



ET-2218HS-16 PET-2218HS-16

Ethernet I/O Module with 16-ch High Speed Thermocouple Input, Support Standard Thermocouple Connector

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
- 16-ch Thermocouple Input, Support Standard Thermocouple Connector
- Individual Channel Configuration



Introduction

(P)ET-2218H-16 is a 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 V_{DC} I/O isolation to enhance noise protection capabilities in industrial environments.

System Specifications

Model	ET-2218HS-16	PET-2218HS-16
Software		
Built-in Web Server	Yes	
CPU Module		
CPU	32-bit ARM	
Watchdog Timer	Module, Communication (Programmable)	
Isolation		
2-way Isolation	Ethernet: 1500 V _{DC} , I/O: 3000 V _{DC}	I/O: 3000 V _{DC}
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	2 W (max.)	2.2 W (max.)
Powered from PoE	-	IEEE 802.3af, Class1
Powered from Terminal Block	+10 ~ +48 V _{DC}	
Mechanical		
Casing	Metal	
Dimensions (mm)	54 x 196 x 113 (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-2218HS-16 PET-2218HS-16
Analog Input		
Channels		16
Sensor Type		Thermocouple (J, K, T, E, R, S, B, N, C, L, M, L _{DIN43710})
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 V _{DC}
Individual Channel Configuration		Yes
Open Wire Detection		Yes

Applications

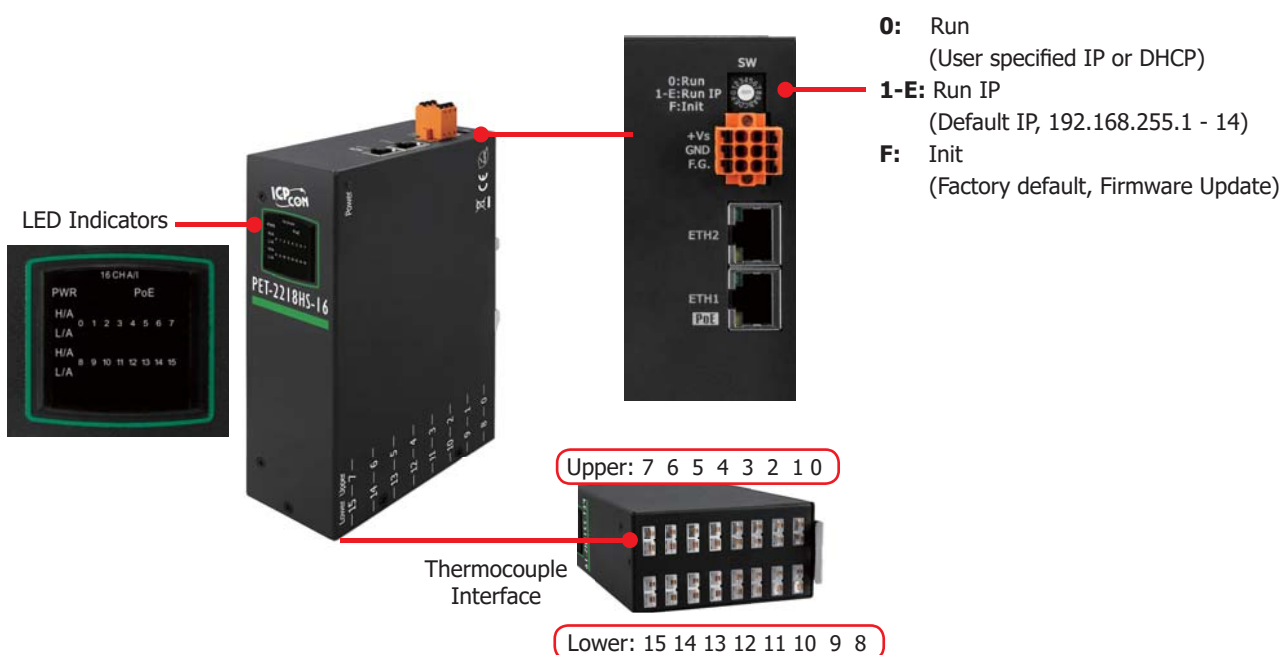
- SMD Assembly Manufacturing
- PC Board Manufacturing
- Footwear Manufacturing
- Food Industry
- Pharmaceutical Industry
- Any Temperature Measurement Required Industries

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
L _{DIN43710}	-200 ~ + 900 °C

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.



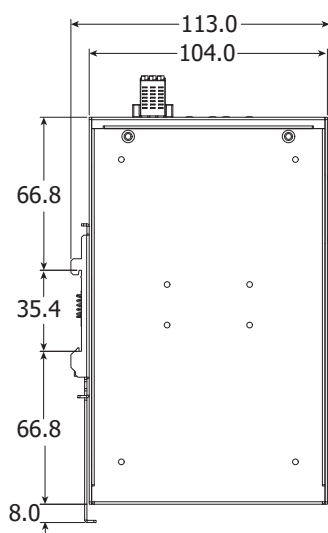
Pin Assignments



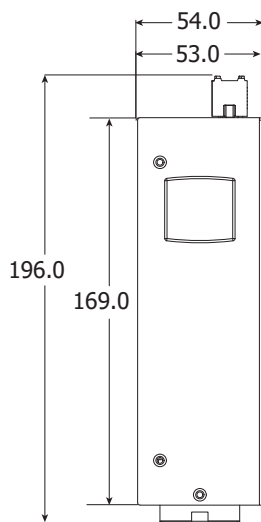
Standard
Thermocouple Connector



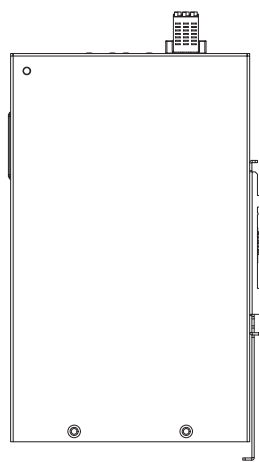
Dimensions (Units: mm)



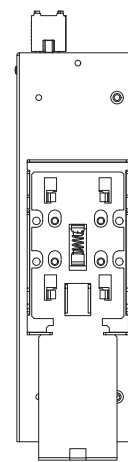
Left Side View



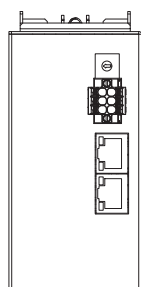
Front View



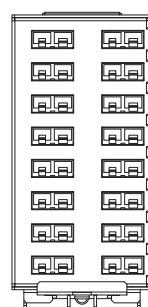
Right Side View



Rear View



Top View



Bottom View

Installation



DIN-Rail Mounting (Standard)



Upright - Wall Mounting (ASO-0023)



Lay Flat - Wall Mounting (ASO-0059)

Accessories

ASO-0023	ASO-0059
	
Wall Mount Kit (W: 44 mm)	Wall Mount Kit (W: 153 mm)

Ordering Information

ET-2218HS-16 CR	Ethernet I/O Module with 2-port Ethernet Switch, 16-ch High Speed Thermocouple Input, Support Standard Thermocouple Connector, 100 S/s (RoHS)
PET-2218HS-16 CR	PoE I/O Module with 2-port Ethernet Switch, 16-ch High Speed Thermocouple Input, Support Standard Thermocouple Connector, 100 S/s (RoHS)