

# M-7017mC-16

16-ch Current Input Module with Data Logger

## Features

- 16 Current Inputs
- Built-in Resistor to Simplify Current Measurement
- Jumper Selectable Differential or Single-ended Wiring
- 16-bit Resolution
- Adjustable Sampling Rate (Fast/Normal Mode)
- Storage for up to 100,000 Records from 16 Current Inputs
- Built-in Dual Watchdog

## 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.

## Applications

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

## System Specifications

| | |
|---|---|
| **Data Logger** | |
| Max. Records | Up to 100,000 records from 16 current input channels |
| **CPU Module** | |
| Real Time Clock | Yes |
| Watchdog Timer | Module, Communication (Programmable) |
| **Isolation** | |
| Intra-module Isolation | 3000 VDC |
| **EMS Protection** | |
| EFT (IEC 61000-4-4) | ±4 kV for Power Line |
| ESD (IEC 61000-4-2) | ±4 kV Contact for Each Terminal |
| Surge (IEC 61000-4-5) | ±2 kV for Power Line |
| **LED Indicators** | |
| Status | 1 x Power and Communication |
| **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 ~ +48 VDC |
| Consumption | 0.6 W |

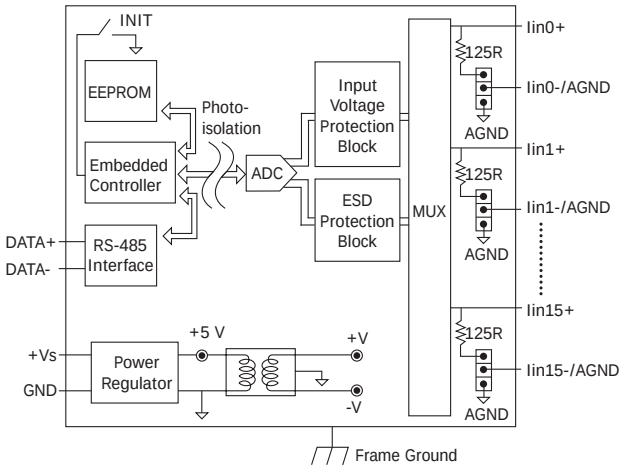
## I/O Specifications

| | | |
|---|---|---|
| **Analog Input** | | |
| Channels | | 16<br>Differential or Single-ended Wiring (Jumper Selectable) |
| Range | | ±20 mA, 0 ~ +20 mA, +4 ~ +20 mA |
| Resolution | | 16-bit |
| Accuracy | Normal Mode | ±0.1% of FSR |
| | Fast Mode | ±0.2 % of FSR |
| Sampling Rate | Normal Mode | 10 Hz |
| | Fast Mode | 200 Hz |
| Common Voltage Protection | | 25 VDC |
| Overvoltage Protection | | 110 VDC |
| Overcurrent Protection | | 50 mA at 110 VDC |
| Individual Channel Configuration | | Yes |
| Open Wire Detection | | For 4 ~ 20 mA Only |

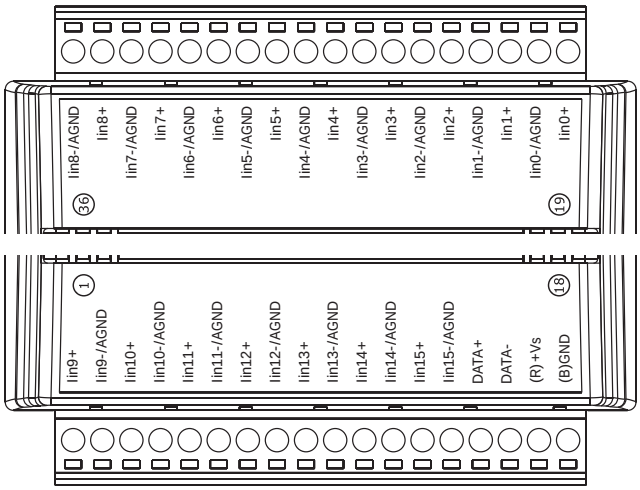
| | |
|---|---|
| **Mechanical** | |
| Dimensions (mm) | 72 x 123 x 35 (W x L x H) |
| Installation | DIN-Rail Mounting |
| **Environment** | |
| Operating Temperature | -25 ~ +75 °C |
| Storage Temperature | -40 ~ +85 °C |
| Humidity | 10 ~ 95% RH, Non-condensing |

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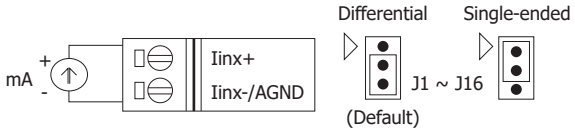
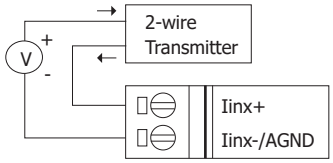
## Internal I/O Structure




