



**ET-2215H**
**PET-2215H**

**ET-2215H-16**
**PET-2215H-16**

Ethernet I/O Module with 8/16-ch High Speed RTD 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
- 3-wire RTD Lead Resistance Compensation
- Supports Firmware Update via Ethernet
- 90Hz High-speed Sampling Rate for each Channel
- Open Wire Detection
- Built-in I/O
  - ☐ (P)ET-2215H: 8-ch RTD Input
  - ☐ (P)ET-2215H-16: 16-ch RTD Input
- Individual Channel Configuration

## Introduction

(P)ET-2215H / (P)ET-2215H-16 is an 8/16-channel RTD input module that provides 90Hz high-speed measurement and open wire detection for each channel. Each channel can be connected to different types of RTD sensors and supports 3-wire RTD lead wire compensation, ensuring accurate measurements regardless of wire length. 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, 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-2215H | ET-2215H-16 | PET-2215H | PET-2215H-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, 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 | 1.7 W (max.) | 1.9 W (max.) | 1.8 W (max.) | 2.0 W (max.) |
| Powered from PoE | - | | IEEE 802.3af, Class1 | |
| Powered from Terminal Block | +10 ~ +48 VDC | | | |
| **Mechanical** | | | | |
| Casing | Metal | | | |
| Dimensions (mm) | 31 x 159 x 137 (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-2215H<br>PET-2215H | ET-2215H-16<br>PET-2215H-16 |
|---|---|---|---|
| **Analog Input** | | | |
| Channels | | 8 | 16 |
| Sensor Type | | Pt100, Ni120, Cu50, Cu100 | |
| Resolution | | 16-bit | |
| Accuracy | Normal Mode | ±0.05% FSR (25℃ ) | |
| | Fast Mode | ±0.1% FSR (25℃ ) | |
| Sampling Rate | Normal Mode | 1.5 Hz (per channel) | |
| | Fast Mode | 90 Hz (per channel) | |
| Input Impedance | | >1M Ω | |
| Individual Channel Configuration | | Yes | |
| 3-wire RTD Lead Resistance Elimination | | Yes | |
| Open Wire Detection | | Yes | |

## Applications

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

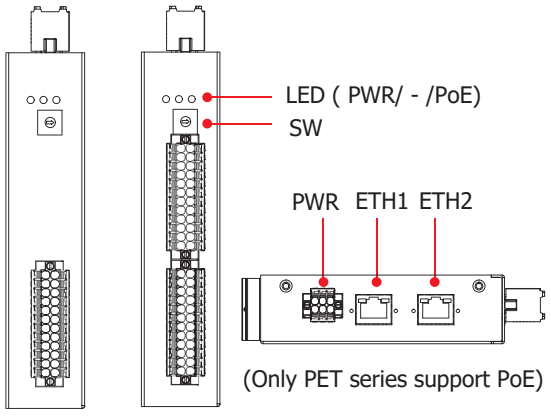
## RTD Type Code Table

| Type Code | RTD Type | Temperature |
|---|---|---|
| 0x20 | Pt 100, α = 0.00385 | -100 ~ + 100 ℃ |
| 0x21 | Pt 100, α = 0.00385 | 0 ~ + 100 ℃ |
| 0x22 | Pt 100, α = 0.00385 | 0 ~ + 200 ℃ |
| 0x23 | Pt 100, α = 0.00385 | 0 ~ + 600 ℃ |
| 0x24 | Pt 100, α = 0.003916 | -100 ~ + 100 ℃ |
| 0x25 | Pt 100, α = 0.003916 | 0 ~ + 100 ℃ |
| 0x26 | Pt 100, α = 0.003916 | 0 ~ + 200 ℃ |
| 0x27 | Pt 100, α = 0.003916 | 0 ~ + 600 ℃ |
| 0x28 | Ni 120 | -80 ~ + 100 ℃ |
| 0x29 | Ni 120 | 0 ~ + 100 ℃ |
| 0x2B | Cu 100, α = 0.00421 | -20 ~ + 150 ℃ |

| Type Code | RTD Type | Temperature |
|---|---|---|
| 0x2C | Cu 100, α = 0.00427 | 0 ~ + 200 ℃ |
| 0x2E | Pt 100, α = 0.00385 | -200 ~ + 200 ℃ |
| 0x2F | Pt 100, α = 0.003916 | -200 ~ + 200 ℃ |
| 0x80 | Pt 100, α = 0.00385 | -200 ~ + 600 ℃ |
| 0x81 | Pt 100, α = 0.003916 | -200 ~ + 600 ℃ |
| 0x82 | Cu 50 | -50 ~ + 150 ℃ |
| 0x83 | Ni 100 | -60 ~ 180 ℃ |
| 0x84 | Ni 120 | -80 ~ 150 ℃ |
| 0x85 | Cu 100, α = 0.00428 | 0 ~ 150 ℃ |
| 0x86 | Pt 100, α = 0.00385 | -100 ~ 300 ℃ |
| 0x87 | Pt 100, α = 0.003916 | -100 ~ 300 ℃ |

