



## tM-AD2

2-channel Isolated Analog Input Module

### Features

- 2-channel Single-ended Inputs
- Voltage Inputs and Current Inputs
- 120 VDC Overvoltage Protection
- Resolution: 14/12 bits
- Adjustable Sampling Rate
- 4 kV ESD and EFT Protection
- 3 kV Surge Protection
- Dual Watchdog
- 2500 VDC Intra-module Isolation
- Cost-effective



### Introduction

The tM-AD2 is an analog input module that includes 2 single-ended analog input channels and provides a programmable input range on all analog inputs (0 ~ 500 mV, 0 ~ 1 V, 0 ~ 2.5 V, 0 ~ 5 V, 0 ~ 10 V, 0 ~ 20 mA, 4 ~ 20 mA). It provides a high overvoltage protection of 120 VDC. The sampling rate of the tM-AD2 is adjustable and is available in either fast or normal mode and It also provides 4 KV ESD protection as well as 2500 VDC intra-module isolation.

### System Specifications

CPU Module	
Watchdog Timer	Yes, Module (2.3 seconds), Communication (Programmable)
Isolation	
Intra-module Isolation	2500 Vdc
EMS Protection	
EFT (IEC 61000-4-4)	±4 kV for Power
EFT (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point
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), (O, 8, 1), (E, 8, 1)
Protocol	DCON, Modbus/RTU, Modbus/ASCII
Power	
Reverse Polarity Protection	Yes
Consumption	0.7 W Max.
Powered from Terminal Block	Yes, 10 ~ 30 Vdc
Mechanical	
Dimensions (W x L x H)	52 mm x 98 mm x 27 mm
Installation	DIN-Rail Mounting
Environmental	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +75 °C
Humidity	10 ~ 95% RH, Non-condensing

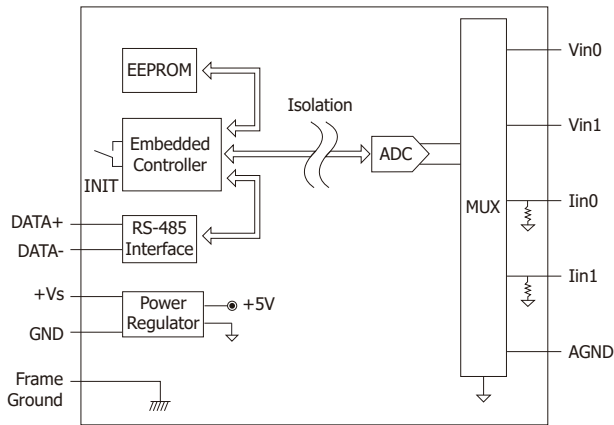
### Applications

- Industrial Automation
- Industrial Machinery
- Building Automation
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

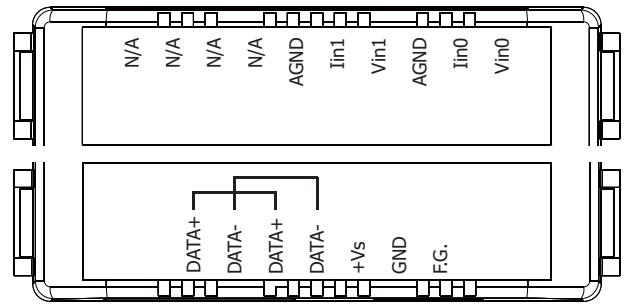
### I/O Specifications

Analog Input	
Channels	2 Single-ended
Type	Voltage Current
Range	0 ~ 500 mV, 0 ~ 1 V, 0 ~ 2.5 V, 0 ~ 5 V, 0 ~ 10 V, 0 ~ 20 mA, 4 ~ 20 mA
Resolution	Normal Mode: 14-bit Fast Mode: 12-bit
Accuracy	Normal Mode: ±0.1% Fast Mode: ±0.5%
Sampling Rate	Normal Mode: 10 Hz Fast Mode: 200 Hz
Input Impedance	Voltage: 10 MΩ Current: 125 Ω
Overvoltage Protection	120 VDC
Overcurrent Protection	Yes, 50 mA at 110 Vdc
Individual Channel Configuration	Yes
Open Wire Detection	Yes
Zero Drift	±20 μV/°C
Span Drift	±25 ppm/°C

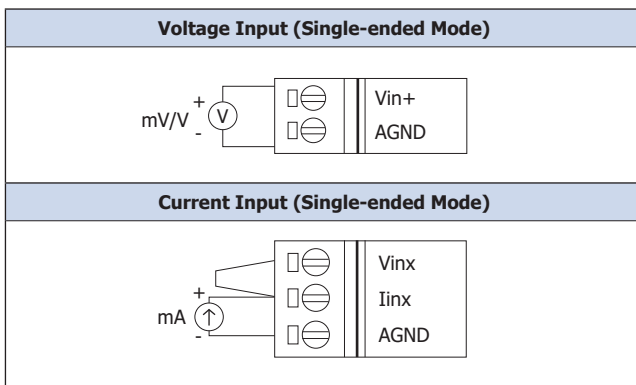
## Internal I/O Structure



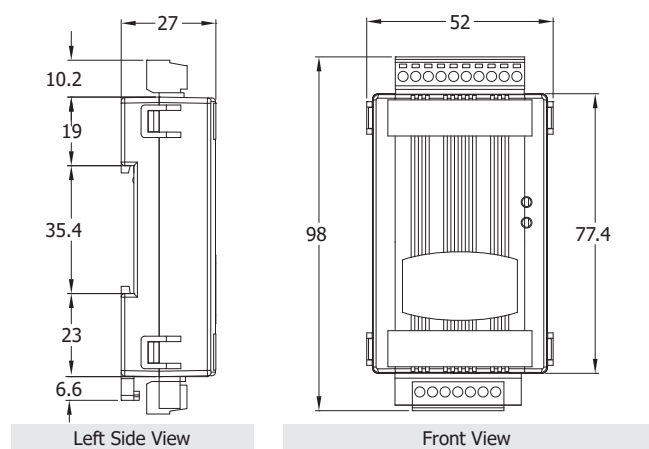
## Pin Assignments



## Wire Connections



## Dimensions (Units: mm)



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## Ordering Information

<b>tM-AD2 CR</b>	2-channel Isolated Analog Input Module with High Voltage Protection (RoHS)
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