

ET-2218H/S1 ET-2218H-16/S1
PET-2218H/S1 PET-2218H-16/S1

Ethernet I/O Module with 8/16-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
- 100 Hz High-speed Sampling Rate for each Channel
- Open Wire Detection
- Built-in I/O
  - ☐ (P)ET-2218H/S1: 8-ch Thermocouple Input
  - ☐ (P)ET-2218H-16/S1-16: 16-ch Thermocouple Input
- Individual Channel Configuration

Introduction

(P)ET-2218H / (P)ET-2218H-16 is an 8/16-channel thermocouple input module 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. Additionally, the module provides EMS (EFT/ESD/Surge) protection and 3000 VDC I/O Isolation to enhance noise protection capabilities in industrial environments.

System Specifications

Model	ET-2218H/S1	ET-2218H-16/S1	PET-2218H/S1	PET-2218H-16/S1
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		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		Run, Ethernet, PoE	
Ethernet				
Ports	2 x RJ-45, 10/100 Base-Tx, Switch Ports			
PoE	-		Yes	
LAN bypass	Yes			
Access Control	Password and IP Filter			
Protocol	Modbus TCP, Modbus UDP, MQTT, SNMP V2c			
Power				
Reverse Polarity Protection	Yes			
Consumption	1.6 W (max.)	1.7 W (max.)	1.9 W (max.)	1.9 W (max.)
Powered from PoE	-		IEEE 802.3af, Class1	
Powered from Terminal Block	+10 ~ +48 VDC			
Mechanical				
Casing	Metal			
Dimensions (mm)	(P)ET-2218H/S1: 33 x 151 x 121, (P)ET-2218H-16/S1: 33 x 151 x 144 (W x L x H)			
Installation	DIN-Rail Mounting / Wall mounting			
Environment				
Operating Temperature	-25 ~ +75 °C			
Storage Temperature	-40 ~ +80 °C			
Humidity	10 ~ 90% RH, Non-condensing			

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I/O Specifications

Model		ET-2218H/S1 PET-2218H/S1	ET-2218H-16/S1 PET-2218H-16/S1
Analog Input			
Channels		8	16
Sensor Type		Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)	
Resolution		16-bit	
Accuracy		±0.1% FSR (25°C)	
Sampling Rate	Normal Mode	1.5 Hz (per channel)	
	Fast Mode	100 Hz (per channel)	
Overvoltage Protection		30 VDC	
Individual Channel Configuration		Yes	
Open Wire Detection		Yes	
CN-1825M / CN-1826M			
Wire Strip Length		4 ~ 5 mm	
Wire Range		16 ~ 24 AWG	

Applications

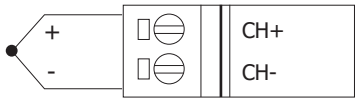
- Building Automation
- Remote Diagnosis
- Remote Maintenance
- Machine Automation
- Factory Automation
- Testing Equipment

Thermocouple Type

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

Wire Connections

Thermocouple Input

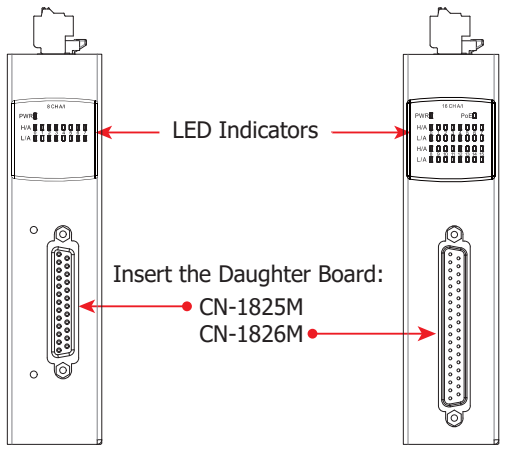


Appearance

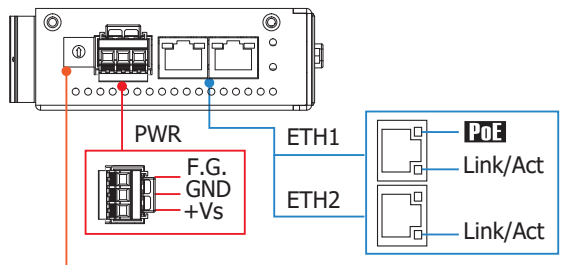
Note: When the measured temperature exceeds the maximum value of the specified range or if the channel is disconnected, the "H/A" LED on the front pannel will lights up. If it drops below the lower limit, the "L/A" LED will lights up. For example, Type M, -200 ~ 100 °C .

