ICP DAS

ET-7002
PET-7002

ET-7202
PET-7202

(PoE) Ethernet I/O Module with 3-ch AI, 6-ch DI and 3-ch Relay

Features

- Built-in Web Server
- Web HMI
- Support for both Modbus TCP and Modbus UDP Protocols
- Communication Security
- 2-port Ethernet Switch (LAN Bypass) for Daisy-Chain Wiring
- Dual Watchdog
- I/O Pair Connection
- Built-in I/O
  - AI: 3 Channels with 240 Vrms Overvoltage Protection
  - DI/Counter: 6 Channels
  - Power Relay: 3 Channels

CE UKCA FC RoHS

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 Vrms high voltage protection. Each analog input can be programmed to accept current or voltage as input/output depending upon the position of the 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.
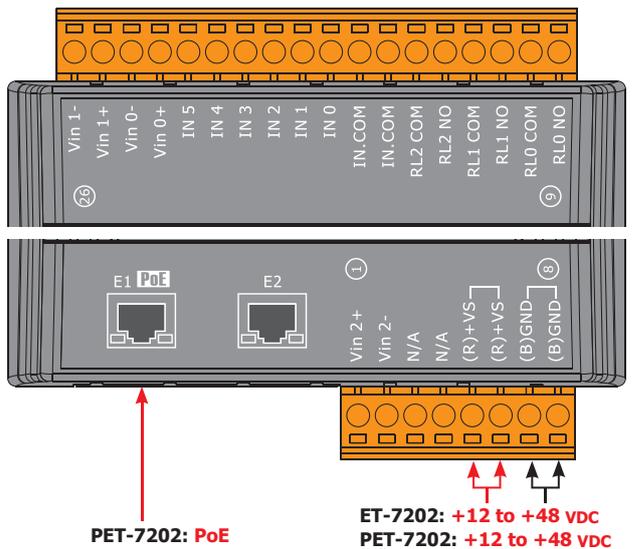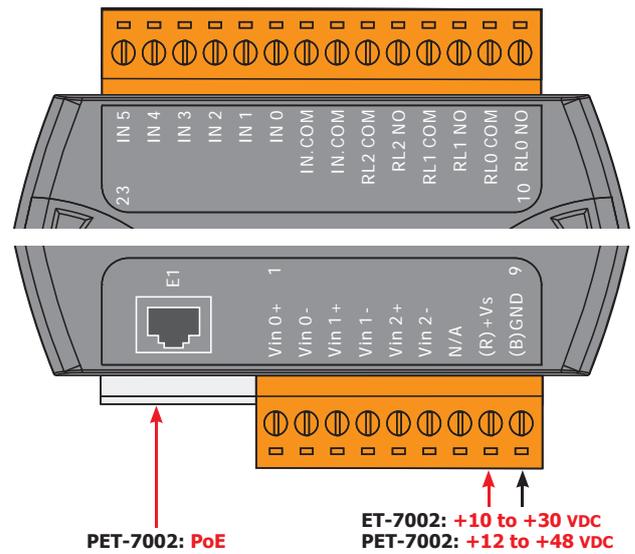
System Specifications

