



**ET-2224**  
**PET-2224**

**ET-2228**  
**PET-2228**

(PoE) Ethernet I/O Module with 4/8-ch Analog Outputs

## Features

- Built-in Web Server
- Support Modbus TCP/UDP, MQTT, and SNMP V2c Protocols
- 2-port Ethernet Switch (LAN Bypass) for Daisy-Chain Wiring
- Dual Watchdog
- I/O Pair Connection (Push and Pull)
- Built-in I/O
  - (P)ET-2224: 4-channel AO
  - (P)ET-2228: 8-channel AO



## Introduction

The (P)ET-2224/(P)ET-2228 provides 4/8 channels analog output. It provides a variety of programmable analog output options (0 ~ 5 V, +/-5 V, 0 ~ 10 V, +/-10 V, 4 ~ 20 mA or 0 ~ 20 mA). With 2 Ethernet ports, the (P)ET-2224/(P)ET-2228 allows daisy chain connection which permits the flexibility in locating devices, eases installation and lowers infrastructure costs. It features 4 kV ESD protection, 4 kV EFT protection, 2 kV surge, and 3000 VDC I/O isolation are also provided to enhance noise protection capabilities in industrial environments. The power-on value and safe value of AO are configurable.

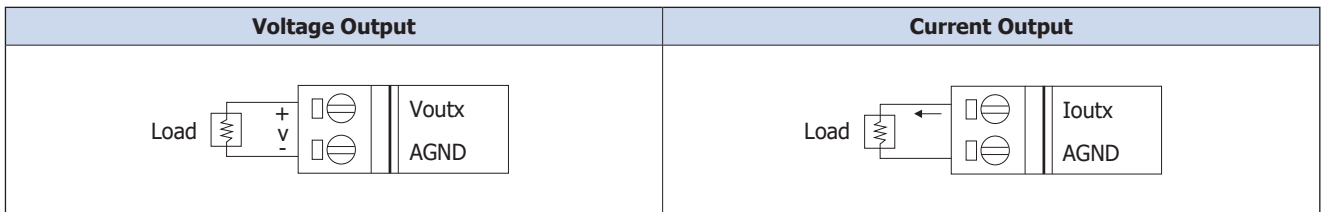
## System Specifications

Model	ET-2224	ET-2228	PET-2224	PET-2228
<b>Software</b>				
Built-in Web Server	Yes			
<b>CPU Module</b>				
CPU	32-bit ARM			
Watchdog Timer	Module, Communication (Programmable)			
<b>Isolation</b>				
2-way Isolation	Ethernet: 1500 VDC, I/O: 3000 VDC		I/O: 3000 VDC	
<b>EMS Protection</b>				
EFT (IEC 61000-4-4)	±4 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)	±2 kV for Power Line			
<b>LED Indicators</b>				
Status	Run, Ethernet		Run, Ethernet, PoE	
<b>Ethernet</b>				
Ports	2 x RJ-45, 10/100 Base-Tx, Switch Ports			
PoE	-		Yes	
LAN bypass	Yes			
Security	Password and IP Filter			
Protocol	Modbus TCP, Modbus UDP			
<b>Power</b>				
Reverse Polarity Protection	Yes			
Consumption	5.0 W (max.)	6.2 W (max.)	5.2 W (max.)	7.4 W (max.)
Powered from PoE	-		IEEE 802.3af, Class2	IEEE 802.3af, Class3
Powered from Terminal Block	+10 to +48 VDC			
<b>Mechanical</b>				
Casing	Metal			
Dimensions (mm)	33 x 126 x 117 (W x L x H)			
Installation	DIN-Rail mounting / Wall mounting (Optional ASO-0015)			
<b>Environment</b>				
Operating Temperature	-25 to +75°C			
Storage Temperature	-40 to +80°C			
Humidity	10 to 90% RH, Non-condensing			

