

I-87005W

8-channel Thermistor Input and
8-channel Digital Output Module

Features

- Thermistor Input
- Individual Channel Configuration
- Open Wire Detection
- 8-channel Digital Output for Alarm Output
- Overvoltage Protectionfor Thermistor Input
- 3000 VDC Intra-module Isolation
- 4 kV ESD Protection

Introduction

The I-87005W module is used for measuring temperature using a thermistor. The module supports a wide range of thermistors, and features individual channel configuration, which means that eight of the input channels can be individually configured for different kinds of thermistor. In addition, the I-87005W also provides 8 digital output channels that can be used for alarm output, and supports user-defined thermistor types, which can be added by specifying the Steinhart coeffi cients, if necessary. The inclusion of 3000 VDC intra-module isolation and overvoltage protection for the thermistors on the I-87005W ensures that the module operates at a higher reliability.

System Specifications

CPU Module	
Watchdog Timer	Module (1.6 Seconds), Communication (Programmable)
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	N, 8, 1
Protocol	DCON
LED Indicators	
System LED Indicator	1
I/O LED Indicators	16
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	± 4 kV Contact for Each Terminal ±8 kV Air for Random Point
Power	
Consumption	0.7 W Max.
Mechanical	
Dimensions (W x L x H)	30 mm × 114 mm × 95 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90 % RH, Non-condensing

I/O Specifications

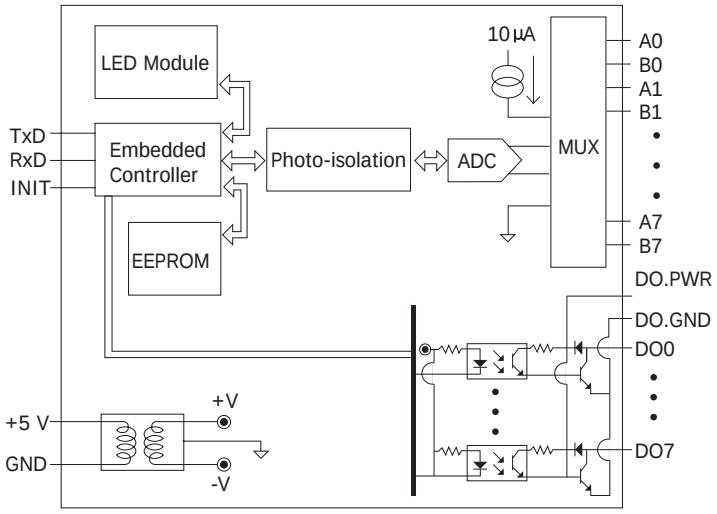
Analog Input	
Channels	8
Type	Thermistor
Sensor Type	Precon ST-A3, Fenwell U, YSI L100, YSI L300, YSI L1000, YSI B2252, YSI B3000, YSI B5000, YSI B6000, YSI B10000, YSI H10000, YSI H30000, User-defined
Resolution	16-bit
Accuracy	±0.1% of FSR
Sampling Rate	8 Hz (Total)
Input Impedance	>1 MΩ
Common Mode Rejection	113 dB
Normal Mode Rejection	100 dB
Overvoltage Protection	120 VDC/110 VAC
Individual Channel Configuration	Yes
Open Wire Detection	Yes
Zero Drift	±0.5 μV/°C
Span Drift	±25 ppm/°C
Digital Output	
Channels	8
Type	Isolated Open-collector
Load Voltage	+5 ~ +50 VDC
Load Current	700 mA/Channel
Power on Value	Yes
Safe Value	Yes

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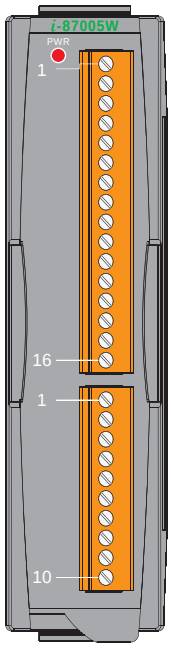
Applications

- Temperature Measurement
- Environment Monitoring
- Tunnel Monitoring
- Building Monitoring

Internal I/O Structure



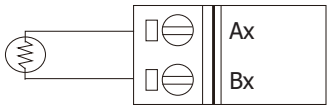
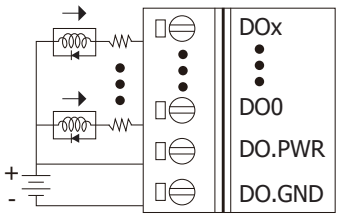
Pin Assignments



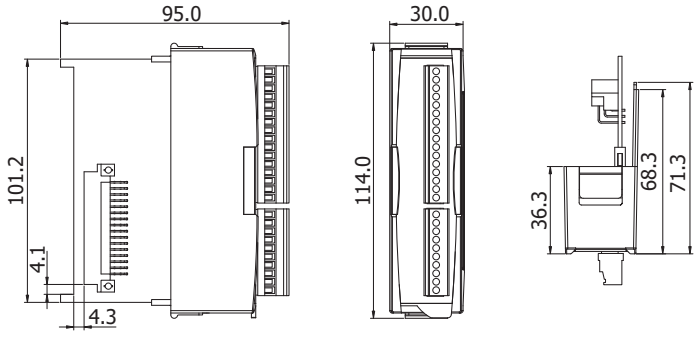
Terminal No.	Pin Assignment
01	A0
02	B0
03	A1
04	B1
05	A2
06	B2
07	A3
08	B3
09	A4
10	B4
11	A5
12	B5
13	A6
14	B6
15	A7
16	B7

01	DO.PWWR
02	DO.GND
03	DO0
04	DO1
05	DO2
06	DO3
07	DO4
08	DO5
09	DO6
10	DO7

Wire Connections

Connection	
	

Dimensions (Unit: mm)



Left View | Front View | Top View

Accessories

CA-TM-P100-L020 CR	
	NTC Thermistor, Epoxy Resin Cable, 2 M (-40 °C ~ +80 °C) (RoHS)
CA-TM-P100-L050 CR	
	NTC Thermistor, Epoxy Resin Cable, 5 M (-40 °C ~ +80 °C) (RoHS)
SG-770 CR	
	7/14-channel Differential/Single-ended Surge Protector (RoHS)

Ordering Information

I-87005W-G CR	8-channel Thermistor Input and 8-channel Digital Output Module (RoHS)

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