



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

ET-2218H-16/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 and MQTT Protocols
- 2-port Ethernet Switch (LAN Bypass) for Daisy-chain Wiring
- I/O Pair Connection (Push and Pull)
- Supports Firmware Update via Ethernet
- 100 Hz High-speed Sampling Rate for each Channel
- Open Wire Detection
- Built-in I/O
 - (P)ET-2218H: 8-ch Thermocouple Input
 - (P)ET-2218H-16: 16-ch Thermocouple Input
- Individual Channel Configuration



Introduction

(P)ET-2218H / (P)ET-2218H-16 is an 8/16-channel thermocouple inputs module that provides a 100 Hz high-speed measurement for each channel. It supports thermocouple sensors with J, K, T, E, R, S, B, N, C, L, M and LDIN43710 types. It provides extremely accurate thermocouple measurement and automatically cold-junction compensation for each channel. With 2 Ethernet ports, it allows daisy chain connection which permits flexibility in locating devices, eases installation, and lowers infrastructure costs.

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, MQTT			
Power				
Reverse Polarity Protection	Yes			
Consumption	1.8 W (max.)	1.9 W (max.)	2.1 W (max.)	2.2 W (max.)
Powered from PoE	-		IEEE 802.3af, Class1	
Powered from Terminal Block	+10 to +48 VDC			
Mechanical				
Casing	Metal			
Dimensions (mm)	33 x 152 x 102 (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			

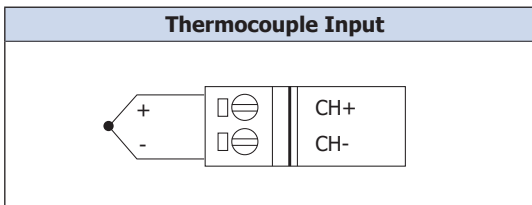
I/O Specifications

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 % of FSR	
Sampling Rate	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

Wire Connections

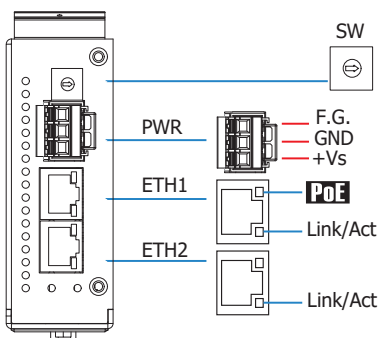


Thermocouple Type

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

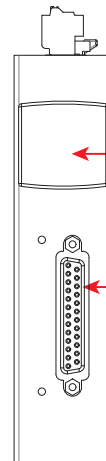
Appearance

▼ ET-2218H / ET-2218H-16
PET-2218H / PET-22158H-16

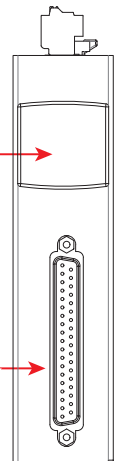


- 0**: Run mode (User specified IP or DHCP)
- 1-E**: Run mode (Default IP, 192.168.255.1 - 14)
- F**: Init mode (Factory default, Firmware Update)

▼ ET-2218H /
PET-2218H



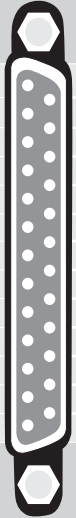
▼ ET-2218H-16 /
PET-2218H-16



Pin Assignments

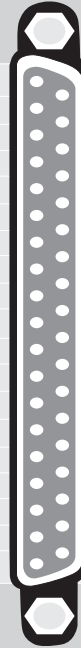
ET-2218H/PET-2218H

Pin Assignment	Terminal No.	Pin Assignment
+3.3 V	01	14 GND
N.C.	02	15 CH 0+
CH 0-	03	16 CH 1+
CH 1-	04	17 CH 2+
CH 2-	05	18 CH 3+
CH 3-	06	19 CH 4+
CH 4-	07	20 CH 5+
CH 5-	08	21 CH 6+
CH 6-	09	22 CH 7+
CH 7-	10	23 N.C.
N.C.	11	24 SDA
SCL	12	25 AGND
AGND	13	

