





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

Ethernet I/O Module with 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
  - ☐ 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 VDC 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 VDC,<br>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,<br>±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.) |



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|---|---|---|
| Powered from PoE | - | IEEE 802.3af, Class1 |
| Powered from Terminal Block | +10 ~ +48 VDC | |
| **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 ℃ | |
| Storage Temperature | -40 ~ +80 ℃ | |
| Humidity | 10 ~ 90% RH, Non-condensing | |

## I/O Specifications

| Model | | ET-2218HS-16 | PET-2218HS-16 |
|---|---|---|---|
| **Analog Input** | | | |
| Channels | | 16 | |
| Sensor Type | | Thermocouple<br>(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 | |
| Open Wire Detection | | Yes | |

## Applications

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

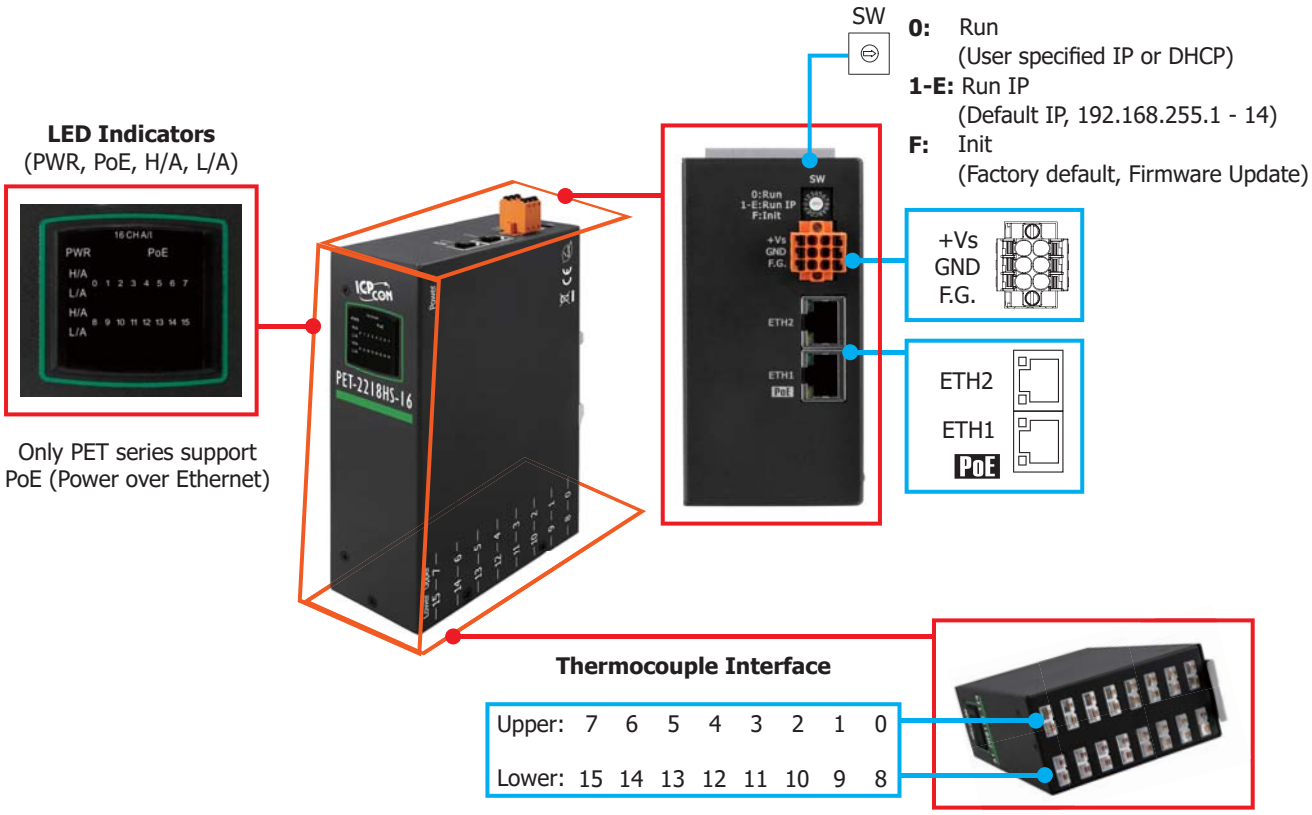
## Thermocouple Type

| Type Code | Temperature Range |
|---|---|
| J | -210 ~ + 760 ℃ |
| 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 ℃ |


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## 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 ℃ .






Standard
Thermocouple Connector



## Installation



**DIN-Rail Mounting (Standard)**



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**Upright - Wall Mounting (ASO-0023)**



**Lay Flat - Wall Mounting (ASO-0059)**

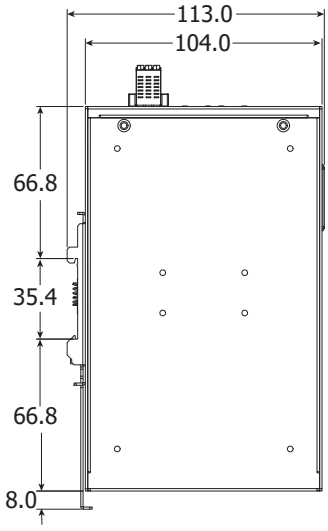




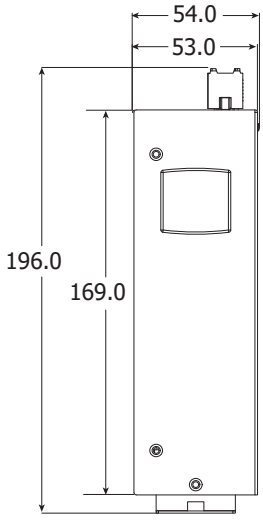
## Accessories

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

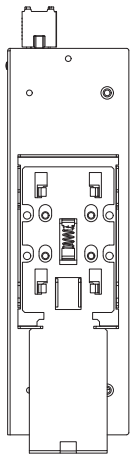
## Dimensions (Units: mm)



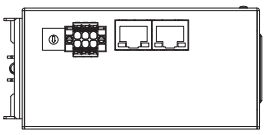

Left Side View



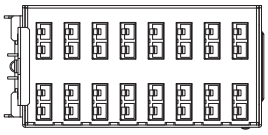

Front View



Rear View



Top View



Bottom View

## 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) |



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