
**ET-7017**  
**PET-7017**
**ET-7217**  
**PET-7217**

Ethernet I/O Module with 8-channels AI, 4-channels DO

### 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: 8 Channels with 240 Vrms Overvoltage Protection
  - DO: 4 Channels



### Introduction

The ET-7017/PET-7017/ET-7217/PET-7217 is a module with 8-channel differential analog inputs and 4-channel digital outputs. 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) and digital output can be set alarm output with Short-circuit protection and overload protection. 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/PET-7017/ET-7217/PET-7217 is changeable; there are fast mode and normal mode for your consideration. ET-7017/PET-7017/ET-7217/PET-7217 also has qualification for 4 kV ESD protection as well as 2500 Vdc intra-module isolation.

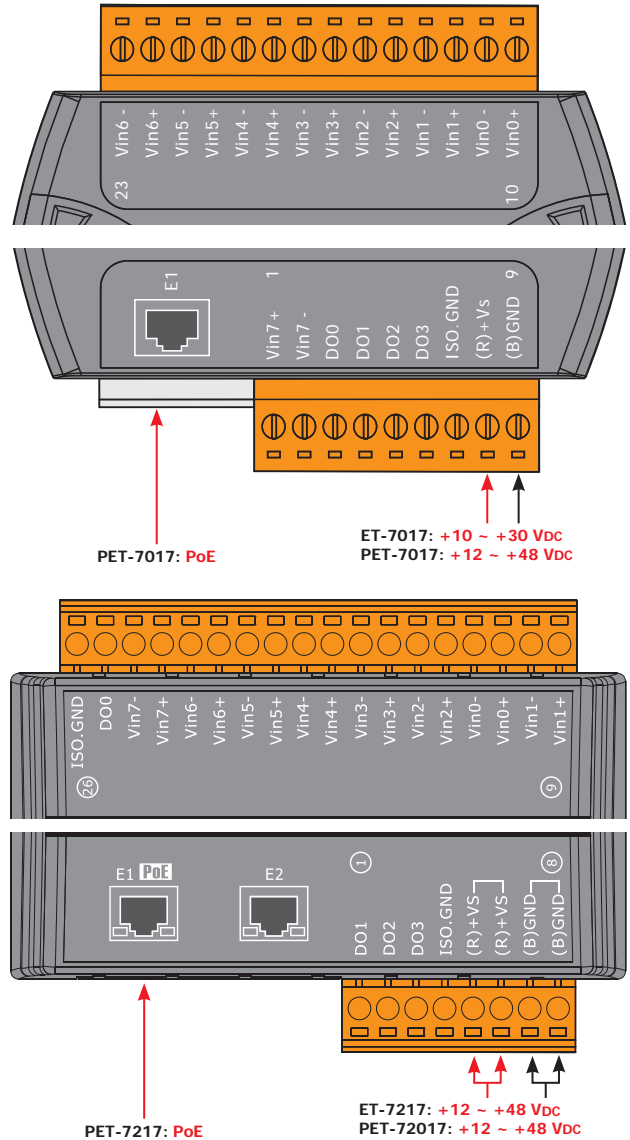
### System Specifications

| Models                      | ET-7017  | PET-7017                  | ET-7217                                 | PET-7217                  |
|-----------------------------|--|---------------------------|---|---------------------------|
| <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            |  | -                         |   | Yes                       |
| 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 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                 | 2.6 W  | 3.1 W                     | 4.5 W                                   | 5.1 W                     |
| <b>Mechanical</b>           |  |                           |   |                           |
| Dimensions (W x L 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

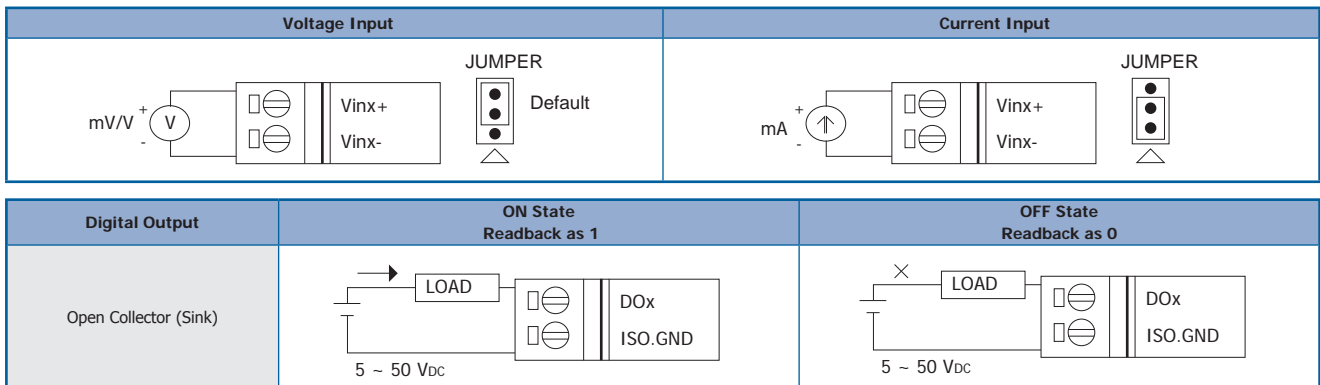
| Analog Input                         |   |                           |
|--------------------------------------|---|---------------------------|
| Channels                             | 8 (Differential)  |                           |
| Type                                 | +/-150 mV, +/-500 mV, +/-1V, +/-5V, +/-10V<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/ $^{\circ}$ C   |                           |
| Span Drift                           | +/-25 ppm/ $^{\circ}$ C   |                           |
| Overvoltage Protection               | 240 V <sub>rms</sub>  |                           |
| 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 $\Omega$              |
|                                      | Current   | 125 $\Omega$              |
| Common Mode Rejection                | 86 dB Min.  |                           |
| Normal Mode Rejection                | 100 dB  |                           |
| Digital Output                       |   |                           |
| Channels                             | 4   |                           |
| Type                                 | Isolated Open Collector   |                           |
| Sink/Source (NPN/PNP)                | Sink  |                           |
| Max. Load Current                    | 700 mA/Channel  |                           |
| Load Voltage                         | 5 Vdc ~ 50 Vdc  |                           |
| Overvoltage Protection               | 60 Vdc  |                           |
| Overload Protection                  | 1.4 A   |                           |
| Short-circuit Protection             | Yes   |                           |
| Power-on Value                       | Yes, Programmable   |                           |
| Safe Value                           | Yes, Programmable   |                           |

### Pin Assignments



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### Wire Connections



### Ordering Information

|             |   |
|-------------|---|
| ET-7017 CR  | Ethernet I/O Module with 8-channels AI, 4-channels DO (RoHS)                                  |
| PET-7017 CR | PoE Ethernet I/O Module with 8-channels AI, 4-channels DO (RoHS)                              |
| ET-7217 CR  | Ethernet I/O Module with 2-port Ethernet Switch, with 8-channels AI, 4-channels DO (RoHS)     |
| PET-7217 CR | PoE Ethernet I/O Module with 2-port Ethernet Switch, with 8-channels AI, 4-channels DO (RoHS) |