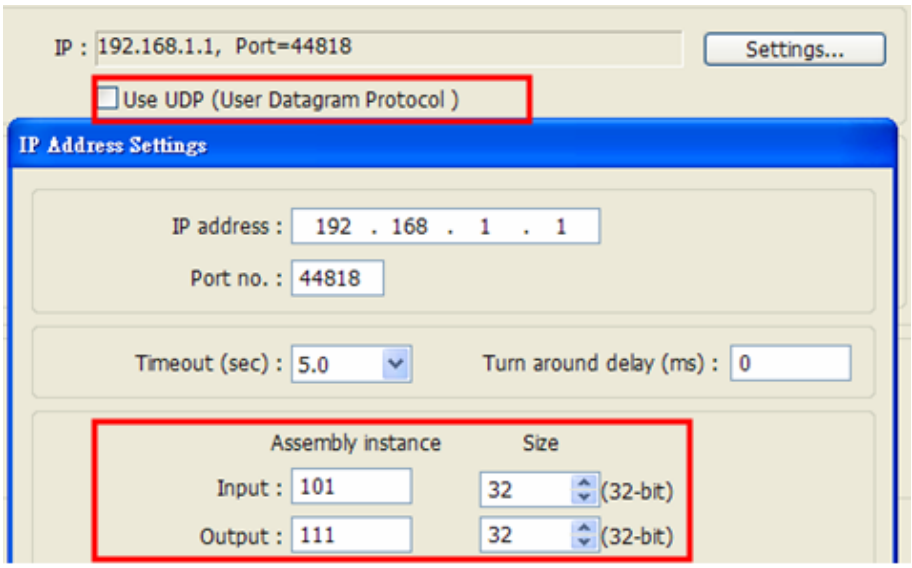



Fig. 7 Instance Setting

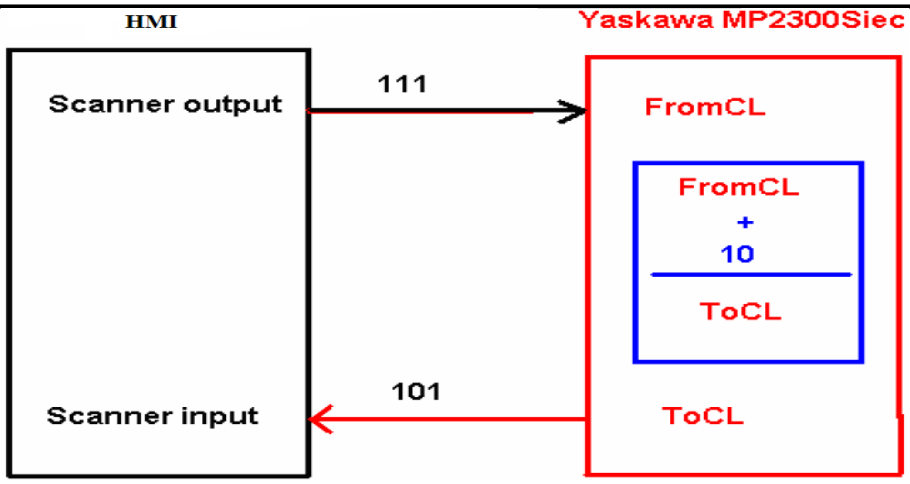



Fig.8 HMI and MP2300Siec I/O Mapping

**Step 2. Address Setting:**

Instance 101 and Instance 111 are defined as 128Bytes, on the project window , WORD objects can be used, with data typed defined as 32-Bit Unsigned, Input addresses set to 0、2、4、6…..62 for reading Instance 101 data.

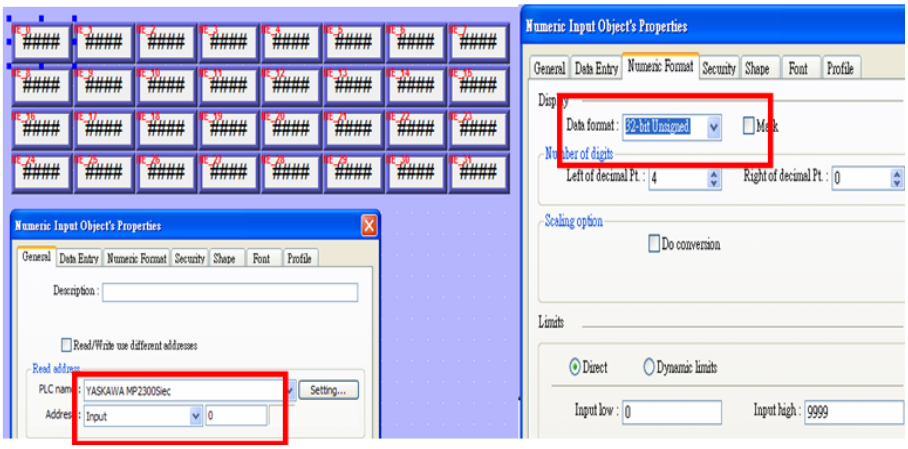



Fig. 9 Address Setting

### (2) Rockwell EtherNet/IP (CompactLogix) – Free Tag Names driver.

**Step 1.** In EasyBuilder8000/EasyBuilder Pro project, when using Rockwell EIP driver to import CSV file (as in Fig. 10), please open Structure Editor (Fig. 11), and right click on Module Defined to add New Data Type.

