



Features

- AC Digital Inputs
- Differential Inputs
- All Channels Can be used as 16-bit Counters
- Channel-to-Channel Isolation
- 4 kV ESD Protection
- 5000 Vrms Isolation Voltage
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



Introduction

The I-7058/I-7059 offers 8 differential channels for AC digital input, each of which features channel-to-channel Photocouple isolation. All DI channels are also able to be used as 16-bit counters. The I-7058D/I-7059D has 8 LED indicators for DI channel status monitoring. 4 kV ESD protection and 5000 Vrms intra-module isolation are standard. The M-7058/M-7059 has the same hardware specifications as the I-7058/I-7059, but provides additional support for the Modbus RTU protocol as well as the DCON protocol.

System Specifications

Model	I-7058	I-7058D	I-7059	I-7059D
	M-7058	M-7058D	M-7059	M-7059D
Communication				
Interface	RS-485			
Bias Resistor	No (Usually supplied by the RS-485 Master. Alternatively, add a tM-SG4 or SG-785.)			
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)			
Baud Rate	1200 to 115200 bps			
Protocol	DCON (for I-7058/I-7059 series) Modbus RTU, DCON (for M-7058/M-7059 series)			
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)			
LED Indicators/Display				
System LED Indicator	Yes, 1 as Power/Communication Indicator			
I/O LED Indicators	-	Yes, 8 LEDs as Digital Input Indicators	-	Yes, 8 LEDs as Digital Input Indicators
7-segment LED Display	-			
Isolation				
Intra-module Isolation, Field-to-Logic	5000 Vrms		4000 Vrms	
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 Line			
Surge (IEC 61000-4-5)	-			
Power				
Reverse Polarity Protection	Yes			
Input Range	+10 ~ +30 Vdc			
Consumption	0.3 W	1 W	0.3 W	1 W
Mechanical				
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm			
Installation	DIN-Rail or Wall Mounting			
Environment				
Operating Temperature	-25 to +75°C			
Storage Temperature	-40 to +85°C			
Humidity	10 to 95% RH, Non-condensing			

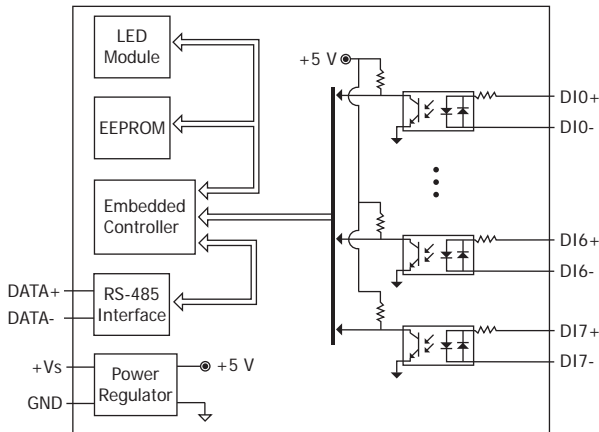
Applications

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

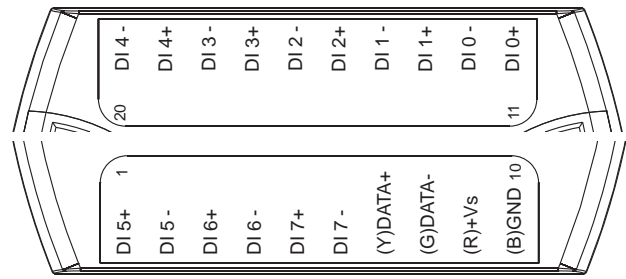
I/O Specifications

Model	I-7058	I-7058D	I-7059	I-7059D
	M-7058	M-7058D	M-7059	M-7059D
Digital Input/Counter				
Channels	8			
Type	Dry Contact	-		
	Wet Contact	Sink/Source		
Wet Contact	ON Voltage Level	80 ~ 250 VAC		10 ~ 80 VAC
	OFF Voltage Level	30 VAC Max.		3 VAC Max.
Counters	Max. Count	65535 (16-bit)		
	Max. Input Frequency	100 Hz		
	Min. Pulse Width	5 ms		
Input Impedance	68 kΩ		10 kΩ	
Channel-to-Channel Isolation	Yes, ±2 kV			
Overvoltage Protection	300 VAC		120 VAC	

Internal I/O Structure



Pin Assignments



Wire Connections

Digital Input/Counter	ON State Readback as 1				OFF State Readback as 0			
	I-7058	I-7058D	I-7059	I-7059D	I-7058	I-7058D	I-7059	I-7059D
AC Digital Input	M-7058	M-7058D	M-7059	M-7059D	M-7058	M-7058D	M-7059	M-7059D
	80 ~ 250 VAC			10 ~ 80 VAC	OPEN or < 30 VAC Max.		OPEN or < 3 VAC Max.	

Ordering Information

I-7058 CR	8-channel Isolated Digital Input Module using the DCON Protocol (Blue Cover) (RoHS)
I-7058 CR	I-7058 with LED Display (Blue Cover) (RoHS)
I-7058D-G CR	I-7058 with LED Display (Gray Cover) (RoHS)
M-7058-G CR	8-channel Isolated Digital Input Module using the DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7058D-G CR	M-7058 with LED Display (Gray Cover) (RoHS)
I-7059 CR	8-channel Isolated Digital Input Module using the DCON Protocol (Blue Cover) (RoHS)
I-7059-G CR	8-channel Isolated Digital Input Module using the DCON Protocol (Gray Cover) (RoHS)
I-7059D CR	I-7059 with LED Display (Blue Cover) (RoHS)
I-7059D-G CR	I-7059 with LED Display (Gray Cover) (RoHS)
M-7059-G CR	8-channel Isolated Digital Input Module using the DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7059D-G CR	M-7059 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 Bias 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 Input Transformers

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RS-485 Remote I/O Modules

I-7058/I-7058D/M-7058/M-7058D/I-7059/I-7059D/M-7059/M-7059D