## Pin Assignments



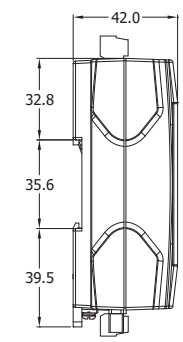

## Wire Connections

| Current Input | 2-wire Transmitter |
|---|---|
|  |  |

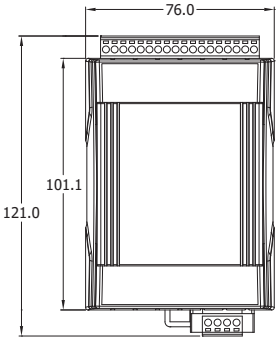




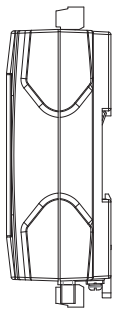
## Dimensions (Units: mm)



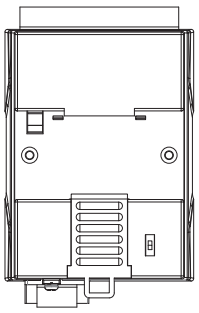

Left View



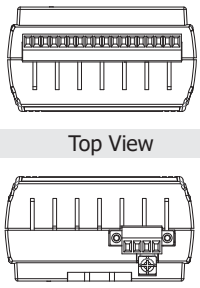

Front View



Right View



Rear View



Top View



Bottom View

## Ordering Information

| | |
|---|---|
| **M-7017mC-16-G CR** | 16-ch Current Input Module with Data Logger using DCON and Modbus Protocols (Gray Cover) (RoHS) |

## Accessories

| | | | |
|---|---|---|---|
| **tM-7520U CR** | Tiny Isolated RS-232 to RS-485 Converter (RoHS) | **I-7514U 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 |

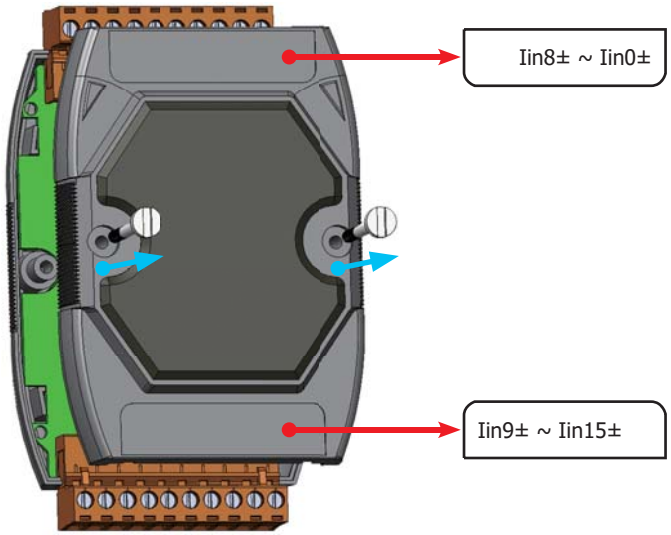
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## Jumper

**Notice:**

**1. Remove the top cover of the module before adjusting the jumper. Additionally, some modules may have two screws on the back cover.**

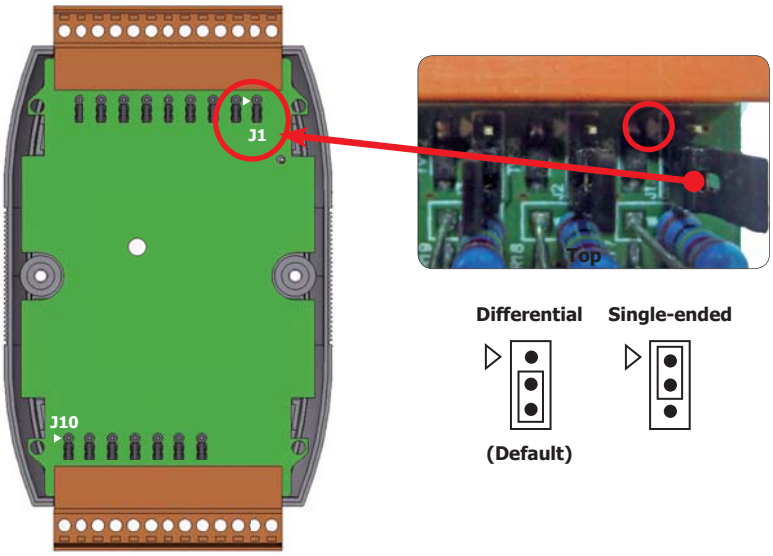
**M-7017mC-16**




**2. Users can locate the Jx/JPx jumpers on the board by checking the I/O labels on the cover.**

| **Channel** | Iin8± | Iin7± | Iin6± | Iin5± | Iin4± | Iin3± | Iin2± | Iin1± | Iin0± |
|---|---|---|---|---|---|---|---|---|---|
| **Jumper** | J9 | J8 | J7 | J6 | J5 | J4 | J3 | J2 | J1 |

**M-7017mC-16**




| **Channel** | Iin9± | Iin10± | Iin11± | Iin12± | Iin13± | Iin14± | Iin15± |
|---|---|---|---|---|---|---|---|
| **Jumper** | J10 | J11 | J12 | J13 | J14 | J15 | J16 |

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