

I-7005

M-7005

8-channel Thermistor Input and 6-channel DO Module

Features

- 8-channel Thermistor Inputs
- Open Wire Detection
- User-Defined Types
- Individual Channel Configuration
- 120 V_{dc} Overvoltage Protection for Thermistor
- 6-channel Digital Outputs for Alarm Output
- 4 kV ESD and EFT Protection
- 3000 V_{dc} Intra-Module Isolation
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ +75°C



Introduction

I-7005 is used for measuring temperature by the thermistor. It supports many kinds of thermistors and features individual channel configuration which means that eight of its input channels can individually be configured with different kind of thermistor. Besides, it also supports user-defined types by specifying the Steinhart coefficients to add other thermistors and provide 6-channel digital outputs for alarm output. Adding 3000 V_{dc} intra-module isolation and 120 V_{dc} overvoltage protection for thermistor on I-7005 makes itself running with higher reliability. M-7005 supports Modbus RTU and DCON protocols which can be configured via software and all hardware specifications are the same as I-7005.

Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.

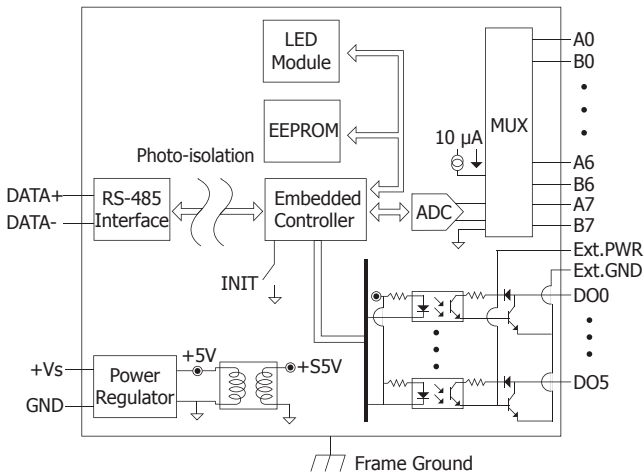
System Specifications

Models	I-7005	M-7005
Communication		
Interface	RS-485	
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)	(N, 8, 1)
Baud Rate	1200 ~ 115200 bps	
Protocol	DCON	Modbus RTU, DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
LED Indicator/Display		
System LED Indicator	Yes, 1 LED as Power/Communication Indicator	
I/O LED Indicator	-	
7-Segment LED Display	-	
Isolation		
Intra-Module Isolation, Field-to-Logic	3000 V _{dc}	
EMS Protection		
ESD (IEC 61000-4-2)	+/-4 kV	
EFT (IEC 61000-4-4)	+/-4 kV	
Power		
Reverse Polarity Protection	Yes	
Input Range	10 ~ 30 V _{dc}	
Consumption	1.3 W	1.3 W
Mechanical		
Dimensions (W x L x H)	72 mm x 123 mm x 35 mm	
Installation	DIN-Rail or Wall Mounting	
Environment		
Operating Temperature	-25 ~ +75°C	
Storage Temperature	-40 ~ +85°C	
Humidity	10 ~ 95% RH, Non-condensing	

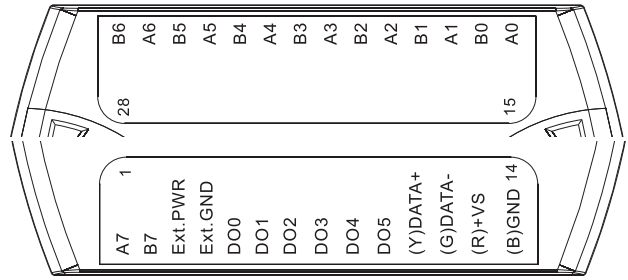
I/O Specifications

Models	I-7005	M-7005
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	
Individual Channel Configuration	Yes	
Overvoltage Protection	120 V _{dc}	
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 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	

Internal I/O Structure



Pin Assignments



Wire Connections

Thermistor Input Wire Connection		
Alarm Output	ON State Readback as 1	OFF State Readback as 0
Resistance Load		
Inductance Load		

Ordering Information

I-7005 CR	8-channel Thermistor Input and 6-channel DO Module with DCON Protocol (Blue Cover) (RoHS)
I-7005-G CR	8-channel Thermistor Input and 6-channel DO Module with DCON Protocol (Gray Cover) (RoHS)
M-7005-G CR	8-channel Thermistor Input and 6-channel DO with DCON and Modbus Protocol (Gray Cover) (RoHS)

Accessories

	tM-7520U CR	RS-232 to RS-485 converter (RoHS)
	tM-7561 CR	USB to RS-485 converter (RoHS)
	tM-SG4 CR	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)

	I-7514U CR	4-channel RS-485 Hub (RoHS)
	SG-770 CR	7 channel differential or 14 channel single-ended surge protector (RoHS)
	SG-3000 series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Inputs