Model	ET-7002	PET-7002	ET-7202	PET-7202
Software				
Built-in Web Server	Yes			
CPU Module				
Watchdog Timer	Module, Communication (Programmable)			
2-Way Isolation				
Ethernet	1500 VDC	-	1500 VDC	-
I/O	2500 VDC		2500 VDC	
EMS Protection				
EFT (IEC 61000-4-4)	±4 kV for Power Line		±2 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)	±0.5 kV for Power Line		±2 kV for Power Line	
LED Indicators				
Status	Run, Ethernet	Run, Ethernet, PoE	Run, Ethernet, I/O	Run, Ethernet, I/O, PoE
Ethernet				
Ports	1 x RJ-45, 10/100 Base-TX		2 x RJ-45, 10/100 Base-TX, Swtich Ports	
PoE	-	Yes	-	Yes
LAN bypass	-		Yes	
Security	ID, Password and IP Filter			
Protocol	Modbus TCP, Modbus UDP			
Power				
Reverse Polarity Protection	Yes			
Consumption	2.9 W (max.)	3.4 W (max.)	3.8 W (max.)	4.1 W (max.)
Powered from PoE	-	IEEE 802.3af, Class1	-	IEEE 802.3af, Class1
Powered from Terminal Block	+10 to +30 VDC	+12 to +48 VDC		
Mechanical				
Dimensions (mm)	72 x 123 x 35 (W x L x H)		76 x 120 x 38 (W x L x H)	
Installation	DIN-Rail mounting			
Environment				
Operating Temperature	-25 to +75°C			
Storage Temperature	-30 to +80°C			
Humidity	10 to 90% RH, Non-condensing			

■ I/O Specifications

Analog Input

Channels		3 (Differential)
Type		Voltage, Current
Range		±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V 0 to 20 mA, ±20 mA, 4 to 20 mA (Jumper Selectable)
Resolution		16-bit
Accuracy	Normal Mode	±0.1%
	Fast Mode	±0.5% or better
Sampling Rate	Normal Mode	10 Hz (total channels)
	Fast Mode	50 Hz (total channels)
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
Overvoltage Protection		240 Vrms
Overcurrent Protection		50 mA @ 110 VDC (max.)
Individual Channel Configuration		Yes
Open Wire Detection		For 4 to 20 mA only
Virtual Channel to Channel Isolation		±400 VDC

Digital Input/Counter

Channels	6
Type	Wet Contact
Sink/Source (NPN/PNP)	Sink/Source
ON Voltage Level	+10 to +50 VDC
OFF Voltage Level	+4 VDC (max.)
Max. Counts	4,294,967,295 (32-bit)
Frequency	100 Hz
Min. Pulse Width	5 ms
Input Impedance	10 KΩ, 0.5 W
Overvoltage Protection	+70 VDC

Relay Output

Channels	3
Type	Power Relay, Form A (SPST N.O.)
Operate Time	6 ms (Typical)
Release Time	3 ms (Typical)
Contact Rating	5 A @ 250 VAC/24 VDC (Resistive Load)
Power on Value	Programmable
Safe Value	Programmable
Electrical Endurance	10^5 ops.
Mechanical Endurance	2 × 10^7 ops.

■ Pin Assignments

PET-7002: PoE

ET-7002: +10 to +30 VDC
PET-7002: +12 to +48 VDC

PET-7202: PoE

ET-7202: +12 to +48 VDC
PET-7202: +12 to +48 VDC

■ Wire Connections

	Voltage Input	Current Input

Digital Input/ Counter	Readback as 1	Readback as 0
	+10 ~ +50 VDC	OPEN or <4 VDC
Sink		
	+10 ~ +50 VDC	OPEN or <4 VDC
Source		

Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		
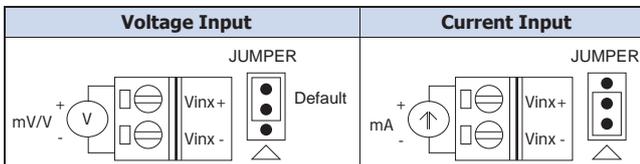
■ Ordering Information

ET-7002 CR	Ethernet I/O Module with 3-ch AI, 6-ch DI and 3-ch Relay (RoHS)
PET-7002 CR	PoE Ethernet I/O Module with 3-ch AI, 6-ch DI and 3-ch Relay (RoHS)
ET-7202 CR	Ethernet I/O Module with 2-port Ethernet Switch, 3-ch AI, 6-ch DI and 3-ch Relay (RoHS)
PET-7202 CR	PoE Ethernet I/O Module with 2-port Ethernet Switch, 3-ch AI, 6-ch DI and 3-ch Relay (RoHS)