



ET-7002
PET-7002

ET-7202
PET-7202

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

Features

- Built-in Web Server
- Web HMI
- Support for both Modbus TCP and Modbus UDP Protocols
- Communication Access Control
- 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

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_{rms} 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 V_{DC} 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 V_{DC}	-	1500 V_{DC}	-
I/O	2500 V_{DC}		2500 V_{DC}	
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	
Access Control	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 ~ +30 V_{DC}	+12 ~ +48 V_{DC}		
Mechanical				
Dimensions (mm)	72 x 123 x 35 (W x L x H)		76 x 120 x 42 (W x L x H)	
Installation	DIN-Rail Mounting			

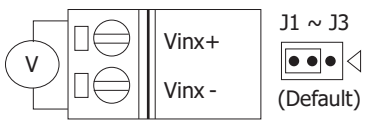
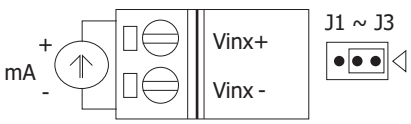
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90% RH, Non-condensing

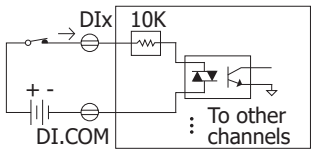
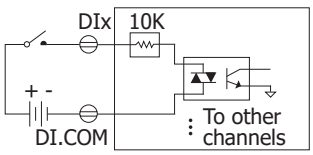
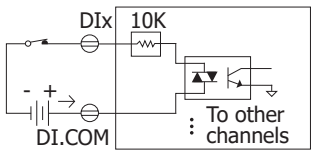
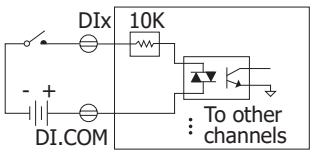
I/O Specifications

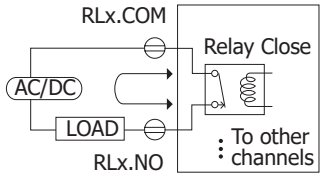
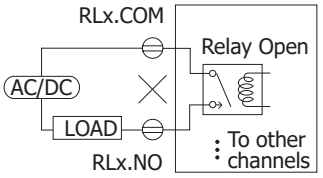
Analog Input		
Channels		3 (Differential)
Type		Voltage, Current
Range		±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V, 0 ~ 20 mA, ±20 mA, 4 ~ 20 mA (Jumper Selectable)
Resolution		16-bit
Accuracy	Normal Mode	±0.1%
	Fast Mode	±0.5% or better
Sampling Rate	Normal Mode	10 Hz (total channels)
	Fast Mode	50 Hz (total channels)
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
Overvoltage Protection		240 V_{rms}
Overcurrent Protection		50 mA @ 110 V_{DC} (max.)
Individual Channel Configuration		Yes
Open Wire Detection		For 4 ~ 20 mA only
Virtual Channel to Channel Isolation		±400 V_{DC}
Digital Input/Counter		
Channels		6
Type		Wet Contact
Sink/Source (NPN/PNP)		Sink/Source
ON Voltage Level		+10 ~ +50 V_{DC}
OFF Voltage Level		+4 V_{DC} (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 V_{DC}
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 V_{AC}/24 V_{DC} (Resistive Load)
Electrical Endurance		10^5 ops.
Mechanical Endurance		2×10^7 ops.
Power on Value		Programmable
Safe Value		Programmable

