



I-87015W-G I-87015PW-G

7-channel RTD Input Module

Introduction

The I-87015W is a 7-channel RTD input module for measuring temperature using RTD. Each channel can be connected to a different kind of RTD sensor, which provides high overvoltage protection of 20 VDC, and also has an open circuit detection function for each channel of RTD input. The module is fully RoHS compliant and has 4 kV ESD protection and 3000 VDC module internal isolation.

The I-87015PW is specially designed for long-distance RTD measurement, and features automatic compensation function for three-wire RTD, so it can be accurately measured regardless of the wire length. It is a 7-channel RTD input module for measuring temperature using RTD. Each channel can be connected to a different kind of RTD sensor, which provides high overvoltage protection of 120 VDC, and also has an open circuit detection function for each channel of the RTD input. The module is fully RoHS compliant and has 4 kV ESD protection and 3000 VDC module internal isolation.

System Specifications

Model	I-87015W	I-87015PW
Communication		
Interface	RS-485	
Format	N, 8, 1	
Baud Rate	1200 to 115200 bps	
Protocol	DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
LED Indicators/Display		
System LED Indicators	Yes, 1 as Power/Communication Indicator	
I/O LED Indicators	14 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	
Power		
Power Consumption	1.0 W Max.	
Mechanical		
Dimensions (L × W × H)	115 mm × 30 mm × 102 mm	
Environment		
Operating Temperature	-25 to +75°C	
Storage Temperature	-40 to +85°C	
Humidity	10 to 95% RH, Non-condensing	

NOTE: ICP DAS recommends selecting the I-87015PW for long-distance RTD Lines.

Features

- 7-channel RTD Input
- 3-wire RTD Lead Resistance Elimination for I-87015PW
- High Resolution: 16-bit
- Individual Channel Configuration
- Open Wire Detection
- Overvoltage Protection



Applications

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

I/O Specifications

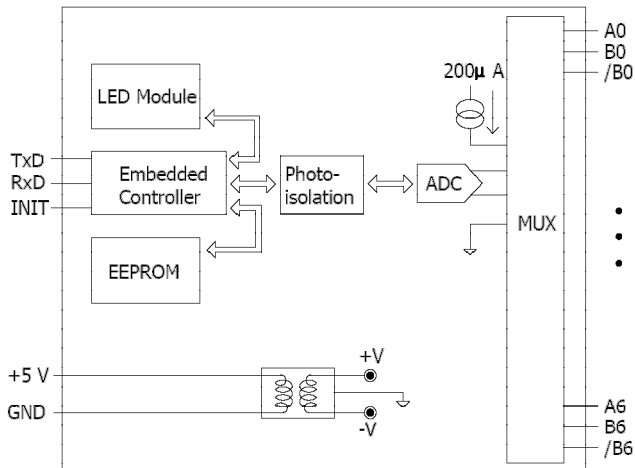
Model	I-87015W	I-87015PW
Analog Input		
Channels	7	
Wiring	2/3-wire	
Sensor Type	Pt100, Pt1000, Ni120, Cu50, Cu100, Cu1000	
Resolution	16-bit	
Accuracy	±0.05% of FSR	
-3dB Bandwidth	15.7 Hz	
Sampling Rate	12 Hz (Total)	
Zero Drift	±0.5 μV/°C	
Span Drift	±2.0 ppm/°C	
Common Mode Rejection	150 dB	
Normal 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	±20 VDC	±120 VDC

RTD Type Settings (TT)

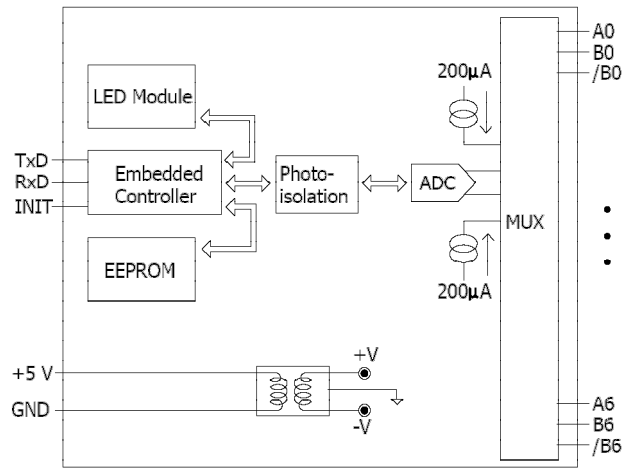
Type Code	RTD Type	Temperature Range
20	Platinum 100, α= 0.00385	-100 to +100°C
21	Platinum 100, α= 0.00385	0 to +100°C
22	Platinum 100, α= 0.00385	0 to +200°C
23	Platinum 100, α= 0.00385	0 to +600°C
24	Platinum 100, α= 0.003916	-100 to +100°C
25	Platinum 100, α= 0.003916	0 to +100°C
26	Platinum 100,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

