



I-8015W | I-8015W-12

8/12-channel High Speed RTD Input Module

Features

- 8/12-channel RTD Input
- 3-wire RTD lead resistance elimination
- 85 Hz High Speed Sampling Rate for Each Channel
- Modbus RTU Protocol
- 921 k bps UART Communication
- Individual Channel Configuration
- Open Wire Detection
- COM Port Driver Available on PACs with Windows 10 IoT, WES7, WinCE 6.0, WinCE 7.0, and Linux

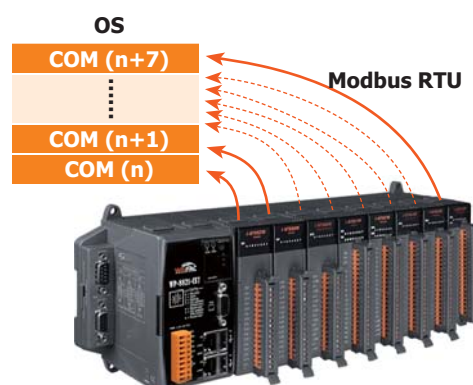


Introduction

The I-8015W/I-8015W-12 is a 8/12-channel RTD input module that measures temperature through RTD and provides 85Hz high-speed measurement for each channel. Each channel can be connected to different kinds of RTD sensors. It features automatic compensation for three-wire RTD so that it can measure accurately regardless of the length of the wires. Also, the I-8015W/I-8015W-12 are fully RoHS-compliant and feature 4 kV ESD protection as well as 3000 VDC intra-module isolation.

Applications

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



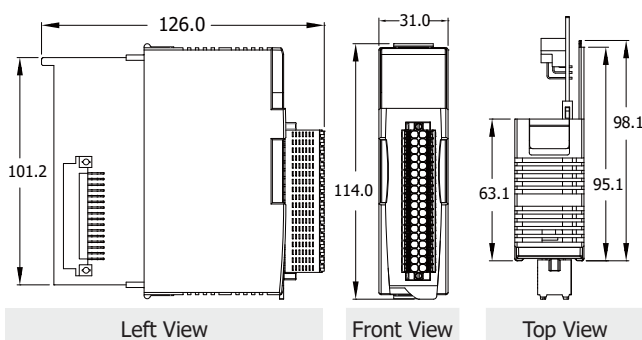
System Specifications

Model	I-8015W	I-8015W-12
COM Port		
Ports	RS-232	
Data Format	N, 8, 1	
Baud Rate	921600 bps	
Protocol	Modbus RTU	
CPU Module		
Dual Watchdog Timer	Module (1.6 Seconds), Communication (Programmable)	
LED Indicators		
System LED Indicator	1 LED as Power Indicator	
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 Point	
Power		
Consumption	0.4 W Max.	0.5 W Max.
Mechanical		
Dimensions (W x L x H)	31 mm x 114 mm x 126 mm	
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95 % RH, Non-condensing	

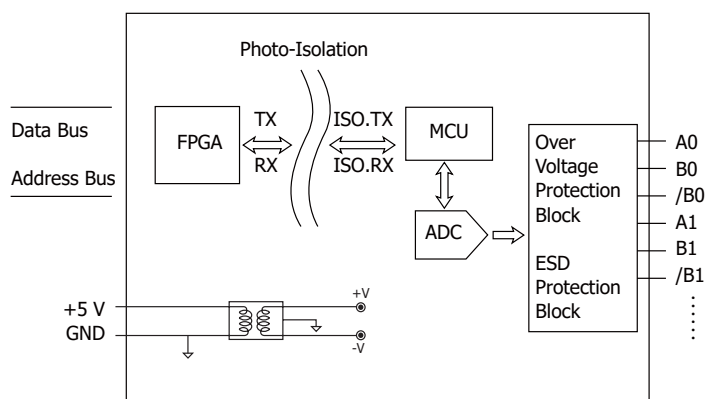
I/O Specifications

Model	I-8015W	I-8015W-12
Analog Input		
Channels	8	12
Sensor Type	Pt100, Ni120, Cu50, Cu100	
Resolution	16-bit	
Accuracy Rate	Fast Mode	±0.1 % of FSR (25 °C)
	Normal Mode	±0.05 % of FSR (25 °C)
Sampling Rate	Fast Mode	85 Hz (per channel)
	Normal Mode	1.5 Hz (per channel)
Input Impedance	> 1 MΩ	
Individual Channel Configuration	Yes	
3-wire RTD Lead Resistance Elimination	Yes	
Resistance Measurement	400 Ω	
Open Wire Detection	Yes	

