



**ET-7002**  
**PET-7002**

Ethernet I/O Module with 3-channels AI, 6-channels DI,  
3-channels Relay

**ET-7202**  
**PET-7202**

## 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: 3 Channels with 240 V<sub>rms</sub> Overvoltage Protection
  - DI/Counter: 6 Channels
  - Power Relay: 3 Channels



## Introduction

The ET-7002/PET-7002/ET-7202/PET-7202 is a multi-function module with 3-channel analog inputs, 6-channel digital inputs and 3-channel relay outputs. It provides various programmable analog inputs (+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA, 0 ~ 20 mA and 4 ~ 20 mA). Each analog input is allowed to configure a proper range with 240 V<sub>rms</sub> high voltage protection. Each analog input can be programmed to accept current or voltage as input/output depending upon the position of corresponding jumper. The ET-7002/PET-7002/ET-7202/PET-7202 is fully RoHS-compliant and has qualification for 4 kV ESD protection as well as 2500 Vdc intra-module isolation.

## System Specifications

Models	ET-7002	PET-7002	ET-7202	PET-7202
<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		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	1.7 W	1.7 W	4.5 W	5.6 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			

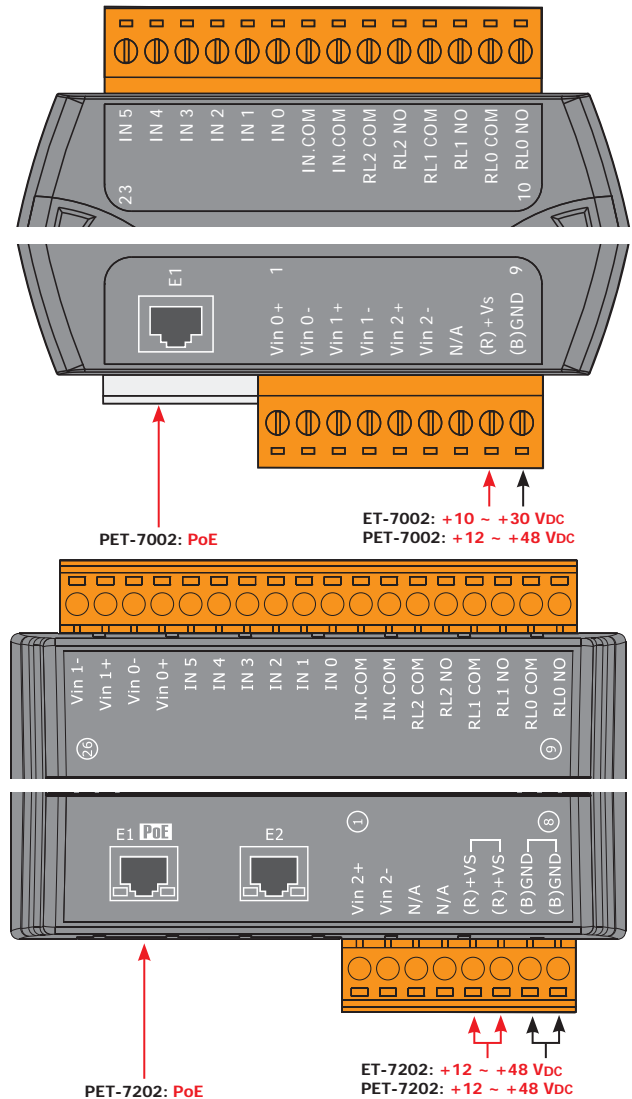
## I/O Specifications

Analog Input		
Channels	3 (Differential)	
Type	+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V +0 mA ~ +20 mA, +/-20 mA, 4 ~ 20 mA (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>	
Overcurrent Protection	50 mA Max. at 110 Vdc/VAC Max.	
Input Impedance	Voltage	2 M $\Omega$
	Current	125 $\Omega$
Common Mode Rejection	86 dB Min.	
Normal Mode Rejection	100 dB	
Open Wire Detection	Yes, for 4 ~ 20 mA only	
Virtual Channel to Channel Isolation	+/-400 Vdc	
Digital Input/Counter		
Channels	6	
Contact	Wet Contact	
Sink/Source (NPN/PNP)	Sink/Source	
On Voltage Level	+10 Vdc ~ +50 Vdc	
Off Voltage Level	+4 Vdc Max.	
Input Impedance	10 K $\Omega$ , 0.5W	
Counters	Channels	6
	Max. Count	4,294,967,285 (32-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection	+70 Vdc	
Power Relay		
Channels	3	
Type	Power Relay, Form A (SPST N.O.)	
Operating Voltage Range	250 VAC/24 Vdc	
Max. Load Current	5.0A/channel at 25 $^{\circ}$ C	
Operate Time	6 ms (Typical)	
Release Time	3 ms (Typical)	
Electrical Life ( Resistive load )	VDE:	5 A @ 250 VAC 30,000 ops (10 ops/minute) at 75 $^{\circ}$ C.
		5 A @ 24 Vdc 70,000 ops (10 ops/minute) at 75 $^{\circ}$ C.
	UL:	5 A @ 250 VAC/24 Vdc 6,000 ops. 3 A @ 250 VAC/24 Vdc 100,000 ops.
Mechanical Life	20,000,000 ops. at no load (300 ops./minute).	
Intra-module Isolation, Field-to-Logic	3750 Vdc	
Power-on Value	Yes, Programmable	
Safe Value	Yes, Programmable	

## Ordering Information

Art. No. 126891	ET-7002 CR	Ethernet I/O Module with 3-channels AI, 6-channels DI, 3-channels Relay (RoHS)
Art. No. 126914	PET-7002 CR	PoE Ethernet I/O Module with 3-channels AI, 6-channels DI, 3-channels Relay (RoHS)
Art. No. 132088	ET-7202 CR	Ethernet I/O Module with 2-port Ethernet Switch, with 3-channels AI, 6-channels DI, 3-channels Relay (RoHS)
Art. No. 132631	PET-7202 CR	PoE Ethernet I/O Module with 2-port Ethernet Switch, with 3-channels AI, 6-channels DI, 3-channels Relay (RoHS)

## Pin Assignments



## Wire Connections

	Voltage Input	Current Input
Digital Input/Counter	Readback as 1 +10 ~ +50 Vdc	Readback as 0 OPEN or <4 Vdc
Sink		
Source		
Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		