▼ **ET-2218H / PET-2218H**

▼ **ET-2218H-16 / PET-2218H-16**



▼ Only the **PET** series supports PoE (Power over Ethernet)



SW

0: Run
(User specified IP or DHCP)
1-E: Run IP
(Default IP, 192.168.255.1 - 14)
F: Init
(Factory default, Firmware Update)

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Pin Assignments

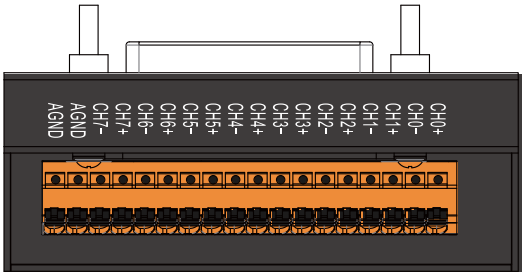
ET-2218H/PET-2218H

Pin Assignment	Terminal No.		Pin Assignment
+3.3 V	01	14	GND
N.C.	02	15	CH0+
CH0-	03	16	CH1+
CH1-	04	17	CH2+
CH2-	05	18	CH3+
CH3-	06	19	CH4+
CH4-	07	20	CH5+
CH5-	08	21	CH6+
CH6-	09	22	CH7+
CH7-	10	23	N.C.
N.C.	11	24	SDA
SCL	12	25	AGND
AGND	13		

ET-2218H-16/PET-2218H-16

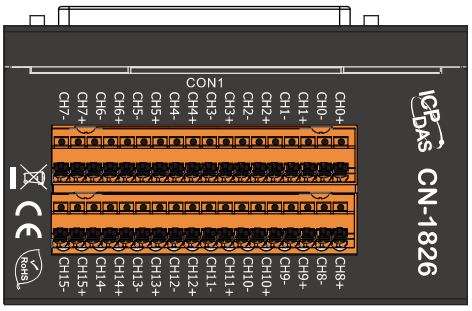
Pin Assignment	Terminal No.		Pin Assignment
+3.3 V	01	20	GND
N.C.	02	21	CH0+
CH0-	03	22	CH1+
CH1-	04	23	CH2+
CH2-	05	24	CH3+
CH3-	06	25	CH4+
CH4-	07	26	CH5+
CH5-	08	27	CH6+
CH6-	09	28	CH7+
CH7-	10	29	SDA
SCL	11	30	CH8+
CH8-	12	31	CH9+
CH9-	13	32	CH10+
CH10-	14	33	CH11+
CH11-	15	34	CH12+
CH12-	16	35	CH13+
CH13-	17	36	CH14+
CH14-	18	37	CH15+
CH15-	19		

