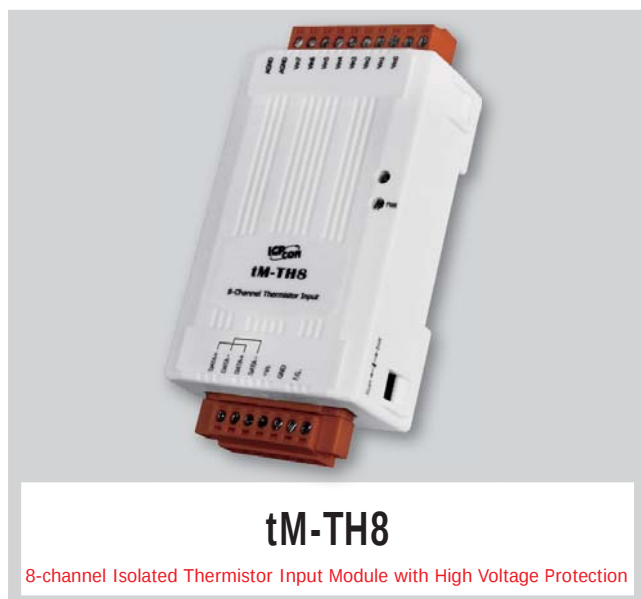




Introduction

tM-TH8 is 8 channels module used for measuring temperature by the thermistor. It supports many kinds of thermistors and user-defined types by specifying the Steinhart coefficients to add other thermistors, if necessary. Adding 2500 V_{rms} intra-module isolation and overvoltage protection for thermistor on tM-TH8 makes itself running with higher reliability.

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

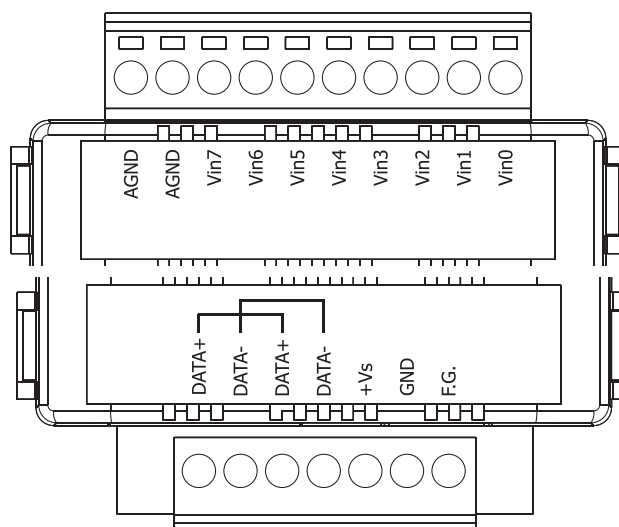
Analog Input

Features

- 8-channel
- Thermistor Inputs
- 120 V_{dc} Overvoltage Protection
- Resolution: 16 bits
- User-Defined
- 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



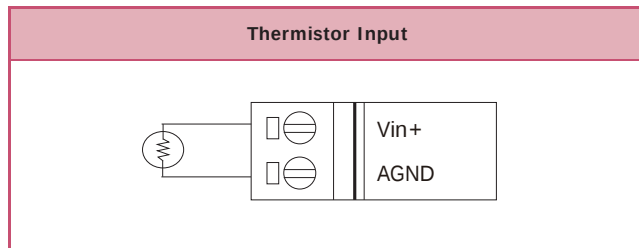
Pin Assignments



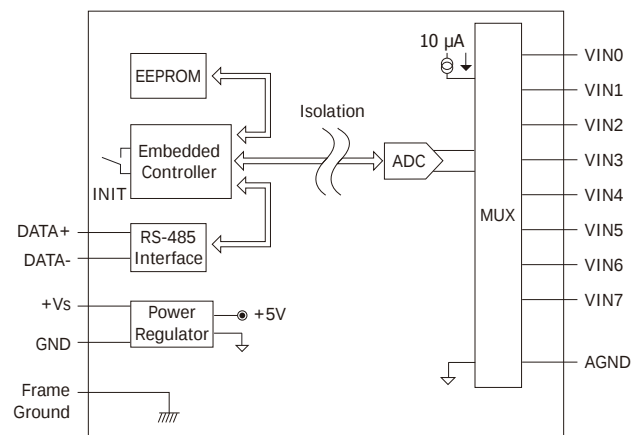
I/O Specifications

Analog Input	
Input Channels	8
Type	Thermistor
Thermistor Type	Precon ST-A3, Fenwell U, YSI L100, YSI L300, YSI L1000, YSI B2252, YSI B3000, YSI B5000, YSI B6000, YSI B10000, YSI H10000, YSI H30000, User-defined
Resolution	16-bit
Sampling Rate	8 Hz total
Accuracy	+/-0.5%
Zero Drift	+/-20 uV/°C
Span Drift	+/-25 ppm/°C
Overvoltage Protection	120 V _{dc}
Open Wire Detection	Yes

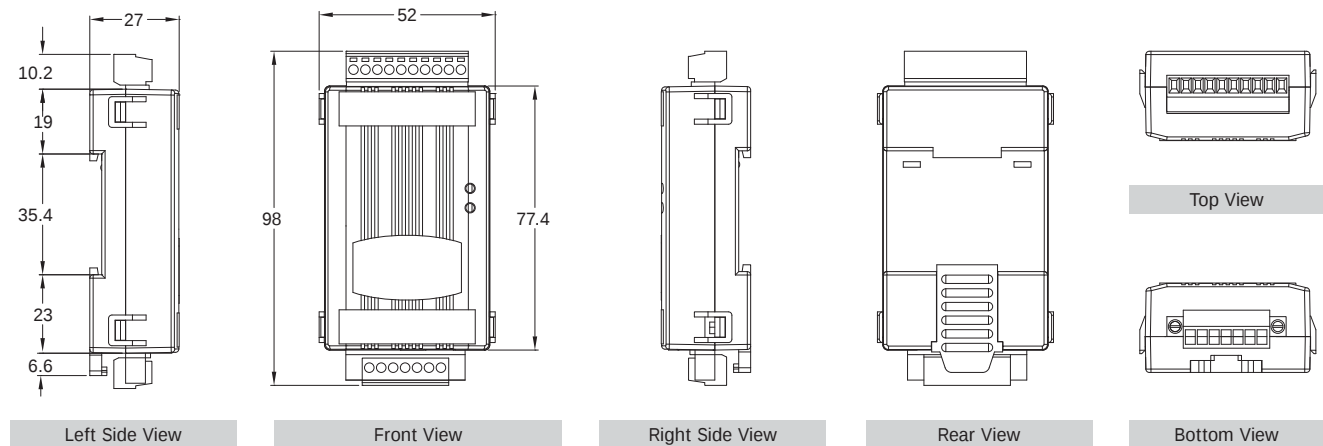
Wire Connections



Block Diagram



Dimensions (Units: mm)



Ordering Information

tM-TH8 CR	8-channel Isolation Thermistor Input Module with High Voltage Protection(RoHS)
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Related Products

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

2

Tiny RS-485 Remote I/O Modules

3

tM Series

tM-TH8