

M-7058-16
M-7058D-16
M-7059-16
M-7059D-16

16-ch Isolated (Wet, AC/DC) DI and
2-ch (Sink, NPN) DO Module

Features

- Supports AC/DC Digital Input
- 16 Digital Inputs and 2 Digital Outputs
- Digital Input Channels Can be Used as 16-bit Counters
- Channel-to-Channel Isolation
- Built-in Dual Watchdog

Introduction

The M-7058-16/M-7059-16 module offers 16 channels for AC/DC digital input, each of which features channel to channel photocoupler isolation, and two channels for digital output. All digital input channels are also able to be used as 16-bit counters. The M-7058D-16/M-7059D-16 module has 16 LED indicators that can be used to monitor the status of the digital input channels. The M-7058(D)-16/M-7059(D)-16 also provides ±4 kV ESD, ±4 kV EFT and ±2 kV Surge protection, as well as 3750 VDC intra-module isolation to enhance noise protection capabilities in harsh industrial environments.

Applications

- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

System Specifications

Model	M-7058-16 M-7059-16	M-7058D-16 M-7059D-16
CPU Module		
Watchdog Timer	Module, Communication (Programmable)	
Display		
Type	-	I/O LED Indicator
Isolation		
Intra-module Isolation	3750 VDC	
EMS Protection		
EFT (IEC 61000-4-4)	±2 kV for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point	
Surge (IEC 61000-4-5)	±2 kV for Power Line	
LED Indicators		
Status	1 x Power and Communication	
	-	16 x Digital Input
COM Ports		
Ports	1 x RS-485	
Baud Rate	1200 ~ 115200 bps	
Data Format	(N, 8, 1), (N, 8, 2), (E, 8, 1), (O, 8, 1)	
Protocol	Modbus RTU, DCON	
Power		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	0.4 W	
Mechanical		
Dimensions (mm)	76 x 121 x 42 (W x L x H)	
Installation	DIN-Rail Mounting	

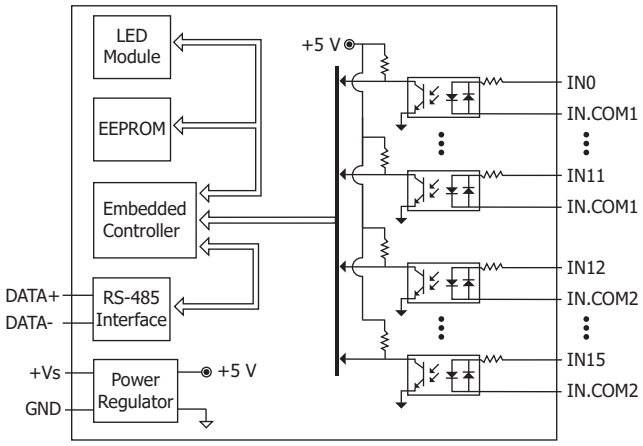
I/O Specifications

Model	M-7058-16 M-7058D-16	M-7059-16 M-7059D-16
Digital Input/Counter		
Channels	16	
Type	Wet Contact	
Sink/Source (NPN/PNP)	Sink/Source	
ON Voltage Level	80 ~ 250 VAC ±100 ~ ±250 VDC	10 ~ 80 VAC ±15 ~ ±80 VDC
OFF Voltage Level	30 VAC Max. ±30 VDC Max.	3 VAC Max. ±3 VDC Max.
Max. Counts	65535 (16-bit)	
Frequency	100 Hz	
Min. Pulse Width	5 ms	
Input Impedance	150 kΩ	30 kΩ
Overvoltage Protection	300 VAC/VDC Max.	120 VAC/VDC Max.
Digital Output		
Channels	2	
Type	Isolated Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+5 ~ +50 VDC	
Load Current	600 mA/Channel	
Overvoltage Protection	60 VDC	
Overload Protection	1.4 A	
Short-circuit Protection	Yes	
Power on Value	Programmable	
Safe Value	Programmable	

