

I-87013W

4-channel RTD Input Module

Features

- 4-channel RTD Input
- 3-wire RTD Lead Resistance Elimination
- High Resolution: 16-bit
- Open Wire Detection
- Overvoltage Protection
- 3000 VDC Intra-module Isolation

Introduction

The I-87013W is a 4-channel RTD input module that is used for measuring temperature using RTD. The module supports 2/3/4-wire RTD sensor and features open wire detection. The I-87013W also provides 4 kV ESD protection and 3000 VDC intra-module isolation.

Applications

- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

System Specifications

COM Port	
Ports	RS-485
Data Format	N, 8, 1
Baud Rate	1200 ~ 115200 bps
Protocol	DCON
CPU Module	
Dual Watchdog Timer	Module (1.6 Seconds), Communication (Programmable)
LED Indicators	
System LED Indicator	1 LED as Power Indicator
I/O LED Indicator	8 as High/Low Alarm Signals
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for Each port, ±8 kV Air for Random Poin
Power	
Consumption	0.8 W Max.
Mechanical	
Dimensions (W x L x H)	30 mm x 115 mm x 102 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95 % RH, Non-condensing

RTD Type Settings (TT)

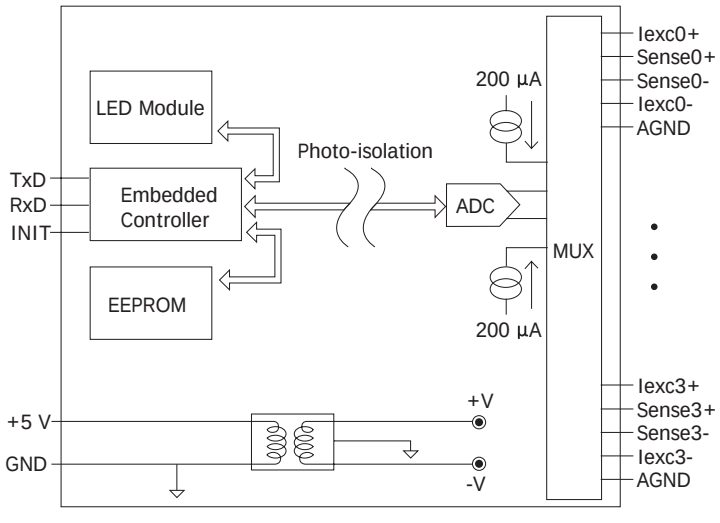
Type Code	RTD Type	Temperature Range
20	Platinum 100, a= 0.00385	-100 ~ + 100 °C
21	Platinum 100, a= 0.00385	0 ~ + 100 °C
22	Platinum 100, a= 0.00385	0 ~ + 200 °C
23	Platinum 100, a= 0.00385	0 ~ + 600 °C
24	Platinum 100, a= 0.003916	-100 ~ + 100 °C
25	Platinum 100, a= 0.003916	0 ~ + 100 °C
26	Platinum 100, a= 0.003916	0 ~ + 200 °C
27	Platinum 100, a= 0.003916	0 ~ + 600 °C
28	Nickel 120	-80 ~ + 100 °C
29	Nickel 120	0 ~ + 100 °C
2A	Platinum 1000, a= 0.00385	-200 ~ + 600 °C

I/O Specifications

Analog Input	
Channels	4
Wiring	2/3/4-wire
Sensor Typee	Pt100, Pt1000, Ni120
Resolution	16-bit
Accuracy	±0.1 % of FSR
Sampling Rate	10 Hz (Total)
-3dB Bandwidth	15.7 Hz
Zero Drift	±0.5 μV/°C
Span Drift	±25 ppm/°C
Common Mode Rejection	150 dB
Normal Mode Rejection	100 dB
3-wire RTD Lead Resistance Elimination	Yes
Resistance Measurement	3.2 kΩ
Open Wire Detection	Yes
Overvoltage Protection	±25 VDC

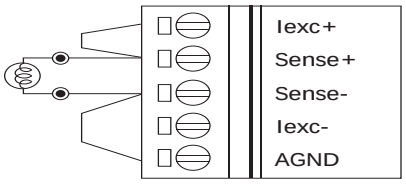
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Internal I/O Structure

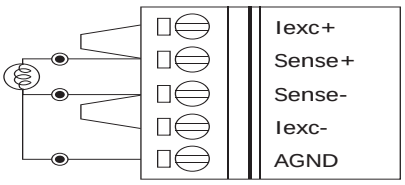


Wire Connections

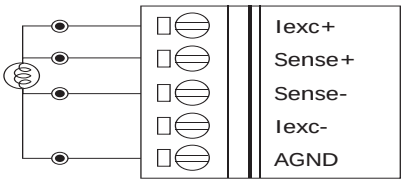
2-Wire RTD Connection



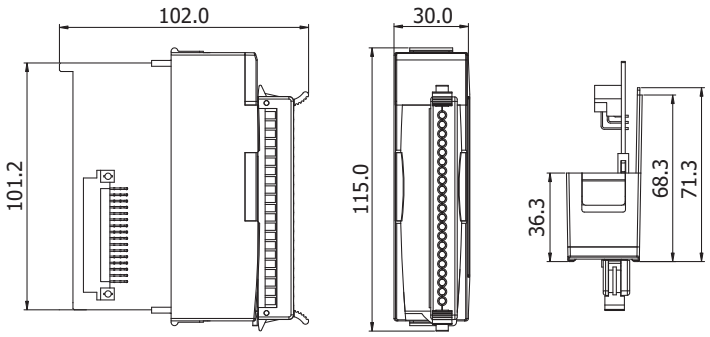
3-Wire RTD Connection



4-Wire RTD Connection

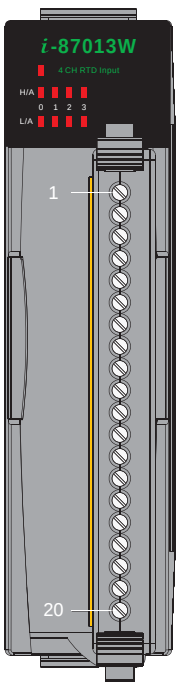


Dimensions (Unit: mm)



Left View | Front View | Top View

Pin Assignments



Terminal No.	Pin Assignment
01	Iexc0+
02	Sense0+
03	Sense0-
04	Iexc0-
05	AGND
06	Iexc1+
07	Sense1+
08	Sense1-
09	Iexc1-
10	AGND
11	Iexc2+
12	Sense2+
13	Sense2-
14	Iexc2-
15	AGND
16	Iexc3+
17	Sense3+
18	Sense3-
19	Iexc3-
20	AGND

Accessories

 **SG-770 CR**	7/14-channel Differential/Single-ended Surge Protector (RoHS)

Ordering Information

I-87013W-G CR	4-channel RTD Input Module (RoHS)

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