## Appearance

**(P)ET-2215H/(P)ET-2215H-16**




| Port | | |
|---|---|---|
| SW |  | 0: Run<br>1-E: Run IP<br>F: Init<br>User specified IP or DHCP<br>Default IP, 192.168.255.1 - 14)<br>Factory default, Firmware Update |
| PWR | F.G.<br>GND<br>+ Vs | |
| ETH1 |  | PoE<br>Link/Act |
| ETH2 |  | Link/Act |

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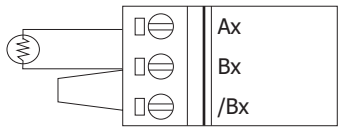
## Pin Assignments

| ET-2215H/PET-2215H | | | | |
|---|---|---|---|---|
| Pin Assignment | Terminal No. | | | Pin Assignment |
| A1 | 13 | | 01 | A0 |
| B1 | 14 | | 02 | B0 |
| /B1 | 15 | | 03 | /B0 |
| A3 | 16 | | 04 | A2 |
| B3 | 17 | | 05 | B2 |
| /B3 | 18 | | 06 | /B2 |
| A5 | 19 | | 07 | A4 |
| B5 | 20 | | 08 | B4 |
| /B5 | 21 | | 09 | /B4 |
| A7 | 22 | | 10 | A6 |
| B7 | 23 | | 11 | B6 |
| /B7 | 24 | | 12 | /B6 |

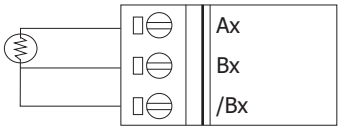
| ET-2215H-16/PET-2215H-16 | | | | |
|---|---|---|---|---|
| Pin Assignment | Terminal No. | | | Pin Assignment |
| A1 | 13 | | 01 | A0 |
| B1 | 14 | | 02 | B0 |
| /B1 | 15 | | 03 | /B0 |
| A3 | 16 | | 04 | A2 |
| B3 | 17 | | 05 | B2 |
| /B3 | 18 | | 06 | /B2 |
| A5 | 19 | | 07 | A4 |
| B5 | 20 | | 08 | B4 |
| /B5 | 21 | | 09 | /B4 |
| A7 | 22 | | 10 | A6 |
| B7 | 23 | | 11 | B6 |
| /B7 | 24 | | 12 | /B6 |
| A9 | 37 | | 25 | A8 |
| B9 | 38 | | 26 | B8 |
| /B9 | 39 | | 27 | /B8 |
| A11 | 40 | | 28 | A10 |
| B11 | 41 | | 29 | B10 |
| /B11 | 42 | | 30 | /B10 |
| A13 | 43 | | 31 | A12 |
| B13 | 44 | | 32 | B12 |
| /B13 | 45 | | 33 | /B12 |
| A15 | 46 | | 34 | A14 |
| B15 | 47 | | 35 | B14 |
| /B15 | 48 | | 36 | /B14 |