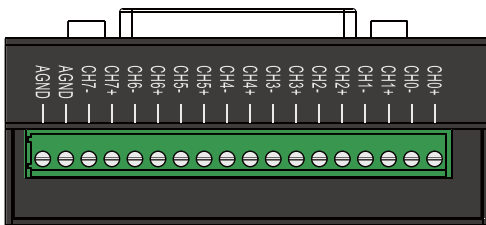


ET-2218H-16/PET-2218H-16

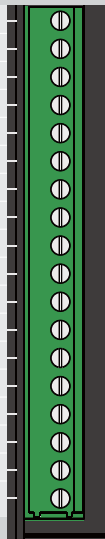
Pin Assignment	Terminal No.	Pin Assignment
+3.3 V	01	20 GND
N.C.	02	21 CH 0+
CH 0-	03	22 CH 1+
CH 1-	04	23 CH 2+
CH 2-	05	24 CH 3+
CH 3-	06	25 CH 4+
CH 4-	07	26 CH 5+
CH 5-	08	27 CH 6+
CH 6-	09	28 CH 7+
CH 7-	10	29 SDA
SCL	11	30 CH 8+
CH 8-	12	31 CH 9+
CH 9-	13	32 CH 10+
CH 10-	14	33 CH 11+
CH 11-	15	34 CH 12+
CH 12-	16	35 CH 13+
CH 13-	17	36 CH 14+
CH 14-	18	37 CH 15+
CH 15-	19	



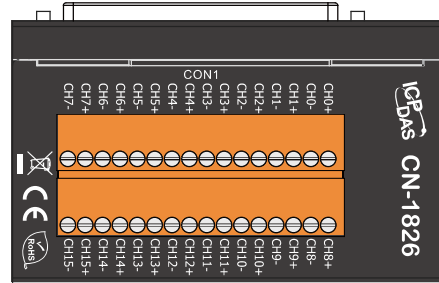
CN-1825M



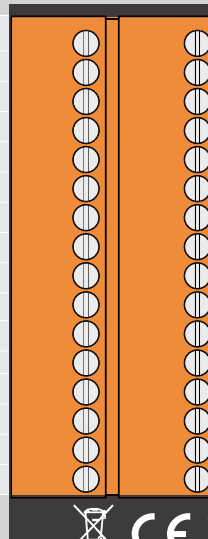
Terminal No.	Pin Assignment
01	CH 0+
02	CH 0-
03	CH 1+
04	CH 1-
05	CH 2+
06	CH 2-
07	CH 3+
08	CH 3-
09	CH 4+
10	CH 4-
11	CH 5+
12	CH 5-
13	CH 6+
14	CH 6-
15	CH 7+
16	CH 7-
17	AGND
18	AGND



