

Features

- Source-type Digital Outputs with High Driving
- MOSFET Output
- Sink-type Digital Outputs
- 4 kV ESD and EFT Protection
- 3 kV Surge Protection for Power Input
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- Short Circuit Protection
- 3750 V_{rms} Isolation Voltage
- 4 kV ESD Protection
- Overload and Overvoltage Protection
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ +75°C



Introduction

The I-7045-NPN offers 16 channels for digital output, each of which features Photocouple isolation. The I-7045-NPN supports sink-type output with short circuit protection. There are options to enable both power-on and safe values. The I-7045D-NPN has 16 LED indicators for DO channel status monitoring. 4 kV ESD protection, 4 kV EFT protection, 3 kV Surge Protection for Power Input and 3750 V_{rms} intra-module isolation are standard. The hardware specifications for the M-7045-NPN are the same as the I-7045-NPN and both support the Modbus RTU and DCON protocols which can be configured via software.

Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.

System Specifications

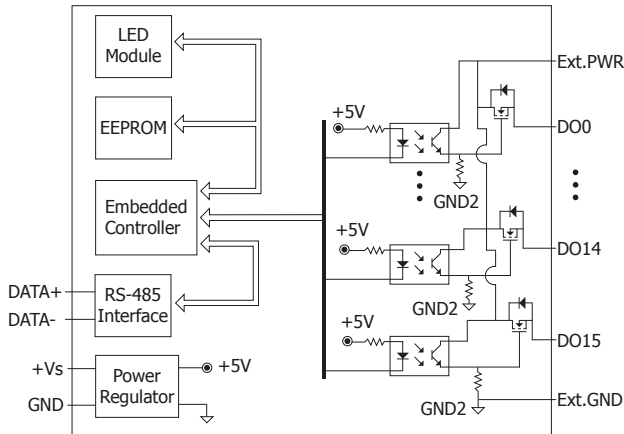
Models	I-7045	I-7045D	M-7045	M-7045D
	I-7045-NPN	I-7045D-NPN	M-7045-NPN	M-7045D-NPN
Communication				
Interface	RS-485			
Format	N, 8, 1			
Baud Rate	1200 ~ 115200 bps			
Protocol	DCON		Modbus RTU, DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)			
LED Indicator/Display				
System LED Indicator	Yes, 1 LED as Power/Communication Indicator			
I/O LED Indicator	-	Yes	-	Yes
7-Segment LED Display	-			
Isolation				
Intra-Module Isolation, Field-to-Logic	3750 V _{rms}			
EMS Protection				
ESD (IEC 61000-4-2)	4 kV Contact for Each Terminal			
	8 kV Air for Random Point			
EFT (IEC 61000-4-4)	±4 kV for 16 DO and Power, ±2 kV for the RS-485 Port			
Surge (IEC 61000-4-5)	±3 kV for Power Input			
Power				
Reverse Polarity Protection	Yes			
Input Range	10 ~ 30 V _{DC}			
Consumption	0.6 W	1.5 W	0.6 W	1.5 W
	0.4 W	1.2 W	0.4 W	1.2 W
Mechanical				
Dimensions (W x L x H)	72 mm x 123 mm x 35 mm			
Installation	DIN-Rail or Wall Mounting			
Environment				
Operating Temperature	-25 ~ +75°C			
Storage Temperature	-40 ~ +85°C			
Humidity	10 ~ 95% RH, Non-condensing			

