



## ET-7083 PET-7083

Ethernet I/O Module with 3-channel Encoder/Counter Inputs

### Features

- Built-in Web Server
- Web HMI
- Support for both Modbus TCP and Modbus UDP Protocols
- Communication Security
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C
- Built-in I/O
  - 3-Axis 32-bit encoder/counter inputs
  - 1 MHz max. for Quadrant mode
  - 4 MHz max. for CW/CCW, Pulse/Direction mode
  - Count Value Retention for 10 years



### Introduction

The ET-7083/PET-7083 is a 3-axis high speed encoder/counter module. Its each axis can be individually configured for Quadrant, Pulse/Direction or CW/CCW counting modes. The maximum input rate for Quadrant counting mode is 1 MHz, and for Pulse/Direction, CW/CCW counting modes is 4 MHz.

The encoder/counter module is equipped a FRAM to retain the counter value after it is powered off. FRAM is a nonvolatile memory that can hold written data even after it is powered off. The data retention can be 10 years. And the feature can be configured as enabled or disabled.

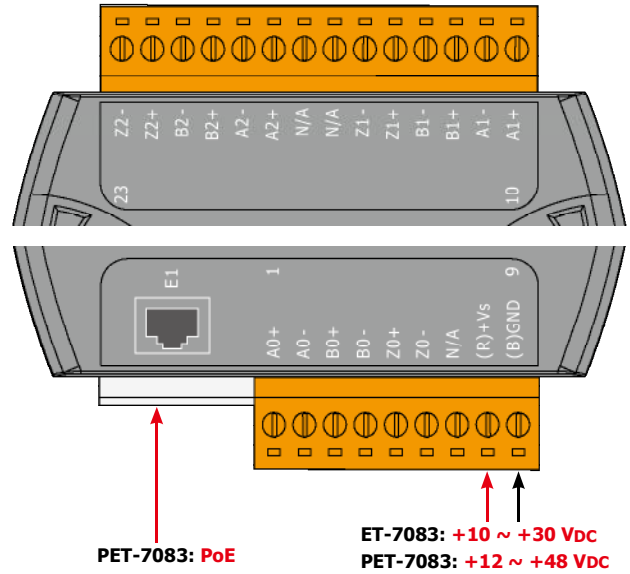
### System Specifications

| Model                       | ET-7083  | PET-7083                  |
|-----------------------------|--|---------------------------|
| <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                                      |                           |
| PoE                         | -  | 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                       |
| <b>2-Way Isolation</b>      |  |                           |
| Ethernet                    | 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   |                           |
| <b>Power</b>                |  |                           |
| Reverse Polarity Protection | Yes  |                           |
| Powered from Terminal Block | 10 ~ 30 VDC  | 12 ~ 48 VDC               |
| Powered from PoE            | -  | Yes, IEEE 802.3af, Class1 |
| Consumption                 | 2.7 W (Max.)   | 2.7 W (Max.)              |
| <b>Mechanical</b>           |  |                           |
| Dimensions (L x W x H)      | 123 mm x 72 mm x 35 mm   |                           |
| Installation                | DIN-Rail or Wall Mounting                                      |                           |
| <b>Environment</b>          |  |                           |
| Operating Temperature       | -25 to +75°C   |                           |
| Storage Temperature         | -30 to +80°C   |                           |
| Humidity                    | 10 to 90% RH, Non-condensing                                   |                           |

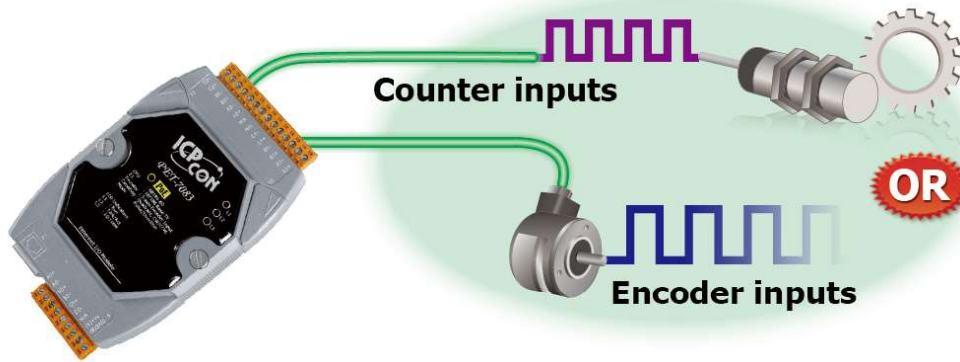
## I/O Specifications

| Encoder/Counter                        |   |
|--|---|
| Axis                                   | 3   |
| Counting Mode                          | Quadrant                                      |
|  | CW/CCW  |
|  | Pulse/Direction                               |
| Maximum Count                          | 32-bit  |
| Maximum Counting Rate                  | Quadrant mode: 1 MHz                          |
|  | CW/CCW mode: 4 MHz                            |
|  | Pulse/Direction mode: 4 MHz                   |
| Count Value Retention                  | Yes, for 10 years                             |
| Counter Preset Value                   | Programmable                                  |
| Input Signal Level                     | 5 Vdc   |
|  | 12 Vdc with 1 k ohm external resistor (1/2 W) |
|  | 24 Vdc with 2 k ohm external resistor (1/2 W) |
| Intra-module Isolation, Field to Logic | 2500 Vrms                                     |

## Pin Assignments



## Applications



## Wire Connections

| Input Type     | ON State LED ON<br>Readback as 1                   | OFF State LED OFF<br>Readback as 0                   |
|----------------|--|--|
| Relay Contact  | Relay ON<br>                                       | Relay OFF<br>  |
|                | Relay Close<br>                                    | Relay Open<br>                                       |
| TTL/CMOS Logic | Voltage > 5 V<br>Logic Level High<br>Logic GND<br> | Voltage < 0.8 V<br>Logic Level High<br>Logic GND<br> |
|                | Open Collector ON<br>                              | Open Collector OFF<br>                               |
| NPN Output     | Open Collector ON<br>                              | Open Collector OFF<br>                               |
|                | Open Collector ON<br>                              | Open Collector OFF<br>                               |
| PNP Output     | Open Collector ON<br>                              | Open Collector OFF<br>                               |
|                | Open Collector ON<br>                              | Open Collector OFF<br>                               |

## Ordering Information

|                    |  |
|--------------------|--|
| <b>ET-7083 CR</b>  | Ethernet I/O Module with 3-channel Encoder/Counter Inputs (RoHS)     |
| <b>PET-7083 CR</b> | PoE Ethernet I/O Module with 3-channel Encoder/Counter Inputs (RoHS) |