

I-97015

8-channel RTD Input Module

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

Model	I-97015
Communication	
Interface	RS-485
Format	N, 8, 1
Baud Rate	1200 ~ 115200 bps
Protocol	DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
LED Indicators/Display	
System LED Indicators	1 LED as Power/Communication Indicator
I/O LED Indicators	16 LEDs 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 Terminal ±8 kV Air for Random Point
RS Immunity (IEC 61000-4-3)	3 V/m, 80 MHz ~ 1 GHz
Power	
Power Consumption	0.6 W Max.
Mechanical	
Dimensions (L x W x H)	144 mm x 30.3 mm x 134 mm
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-40 ~ +85°C
Humidity	10 ~ 90% RH, non-condensing

Features

- 8-channel RTD Input
- 3-wire RTD Lead Resistance Elimination
- High Resolution: 16-bit
- Individual Channel Configuration
- Open Wire Detection
- Overvoltage Protection
- ±4 kV ESD Protection
- 3000 Vdc Intra-module Isolation
- Wide Operating Temperature Range: -25 to +75°C



Applications

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

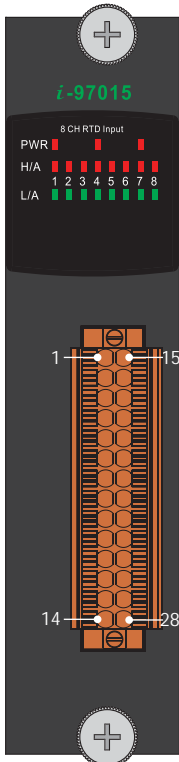
I/O Specifications

Model	I-97015
Analog Output	
Channels	8
Wiring	2/3-Wire
Sensor Type	Pt100, Pt1000, Ni100, Ni120, Cu50, Cu100, Cu1000
Accuracy	16-bit
Resolution	±0.05% of FSR
-3dB Bandwidth	15.7 Hz
Sampling Rate	12 Hz (Total)
Zero Drift	±0.5 µV/°C
Span Drift	±20 ppm/°C
Common Mode Rejection	150 dB
Normal Mode Rejection	100 dB
Input Impedance	>1 MΩ
Individual Channel Configuration	Yes
3-wire RTD Lead Resistance Elimination	Yes
Resistance Measurement	3.2 kΩ
Open Wire Detection	Yes
Overvoltage Protection	±120 VDC

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

Pin Assignments




Pin Assignment	Terminal No.	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	-

28-pin Connector

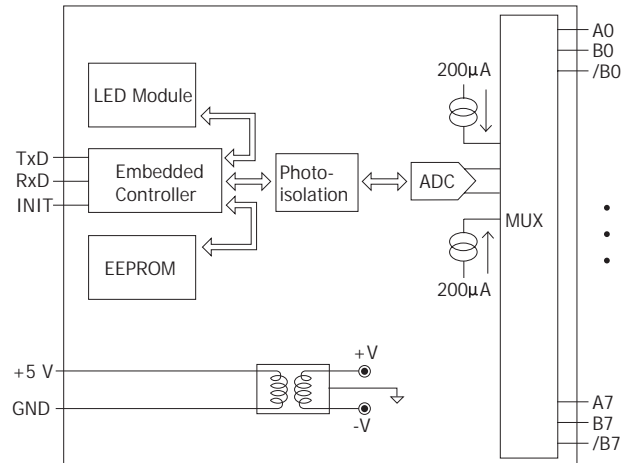
Ordering Information

I-97015-G CR	8-channel RTD Input Module (Gray Cover) (RoHS)
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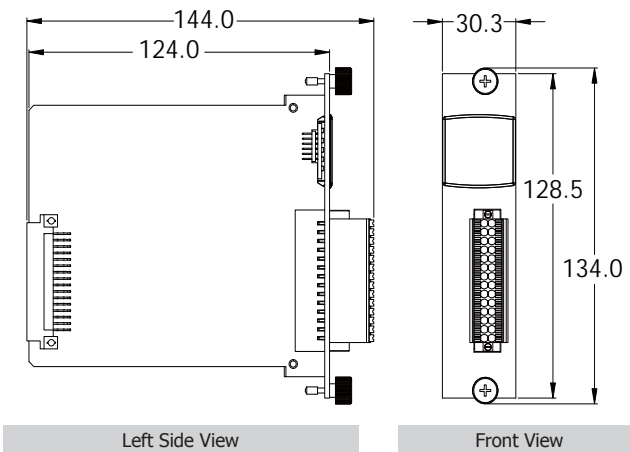
Accessories

 SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
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Internal I/O Structure



Dimensions (Units: mm)



Wire Connections

