

2.2.4. Thermistor Input Module

Thermistor Introduction

A **thermistor** is a type of resistor whose resistance varies significantly with temperature, more so than in standard resistors. The word is a portmanteau of *thermal* and *resistor*. Thermistors are widely used as inrush current limiters, temperature sensors, self-resetting overcurrent protectors, and self-regulating heating elements.

Thermistors differ from resistance temperature detectors (RTD) in that the material used in a thermistor is generally a ceramic or polymer, while RTDs use pure metals. The temperature response is also different; RTDs are useful over larger temperature ranges, while thermistors typically achieve a higher precision within a limited temperature range (usually -90 ~ 130°C).

Applications



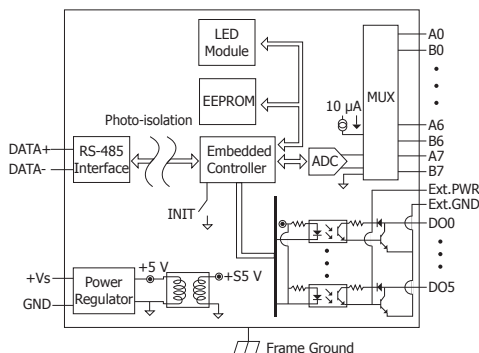
Heavy Industrial Grade

To survive in heavy industrial environments, the hardware needs ultra strong design to against noise, surge, ESD, EFT, etc. For the purpose, we provide heavy industrial grade analog modules. The following specifications are outstandingly enhanced

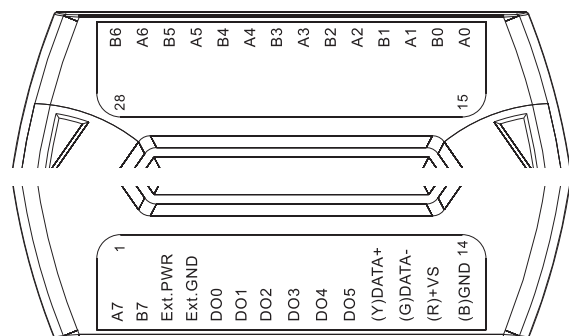
1. Common Voltage Protection
2. Overvoltage Protection
3. ESD (IEC 61000-4-2)
4. EFT (IEC 61000-4-4)

Thermistor Input Module (Heavy Industrial Grade)	
Model Name	I-7005 M-7005
Pictures	
Thermistor Input	
Channels	8
Wiring	Differential
★ Sensor 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
★ Accuracy	±0.1%
★ Sampling Rate	8 Hz (Total)
★ Individual Channel Configuration	Yes
★ Overvoltage Protection	120 Vdc
Open Wire Detection	Yes
Resistance Measurement	200 KΩ Max.
Digital Output	
Channels	6
Type	Open Collector
Sink/Source (NPN/PNP)	Sink
Load Voltage	+3.5 ~ 50 Vdc
Max. Load Current	650 mA/Channel
Overvoltage Protection	60 Vdc
Overload Protection	1.4 A (with short-circuit protection)
★ Power-on Value	Yes
★ Safe Value	Yes
System	
★ Dual Watchdog	Yes
ESD (IEC 61000-4-2)	±4 kV
EFT (IEC 61000-4-4)	±4 kV
Intra-Module Isolation, Field-to-Logic	3000 Vdc
Power Input	10 ~ 30 Vdc
Power Consumption	1.3 W

Internal I/O Structure



Pin Assignments



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RS-485 I/O Products