

ET-2215CI-4



ET-2215CI

Ethernet I/O Module with 4/8-ch
High Speed RTD Input

Features

- Web Server for Configuration
- Support Modbus TCP/UDP, MQTT, and SNMP V2c Protocols
- 2-port Ethernet Switch (LAN bypass) for Daisy-chain Wiring
- I/O Pair Connection (Push and Pull)
- 3-wire RTD Lead Resistance Compensation
- Supports Firmware Update via Ethernet
- 90Hz High-speed Sampling Rate for each Channel
- Open Wire Detection
- 3000 VDC Channel-to-Channel Isolation
- Built-in I/O
  - ☐ ET-2215CI-4: 4-ch RTD Input
  - ☐ ET-2215CI: 8-ch RTD Input
- Individual Channel Configuration

Introduction

ET-2215CI-4/ET-2215CI is a 4/8-channel a RTD input module with channel-to-channel isolation that provides 90Hz high speed measurement and open wire detection for each channel. Each channel can be connected to different types of RTD sensors and supports 3-wire RTD lead wire compensation, ensuring accurate measurements regardless of wire length. The module includes a built-in 2-port Ethernet switch, facilitating a daisy-chain topology. This feature offers flexibility in device configuration, simplifies installation, and reduces infrastructure costs.

The module supports commonly used industrial protocols such as Modbus TCP and the emerging M2M (Machine-to-Machine) or IoT (Internet of Things) connectivity protocols like MQTT. It also provides EMS (EFT/ESD/Surge) protection and 3000 VDC I/O isolation to enhance noise protection capabilities in industrial environments.

System Specifications

Model	ET-2215CI-4	ET-2215CI
Software		
Built-in Web Server	Yes	
CPU Module		
CPU	32-bit ARM	
Watchdog Timer	Module, Communication (Programmable)	
Isolation		
2-way Isolation	Ethernet: 1500 VDC, I/O: 3000 VDC	
EMS Protection		
EFT (IEC 61000-4-4)	±4 kV for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal, ±8 kV Air for Random Point	
Surge (IEC 61000-4-5)	±2 kV for Power Line	
LED Indicators		
Status	Run, Ethernet	
System		
Real Time Clock	Yes	
Data Logger	Up to 480,000 (ET-2215CI-4) / 320,000 (ET-2215CI) records	
Ethernet		
Ports	2 x RJ-45, 10/100 Base-Tx, Switch Ports	
LAN bypass	Yes	

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Model	ET-2215CI-4	ET-2215CI
Access Control	Password and IP Filter	
Protocol	Modbus TCP, Modbus UDP, MQTT, SNMP V2c	
Power		
Reverse Polarity Protection	Yes	
Consumption	3.6 W (max.)	5.4 W (max.)
Powered from Terminal Block	+10 ~ +48 V_{DC}	
Mechanical		
Casing	Metal	
Dimensions (mm)	33 x 184 x 132 (W x L x H)	
Installation	DIN-Rail Mounting / Wall mounting (Optional ASO-0015)	
Ingress Protection Rating	IP30	
Environment		
Operating Temperature	-25 ~ +75 ℃	
Storage Temperature	-40 ~ +80 ℃	
Humidity	10 ~ 90% RH, Non-condensing	

I/O Specifications

Model		ET-2215CI-4	ET-2215CI
Analog Input			
Channels		4	8
Sensor Type		Pt100, Ni120, Cu50, Cu100	
Resolution		16-bit	
Accuracy	Normal Mode	±0.05% FSR (25℃)	
	Fast Mode	±0.1% FSR (25℃)	
Sampling Rate	Normal Mode	1.5 Hz (per channel)	
	Fast Mode	90 Hz (per channel)	
Input Impedance		>1M Ω	
Individual Channel Configuration		Yes	
Channel-to-channel Isolation		3000 V_{DC}	
Open Wire Detection		Yes	
3-wire RTD Lead Resistance Elimination		Yes	