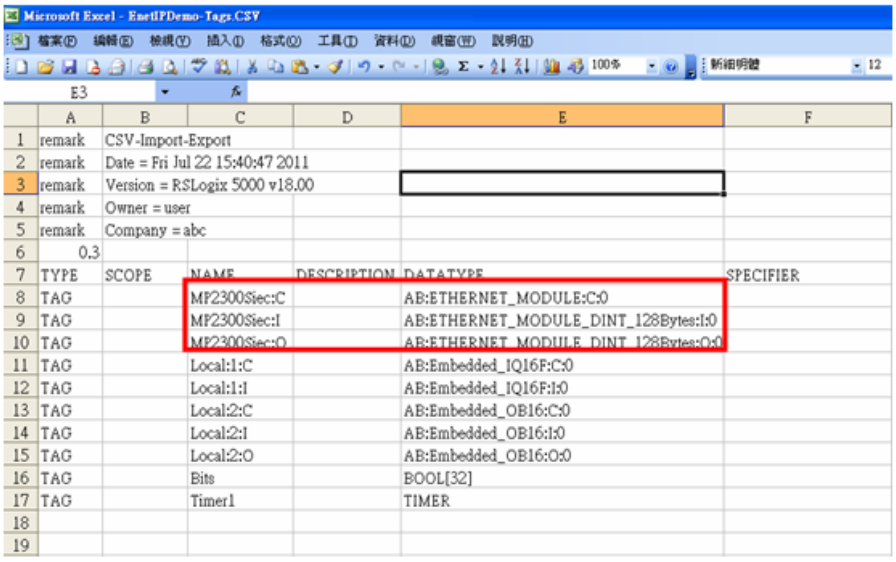



Fig. 10 RSLogix 5000 (Rockwell Software) Export Free Tag CSV File

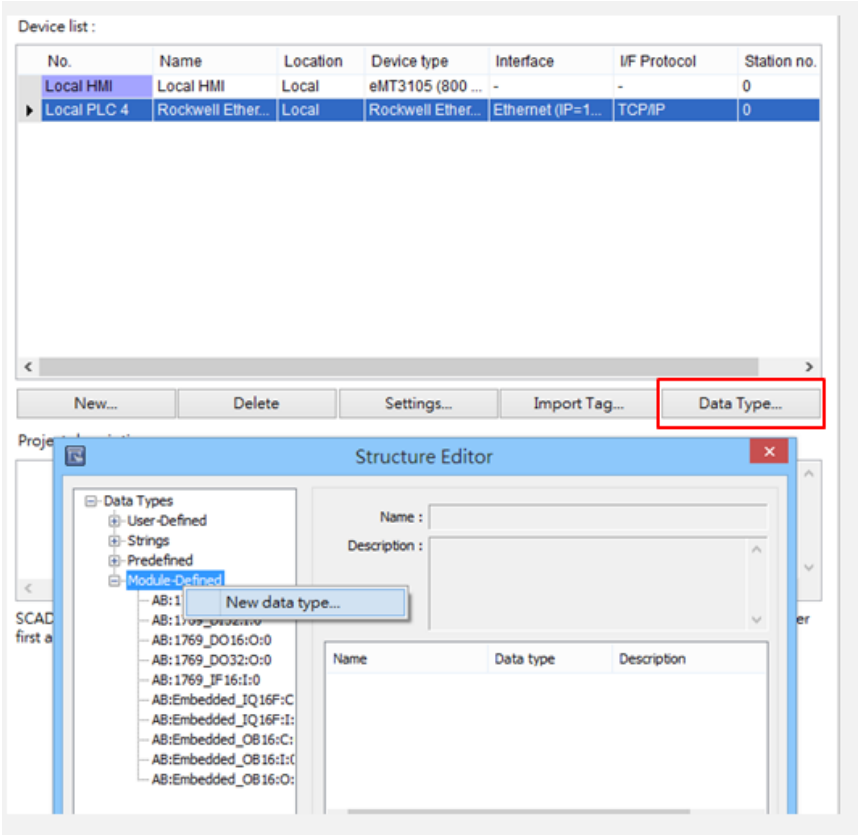



Fig.11 Structure Editor

**Step 2.** As in Fig 12, in Structure Editor add Name of the new data type. The Name must be set identically to the Data Type in Free Tag CSV file. As in Fig 14, Data Member Name must be set identically to the Rockwell software (as Data in Fig. 13), then click [Save] (Fig. 15).