CN-1825M



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 -
	17	AGND
	18	AGND

CN-1826M

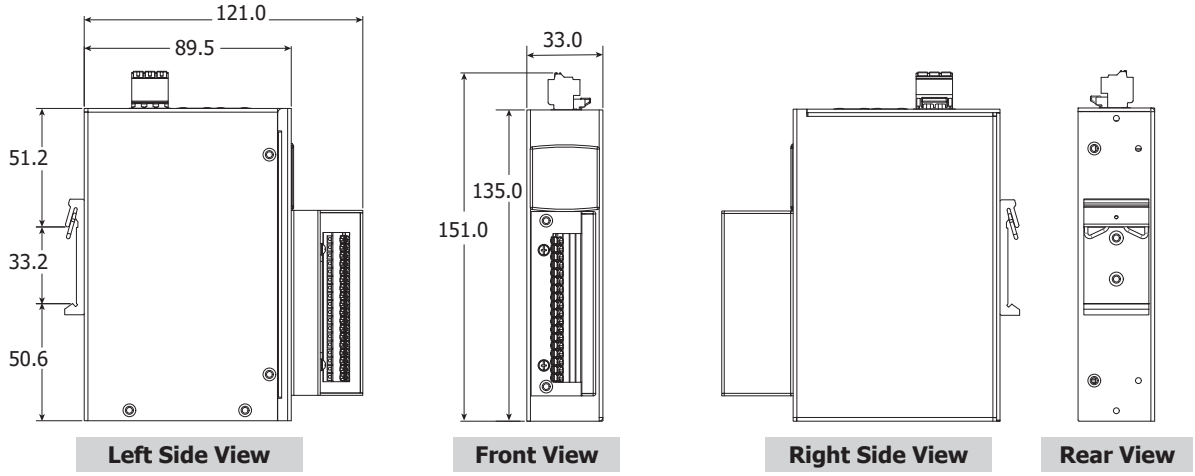


Pin Assignment	Terminal No.		Pin Assignment
CH0+	01	17	CH8+
CH0 -	02	18	CH8 -
CH1+	03	19	CH9+
CH1 -	04	20	CH9 -
CH2+	05	21	CH10+
CH2 -	06	22	CH10 -
CH3+	07	23	CH11+
CH3 -	08	24	CH11 -
CH4+	09	25	CH12+
CH4 -	10	26	CH12 -
CH5+	11	27	CH13+
CH5 -	12	28	CH13 -
CH6+	13	29	CH14+
CH6 -	14	30	CH14 -
CH7+	15	31	CH15+
CH7 -	16	32	CH15 -

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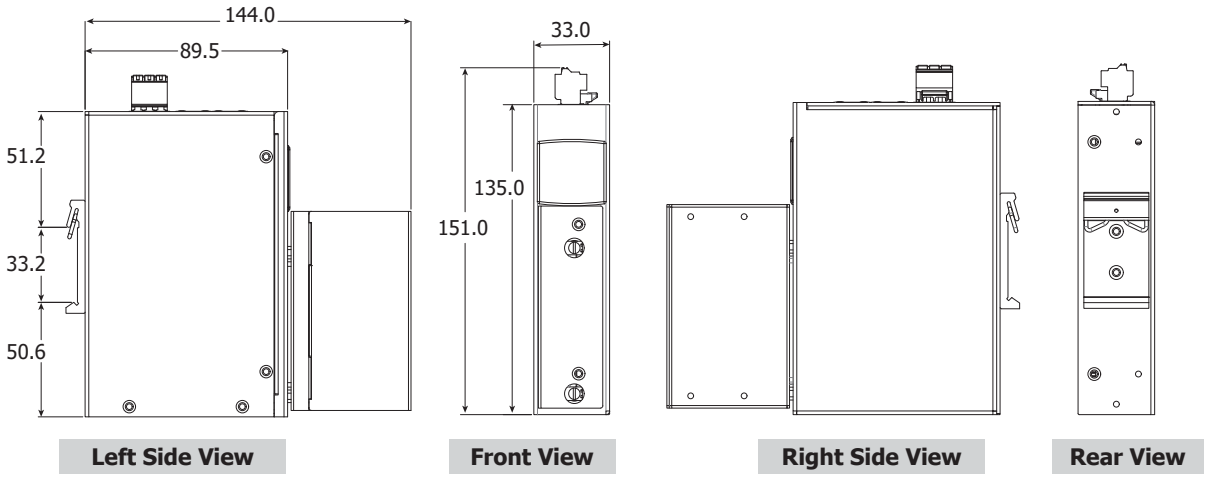
Dimensions (Units: mm)

(P)ET-2218H + CN-1825M



Left Side View | Front View | Right Side View | Rear View

(P)ET-2218H-16 + CN-1826M



Left Side View | Front View | Right Side View | Rear View

Ordering Information

ET-2218H/S1 CR	PET-2218H/S1 CR
-	PoE
Ethernet I/O Module with 2-port Ethernet Switch, 8-ch High Speed Thermocouple Input, 100 S/s (RoHS) Includes a CN-1825M daughter board	



(P)ET-2218H/S1 = (P)ET-2218H + CN-1825M

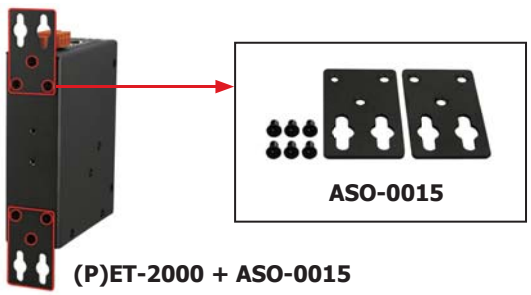
ET-2218H-16/S1 CR	PET-2218H-16/S1 CR
-	PoE
Ethernet I/O Module with 2-port Ethernet Switch, 16-ch High Speed Thermocouple Input, 100 S/s (RoHS) Includes a CN-1826M daughter board	



(P)ET-2218H-16/S1 = (P)ET-2218H-16 + CN-1826M

Accessories

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



(P)ET-2000 + ASO-0015

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