



## Features

- Built-in Web Server
- Web HMI
- Support for both Modbus TCP and Modbus UDP Protocols
- Communication Security
- 2-port Ethernet Switch for Daisy-Chain Topology
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ +75°C
- I/O Pair Connection
- Built-in I/O
  - AI: 10/20 Channels with 240 Vrms Overvoltage Protection



## Introduction

The ET-7017-10/PET-7017-10/ET-7217-10/PET-7217-10 is a module with 10-channel differential or 20-channel single-ended analog inputs. It provides programmable input range on all analog channels (+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA, 0 ~ 20 mA and 4 ~ 20 mA). Each analog channel is allowed to configure an individual range and has 240 Vrms high overvoltage protection. Each analog input can be programmed to accept voltage or current as input depending upon the position of corresponding jumper. The sampling rate of ET-7017-10/PET-7017-10/ET-7217-10/PET-7217-10 has two modes; fast mode and normal mode for your consideration. ET-7017-10/PET-7017-10/ET-7217-10/PET-7217-10 also has qualification for 4 kV ESD protection as well as 3000 Vdc intra-module isolation.

## System Specifications

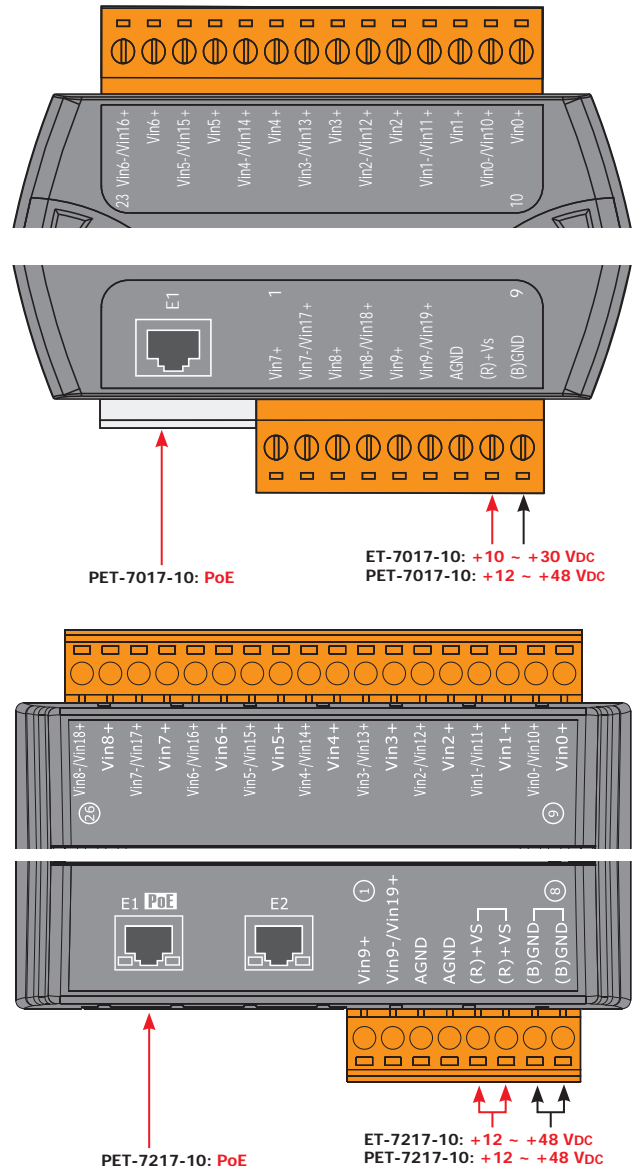
| Models                      | ET-7017-10   | PET-7017-10               | ET-7217-10                              | PET-7217-10               |
|-----------------------------|--|---------------------------|---|---------------------------|
| <b>Software</b>             |  |                           |   |                           |
| Built-in Web Server         |  |                           | Yes                                     |                           |
| Web HMI                     |  |                           | Yes                                     |                           |
| I/O Pair Connection         |  |                           | Yes                                     |                           |
| <b>Communication</b>        |  |                           |   |                           |
| Ethernet Port               | 1 x RJ-45, 10/100 Base-TX                                      |                           | 2 x RJ-45, 10/100 Base-TX, Switch Ports |                           |
| PoE                         | -  | Yes                       | -                                       | Yes                       |
| Protocol                    | Modbus TCP, Modbus UDP   |                           |   |                           |
| Security                    | ID, Password and IP Filter                                     |                           |   |                           |
| Dual Watchdog               | Yes, Module (0.8 seconds), Communication (Programmable)        |                           |   |                           |
| <b>LED Indicators</b>       |  |                           |   |                           |
| for System Running          |  |                           | Yes                                     |                           |
| for Ethernet Link/Act       |  |                           | Yes                                     |                           |
| for DI/DO status            |  |                           | -                                       |                           |
| for PoE Power               | -  | Yes                       | -                                       | Yes                       |
| <b>2-Way Isolation</b>      |  |                           |   |                           |
| Ethernet                    | 1500 Vdc   | -                         | 1500 Vdc                                | -                         |
| I/O                         | 2500 Vdc   |                           |   |                           |
| <b>EMS Protection</b>       |  |                           |   |                           |
| ESD (IEC 61000-4-2)         | ±4 kV Contact for Each Terminal and ±8 kV Air for Random Point |                           |   |                           |
| EFT (IEC 61000-4-4)         | ±4 kV for Power Line   |                           | ±2 kV for Power Line                    |                           |
| Surge (IEC 61000-4-5)       | ±0.5 kV for Power Line   |                           | ±2 kV for Power Line                    |                           |
| <b>Power</b>                |  |                           |   |                           |
| Reverse Polarity Protection | Yes  |                           |   |                           |
| Powered from Terminal Block | 10 ~ 30 Vdc  | 12 ~ 48 Vdc               | 12 ~ 48 Vdc                             | 12 ~ 48 Vdc               |
| Powered from PoE            | -  | Yes, IEEE 802.3af, Class1 | -                                       | Yes, IEEE 802.3af, Class1 |
| Consumption                 | 2.8 W (Max.)   | 3.3 W (Max.)              | 3.6 W (Max.)                            | 3.8 W (Max.)              |
| <b>Mechanical</b>           |  |                           |   |                           |
| Dimensions (L x W x H)      | 72 mm x 123 mm x 35 mm   |                           | 76 mm x 120 mm x 38 mm                  |                           |
| Installation                | DIN-Rail or Wall Mounting                                      |                           |   |                           |
| <b>Environment</b>          |  |                           |   |                           |
| Operating Temperature       | -25 ~ +75°C  |                           |   |                           |
| Storage Temperature         | -30 ~ +80°C  |                           |   |                           |
| Humidity                    | 10 ~ 90% RH, Non-condensing                                    |                           |   |                           |