Wire Connections

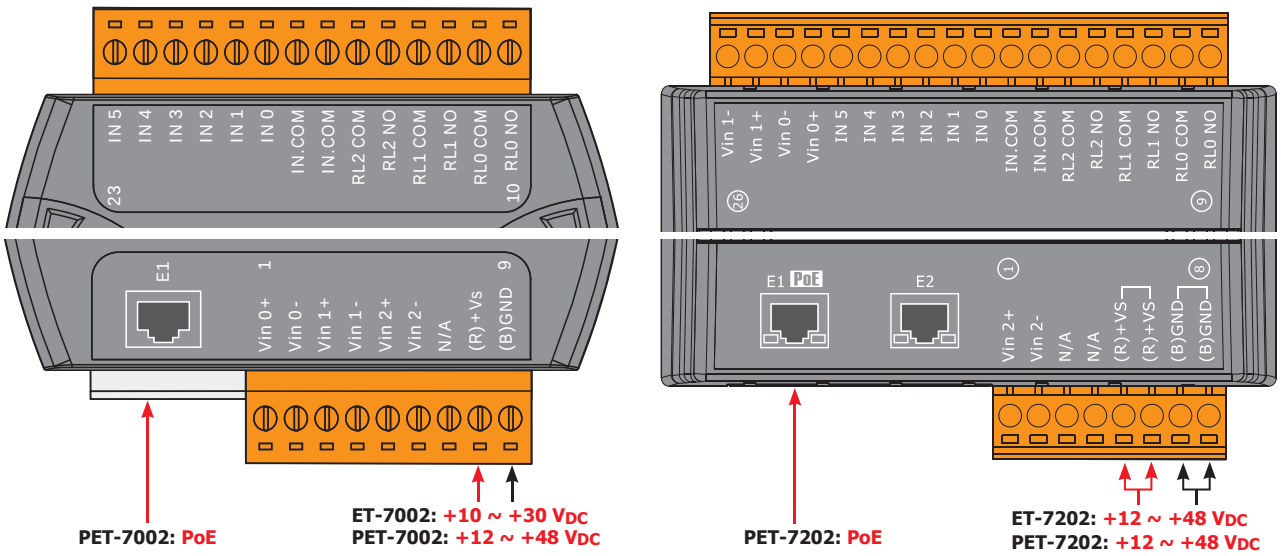
Voltage Input	Current Input
	

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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		

Pin Assignments



Ordering Information

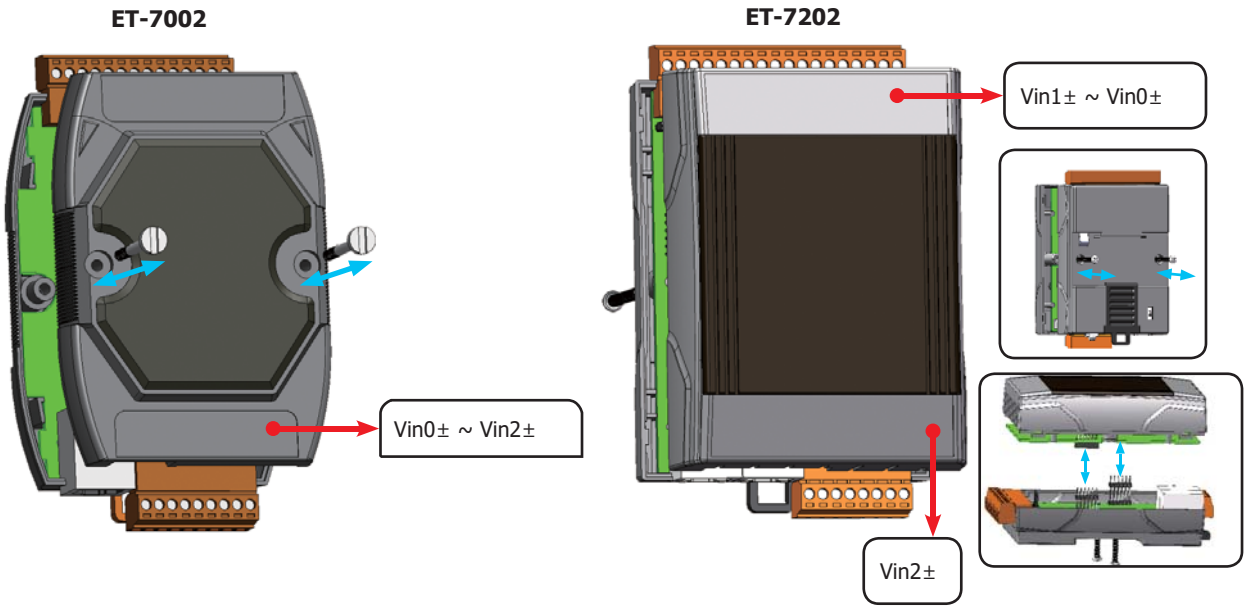
ET-7002 CR	Ethernet I/O Module with 3-ch AI, 6-ch DI, 3-ch Power Relay (RoHS)
PET-7002 CR	PoE I/O Module with 3-ch AI, 6-ch DI, 3-ch Relay (RoHS)
ET-7202 CR	Ethernet I/O Module with 2-port Ethernet Switch, 3-ch AI, 6-ch DI, 3-ch Power Relay (RoHS)
PET-7202 CR	PoE I/O Module with 2-port Ethernet Switch,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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Jumper