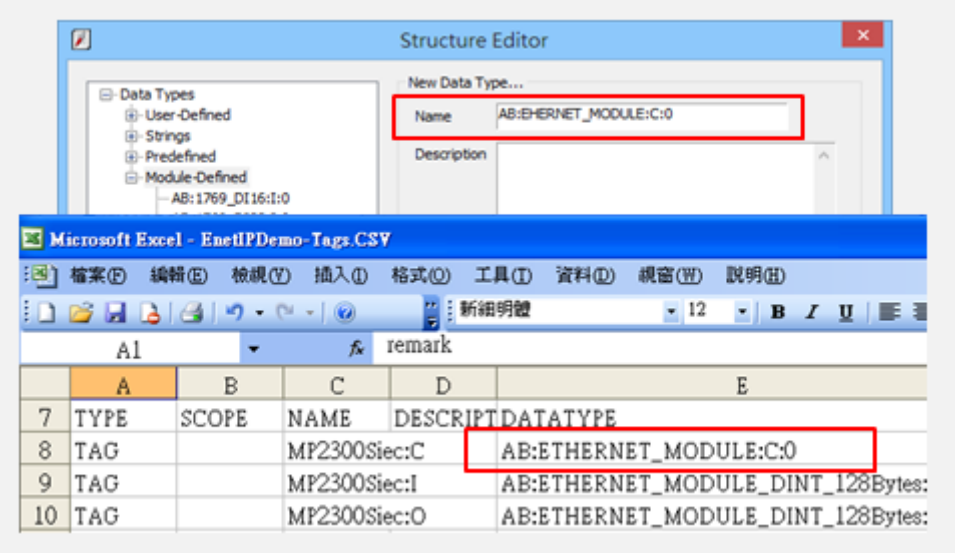



Fig.12 Structure Editor

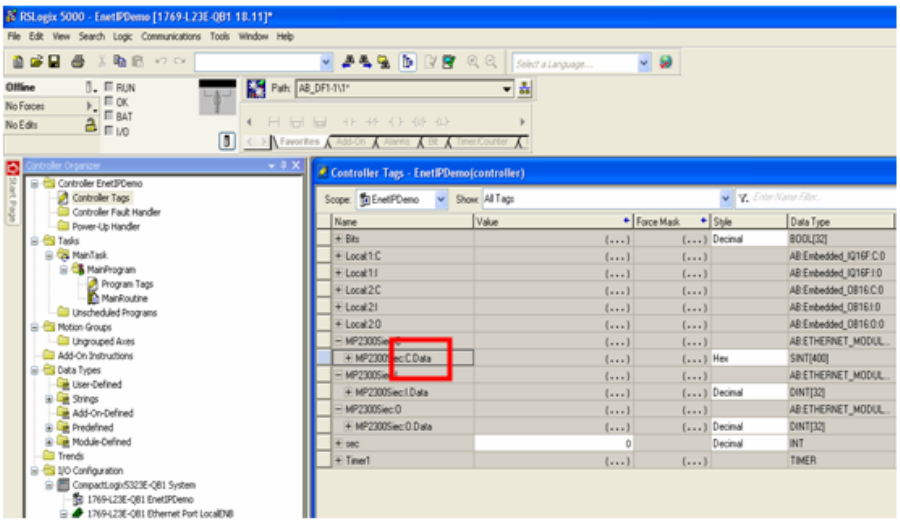



Fig.13 Tag Information

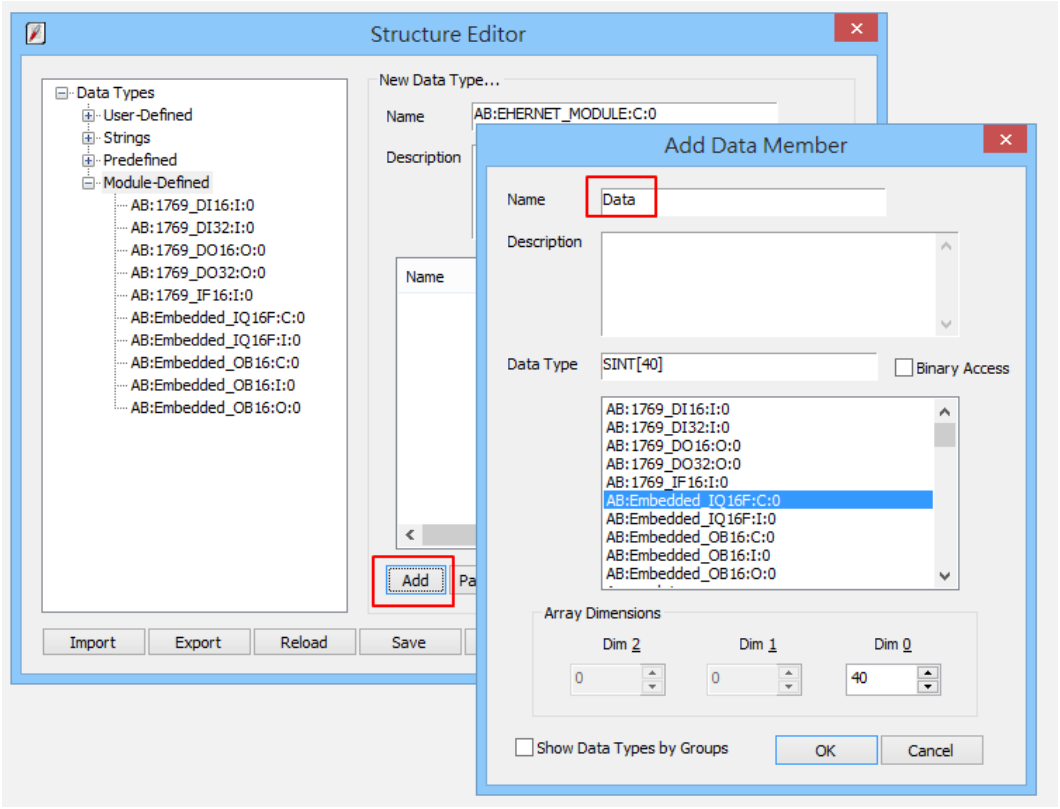



Fig.14 Add Data Member - Name Tag Information

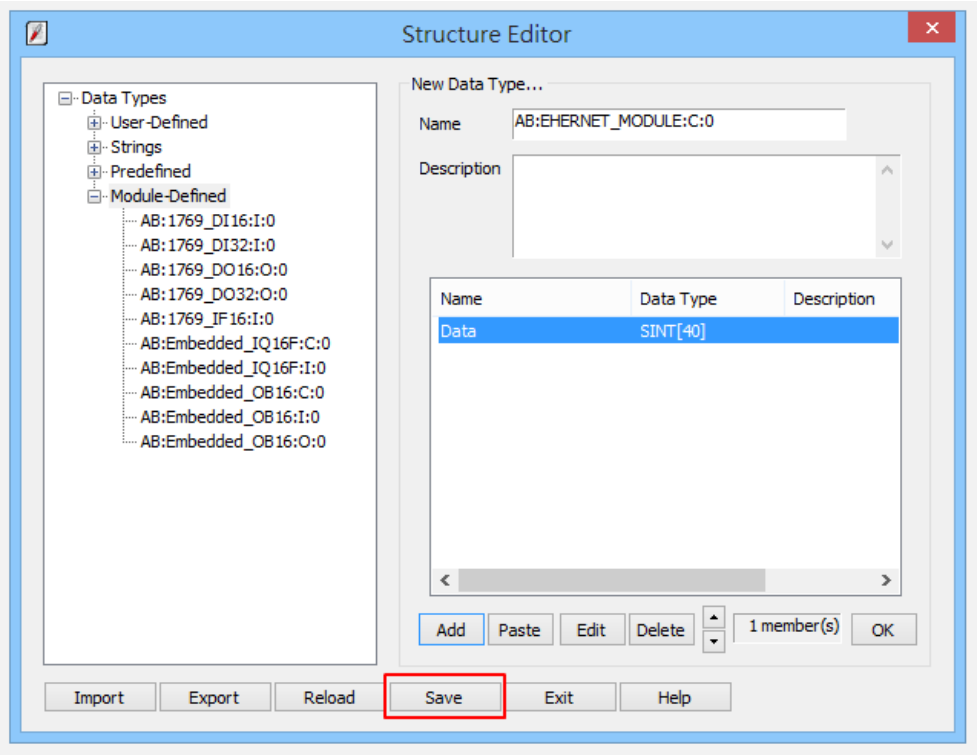



Fig. 15 Add Data Member-Settings - Save

**Step 3.** Import CSV file, Tag Information can be viewed from object address.

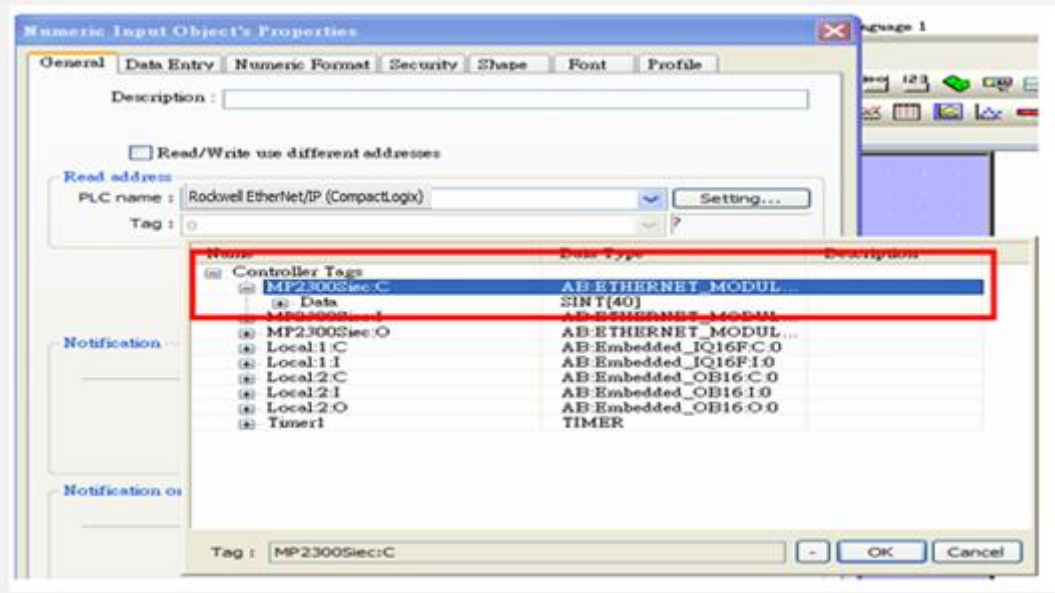



Fig.16 Tag Information

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | Input_Bit | DDDDDdd | 0 ~ 6553515 | |
| B | Output_Bit | DDDDDdd | 0 ~ 6553515 | |
| DW | Input | DDDDD | 0 ~ 65535 | |
| DW | Output | DDDDD | 0 ~ 65535 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |



Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Note: The wiring diagrams above are drawn based on MT8100i structure, the actual placement of pins may vary according to HMI module.

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Aug/24/2011 | Driver released. |

# YASKAWA Sigma-5

Supported Series: YASKAWA ∑-V Series
Website: http://www.yaskawa.co.jp/

## HMI Setting:

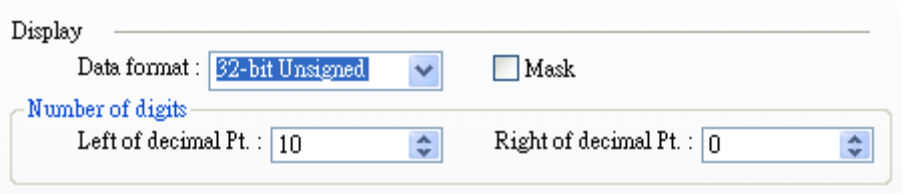
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA Sigma-5 | | |
| PLC I/F | RS232 | RS232/RS485 | |
| Baud rate | 19200 | | |
| Data bits | 8 | | |
| Parity | Even | | |
| Stop bits | 1 | | |
| PLC sta. no. | 1 | 0 ~ 127 | |

## Device Address:

| Bit/Word | Device type | Format | Range | Note |
|---|---|---|---|---|
| B | 0_bit | HHHh | 0 ~ FFFF | Normal Parameters Area |
| B | E_bit | HHHh | 0 ~ FFFF | Monitor Area |
| W | 0 | HHH | 0 ~ FFF | Normal Parameters Area |
| W | E | HHH | 0 ~ FFF | Monitor Area |

*The following addresses are 32 bit parameters. Please use two words when reading or writing.

