



M-7017mC-16

16-channel Current Input Module

Features

- 16-channel Current Input
- Jumper Selectable Differential or Single-ended Wiring
- 16-bit Resolution
- Adjustable Sampling Rate
- Storage for up to 100,000 Records from 16-channel Current Input
- Built-in Resistor to Simplify Current Measurement
- 110 VDC Overvoltage Protection
- 4 kV ESD and EFT Protecton
- 2 kV Surge Protection
- Dual Watchdog
- 3000 VDC Intra-module Isolation
- Wide Operating Temperature Range: -25 to +75°C



Introduction

The M-7017mC-16 is a 16-channel current input module that is specifically designed to measure current only. Its user-friendly design saves both time and effort when measuring current thanks to built-in resistors, meaning that you can now measure current directly without needing to add an external resistor. The module also provides 4 kV ESD protection and 110 VDC overvoltage protection for the current input, and features 3000 VDC intra-module isolation and open wire detection for 4 ~ 20 mA input. The sampling rate on the M-7017mC-16 is adjustable, meaning that either fast mode or normal mode can be selected. The M-7017mC-16 contains a data logger that can be used to record the current input from all 16 channels, including date and time stamps, and is able to store up to 100,000 downloadable records.

System Specifications

Communication	
Interface	RS-485
Bias Resistor	Yes, 1k Ω bias resistor by Jumper selectable
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)
Baud Rate	1200 to 115200 bps
Protocol	Modbus RTU, DCON
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	-
7-segment LED Display	-
Isolation	
Intra-module Isolation, Field-to-Logic	3000 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	± 4 kV Contact for each Terminal
EFT (IEC 61000-4-4)	± 4 kV to Power
Surge (IEC 61000-4-5)	± 2 kV for Power Line
Power	
Reverse Polarity Protection	Yes
Input Range	+10 ~ +48 VDC
Consumption	0.6 W
Mechanical	
Dimensions (L x W x H)	120 mm x 76 mm x 42 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

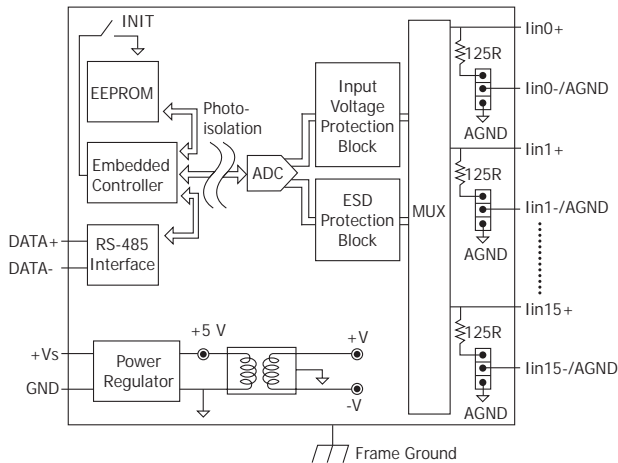
- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment.

I/O Specifications

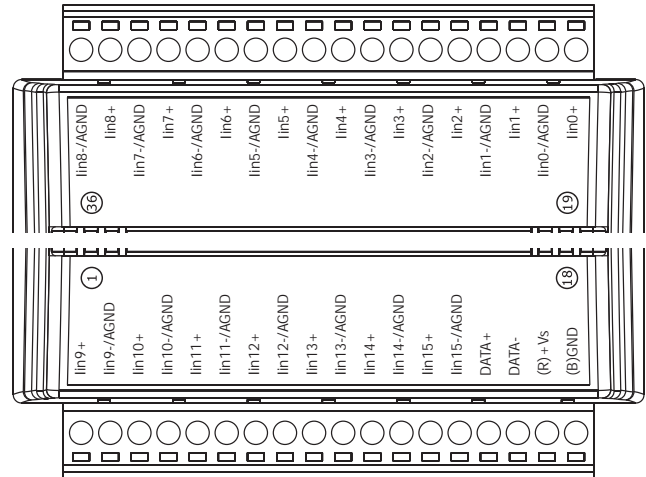
Analog Input		
Channels	16	
Wiring	Differential or Single-ended Wiring (Jumper Selectable)	
Types	± 20 mA, 0 ~ +20 mA, +4 ~ +20 mA	
Resolution	16-bit	
Sampling Rate	Normal Mode	J, K, T, E, R, S, B, N, C
	Fast Mode	± 15 mV, ± 50 mV, ± 100 mV, ± 500 mV, ± 1 V, ± 2.5 V
Accuracy	Normal Mode	$\pm 0.1\%$
	Fast Mode	$\pm 0.2\%$
Zero Drift	± 20 μ V/°C	
Span Drift	± 25 ppm/°C	
Common Voltage Protection	25 VDC	
Individual Channel Configuration	Yes	
Overvoltage Protection	110 VDC	
Overcurrent Protection	Yes, 50 mA at 110 VDC	
Virtual Channel to Channel Isolation	-	
Open Wire Detection for 4 ~ 20 mA	Yes	
Real Time Clock	Yes	
Data Logger	Yes, up to 100,000 records from 16 current input channels	