I/O Specifications

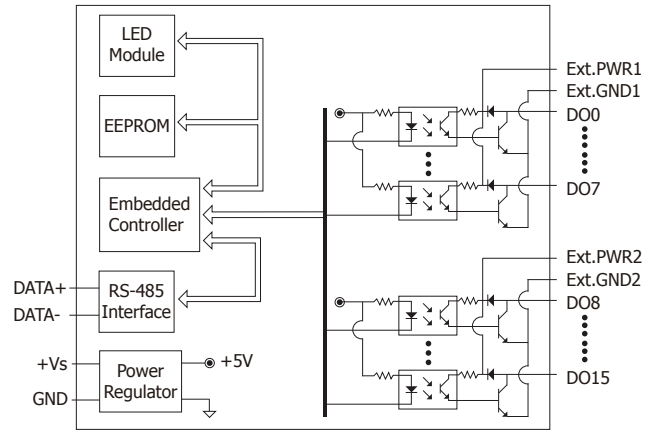
Models	I-7045	I-7045D	I-7045-NPN	I-7045D-NPN
	M-7045	M-7045D	M-7045-NPN	M-7045D-NPN
Digital Output				
Channels	16			
Type	MOSFET			
Sink/Source (NPN/PNP)	Sink			
Load Voltage	+10 ~ 40 V _{DC}		+3.5 ~ 50 V _{DC}	
Max. Load Current	650 mA/Channel		700 mA/Channel	
Overvoltage Protection	47 V _{DC}		60 V _{DC}	
Overload Protection	1.4 A (with short-circuit protection)			
Power-on Value	Yes			
Safe Value	Yes			

Internal I/O Structure

I-7045(D)/M-7045(D)

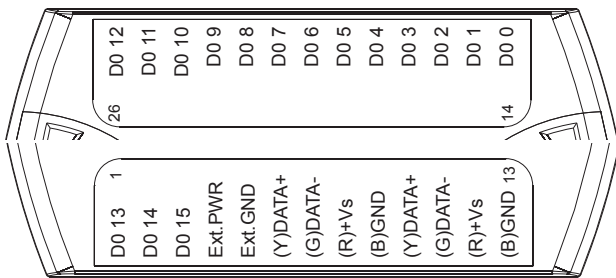


I-7045(D)-NPN/M-7045(D)-NPN

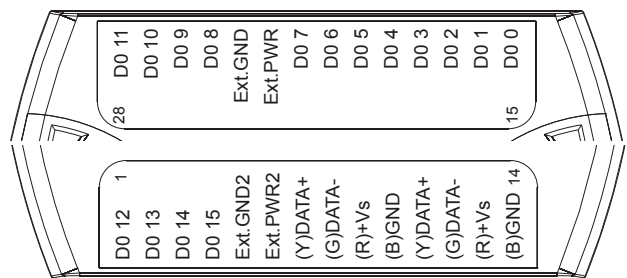


Pin Assignments

I-7045(D)/M-7045(D)



I-7045(D)-NPN/M-7045(D)-NPN



Wire Connections

I-7045(D)/M-7045(D)

Output Type	ON State Readback as 1		OFF State Readback as 0	
	Digital Output (Resistance Load)			
Digital Output (Inductive Load)				

I-7045(D)-NPN/M-7045(D)-NPN

Output Type	ON State Readback as 1		OFF State Readback as 0	
	Digital Output (Resistance Load)			
Digital Output (Inductive Load)				

Ordering Information

I-7045 CR	16-channel Isolated DO Module with DCON Protocol (Blue Cover) (RoHS)
I-7045-G CR	16-channel Isolated DO Module with DCON Protocol (Gray Cover) (RoHS)
I-7045D CR	I-7045 with LED Display (Blue Cover) (RoHS)
I-7045D-G CR	I-7045 with LED Display (Gray Cover) (RoHS)
I-7045-NPN-G CR	16-channel Isolated DO Module with DCON Protocol (Gray Cover) (RoHS)
I-7045D-NPN-G CR	I-7045-NPN with LED Display (Gray Cover) (RoHS)
M-7045-G CR	16-channel Isolated DO Module with DCON and Modbus Protocol (Gray Cover) (RoHS)
M-7045D-G CR	M-7045-G with LED Display (Gray Cover) (RoHS)
M-7045-NPN-G CR	16-channel Isolated DO Module with DCON and Modbus Protocol (Gray Cover) (RoHS)
M-7045D-NPN-G CR	M-7045-NPN with LED Display (Gray Cover) (RoHS)

Accessories

	tM-7520U CR	RS-232 to RS-485 converter (RoHS)
	tM-7561 CR	USB to RS-485 converter (RoHS)
	tM-SG4 CR	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)

	I-7514U CR	4-channel RS-485 Hub (RoHS)
	SG-770 CR	7 channel differential or 14 channel single-ended surge protector (RoHS)
	SG-3000 series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Inputs