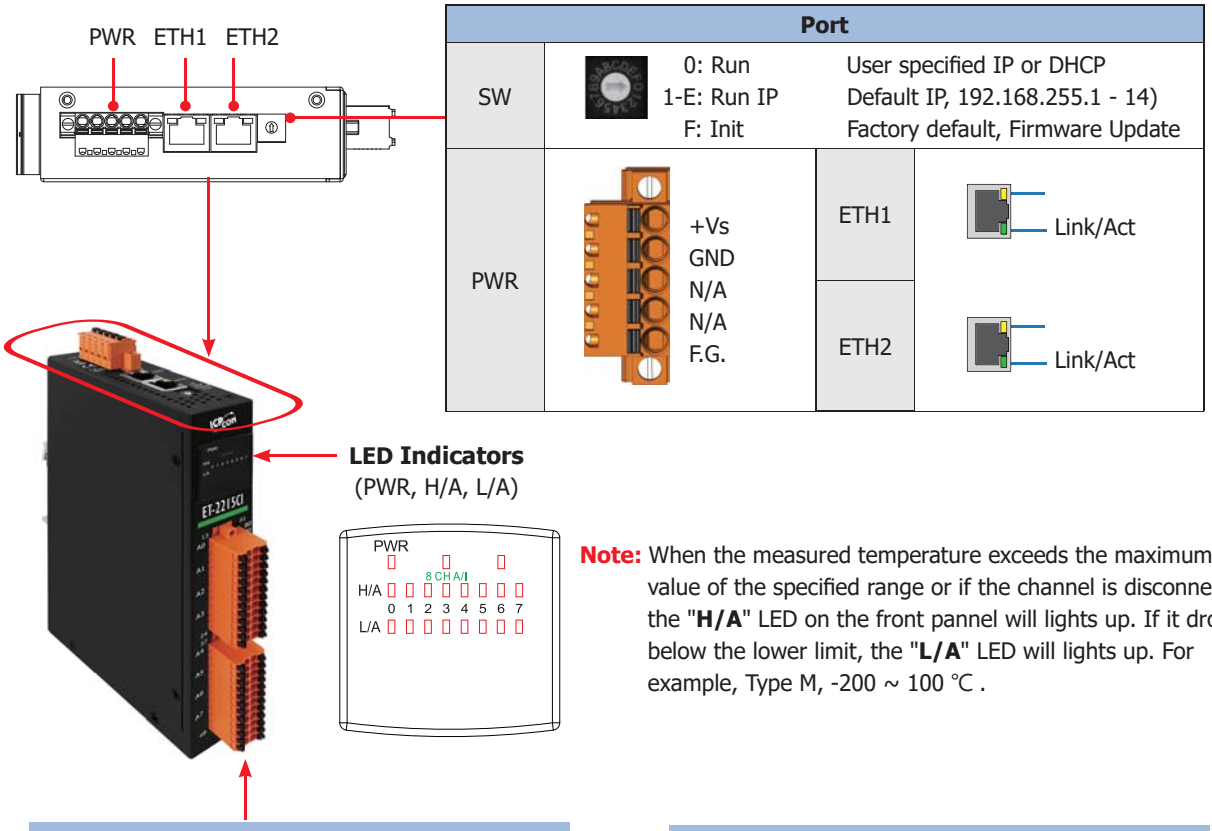
RTD Type Code Table

Type Code	RTD Type	Temperature
0x20	Pt 100, α = 0.00385	-100 ~ + 100 ℃
0x21	Pt 100, α = 0.00385	0 ~ + 100 ℃
0x22	Pt 100, α = 0.00385	0 ~ + 200 ℃
0x23	Pt 100, α = 0.00385	0 ~ + 600 ℃
0x24	Pt 100, α = 0.003916	-100 ~ + 100 ℃
0x25	Pt 100, α = 0.003916	0 ~ + 100 ℃
0x26	Pt 100, α = 0.003916	0 ~ + 200 ℃
0x27	Pt 100, α = 0.003916	0 ~ + 600 ℃
0x28	Ni 120	-80 ~ + 100 ℃
0x29	Ni 120	0 ~ + 100 ℃
0x2B	Cu 100, α = 0.00421	-20 ~ + 150 ℃

Type Code	RTD Type	Temperature
0x2C	Cu 100, α = 0.00427	0 ~ + 200 ℃
0x2E	Pt 100, α = 0.00385	-200 ~ + 200 ℃
0x2F	Pt 100, α = 0.003916	-200 ~ + 200 ℃
0x80	Pt 100, α = 0.00385	-200 ~ + 600 ℃
0x81	Pt 100, α = 0.003916	-200 ~ + 600 ℃
0x82	Cu 50	-50 ~ + 150 ℃
0x83	Ni 100	-60 ~ 180 ℃
0x84	Ni 120	-80 ~ 150 ℃
0x85	Cu 100, α = 0.00428	0 ~ 150 ℃
0x86	Pt 100, α = 0.00385	-100 ~ 300 ℃
0x87	Pt 100, α = 0.003916	-100 ~ 300 ℃

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Pin Assignments



Note: When the measured temperature exceeds the maximum value of the specified range or if the channel is disconnected, the "**H/A**" LED on the front pannel will lights up. If it drops below the lower limit, the "**L/A**" LED will lights up. For example, Type M, -200 ~ 100 ℃ .

