



Thermistor Introduction

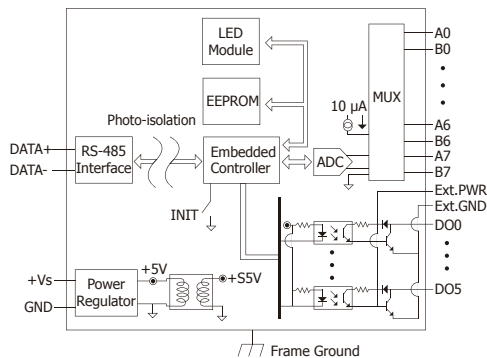
A **thermistor** is a type of resistor whose resistance varies significantly with temperature, more so than in standard resistors. The word is a portmanteau of *thermal* and *resistor*. Thermistors are widely used as inrush current limiters, temperature sensors, self-resetting overcurrent protectors, 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 °C ~ 130 °C).

Applications

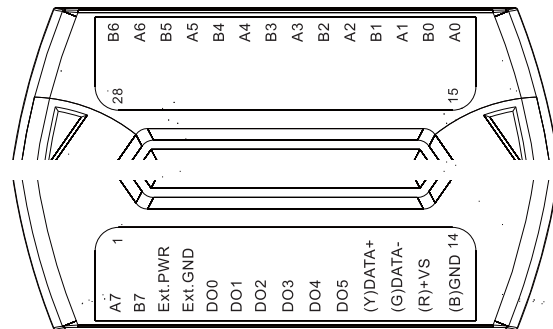



Thermistor Input Module (Industrial Grade)	
Model Name	I-7005
	M-7005
Pictures	
Thermistor Input	
Channel	8
Wiring	Differential
Sensor Type	Precon ST-A3, Fenwell U, YSI L100, YSI L300, YSI L1000, YSI B2252, YSI B3000, YSI B5000, YSI B6000, YSI B10000, YSI H10000, YSI H30000, User-defined
Resolution	16-bit
Accuracy	+/-0.1%
Sampling Rate	8 Hz
Individual Channel Configuration	Yes
Overvoltage Protection	120 V _{DC}
Open Wire Detection	Yes
Resistance Measurement	200 KΩ Max.
Digital Output	
Channel	6
Type	Open Collector
Sink/Source (NPN/PNP)	Sink
Load Voltage	+3.5 ~ 50 V _{DC}
Max. Load Current	650 mA/Channel
Overvoltage Protection	60 V _{DC}
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 V _{DC}
Power Input	10 ~ 30 V _{DC}
Power Consumption	1.3 W

Internal I/O Structure

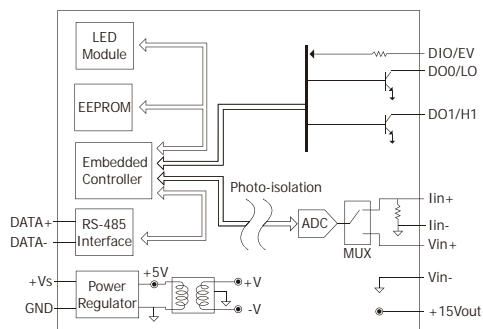


Pin Assignments



Transmitter Input Module (General Grade)	
Model Name	I-7014D
Pictures	
Transmitter Input	
Channel	1
Wiring	Differential
Sensor Type	+/- 150 mV, +/- 500 mV, +/- 1V, +/- 5 V, +/- 10 V, +/- 20 mA
Resolution	16-bit
Accuracy	+/-0.05%
Sampling Rate	10 Hz
Input Impedance	Voltage: 30 K Ω Current: 125 Ω
Isolated Loop Power	15 V _{oc} , 30 mA
Overvoltage Protection	+/- 15 V
Open Wire Detection	-
Digital Input	
Channel	1
Contact	Dry
Sink/Source (NPN/PNP)	Source
On Voltage Level	Close to GND
Off Voltage Level	Open
Counter (50 Hz, 16-bit)	Yes
Input Impedance	3 K Ω
Overvoltage Protection	+/-30 V _{oc}
Digital Output	
Channel	2
Type	Open Collector
Sink/Source (NPN/PNP)	Sink
Load Voltage	+3.5 ~ 50 V _{oc}
Max. Load Current	30 mA/Channel
Power-on Value	Yes
Safe Value	Yes
System	
Dual Watchdog	Yes
ESD (IEC 61000-4-2)	-
EFT (IEC 61000-4-4)	-
Intra-Module Isolation, Field-to-Logic	3000 V _{oc}
Power Input	10 ~ 30 V _{oc}
Power Consumption	1.9 W

Internal I/O Structure



Pin Assignments

