

ET-2218CI-4



ET-2218CI

Ethernet I/O Module with 4/8-ch
High Speed Thermocouple 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
- Supports Firmware Update via Ethernet
- 100Hz High-speed Sampling Rate for each Channel
- Open Wire Detection
- 3000 VDC Channel-to-Channel Isolation
- Built-in I/O
  - ET-2218CI-4: 4-ch Thermocouple Input
  - ET-2218CI: 8-ch Thermocouple Input
- Individual Channel Configuration

Introduction

ET-2218CI-4/ET-2218CI is a 4/8-channel thermocouple input module with channel-to-channel isolation that provides 100Hz high speed measurement and open wire detection for each channel. The module supports a variety of thermocouple input types, including Type J, K, T, E, R, S, B, N, C, L, M, and LDIN43710, and features an automatic cold-junction compensation function for all channels. 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-2218CI-4	ET-2218CI
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-2218CI-4) / 320,000 (ET-2218CI) records	
Ethernet		
Ports	2 x RJ-45, 10/100 Base-Tx, Switch Ports	
LAN bypass	Yes	

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Model	ET-2218CI-4	ET-2218CI
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 VDC	
Mechanical		
Casing	Metal	
Dimensions (mm)	33 x 184 x 115 (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-2218CI-4	ET-2218CI
Analog Input			
Channels		4	8
Sensor Type		Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)	
Resolution		16-bit	
Accuracy		±0.1% FSR (25℃)	
Sampling Rate	Normal Mode	1.5 Hz (per channel)	
	Fast Mode	100 Hz (per channel)	
Overvoltage Protection		30 VDC	
Individual Channel Configuration		Yes	
Channel-to-channel Isolation		3000 VDC	
Open Wire Detection		Yes	

Applications

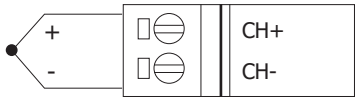
- Building Automation
- Machine Automation
- Remote Diagnosis
- Factory Automation
- Remote Maintenance
- Testing Equipment

Thermocouple Type

Type Code	Temperature Range
J	-210 ~ + 760 ℃
K	-270 ~ + 1372 ℃
T	-270 ~ + 400 ℃
E	-270 ~ + 1000 ℃
R	0 ~ + 1768 ℃
S	0 ~ + 1768 ℃
B	0 ~ + 1820 ℃
N	-270 ~ + 1300 ℃
C	0 ~ + 2320 ℃
L	-200 ~ + 800 ℃
M	-200 ~ + 100 ℃
LDIN43710	-200 ~ + 900 ℃