Dimensions (Unit: mm)

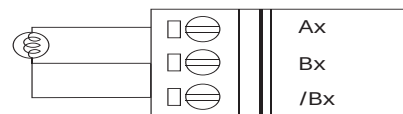


Internal I/O Structure

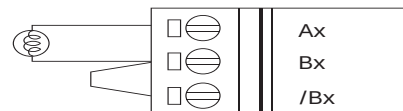


Wire Connections

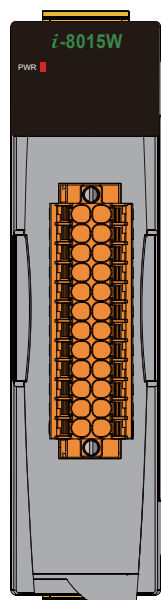
3-Wire RTD Connection



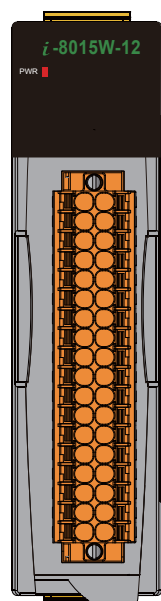
2-Wire RTD Connection



Pin Assignments



I-8015W				
Pin Assignment	Terminal No.		Pin Assignment	
A1	01	13	A0	
B1	02	14	B0	
/B1	03	15	/B0	
A3	04	16	A2	
B3	05	17	B2	
/B3	06	18	/B2	
A5	07	19	A4	
B5	08	20	B4	
/B5	09	21	/B4	
A7	10	22	A6	
B7	11	23	B6	
/B7	12	24	/B6	



I-8015W-12				
Pin Assignment	Terminal No.		Pin Assignment	
A1	01	19	A0	
B1	02	20	B0	
/B1	03	21	/B0	
A3	04	22	A2	
B3	05	23	B2	
/B3	06	24	/B2	
A5	07	25	A4	
B5	08	26	B4	
/B5	09	27	/B4	
A7	10	28	A6	
B7	11	29	B6	
/B7	12	30	/B6	
A9	13	31	A8	
B9	14	32	B8	
/B9	15	33	/B8	
A11	16	34	A10	
B11	17	35	B10	
/B11	18	36	/B10	

RTD Type Settings (TT)

Type Code	RTD Type	Temperature
0 x 20	Pt 100, $\alpha = 0.00385$	-100 ~ + 100 °C
0 x 21	Pt 100, $\alpha = 0.00385$	0 ~ + 100 °C
0 x 22	Pt 100, $\alpha = 0.00385$	0 ~ + 200 °C
0 x 23	Pt 100, $\alpha = 0.00385$	0 ~ + 600 °C
0 x 24	Pt 100, $\alpha = 0.003916$	-100 ~ + 100 °C
0 x 25	Pt 100, $\alpha = 0.003916$	0 ~ + 100 °C
0 x 26	Pt 100, $\alpha = 0.003916$	0 ~ + 200 °C
0 x 27	Pt 100, $\alpha = 0.003916$	0 ~ + 600 °C
0 x 28	Ni 120	-80 ~ + 100 °C
0 x 29	Ni 120	0 ~ + 100 °C
0 x 2B	Cu 100, $\alpha = 0.00421$	-20 ~ + 150 °C
0 x 2C	Cu 100, $\alpha = 0.00427$	0 ~ + 200 °C
0 x 2E	Pt 100, $\alpha = 0.00385$	-200 ~ + 200 °C
0 x 2F	Pt 100, $\alpha = 0.003916$	-200 ~ + 200 °C
0 x 80	Pt 100, $\alpha = 0.00385$	-200 ~ + 600 °C
0 x 81	Pt 100, $\alpha = 0.003916$	-200 ~ + 600 °C
0 x 82	Cu 50	-50 ~ + 150 °C
0 x 83	Ni 100	-60 ~ 180 °C
0 x 84	Ni 120	-80 ~ 150 °C
0 x 85	Cu 100, $\alpha = 0.00428$	0 ~ 150 °C
0 x 86	Pt 100, $\alpha = 0.00385$	-100 ~ 300 °C
0 x 87	Pt 100, $\alpha = 0.003916$	-100 ~ 300 °C

Accessories

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

I-8015W CR	8-channel High Speed RTD Input Module, 85S/s (RoHS)
I-8015W-12 CR	12-channel High Speed RTD Input Module, 85S/s (RoHS)