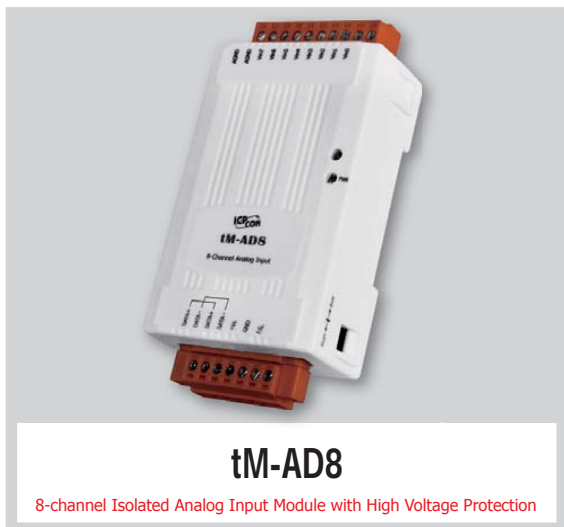




Tiny RS-485 Remote I/O Modules



Analog Input

Features

- 8-channel Single-ended Inputs
- Voltage Inputs
- 120 V_{DC} Overvoltage Protection
- Resolution: 14/12 bits
- Adjustable Sampling Rate
- 4 kV ESD and EFT Protection
- 3 kV Surge Protection
- Dual Watchdog
- 2500 V_{DC} Intra-module Isolation
- Cost-effective
- Wide Operating Temperature Range: -25 °C ~ +75 °C



Introduction

The tM-AD8 is an analog input module that includes 8 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). It provides a high overvoltage protection of 120 VDC. The sampling rate of the tM-AD8 is adjustable and is available in either fast or normal mode and it also provides 4 kV ESD protection as well as 2500 V_{DC} intra-module isolation.

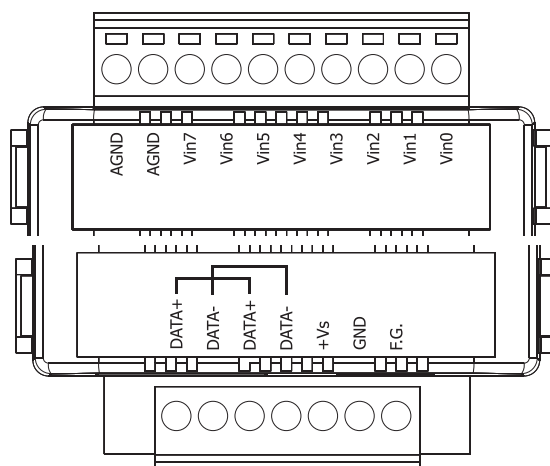
Applications

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

System Specifications

| Communication | |
|--|---|
| Interface | RS-485 |
| Format | (N, 8, 1), (N, 8, 2), (O, 8, 1), (E, 8, 1) |
| Baud Rate | 1200 ~ 115200 bps |
| Protocol | DCON, Modbus/RTU, Modbus/ASCII |
| Dual Watchdog | Yes, Module (2.3 seconds), Communication (Programmable) |
| LED Indicators | |
| Power | 1 LED as Power Indicator |
| Isolation | |
| Intra-module Isolation, Field-to-Logic | 2500 V _{DC} |
| 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 |
| Surge (IEC 61000-4-5) | ±3 kV for Power |
| Power Requirements | |
| Reverse Polarity Protection | Yes |
| Powered from Terminal Block | Yes, 10 ~ 30 V _{DC} |
| Consumption | 0.6 W Max. |
| Mechanical | |
| Dimensions (W x L x H) | 52 mm x 98 mm x 27 mm |
| Installation | DIN-Rail Mounting |
| Environment | |
| Operating Temperature | -25 ~ +75 °C |
| Storage Temperature | -30 ~ +75 °C |
| Humidity | 10 ~ 95% RH, Non-condensing |

