



Introduction

The I-87015W is a 7-channel RTD input module that is used for measuring temperature using RTD. Each channel can be connected to different kinds of RTD sensor.

The I-87015PW is specifically designed for long-distance RTD measurement, and features automatic compensation for three-wire RTD so that it can measure accurately regardless of the length of the wires. The I-87015PW offers 7 channels, each of which can be connected to different kinds of RTD sensor.

Also, the I-87015W and I-87015PW are fully RoHS-compliant and features 4 kV ESD protection as well as 3000 VDC intra-module isolation.

Applications

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

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 x W x H)	115 mm x 30 mm x 102 mm	
Environment		
Operating Temperature	-25 to +75°C	
Storage Temperature	-40 to +85°C	
Humidity	10 to 95% RH, Non-condensing	

NOTE: ICPDAS 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
- ±4 kV ESD Protection
- 3000 Vdc Intra-module Isolation
- Wide Operating Temperature Range: -25 to +75°C



I/O Specifications

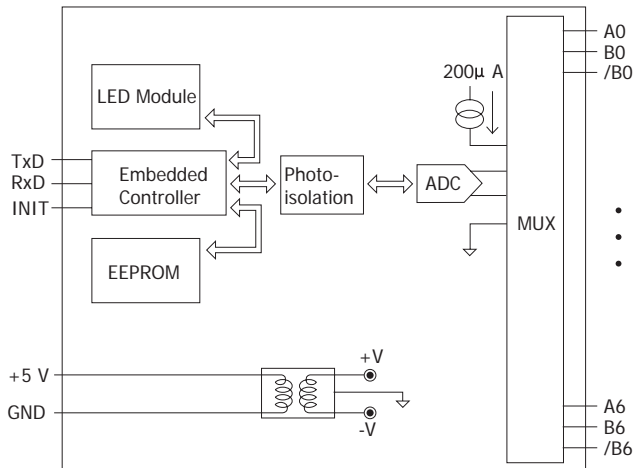
Model	I-87015W	I-87015PW
Analog Input		
Channels	7	
Wiring	2/3-Wire	
Sensor Type	Pt100, Pt1000, Ni120, Cu50, Cu100, Cu1000	
Resolution	16-bit	
Accuracy	±0.05% of FSR	
-3dB Bandwidth	15.7 Hz	
Sampling Rate	12 Hz (Total)	
Zero Drift	±0.5 µV/°C	
Span Drift	±20 ppm/°C	
Common Mode Rejection	150 dB	
Normal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

RTD Type Settings (TT)

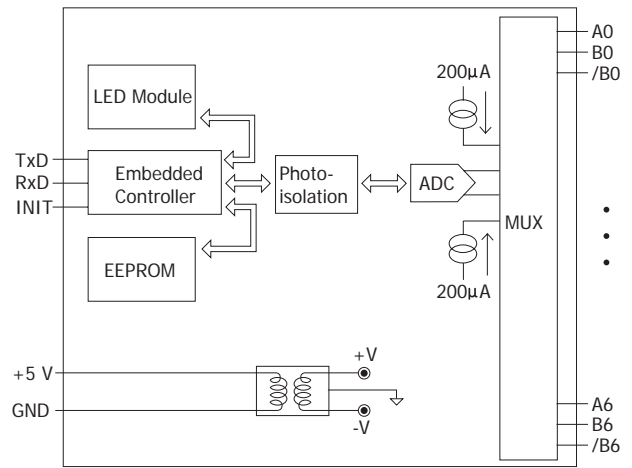
Type Code	RTD Type	Temperature Range
20	Platinum 100, α= 0.00385	-100 to +100°C
21	Platinum 100, α= 0.00385	0 to +100°C
22	Platinum 100, α= 0.00385	0 to +200°C
23	Platinum 100, α= 0.00385	0 to +600°C
24	Platinum 100, α= 0.003916	-100 to +100°C
25	Platinum 100, α= 0.003916	0 to +100°C
26	Platinum 100, 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

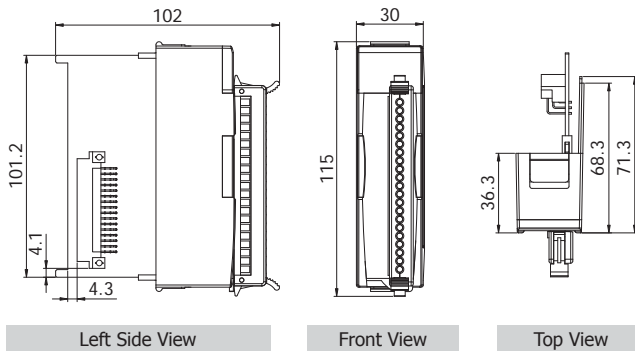
I-87015W



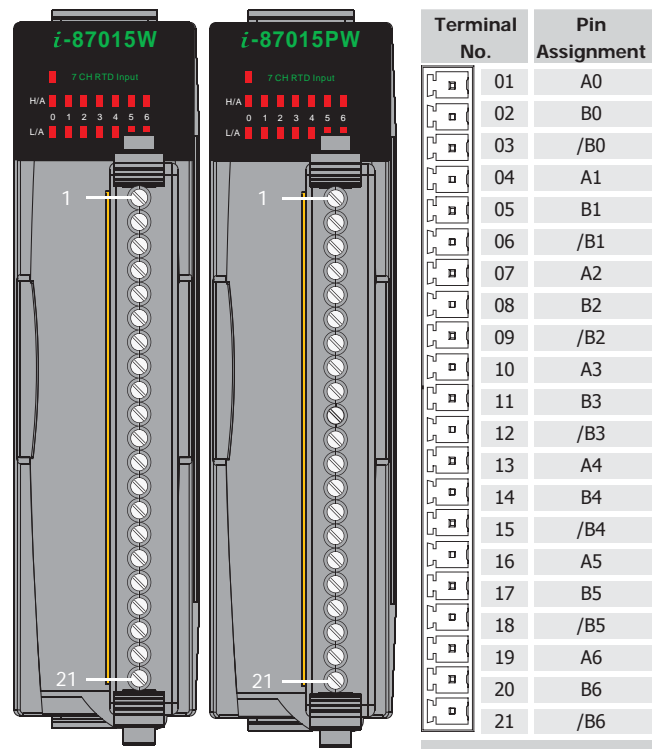
I-87015PW



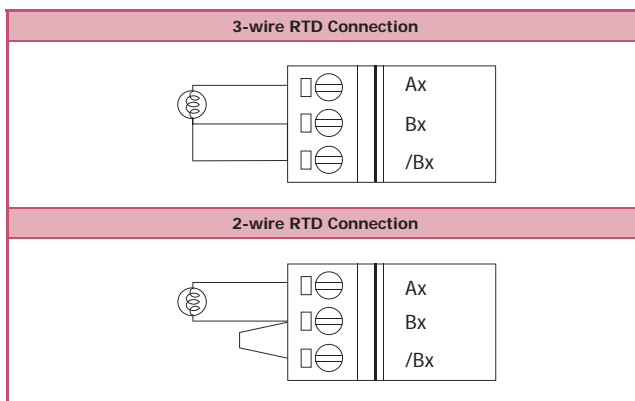
Dimensions (Units: mm)



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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