Internal I/O Structure

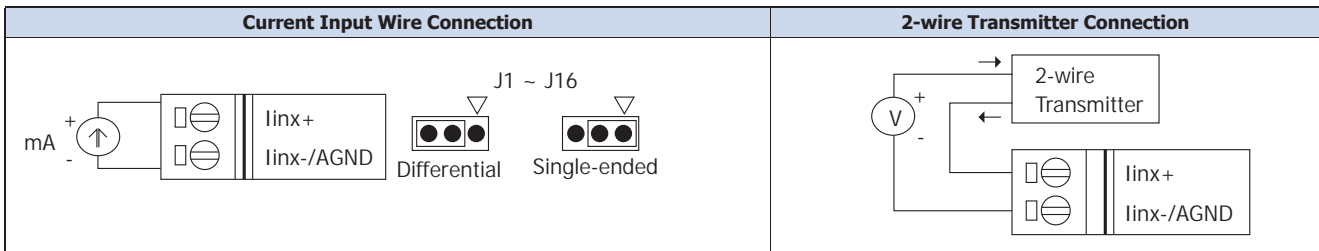
I-7017RC Internal I/O Structure



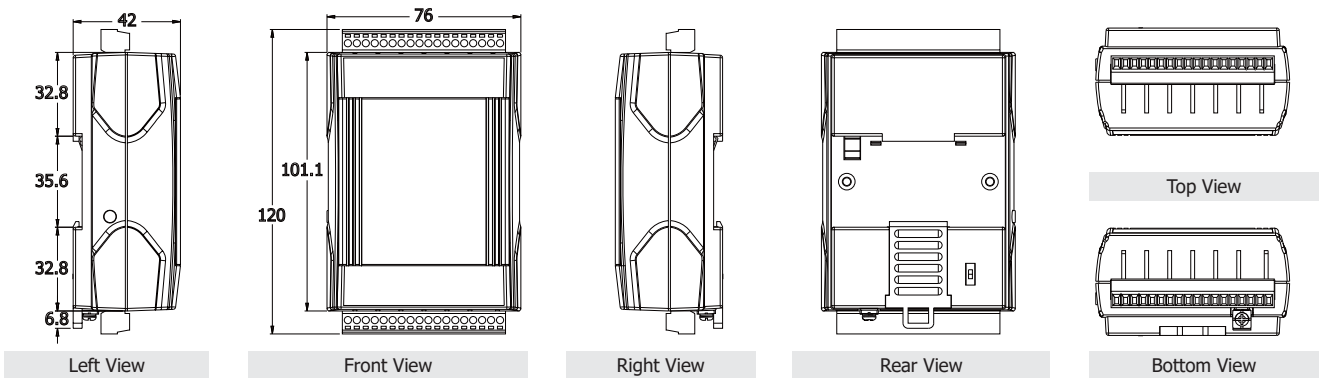
Pin Assignments



Wire Connections



Dimensions (Units: mm)



Ordering Information

M-7017mC-16-G CR	16-channel Current Input Module with Data Logger using the DCON and Modbus Protocols (Gray Cover) (RoHS)
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Accessories

tM-7520U CR	RS-232 to RS-485 Converter (RoHS)	I-7514U CR	4-channel RS-485 Hub (RoHS)
tM-7561 CR	USB to RS-485 Converter (RoHS)	SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
tM-SG4 CR	RS-485 Bias and Termination Resistor Module (RoHS)	SG-3000 Series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers