



I-7005 **M-7005**

8-ch Thermistor Input and
6-ch (Sink, NPN, 3.5 ~ 50 VDC) DO Module

Features

- 8 Thermistor Inputs
- Open Wire Detection
- User-defined Thermistor Types
- Individual Channel Configuration
- 6 Digital Output Channels for Alarm Output
- Built-in Dual Watchdog

Introduction

I-7005/M-7005 is used for measuring temperatures using a thermistor. The module supports a wide range of thermistors, including support for user-defined thermistor types, which can be added by specifying the Steinhart coefficients, if necessary, and features individual channel configuration, meaning that each of the eight input channels can be individually configured for different kinds of the thermistor. In addition, I-7005/M-7005 also provides 6 digital output channels that can be used for alarm output. The inclusion of 3000 VDC intra-module isolation and 120 VDC overvoltage protection for the thermistors on I-7005/M-7005 ensures that the module operates at a 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

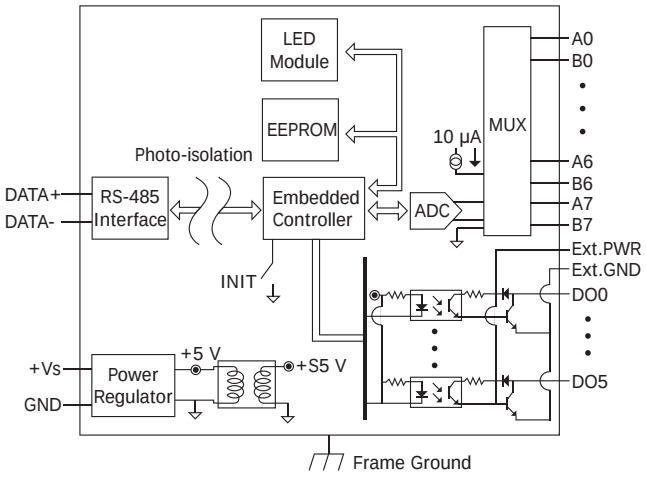
Model	I-7005	M-7005-G
CPU Module		
Watchdog Timer	Module, Communication (Programmable)	
Isolation		
Intra-module Isolation	3000 VDC	
EMS Protection		
EFT (IEC 61000-4-4)	±4 kV for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal	
Surge (IEC 61000-4-5)	± 0.5 kV for Power Line	
LED Indicators		
Status	1 x Power and Communication	
COM Ports		
Ports	1 x RS-485	
Baud Rate	1200 ~ 115200 bps	
Data Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)	
Protocol	DCON	Modbus RTU, DCON
Power		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	1.3 W	
Mechanical		
Dimensions (mm)	72 x 123 x 35 (W x L x H)	
Installation	DIN-Rail Mounting	
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95% RH, Non-condensing	

I/O Specifications

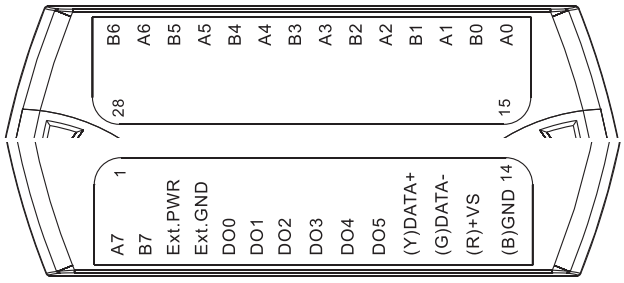
Model	I-7005	M-7005-G
Analog Input		
Channels	8	
Type	Thermistor	
Sensor Type	Precon ST-A3, Fenwell U, YSI L100, YSI L300, YSI L1000, YSI B2252, YSI B3000, YSI B5000, YSI B6000, YSI B10000, YSI H10000, YSI H30000, User-defined	
Resistance Measurement	200 kΩ Max.	
Resolution	16-bit	
Accuracy	±0.1% of FSR	
Sampling Rate	8 Hz (Total)	
Overvoltage Protection	120 VDC	
Individual Channel Configuration	Yes	
Open Wire Detection	Yes	
Digital Output		
Channels	6	
Type	Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+3.5 ~ +50 VDC	
Load Current	650 mA/Channel	
Overvoltage Protection	60 VDC	
Overload Protection	1.4 A	
Short-circuit Protection	Yes	
Power on Value	Programmable	
Safe Value	Programmable	

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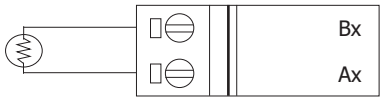
Internal I/O Structure

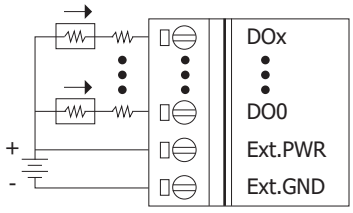
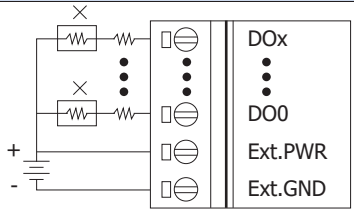
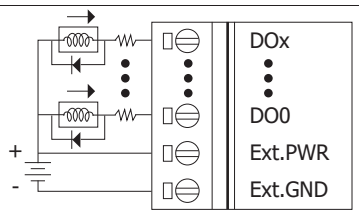
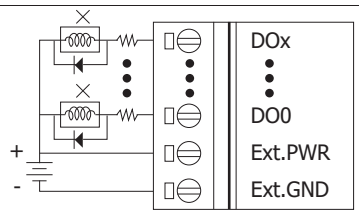


Pin Assignments



Wire Connections

Thermistor Input


Alarm Output	ON State Readback as 1	OFF State Readback as 0
Resistance Load		
Inductance Load		

Ordering Information

I-7005 CR	8-ch Thermistor Input and 6-ch (Sink, NPN, 3.5~50 VDC) DO Module using DCON Protocol (Blue Cover) (RoHS)
I-7005-G CR	8-ch Thermistor Input and 6-ch (Sink, NPN, 3.5~50 VDC) DO Module using DCON Protocol (Gray Cover) (RoHS)
M-7005-G CR	8-ch Thermistor Input and 6-ch (Sink, NPN, 3.5~50 VDC) DO Module using DCON and Modbus Protocols (Gray Cover) (RoHS)

Accessories

CA-TM-P100 -L020 CR 	NTC Thermistor, Epoxy Resin Cable, 2M (-40 °C~+80 °C) (RoHS)	**CA-TM-P100 -L050 CR** 	NTC Thermistor, Epoxy Resin Cable, 5 M (-40 °C ~ +80 °C) (RoHS)
tM-7520U CR 	Tiny Isolated RS-232 to RS-485 Converter (RoHS)	**I-7514U CR** 	Isolated 4-channel RS-485 Repeater/Hub/ Splitter (Gray Cover) (RoHS)
tM-7561 CR 	Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)	**SG-770 CR** 	7 or 14-channel Surge Protector (RoHS)
tM-SG4 CR 	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)	**SG-3000 Series** 	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers

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