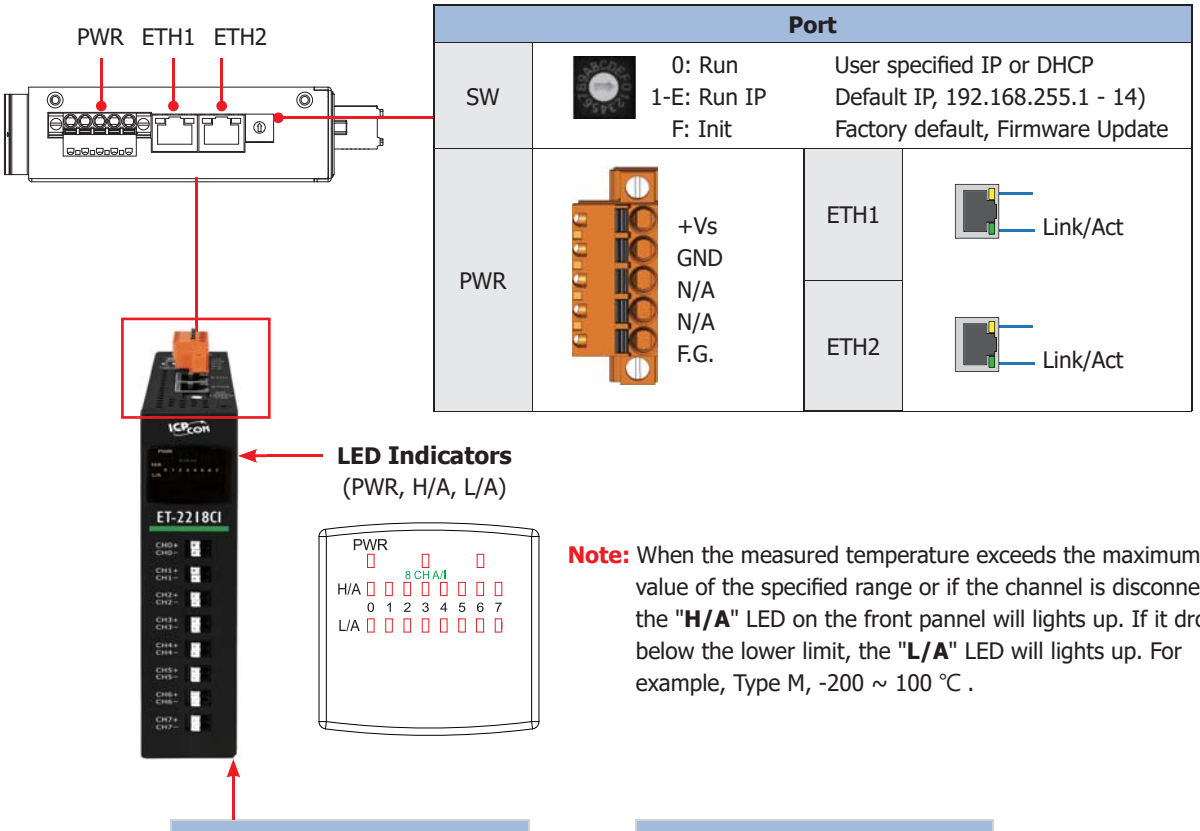
Wire Connections

Thermocouple Input



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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-2218CI-4

Terminal No.		Pin Assignment
	01	CH0+
	02	CH0-
	03	
	04	
	05	CH1+
	06	CH1-
	07	
	08	
	09	
	10	
	11	CH2+
	12	CH2-
	13	
	14	
	15	CH3+
	16	CH3-

ET-2218CI

Terminal No.		Pin Assignment
	01	CH0+
	02	CH0-
	03	CH1+
	04	CH1-
	05	CH2+
	06	CH2-
	07	CH3+
	08	CH3-
	09	CH4+
	10	CH4-
	11	CH5+
	12	CH5-
	13	CH6+
	14	CH6-
	15	CH7+
	16	CH7-

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Push-to-Connect Fitting

Insert the Wire



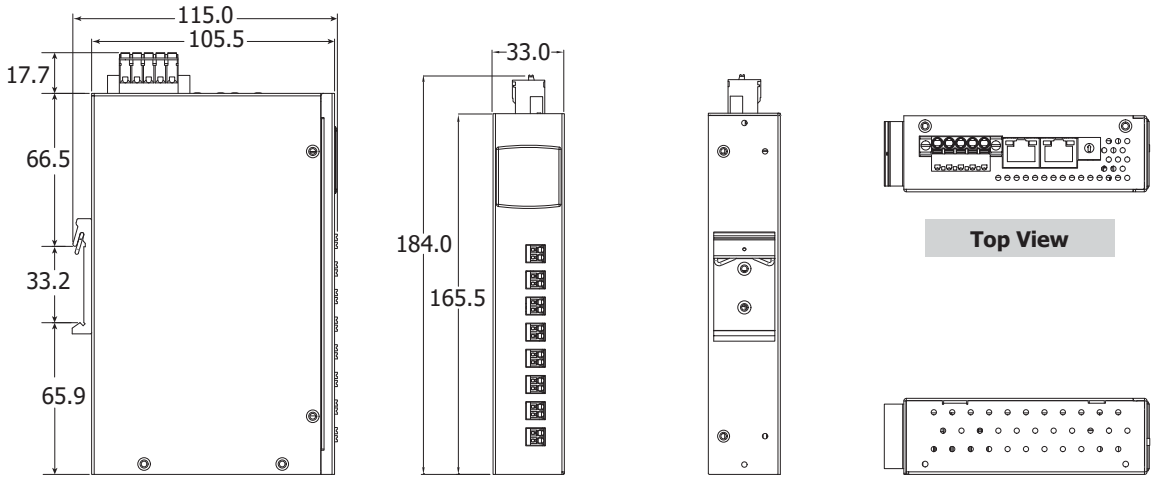
1. Insert the wire into the terminal slot.

Remove the Wire



1. Press the white button with a screwdriver.
2. Remove the wire.

Dimensions (Units: mm)



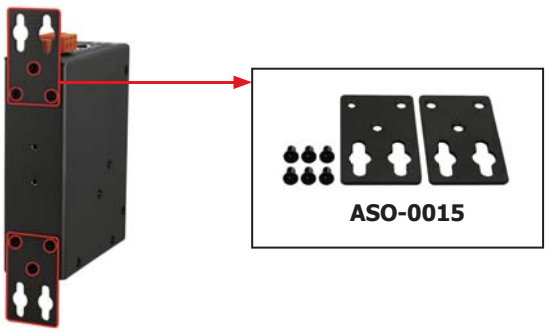
Left Side View | Front View | Rear View | Top View | Bottom View

Ordering Information

ET-2218CI-4 CR	Ethernet I/O Module with 2-port Ethernet Switch, 4-ch High Speed Thermocouple Input, 100 S/s with Channel-to-Channel Isolation (RoHS)
ET-2218CI CR	Ethernet I/O Module with 2-port Ethernet Switch, 8-ch High Speed Thermocouple Input, 100 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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