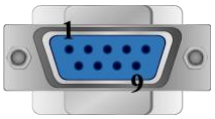
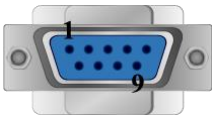
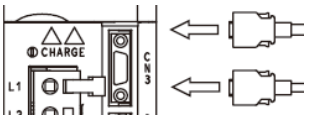
- Normal Parameters area
  020AH / 020EH / 0210H / 0212H / 0282H / 051BH / 0520H / 0522H / 0524H / 0526H / 0531H
- Monitor Area
  E003H / E009H / E00EH / E010H / E012H / E016H / E01BH / E084H / E52AH / E52CH / E52EH / E530H / E532H / E534H / E536H / E538H / E53AH / E53CH / E601H / E603H / E605H / E705H / E707H / E110H / E120H / E130H



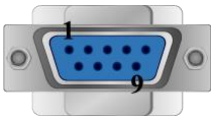
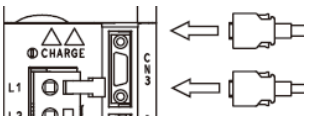
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

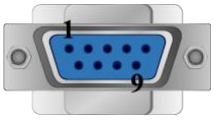
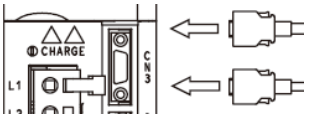
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | SGDV CN3 RS232 14P Male Connector |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TD (Gray/Black) |
| 3 TX | 7 TX | | 4 RD (Purple/Black) |
| 5 GND | 5 GND | | 14 GND (Coffee) |
|  |  | |  |

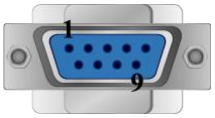
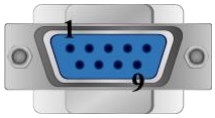
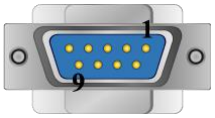
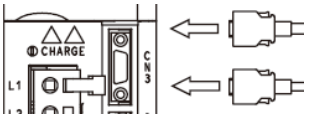
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | SGDV CN3 RS232 14P Male Connector |
|---|---|---|---|
| 2 RX | | | 2 TD (Gray/Black) |
| 3 TX | | | 4 RD (Purple/Black) |
| 5 GND | | | 14 GND (Coffee) |
|  | | |  |

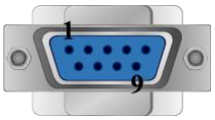
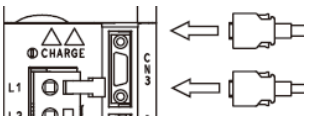
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | SGDV CN3 RS232 14P Male Connector |
|---|---|---|---|
| 2 RX | | | 2 TD (Gray/Black) |
| 3 TX | | | 4 RD (Purple/Black) |
| 5 GND | | | 14 GND (Coffee) |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | SGDV CN3 RS232 14P Male Connector |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TD (Gray/Black) |
| 3 TX | 4 TX | 7 TX | 4 RD (Purple/Black) |
| 5 GND | 5 GND | 5 GND | 14 GND (Coffee) |
|  |  |  |  |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | SGDV CN3 RS232 14P Male Connector |
|---|---|---|---|
| 9 RX | | | 2 TD (Gray/Black) |
| 6 TX | | | 4 RD (Purple/Black) |
| 5 GND | | | 14 GND (Coffee) |
|  | | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Nov/21/2012 | Driver released. |

# YASKAWA SMC 3010

Supported Series: YASKAWA SMC Series Servo Motor Controller.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA SMC 3010 | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600, 19200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 1 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | AF | D | 0 ~ 1 | |
| B | BN | D | 0 ~ 1 | Write only |
| B | BP | D | 0 ~ 1 | Write only |
| B | BV | D | 0 ~ 1 | Write only |
| B | CB | DDDD | 0 ~ 9999 | Write only |
| B | CM | D | 0 ~ 1 | Read only |
| B | DV | D | 0 ~ 1 | |
| B | EB | D | 0 ~ 1 | |
| B | OE | D | 0 ~ 1 | |
| B | RS | D | 0 ~ 1 | Write only |
| B | ST | D | 0 ~ 1 | Write only |
| B | TB | Do | 0 ~ 17 | Read only |
| B | V_Bit | DDDdd | 0 ~ 99931 | *2 |
| B | D_arr_Bit | DDDdd | 0 ~ 99931 | |
| DW | AC | D | 0 ~ 4 | |
| DW | DC | D | 0 ~ 4 | |
| DW | BL | D | 0 ~ 4 | |
| W | CD | D | 0 ~ 2 | Write only |
| W | CE | D | 0 ~ 2 | |
| DW | DE | D | 0 ~ 4 | |
| DW | DP | D | 0 ~ 4 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| W | DT | D | 0 ~ 2 | |
| W | EC | D | 0 ~ 2 | |
| DW | EM | D | 0 ~ 4 | |
| W | ER | D | 0 ~ 2 | |
| W | FA | D | 0 ~ 2 | |
| DW | FL | D | 0 ~ 4 | |
| W | FV | D | 0 ~ 2 | |
| DW | GR | D | 0 ~ 4 | |
| DW | JG | D | 0 ~ 4 | |
| DW | MM | D | 0 ~ 4 | |
| W | MT | D | 0 ~ 2 | |
| W | NA | D | 0 ~ 2 | |
| W | OP | D | 0 ~ 2 | |
| DW | PA | D | 0 ~ 4 | Write only |
| DW | PR | D | 0 ~ 4 | |
| DW | SP | D | 0 ~ 4 | |
| W | TC | D | 0 ~ 2 | Read only |
| W | TM | D | 0 ~ 2 | |
| W | TW | D | 0 ~ 2 | |
| DW | VA | D | 0 ~ 4 | |
| DW | VD | D | 0 ~ 4 | |
| DW | VS | D | 0 ~ 4 | |
| DW | IL | D | 0 ~ 4 | |
| DW | IT | D | 0 ~ 4 | |
| DW | KD | D | 0 ~ 4 | |
| DW | KI | D | 0 ~ 4 | |
| DW | KP | D | 0 ~ 4 | |
| DW | OF | D | 0 ~ 4 | |
| DW | TL | D | 0 ~ 4 | |
| DW | VR | D | 0 ~ 4 | |
| DW | VT | D | 0 ~ 4 | |
| DW | PF | D | 0 ~ 4 | *1 |
| DW | VF | D | 0 ~ 4 | |
| DW | V | DDD | 0 ~ 999 | *2 |
| F | F | DDD | 0 ~ 999 | *2 |
| W | D_array | DDD | 0 ~ 999 | |
| W | R_array | DDD | 0 ~ 999 | |

## Note:

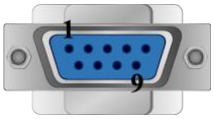
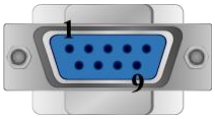
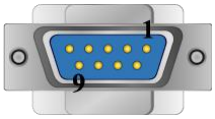
*1 PF is the communication parameter of SMC_3010, the default is 10.4, if the value is not 10.4, all values will be displayed incorrectly.

*2 User defined integer variable V000~V999, floating point variable F000~F999.

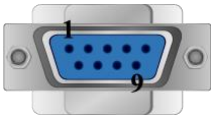
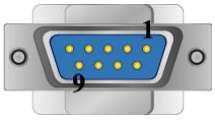
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

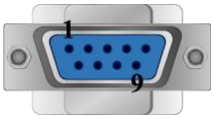
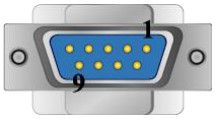
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | SMC3010 CN6 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD | |
| 3 TX | 7 TX | | 3 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

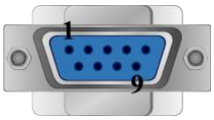
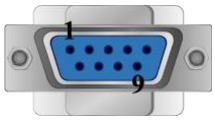
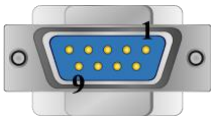
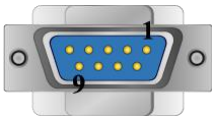
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | SMC3010 CN6 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

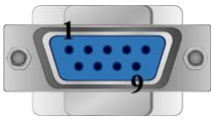
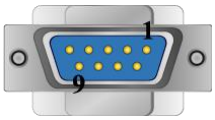
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | SMC3010 CN6 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 2 TXD | |
| 3 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | SMC3010 CN6 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD | |
| 3 TX | 4 TX | 7 TX | 3 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | SMC3010 CN6 RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 2 TXD | |
| 6 TX | | | 3 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.30 | Mar/29/2010 | |

# YASKAWA SMC 3010 (Ethernet)

Supported Series: YASKAWA SMC Series Servo Motor Controller.