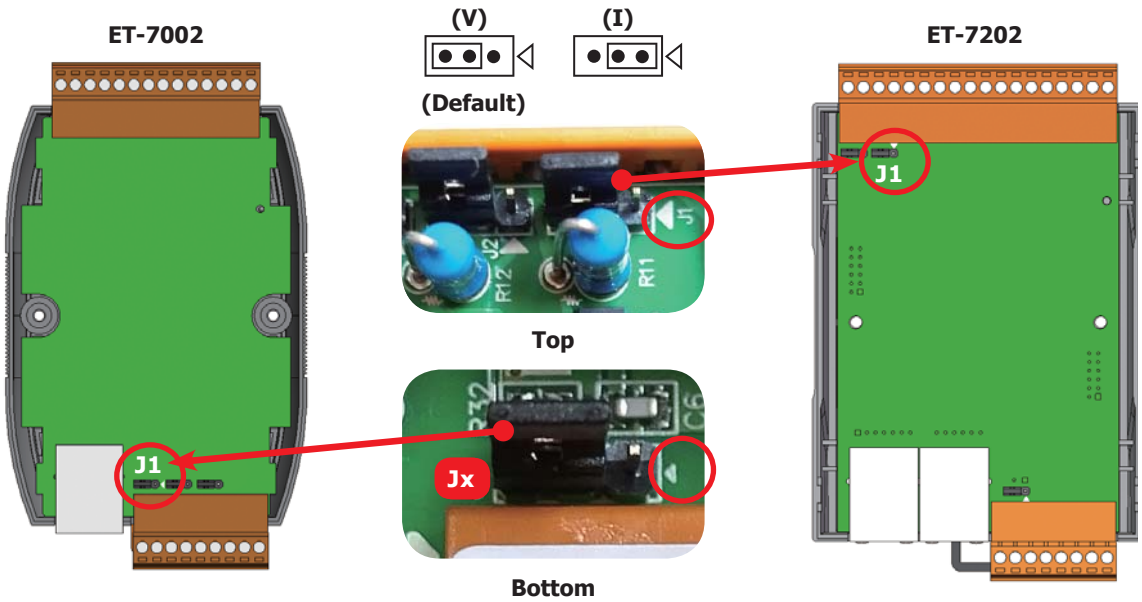
Notice:

1. **Before adjusting the jumpers, remove the module's top cover. For the ET-7200 series, the screws are located on the rear cover, and the CPU board must be removed as well.**



2. **Users can locate the Jx/JPx jumpers on the board by checking the I/O labels on the cover.**

Channel (Top)	Vin1±	Vin0±
Jumper	J2	J1



Channel (Bottom)	Vin0±	Vin1±	Vin2±
Jumper	J1	J2	J3

Channel (Bottom)	Vin2±
Jumper	J3

3. **After adjusting the jumpers, reinstall the top cover (along with the CPU board) and secure the screws.**

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000