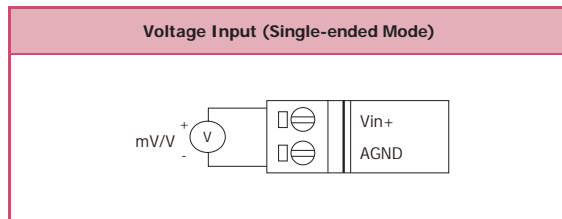
Pin Assignments



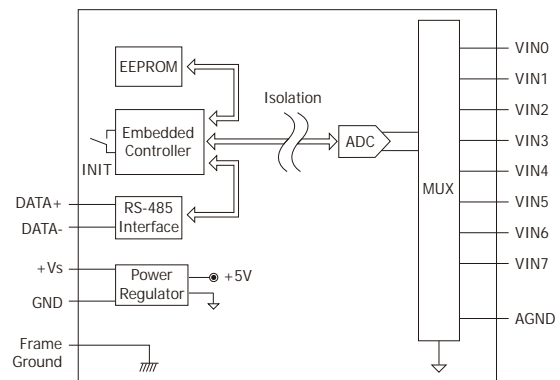
I/O Specifications

| Analog Input | | |
|------------------------|---|--------------|
| Input Channels | 8 Single-ended | |
| Type | 0 ~ 500 mV, 0 ~ 1 V, 0 ~ 2.5 V, 0 ~ 5 V, 0 ~ 10 V | |
| Resolution | Normal Mode | 14-bit |
| | Fast Mode | 12-bit |
| Sampling Rate | Normal Mode | 10 Hz total |
| | Fast Mode | 200 Hz total |
| Accuracy | Normal Mode | +/-0.1% |
| | Fast Mode | +/-0.5% |
| Zero Drift | +/-20 uV/°C | |
| Span Drift | +/-25 ppm/°C | |
| Input Impedance | 10 MΩ | |
| Overvoltage Protection | 120 V _{DC} | |

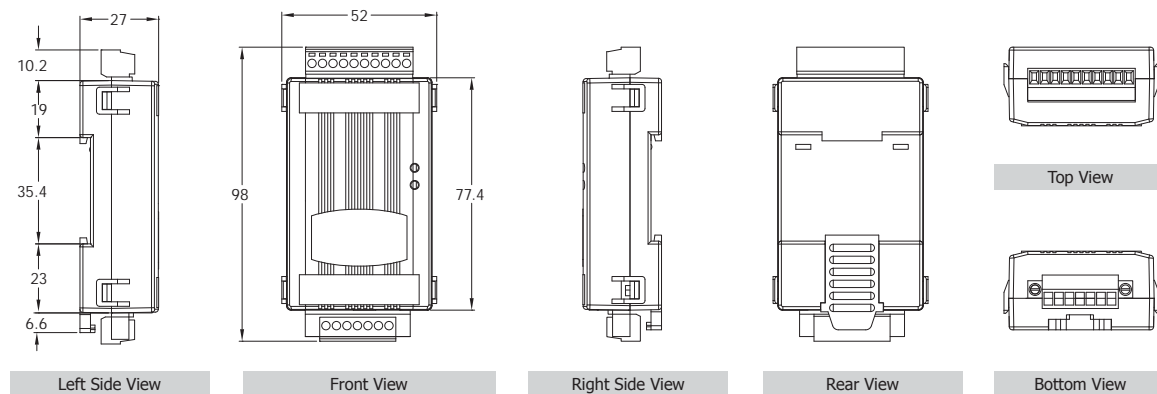
Wire Connections



Block Diagram



Dimensions (Units: mm)



Ordering Information

| | |
|-----------|--|
| tM-AD8 CR | 8-channel Isolation Analog Input Module with High Voltage Protection(RoHS) |
|-----------|--|

Related Products

| | | | | | |
|---|-------------|--|---|--------------|---|
|  | tM-7561 CR | Isolated USB to RS-485 Converter (RoHS) |  | tM-7510U CR | Isolated RS-485 Repeater (RoHS) |
|  | tM-7520U CR | Isolated RS-232 to RS-485 Converter (RoHS) |  | MDR-20-24 CR | 24W Single Output Industrial DIN Rail Power Supply (RoHS) |