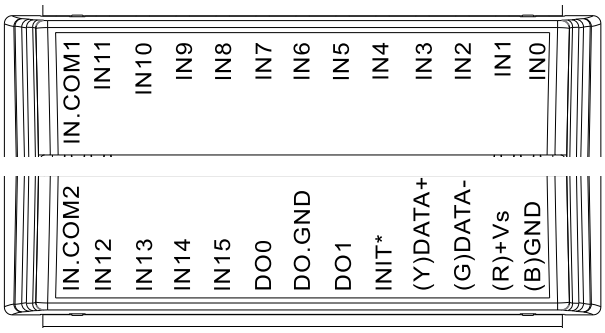
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-40 ~ +85°C
Humidity	10 ~ 95% RH, Non-condensing

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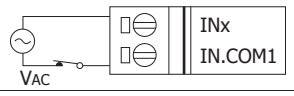
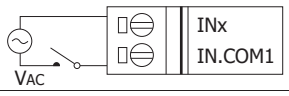
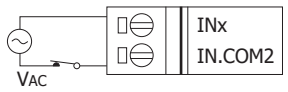
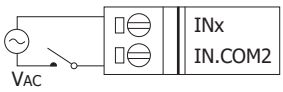
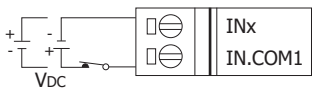
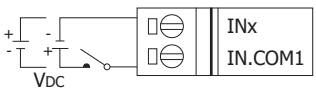
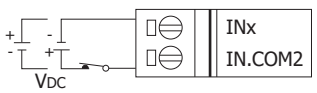
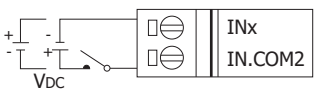
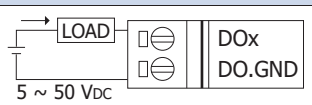
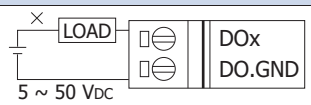
Internal I/O Structure



Pin Assignments

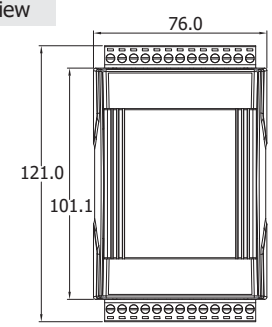


Wire Connections

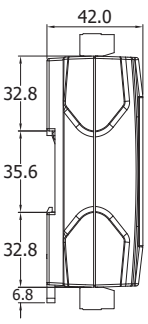
Digital Input	ON State Readback as 1	OFF State Readback as 0
AC Input IN0 ~ IN11	Close to GND	Open
		
AC Input IN12 ~ IN15		
	ON State Readback as 1	**OFF State Readback as 0**
DC Input IN0 ~ IN11		
DC Input IN12 ~ IN15		
Digital Output	**ON State Readback as 1**	**OFF State Readback as 0**
Open Collector (Sink)		

Dimensions (Units: mm)

Front View



Left View



Ordering Information

M-7058-16-G CR	16-ch Isolated (Wet, 80~250 VAC/±100~±250 VDC) DI and 2-ch (Sink, NPN) DO Module using DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7058D-16-G CR	16-ch Isolated (Wet, 80~250 VAC/±100~±250 VDC) DI and 2-ch (Sink, NPN) DO Module with LED Display using DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7059-16-G CR	16-ch Isolated (Wet, 10~80 VAC/±15~±80VDC) DI and 2-ch (Sink, NPN) DO Module using DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7059D-16-G CR	16-ch Isolated (Wet, 10~80 VAC/±15~±80VDC) DI and 2-ch (Sink, NPN) DO Module with LED Display, using DCON and Modbus Protocols (Gray Cover) (RoHS)

Accessories

tM-7520U CR	Tiny Isolated RS-232 to RS-485 Converter (RoHS)	**I-7514U-G CR**	Isolated 4-channel RS-485 Repeater/Hub/ Splitter (Gray Cover) (RoHS)
tM-7561 CR	Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)	**SG-770 CR**	7/14 channel Surge Protector (RoHS)
tM-SG4 CR	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)	**SG-3000 Series**	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers

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