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YASKAWA SMC 3010 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 23 | | |

## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | AF | D | 0 ~ 1 | |
| B | BN | D | 0 ~ 1 | Write only |
| B | BP | D | 0 ~ 1 | Write only |
| B | BV | D | 0 ~ 1 | Write only |
| B | CB | DDDD | 0 ~ 9999 | Write only |
| B | CM | D | 0 ~ 1 | Read only |
| B | DV | D | 0 ~ 1 | |
| B | EB | D | 0 ~ 1 | |
| B | OE | D | 0 ~ 1 | |
| B | RS | D | 0 ~ 1 | Write only |
| B | ST | D | 0 ~ 1 | Write only |
| B | TB | Do | 0 ~ 17 | Read only |
| B | V_Bit | DDDdd | 0 ~ 99931 | *2 |
| B | D_arr_Bit | DDDdd | 0 ~ 99931 | |
| DW | AC | D | 0 ~ 4 | |
| DW | DC | D | 0 ~ 4 | |
| DW | BL | D | 0 ~ 4 | |
| W | CD | D | 0 ~ 2 | Write only |
| W | CE | D | 0 ~ 2 | |
| DW | DE | D | 0 ~ 4 | |
| DW | DP | D | 0 ~ 4 | |
| W | DT | D | 0 ~ 2 | |
| W | EC | D | 0 ~ 2 | |

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| DW | EM | D | 0 ~ 4 | |
| W | ER | D | 0 ~ 2 | |
| W | FA | D | 0 ~ 2 | |
| DW | FL | D | 0 ~ 4 | |
| W | FV | D | 0 ~ 2 | |
| DW | GR | D | 0 ~ 4 | |
| DW | JG | D | 0 ~ 4 | |
| DW | MM | D | 0 ~ 4 | |
| W | MT | D | 0 ~ 2 | |
| W | NA | D | 0 ~ 2 | |
| W | OP | D | 0 ~ 2 | |
| DW | PA | D | 0 ~ 4 | Write only |
| DW | PR | D | 0 ~ 4 | |
| DW | SP | D | 0 ~ 4 | |
| W | TC | D | 0 ~ 2 | Read only |
| W | TM | D | 0 ~ 2 | |
| W | TW | D | 0 ~ 2 | |
| DW | VA | D | 0 ~ 4 | |
| DW | VD | D | 0 ~ 4 | |
| DW | VS | D | 0 ~ 4 | |
| DW | IL | D | 0 ~ 4 | |
| DW | IT | D | 0 ~ 4 | |
| DW | KD | D | 0 ~ 4 | |
| DW | KI | D | 0 ~ 4 | |
| DW | KP | D | 0 ~ 4 | |
| DW | OF | D | 0 ~ 4 | |
| DW | TL | D | 0 ~ 4 | |
| DW | VR | D | 0 ~ 4 | |
| DW | VT | D | 0 ~ 4 | |
| DW | PF | D | 0 ~ 4 | *1 |
| DW | VF | D | 0 ~ 4 | |
| DW | V | DDD | 0 ~ 999 | *2 |
| W | F | DDD | 0 ~ 999 | *2 |
| W | D_array | DDD | 0 ~ 999 | |
| W | R_array | DDD | 0 ~ 999 | |

## Note:

*1 PF is the communication parameter of SMC_3010, the default is 10.4, if the value is not 10.4, all values will be displayed incorrectly.

*2 User defined integer variable V000~V999, floating point variable F000~F999.

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.10 | Mar/29/2010 | |

# YOKOGAWA FA-M3

Supported Series : FA-M3 CPU SP35-5N, SP55-5N CPU port, F3LC11 Computer Link module.

Website : http://www.yokogawa.com/itc/itc-index-en.htm

## HMI Setting:

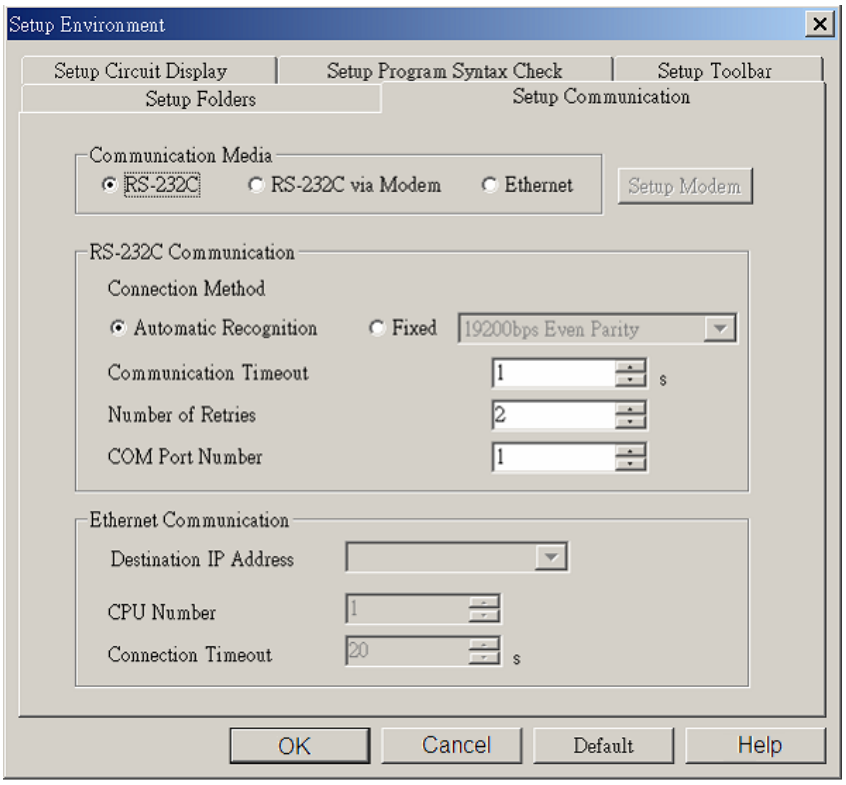
| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YOKOGAWA FA-M3 | | |
| PLC I/F | RS232 | | |
| Baud rate | 19200 | 9600 ~ 115200 | |
| Data bits | 8 | 7, 8 | |
| Parity | Even | Even, Odd, None | |
| Stop bits | 1 | 1, 2 | |
| PLC sta. no. | 1 | 1-32 | |

## PLC Setting:

| | |
|---|---|
| Communication mode | Use Personal Communication Link<br>Use checksum<br>Use End Character |

## WideField communication setting:

For WideField communication setting, select [Tool]/ [Set Environment], the default is [Automatic]. Using the Automatic Recognition, WideField software will connect the current PLC and get the PLC communication setting. If the PLC communication configuration is already known, select the [Fixed] mode, It will connect with the PLC quickly.