ET-2215CI-4

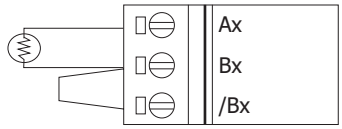
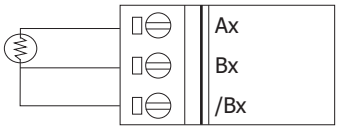
Pin Assignment	Terminal No.		Pin Assignment
A0	13	01	B0
	14	02	/B0
	15	03	
	16	04	
	17	05	
	18	06	
	19	07	
A1	20	08	B1
	21	09	/B1
	22	10	
	23	11	
	24	12	
A2	37	25	B2
	38	26	/B2
	39	27	
	40	28	
	41	29	
	42	30	
	43	31	
A3	44	32	B3
	45	33	/B3
	46	34	
	47	35	
	48	36	

ET-2215CI

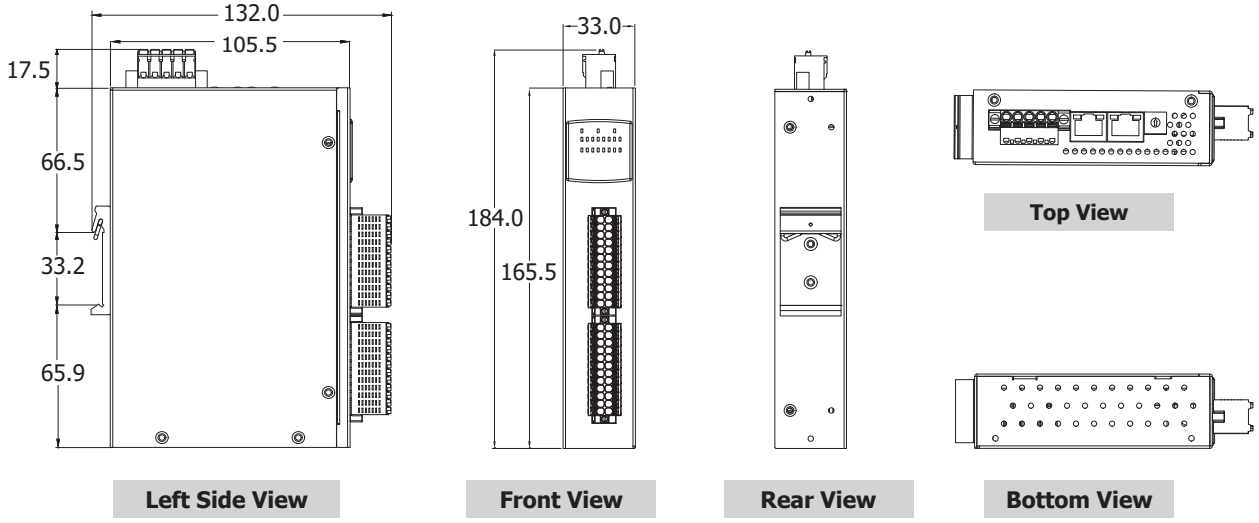
Pin Assignment	Terminal No.		Pin Assignment
A0	13	01	B0
	14	02	/B0
	15	03	
A1	16	04	B1
	17	05	/B1
	18	06	
	19	07	
A2	20	08	B2
	21	09	/B2
	22	10	
A3	23	11	B3
	24	12	/B3
A4	37	25	B4
	38	26	/B4
	39	27	
A5	40	28	B5
	41	29	/B5
	42	30	
	43	31	
A6	44	32	B6
	45	33	/B6
	46	34	
A7	47	35	B7
	48	36	/B7

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Wire Connections

2-wire RTD Connection	3-wire RTD Connection
	

Dimensions (Units: mm)



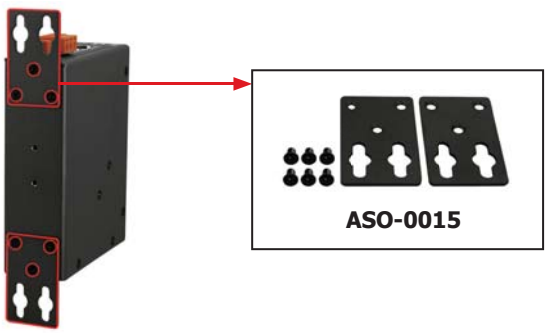
Left Side View | Front View | Rear View | Top View | Bottom View

Ordering Information

ET-2215CI-4 CR	Ethernet I/O Module with 2-port Ethernet Switch, 4-ch High Speed RTD Input, 90 S/s with Channel-to-Channel Isolation (RoHS)
ET-2215CI CR	Ethernet I/O Module with 2-port Ethernet Switch, 8-ch High Speed RTD Input, 90 S/s with Channel-to-Channel Isolation (RoHS)

Accessories

ASO-0015 CR	Wall Mount Kit (W: 28 mm) (RoHS)



(P)ET-2200 + ASO-0015

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