



## I-97015

8-channel RTD Input Module

### Features

- 8-channel RTD Input
- 3-wire RTD Lead Resistance Elimination
- High Resolution: 16-bit
- Individual Channel Configuration
- Open Wire Detection
- Overvoltage Protection
- $\pm 4$  kV ESD Protection
- 3000 VDC Intra-module Isolation



### Introduction

The I-97015 is an 8-channel RTD input module for measuring temperature from RTD sensors. Each channel can be connected to different types of RTD sensor, and features automatic compensation for three-wire RTD so that accurate measurements can be made regardless of the length of the wires.

Open wire detection and overvoltage protection are also included, together with 4 kV ESD protection and 3000 VDC intra-module isolation.

### System Specifications

LED Display	
Status	1 x Power and Communication 16 x High/Low Alarm Signals
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	$\pm 4$ kV Contact for Each Terminal $\pm 8$ kV Air for Random Point
RS Immunity (IEC 61000-4-3)	3 V/m, 80 MHz ~ 1 GHz
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	N, 8, 1
Protocol	DCON
Power	
Consumption	0.6 W Max.
Mechanical	
Dimensions (W x L x H)	31 mm x 134 mm x 144 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 90 % RH, Non-condensing

### Applications

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

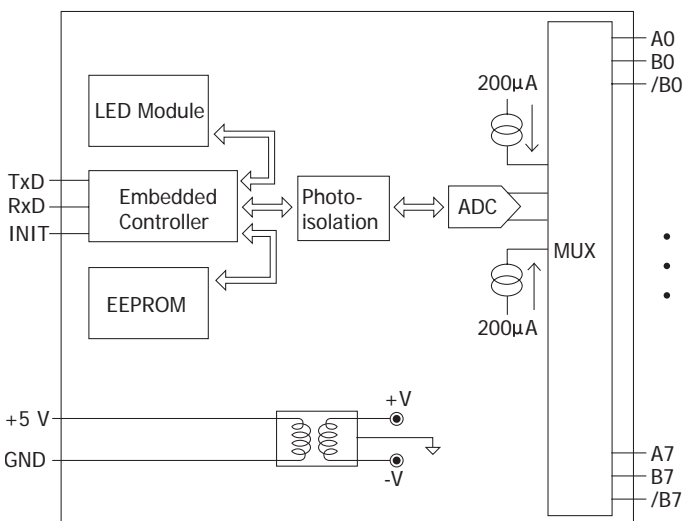
### I/O Specifications

Analog Input	
Channels	8
Sensor Type	Pt100, Pt1000, Ni100, Ni120, Cu50, Cu100, Cu1000
Resistance Measurement	3.2 k $\Omega$
Resolution	16-bit
Accuracy	$\pm 0.05$ % of FSR
Sampling Rate	12 Hz (Total)
Bandwidth	15.7 Hz
Input Impedance	> 1 M $\Omega$
Common Mode Rejection	150 dB
Normal Mode Rejection	100 dB
Overvoltage Protection	$\pm 120$ VDC
Individual Channel Configuration	Yes
Open Wire Detection	Yes
3-wire RTD Lead Resistance Elimination	Yes
Zero Drift	$\pm 0.5$ $\mu$ V/°C
Span Drift	$\pm 20$ ppm/°C

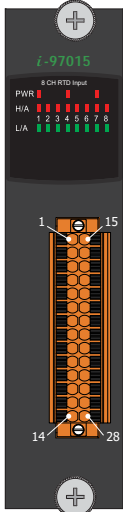
## RTD Type Settings (TT)

Type Code	RTD Type	Temperature Range
20	Platinum 100, $\alpha = 0.00385$	-100 to +100°C
21	Platinum 100, $\alpha = 0.00385$	0 to +100°C
22	Platinum 100, $\alpha = 0.00385$	0 to +200°C
23	Platinum 100, $\alpha = 0.00385$	0 to +600°C
24	Platinum 100, $\alpha = 0.003916$	-100 to +100°C
25	Platinum 100, $\alpha = 0.003916$	0 to +100°C
26	Platinum 100, $\alpha = 0.003916$	0 to +200°C
27	Platinum 100, $\alpha = 0.003916$	0 to +600°C
28	Nickel 120	-80 to +100°C
29	Nickel 120	0 to +100°C
2A	Platinum 1000, $\alpha = 0.00385$	-200 to +600°C
2B	Cu 100 at 0°C, $\alpha = 0.00421$	-20 to +150°C
2C	Cu 100 at 25°C, $\alpha = 0.00427$	0 to +200°C
2D	Cu 1000 at 0°C, $\alpha = 0.00421$	-20 to +150°C
2E	Platinum 100, $\alpha = 0.00385$	-200 to +200°C
2F	Platinum 100, $\alpha = 0.003916$	-200 to +200°C
80	Platinum 100, $\alpha = 0.00385$	-200 to +600°C
81	Platinum 100, $\alpha = 0.003916$	-200 to +600°C
82	Cu 50 at 0°C	-50 to +150°C
83	Nickel 100	-60 to +180°C

## Internal I/O Structure

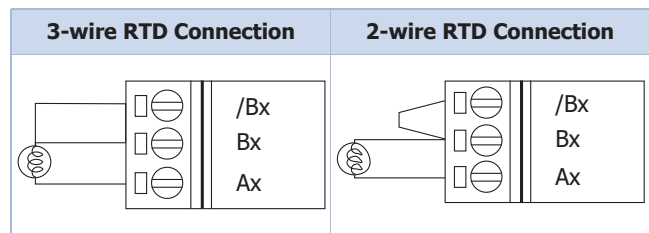


## Pin Assignments

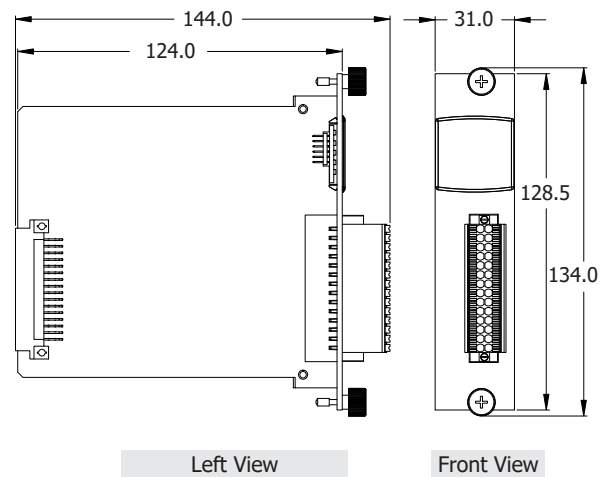


Pin Assignment	Terminal No.	Pin Assignment
A0	01	15 A4
B0	02	16 B4
/B0	03	17 /B4
A1	04	18 A5
B1	05	19 B5
/B1	06	20 /B5
A2	07	21 A6
B2	08	22 B6
/B2	09	23 /B6
A3	10	24 A7
B3	11	25 B7
/B3	12	26 /B7
-	13	27 -
-	14	28 -


## Wire Connections



## Dimensions (Units: mm)



## Accessories

	<b>SG-770 CR</b> 7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
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## Ordering Information

<b>I-97015 CR</b>	8-channel RTD Input Module (RoHS)
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