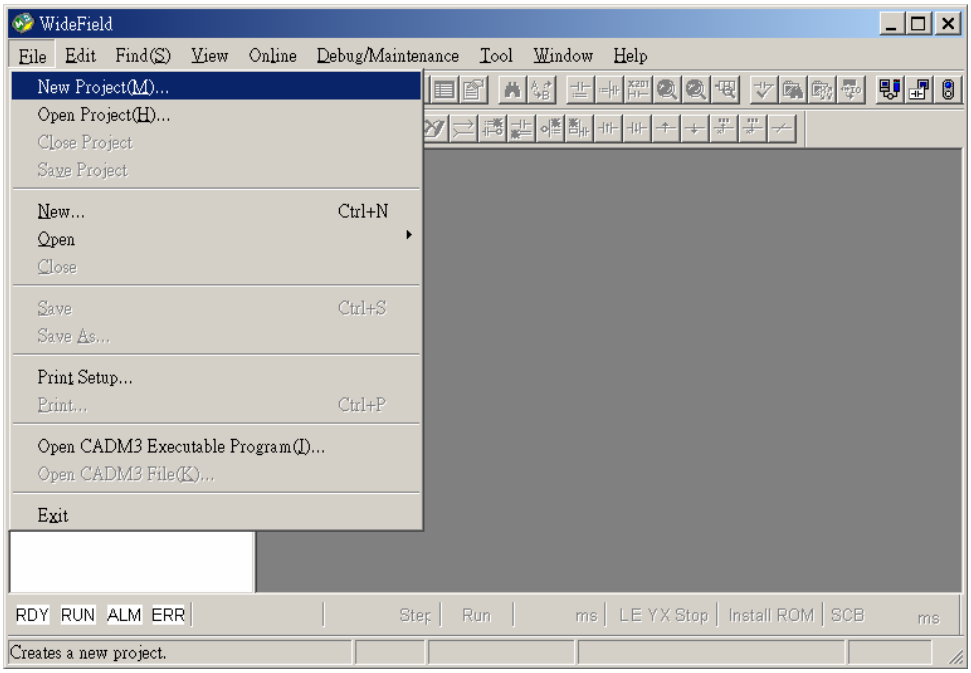

P.S Since Personal Computer link is used, when connecting to PLC it will delay about 20sec for testing communication.

## YOKOGAWA PLC Communcation Setting:

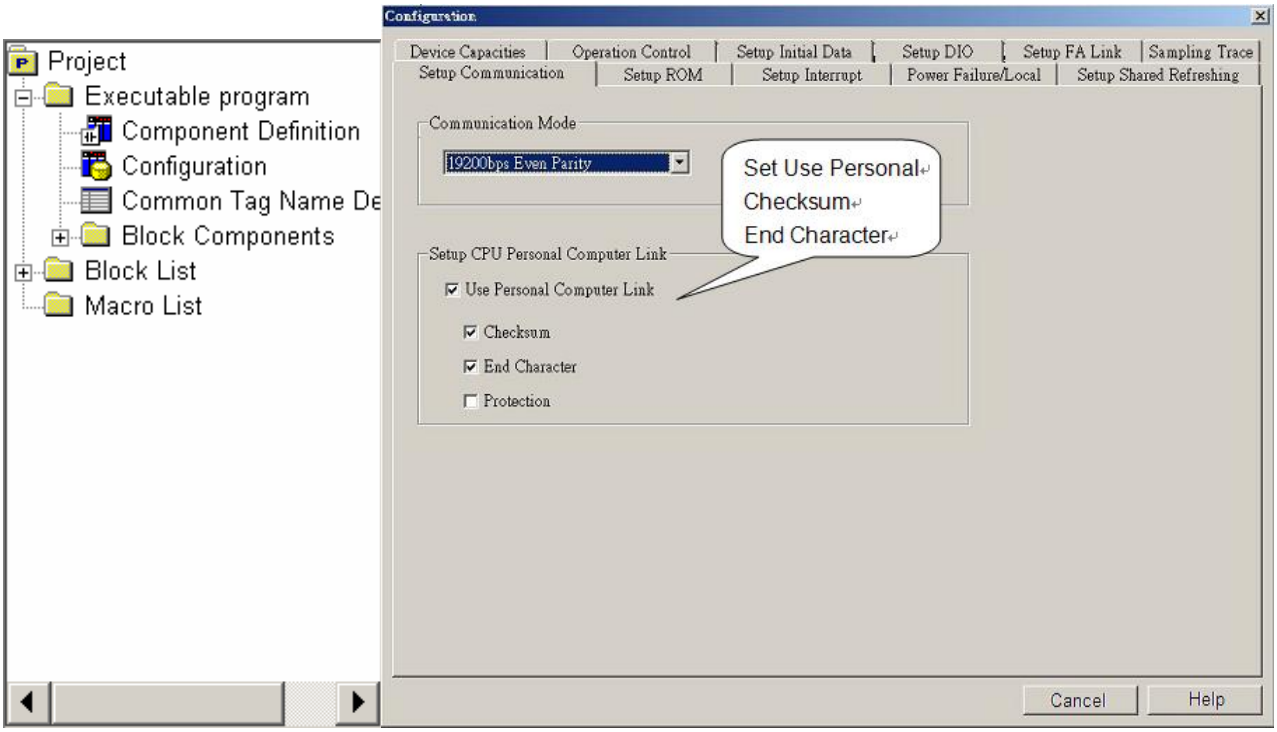
YOKOGAWA FA-M3

CPU SP55-5N (same SP35-5N)

[File] /[New Project] to create a new project.



Click [Configuration] to set up communication.




## Device Address:

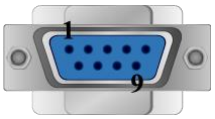
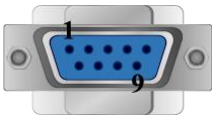
| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDD | 0 ~ 71664 | |
| B | Y | DDDDD | 0 ~ 71664 | |
| B | I | DDDDD | 1 ~ 65535 | |
| B | M | DDDD | 1 ~ 9984 | |
| B | L | DDDDD | 0 ~ 78192 | |
| W | D | DDDDD | 1 ~ 65535 | |
| W | B | DDDDDD | 1 ~ 262144 | |
| W | V | DDD | 1 ~ 256 | |
| W | W | DDDDD | 1 ~ 78192 | |
| W | Z | DDDD | 1 ~ 1024 | |
| W | F | DDDDDD | 1 ~ 524288 | |

## Wiring Diagram:

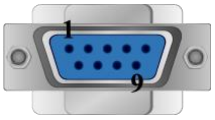
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: Cable KM11

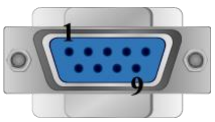
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 8 RX | | 2 TXD |
| 3 TX | 7 TX | | 3 RXD |
| 5 GND | 5 GND | | 5 GND |
|  |  | |  |

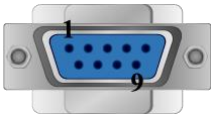
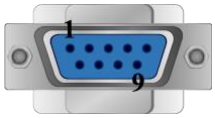
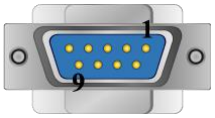
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

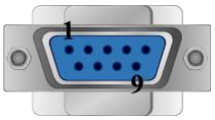
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | | | 2 TXD |
| 3 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male |
|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 2 TXD |
| 3 TX | 4 TX | 7 TX | 3 RXD |
| 5 GND | 5 GND | 5 GND | 5 GND |
|  |  |  |  |

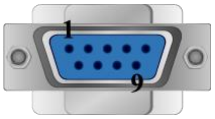
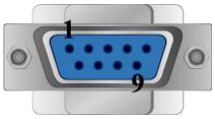
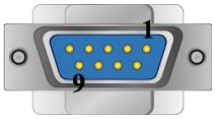
MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male |
|---|---|---|---|
| 9 RX | | | 2 TXD |
| 6 TX | | | 3 RXD |
| 5 GND | | | 5 GND |
|  | | |  |

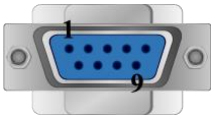
**The following is the view from the soldering point of a cable.**

