



I-7051(D)

M-7051(D)

16-channel Isolated DI Module

Features

- Dry Contact and Wet Contact Selectable Via Wire Connections
- Photocouple Isolation
- Long Effective Distance
- All Channels Can Be Used As 16-bit Counters
- 4 kV ESD Protection
- 3750 V_{rms} Isolation Voltage
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ +75°C



Introduction

The I-7051 offers 16 channels for digital input, catering for both dry and wet contact, with an effective distance for dry contact of up to 500 meters. All channels not only feature Photocouple isolation, but can also be used as 16-bit counters. The I-7051D has 16 LED indicators for DI channel status monitoring. 4 kV ESD protection and 3750 V_{rms} intra-module isolation are standard. The hardware specifications for the M-7051 are the same as the I-7051 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.

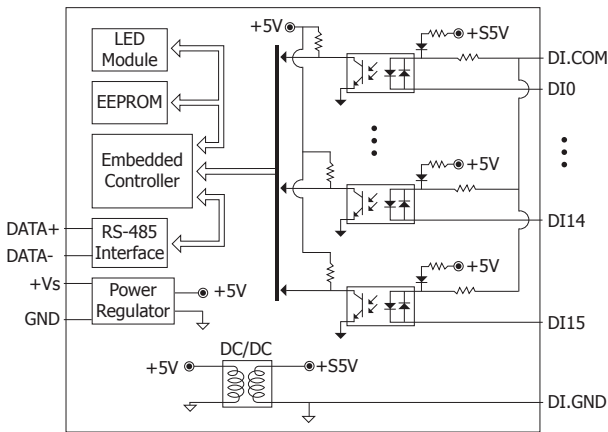
System Specifications

Models	I-7051	I-7051D	M-7051	M-7051D
Communication				
Interface	RS-485			
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 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 Power			
Power				
Reverse Polarity Protection	Yes			
Input Range	10 ~ 30 V _{dc}			
Consumption	0.3 W	1.1 W	0.3 W	1.1 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			

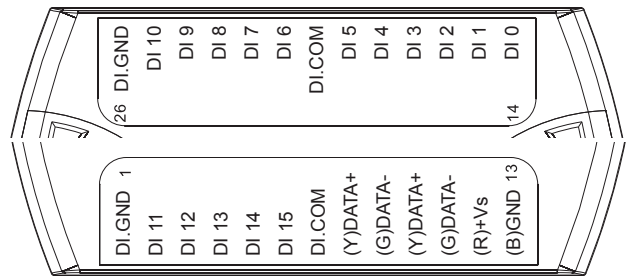
I/O Specifications

Models	I-7051	I-7051D	M-7051	M-7051D
Digital Input/Counter				
Channels	16			
Contact	Dry + Wet			
Sink/Source (NPN/PNP)	Dry: Source Wet: Sink/Source			
Wet Contact	On Voltage Level	+10 ~ 50 V _{dc}		
	Off Voltage Level	+4 V _{dc} Max.		
Dry Contact	On Voltage Level	Close to GND		
	Off Voltage Level	Open		
	Effective Distance for Dry Contact	500 m Max.		
Counters	Max. Count	65535 (16-bit)		
	Max. Input Frequency	100 Hz		
	Min. Pulse Width	5 ms		
Input Impedance	10 KΩ			
Channel to Channel Isolation	-			
Overvoltage Protection	+/-70 V _{dc}			

Internal I/O Structure



Pin Assignments



Wire Connections

Input Type	ON State Readback as 1	OFF State Readback as 0
Dry Contact	Close to GND 	Open
Wet Contact (Sink)	+10 ~ +50 VDC 	+4 VDC Max.
Wet Contact (Source)	+10 ~ +50 VDC 	+4 VDC Max.

Ordering Information

I-7051 CR	16-channel Isolated DI Module with DCON Protocol (Blue Cover) (RoHS)
I-7051-G CR	16-channel Isolated DI Module with DCON Protocol (Gray Cover) (RoHS)
I-7051D CR	I-7051 with LED Display (Blue Cover) (RoHS)
I-7051D-G CR	I-7051 with LED Display (Gray Cover) (RoHS)
M-7051-G CR	16-channel Isolated DI Module with DCON and Modbus Protocol (Gray Cover) (RoHS)
M-7051D-G CR	M-7051 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