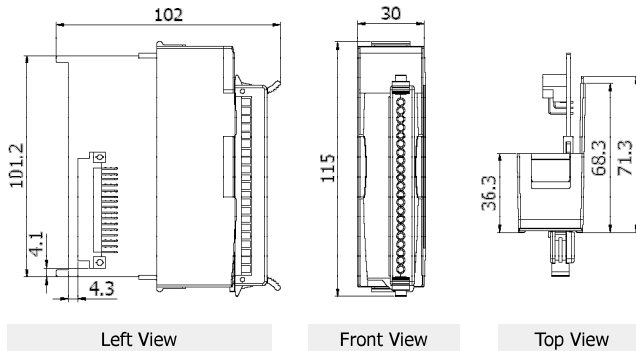
I-87015W



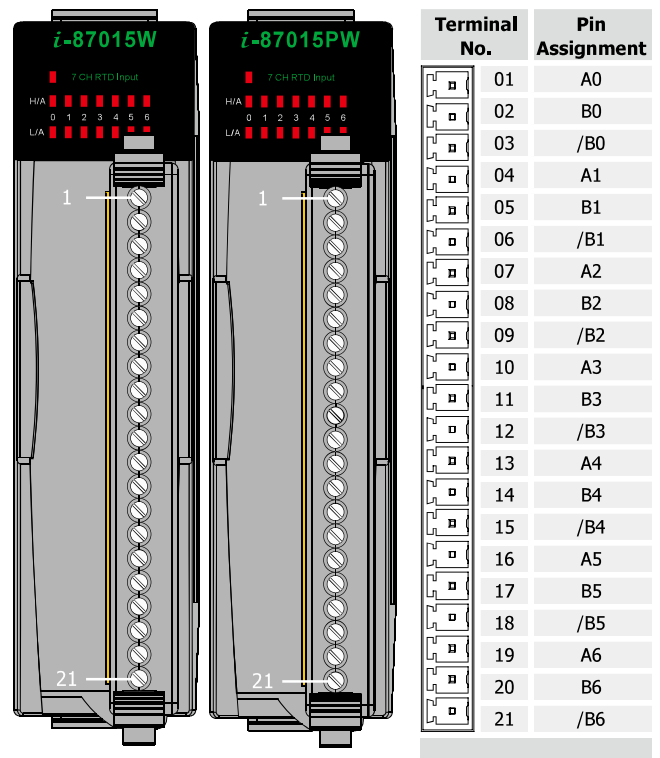
I-87015PW



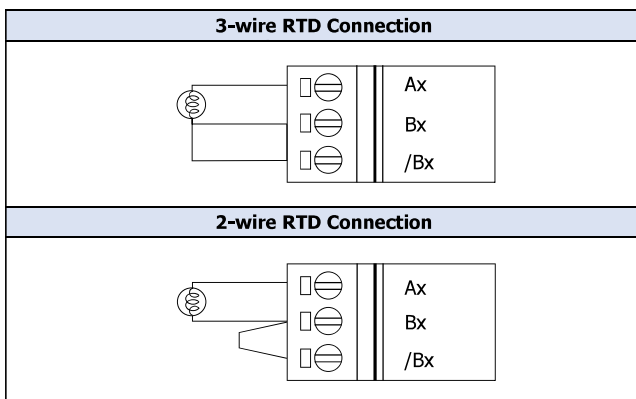
Dimensions (Units: mm)



Pin Assignments




Wire Connections



Ordering Information

I-87015W-G CR	7-channel RTD Input Module (Gray Cover) (RoHS)
I-87015PW-G CR	7-channel RTD Input Module with 3-wire Lead Resistance Elimination (Gray Cover) (RoHS)

Accessories

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