9P D-Sub to 9P D-Sub: LC11

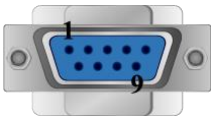
eMT3000 series

| COM1 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Female | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 8 RX | | 3 TXD | |
| 3 TX | 7 TX | | 2 RXD | |
| 5 GND | 5 GND | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  |  | |  | |

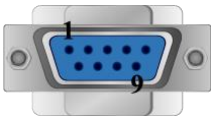
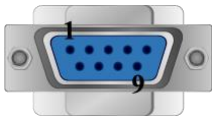
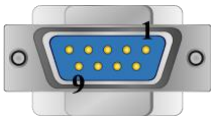
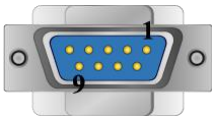
cMT/mTV series

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

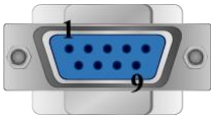
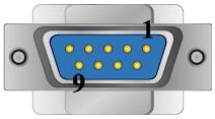
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | | | 3 TXD | |
| 3 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  | | |  | |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS232 9P D-Sub Female | COM2 RS232 9P D-Sub Female | COM3 RS232 9P D-Sub Male | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 2 RX | 6 RX | 8 RX | 3 TXD | |
| 3 TX | 4 TX | 7 TX | 2 RXD | |
| 5 GND | 5 GND | 5 GND | 5 GND | |
| | | | 7 RTS<br>8 CTS | short |
|  |  |  |  | |

MT6050i/MT8050i/MT8050iE

| COM1 RS232 9P D-Sub Female | | | RS232 9P D-Sub Male | |
|---|---|---|---|---|
| 9 RX | | | 3 TXD | |
| 6 TX | | | 2 RXD | |
| 5 GND | | | 5 GND | |
| | | | 7 RTS | short |
| | | | 8 CTS | |
|  | | |  | |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Oct/23/2009 | |
| V1.30 | May/31/2012 | Extended address L range up to 78192. |
| V1.50 | Apr/07/2014 | 1. Extended I, D, B register range.<br>2. Added register: F. |

# YOKOGAWA FA-M3 (Ethernet)

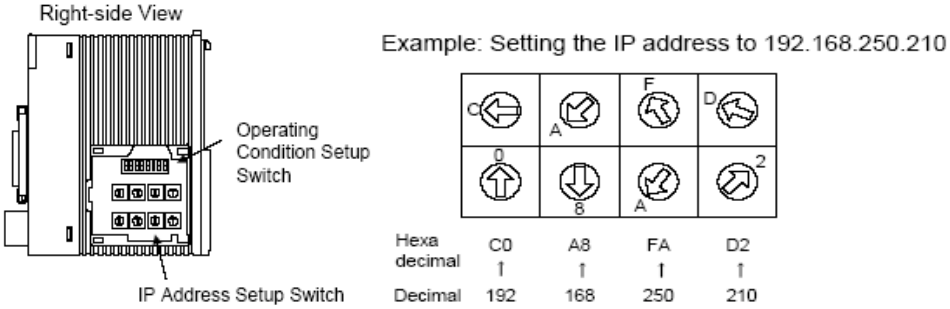
Supported Series : FA-M3 CPU SP35-5N, SP55-5N with F3LE01-5T/F3LE11-0T Ethernet module.
Website: http://www.yokogawa.com/itc/itc-index-en.htm

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | YOKOGAWA FA-M3 (Ethernet) | | |
| PLC I/F | Ethernet | | |
| Port no. | 12289 | | |
| PLC sta. no. | 1 | | |

## PLC Setting:

| Communication mode | Set IP Address, and set all condition setup switch to OFF. |
|---|---|




## Device Address:

| Bit/Word | Device type | Format | Range | Memo |
|---|---|---|---|---|
| B | X | DDDDD | 0 ~ 71664 | |
| B | Y | DDDDD | 0 ~ 71664 | |
| B | I | DDDDD | 1 ~ 65535 | |
| B | M | DDDD | 1 ~ 9984 | |
| B | L | DDDDD | 0 ~ 78192 | |
| W | D | DDDDD | 1 ~ 65535 | |
| W | B | DDDDDD | 1 ~ 262144 | |
| W | V | DD | 1 ~ 256 | |
| W | W | DDDDD | 1 ~ 78192 | |
| W | Z | DDDD | 1 ~ 1024 | |
| W | F | DDDDDD | 1 ~ 524288 | |

## Wiring Diagram:

Direct connect (crossover cable):

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 3 RX+ |
| 2 TX- | Orange | 6 RX- |
| 3 RX+ | White/Green | 1 TX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 2 TX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




Through a hub:

| HMI RJ45 Male | Wire Color | PLC RJ45 Male |
|---|---|---|
| 1 TX+ | White/Orange | 1 TX+ |
| 2 TX- | Orange | 2 TX- |
| 3 RX+ | White/Green | 3 RX+ |
| 4 BD4+ | Blue | 4 BD4+ |
| 5 BD4- | White/Blue | 5 BD4- |
| 6 RX- | Green | 6 RX- |
| 7 BD3+ | White/Brown | 7 BD3+ |
| 8 BD3- | Brown | 8 BD3- |




## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.00 | Dec/30/2008 | Driver released. |
| V1.10 | May/31/2012 | Extended address L range up to 78192. |
| V1.30 | Apr/01/2014 | 1. Extended I, D, B register range.<br>2. Added register: F. |

# YUDIAN AIBUS

Supported Series: UDIAN Automation AI-501, AI-518, AI-519, AI-701, AI-702M, AI-704M, AI-706M, AI-719.

Website: http://www.yudian.us

## HMI Setting:

| Parameters | Recommended | Options | Notes |
|---|---|---|---|
| PLC type | AIBUS | | |
| PLC I/F | RS485 2W | RS232 | |
| Baud rate | 9600 | 9600, 19200 | |
| Data bits | 8 | | |
| Parity | None | | |
| Stop bits | 2 | | |
| HMI sta. no. | 0 | | |
| PLC sta. no. | 1 | 0-100 | |

| | |
|---|---|
| On-line simulation | YES |
| Extend address mode | NO |

## Device Address:

### AI-518

| Bit/Word | Device type | | Format | Range | Memo |
|---|---|---|---|---|---|
| W | 0 | 00H | DD | | SV/STEP |
| W | 1 | 01H | DD | -1999 ~ 9999 | HIAL |
| W | 2 | 02H | DD | -1999 ~ 9999 | LoAL |
| W | 3 | 03H | DD | 0 ~ 9999 | dHAL |
| W | 4 | 04H | DD | 0 ~ 9999 | dLAL |
| W | 5 | 05H | DD | 0 ~ 2000 | dF |
| W | 6 | 06H | DD | 0 ~ 4 | CtrL |
| W | 7 | 07H | DD | 0 ~ 9999 | M5 |
| W | 8 | 08H | DD | 1 ~ 9999 | P |
| W | 9 | 09H | DD | 0 ~ 2000 | t |

| Bit/Word | Device type | | Format | Range | Memo |
|---|---|---|---|---|---|
| W | 10 | 0AH | DD | 0 ~ 125 | Ctl |
| W | 11 | 0BH | DD | 0 ~ 37 | Sn (read only) |
| W | 12 | 0CH | DD | 0 ~ 3 | dIP (read only) |
| W | 13 | 0DH | DD | -1999 ~ 9999 | dIL |
| W | 14 | 0EH | DD | -1999 ~ 9999 | dIH |
| W | 15 | 0FH | DD | 0 ~ 9999 | ALP |
| W | 16 | 10H | DD | -1999 ~ 4000<br>0.1℃ | Sc |
| W | 17 | 11H | DD | 0 ~ 48 | Op1 |
| W | 18 | 12H | DD | -110 ~ 110% | oPL |
| W | 19 | 13H | DD | 0 ~ 110% | oPH |
| W | 20 | 14H | DD | 0 ~ 127 | CF (read only) |
| W | 21 | 15H | DD | 0 ~ 19.2K | Baud rate（bAud）<br>/808Pstatus word:<br>run: 0 suspend: 4 stop: 12<br>(read only) |
| W | 22 | 16H | DD | 0 ~ 100 | ADDR |
| W | 23 | 17H | DD | 0 ~ 20 | dL |
| W | 24 | 18H | DD | 0 ~ 127 | Run |
| W | 25 | 19H | DD | 0 ~ 9999 | Loc |