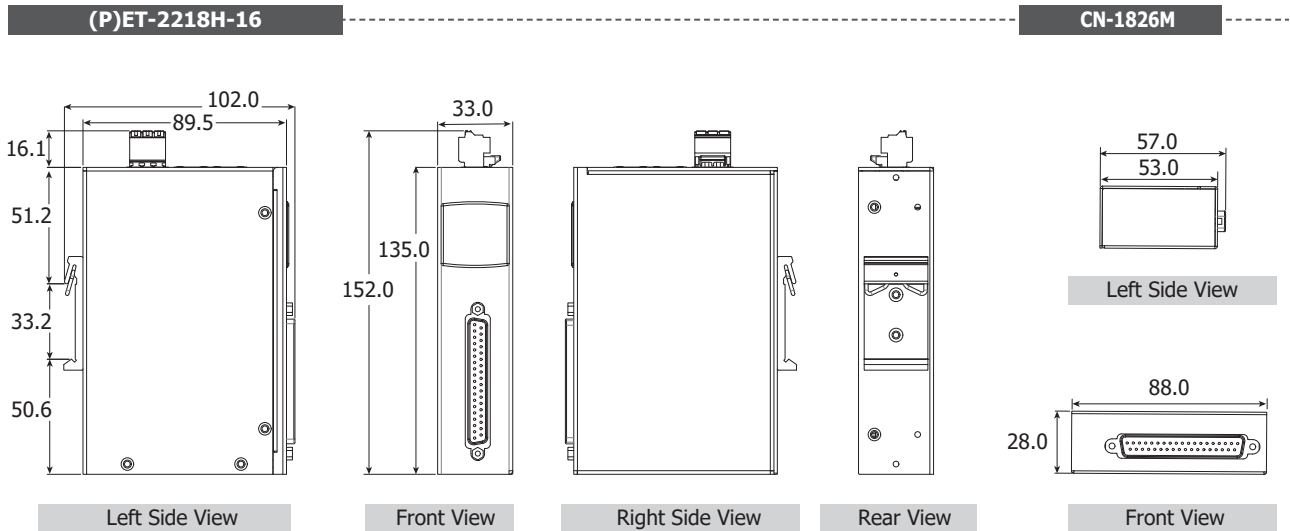
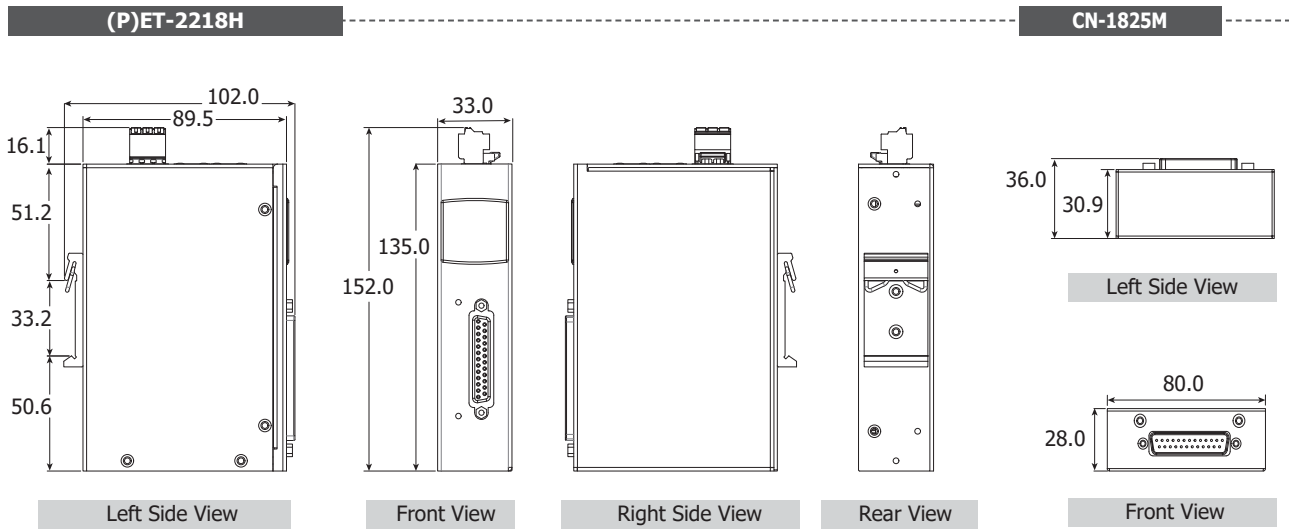
CN-1826M






Pin Assignment	Terminal No.	Pin Assignment
CH 0+	01	17 CH 8+
CH 0-	02	18 CH 8-
CH 1+	03	19 CH 9+
CH 1-	04	20 CH 9-
CH 2+	05	21 CH 10+
CH 2-	06	22 CH 10-
CH 3+	07	23 CH 11+
CH 3-	08	24 CH 11-
CH 4+	09	25 CH 12+
CH 4-	10	26 CH 12-
CH 5+	11	27 CH 13+
CH 5-	12	28 CH 13-
CH 6+	13	29 CH 14+
CH 6-	14	30 CH 14-
CH 7+	15	31 CH 15+
CH 7-	16	32 CH 15-






Dimensions (Units: mm)



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	