## I/O Specifications

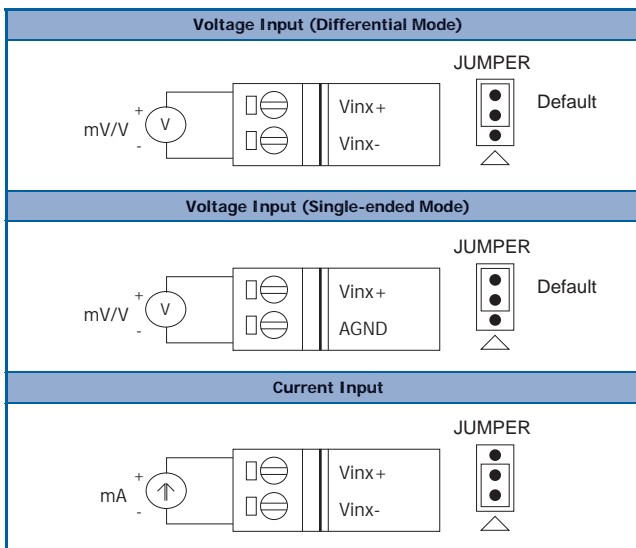
| Analog Input                         |  |  |
|--------------------------------------|--|--|
| Channels                             | 10 differential or 20 single-ended (Note1), software selectable  |  |
| Type                                 | +/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V<br>+/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA<br>(Jumper Selectable) |  |
| Individual Channel Configuration     | Yes  |  |
| Resolution                           | 16-bit   |  |
| Sampling Rate                        | Normal Mode  | 10 Samples/Second (Total)                                |
|                                      | Fast Mode  | 50 Samples/Second (Total)                                |
| Accuracy                             | Normal Mode  | +/-0.1%  |
|                                      | Fast Mode  | +/-0.5% or better  |
| Zero Drift                           | +/-20 $\mu$ V/°C   |  |
| Span Drift                           | +/-25 ppm/°C   |  |
| Overvoltage Protection               | Differential   | 240 Vrms   |
|                                      | Single-ended   | 150 Vrms   |
| Common Voltage Protection            | $\pm$ 200 Vdc  |  |
| Overcurrent Protection               | Yes, 50 mA at 110 Vdc  |  |
| Virtual Channel to Channel Isolation | Yes, 400 Vdc   |  |
| Open Wire Detection for 4 ~ 20 mA    | Yes  |  |
| Input Impedance                      | Voltage  | 2 M $\Omega$ (Differential), 1 M $\Omega$ (Single-ended) |
|                                      | Current  | 125 $\Omega$   |
| Common Mode Rejection                | 86 dB Min.   |  |
| Normal Mode Rejection                | 100 dB   |  |

Note1: Differential mode can be used for voltage input and current input.  
Single-Ended mode can be used for voltage input only.

## Pin Assignments



## Wire Connections



## Ordering Information

|                |  |
|----------------|--|
| ET-7017-10 CR  | Ethernet I/O Module with 10/20-channels AI (RoHS)                                  |
| PET-7017-10 CR | PoE Ethernet I/O Module with 10/20-channels AI (RoHS)                              |
| ET-7217-10 CR  | Ethernet I/O Module with 2-port Ethernet Switch, with 10/20-channels AI (RoHS)     |
| PET-7217-10 CR | PoE Ethernet I/O Module with 2-port Ethernet Switch, with 10/20-channels AI (RoHS) |