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Tiny RS-485 Remote I/O Modules



tM-TH8

8-channel Isolated Thermistor Input Module with High Voltage Protection

Introduction

The tM-TH8 is an 8-channel isolated thermistor input module that can be used for measuring temperatures via a thermistor. Many types of thermistor are supported and user-defined types can be added by specifying the Steinhart coefficients, if necessary. The added 2500 VDC intra-module isolation and 120 VDC overvoltage protection for the thermistor on the tM-TH8 ensure that the module will operate 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 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	±2 kV Contact for Each Terminal ±3 kV Air for Random Point
EFT (IEC 61000-4-4)	±4 kV for Power
Power	
Reverse Polarity Protection	Yes
Powered from Terminal Block	Yes, 10 ~ 30 Vdc
Consumption	1 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

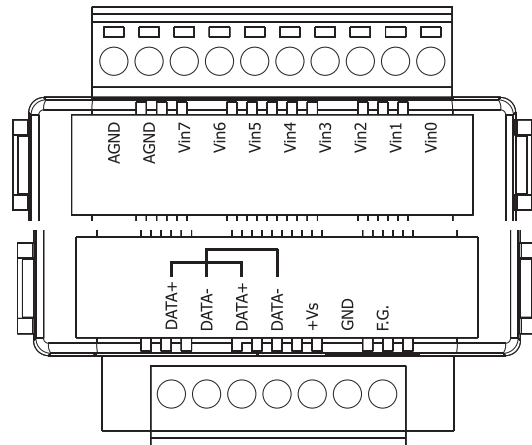
tM-TH8

Features

- 8-channel Thermistor Input
- 120 Vdc Overvoltage Protection
- Resolution: 16 bits
- User-defined Thermistor Types
- 2 kV ESD and 4 kV EFT Protection
- Dual Watchdog
- 2500 VDC Intra-module Isolation
- Wide Operating Temperature Range: -25 ~ +75°C



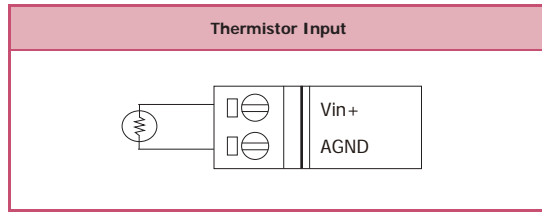
Pin Assignments



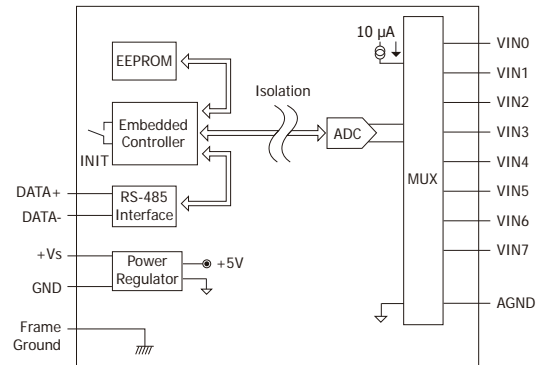
I/O Specifications

Analog Input	
Input Channels	8
Type	Thermistor
Thermistor Types	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	+/-1%
Overvoltage Protection	120 Vdc
Open Wire Detection	Yes

Wire Connections



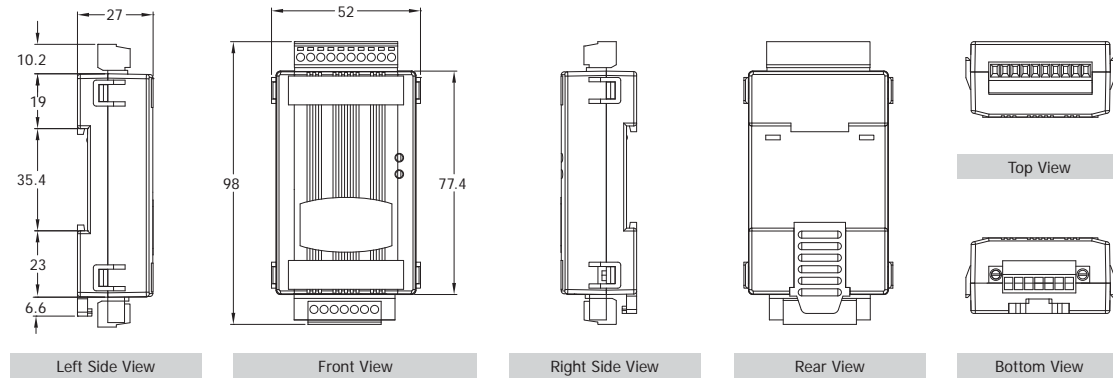
Block Diagram



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

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