## Wire Connections

**2-wire RTD Connection**

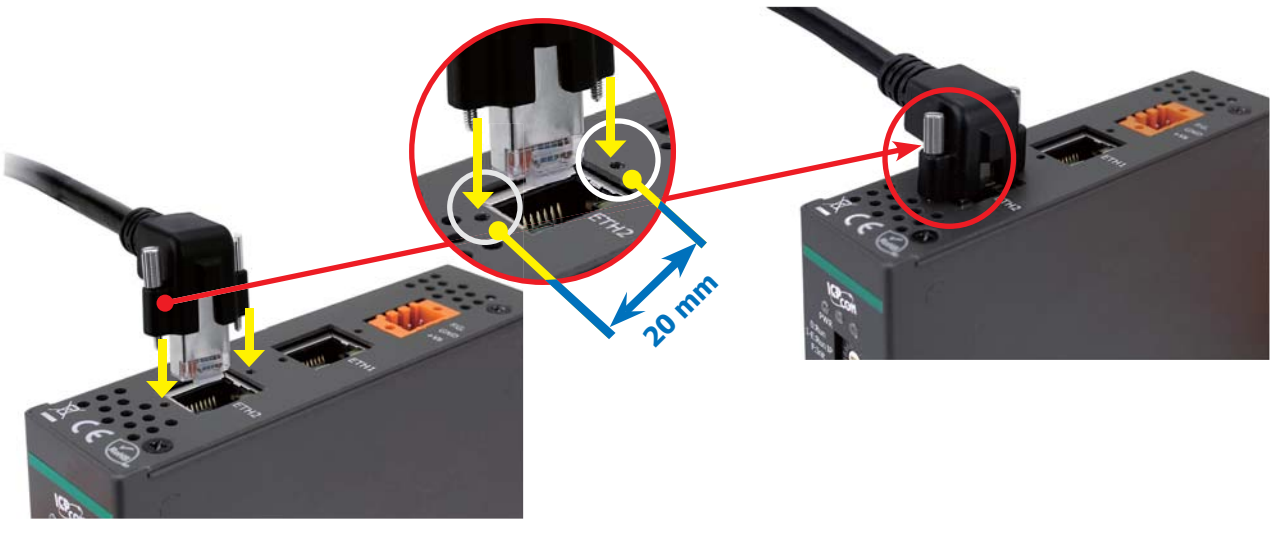



**3-wire RTD Connection**



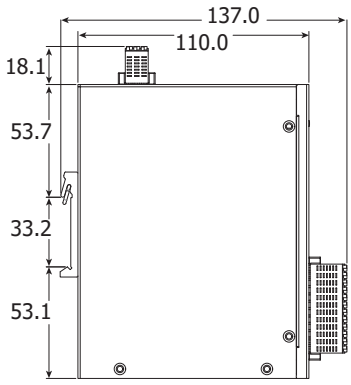

## Ethernet Cable Locking Hole

(P)ET-2215H / (P)ET-2215H-16 series include the locking holes for the Ethernet cable to prevent accidental loosening.

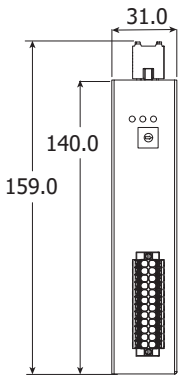


## Dimensions (Units: mm)

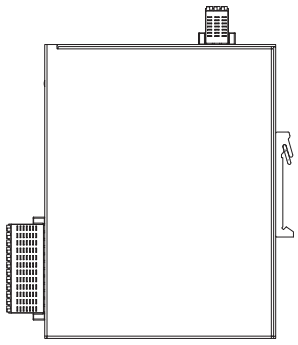
**(P)ET-2215H**



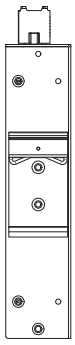

Left Side View




Front View

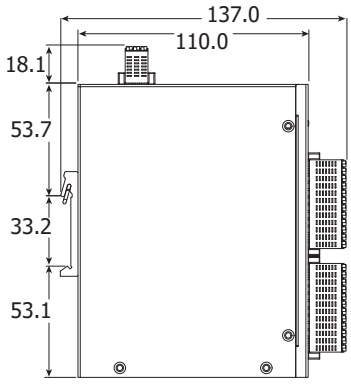


Right Side View

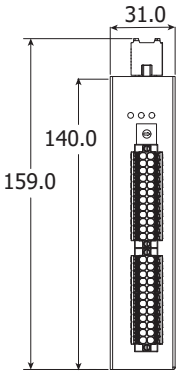


Rear View

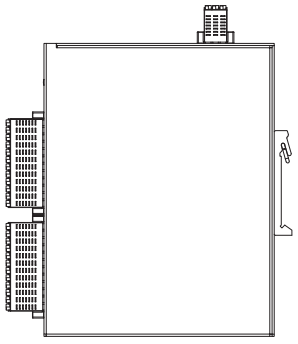
**(P)ET-2215H-16**



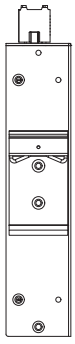

Left Side View




Front View



Right Side View



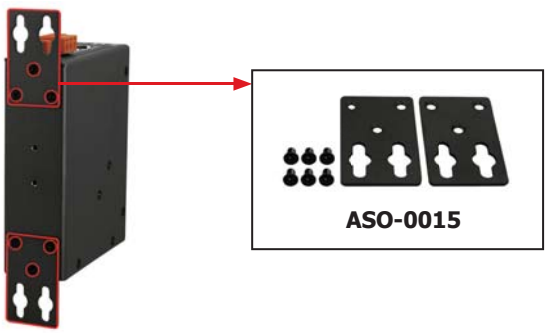
Rear View

## Ordering Information

| | |
|---|---|
| **ET-2215H CR** | Ethernet I/O Module with 2-port Ethernet Switch, 8-ch High Speed RTD Input, 90 S/s (RoHS) |
| **ET-2215H-16 CR** | Ethernet I/O Module with 2-port Ethernet Switch, 16-ch High Speed RTD Input, 90 S/s (RoHS) |
| **PET-2215H CR** | PoE I/O Module with 2-port Ethernet Switch, 8-ch High Speed RTD Input, 90 S/s (RoHS) |
| **PET-2215H-16 CR** | PoE I/O Module with 2-port Ethernet Switch, 16-ch High Speed RTD Input, 90 S/s (RoHS) |

## Accessories

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




**(P)ET-2200 + ASO-0015**

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