## AI-701

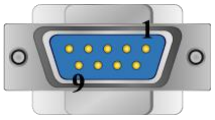
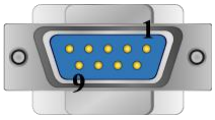
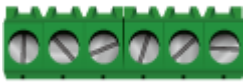
| Bit/Word | Device type | | Format | Range | Memo |
|---|---|---|---|---|---|
| W | 1 | 01H | DD | -9990 ~ 30000 | HIAL |
| W | 2 | 02H | DD | -9990 ~ 30000 | LoAL |
| W | 3 | 03H | DD | -9990 ~ 30000 | HdAL |
| W | 4 | 04H | DD | -9990 ~ 30000 | LdAL |
| W | 5 | 05H | DD | 0 ~ 2000 | AHYS |
| W | 11 | 0BH | DD | 0 ~ 37 | InP (read only) |
| W | 12 | 0CH | DD | 0 ~ 3 | dPt |
| W | 13 | 0DH | DD | -9999 ~ 30000 | SCL |
| W | 14 | 0EH | DD | -9999 ~ 30000 | SCH |
| W | 15 | 0FH | DD | 0 ~ 4444 | AOP |
| W | 16 | 10H | DD | -1999 ~ 4000<br>0.1℃ | Scb |
| W | 17 | 11H | DD | 0 ~ 48 | Opt |

| Bit/Word | Device type | | Format | Range | Memo |
|---|---|---|---|---|---|
| W | 21 | 15H | DD | 0 ~ 19.2K | Baud rate（bAud）<br>/808P status word<br>run: 0 suspend: 4 stop: 12<br>(read only) |
| W | 22 | 16H | DD | 0 ~ 80 | ADDR |
| W | 23 | 17H | DD | 0 ~ 40 | FILt |
| W | 25 | 19H | DD | 0 ~ 255 | Loc |

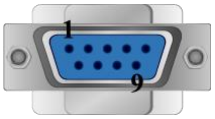
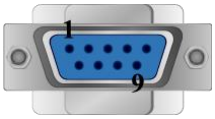
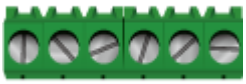
## Wiring Diagram:

**The following is the view from the soldering point of a cable.**

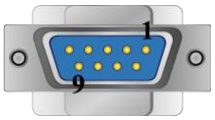
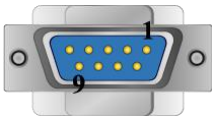
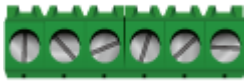
eMT3000 series

| COM1 RS485 2W<br>9P D-Sub Male | COM3 RS485 2W<br>9P D-Sub Male | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 4 COMM A |
| 2 RX+ | 9 Data+ | | 3 COMM B |
| 5 GND | 5 GND | | |
|  |  | |  |

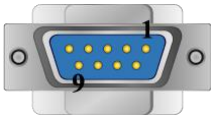
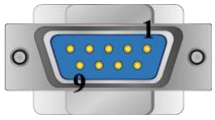
MT series

| COM2 RS485 2W<br>9P D-Sub Female | COM3 RS485 2W<br>9P D-Sub Female | | RS485 2W terminal |
|---|---|---|---|
| 7 RX- | 4 Data- | | 4 COMM A |
| 6 RX+ | 1 Data+ | | 3 COMM B |
| 5 GND | 5 GND | | |
|  |  | |  |

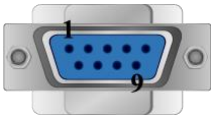
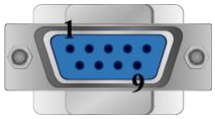
MT8000iE/MT8000XE series except MT8050iE

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 4 COMM A |
| 2 RX+ | 8 Data+ | | 3 COMM B |
| 5 GND | 9 GND | | |
|  |  | |  |

MT6000/8000 series except MT6050i/MT8050i

| COM1 RS485 2W 9P D-Sub Male | COM3 RS485 2W 9P D-Sub Male | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 6 Data- | | 4 COMM A |
| 2 RX+ | 9 Data+ | | 3 COMM B |
| 5 GND | 5 GND | | |
|  |  | |  |

MT6050i/MT8050i/MT8050iE

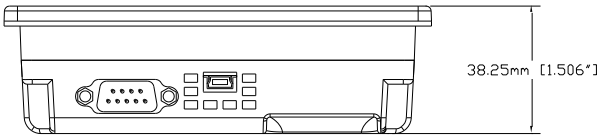
| COM1 RS485 2W 9P D-Sub Female | COM3 RS485 2W 9P D-Sub Female | | RS485 2W terminal |
|---|---|---|---|
| 1 RX- | 7 Data- | | 4 COMM A |
| 2 RX+ | 8 Data+ | | 3 COMM B |
| 5 GND | 5 GND | | |
|  |  | |  |

## Driver Version:

| Version | Date | Description |
|---|---|---|
| V1.20 | Dec/30/2008 | |

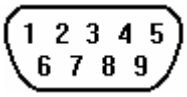
# MT6050i/MT8050i/MT8050iE Com Port Pin Assignment






***Bottom View***

## MT6050i/MT8050i/MT8050iE




Pin assignment of the 9 Pin, Male,

Pin assignment of the 9 Pin, Male, SUB-D, COM1 [RS-232]/ [RS-485], COM3 [RS-485] Port. Only Com1[RS485 2W] support MPI 187.5K.

| Pin# | Symbol | Com1[RS485] | | Com1[RS232] | Com3[RS485] |
|---|---|---|---|---|---|
| | | 4 wire | 2 wire | | |
| 1 | Rx- | Rx- | Data- | | |
| 2 | Rx+ | Rx+ | Data+ | | |
| 3 | Tx- | Tx- | | | |
| 4 | Tx+ | Tx+ | | | |
| 5 | GND | GND | | | |
| 6 | TxD | | | Transmit | |
| 7 | Data- | | | | Data- |
| 8 | Data+ | | | | Data+ |
| 9 | RxD | | | Receive | |

# Wiring Diagram:

MT6050i COM1 [RS-232]

9P D-SUB Female

| | |
|---|---|
| 9 RXD | TXD |
| 6 TXD | RXD |
| 5 GND | GND |

PLC RS-232

Communication Com Port interface

MT6050i COM1 [RS-485 2w]

9P D-SUB Female

| | |
|---|---|
| 1 Data- | Data- |
| 2 Data+ | Data+ |

PLC RS-485 2w

Communication Com Port interface

MT6050i COM3* [RS-485 2w]

9P D-SUB Female

| | |
|---|---|
| 7 Data- | Data- |
| 8 Data+ | Data+ |

PLC RS-485 2w

Communication Com Port interface

*RS485 2W COM3 is only available for MT6050iv2

MT6050i COM1 [RS-485 4w]

9P D-SUB Female

| | |
|---|---|
| 1 RX- | TX- |
| 2 RX | TX+ |
| 3 TX- | RX- |
| 4 TX+ | RX+ |

PLC RS-485 2w

Communication Com Port interface