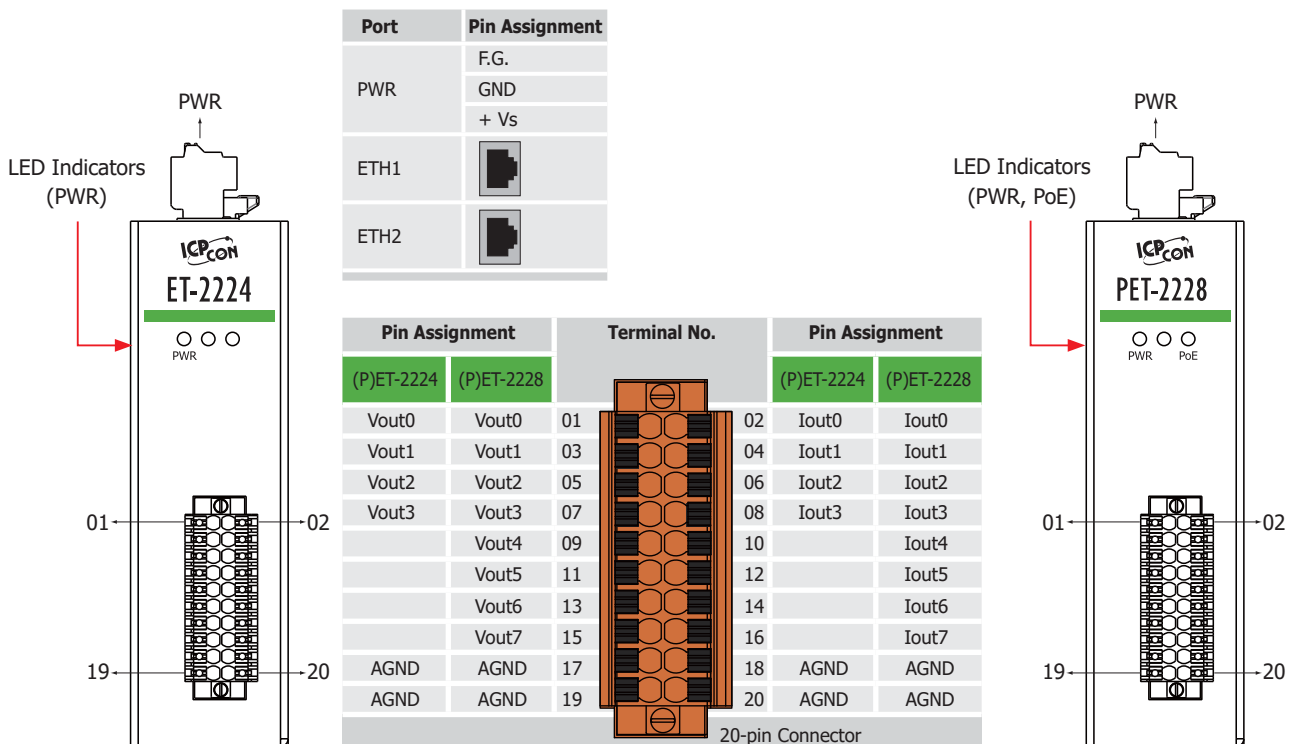
## I/O Specifications

Model	ET-2224	PET-2224	ET-2228	PET-2228
<b>Analog Output</b>				
Channels	4		8	
Type	Voltage	0 to +5 VDC, ±5 VDC, 0 to +10 VDC, ±10 VDC		
	Current	0 to 20 mA, 4 to 20 mA		
Resolution	12-bit			
Accuracy	±0.1% of FSR			
Short Circuit Protection	Yes			
DA Output Response Time	1 ms per channel			
Programmable Output Slope	Voltage	0.0625 to 512 V/Second		
	Current	0.125 to 1024 mA/Second		
Open Wire Detection	For 4 to 20 mA only			
Voltage Output Capability	10 V @ 10 mA			
Current Load Resistance	500 Ω			
Individual Channel Configuration	Yes			
Power-on Value	Programmable			
Safe Value	Programmable			

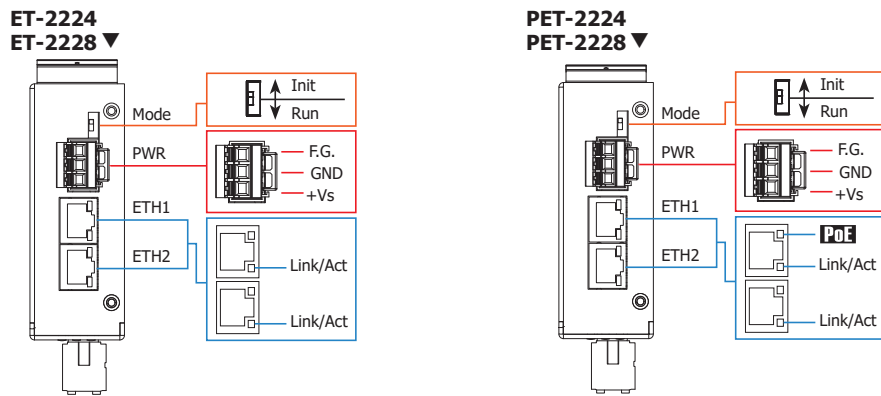
## Wire Connections



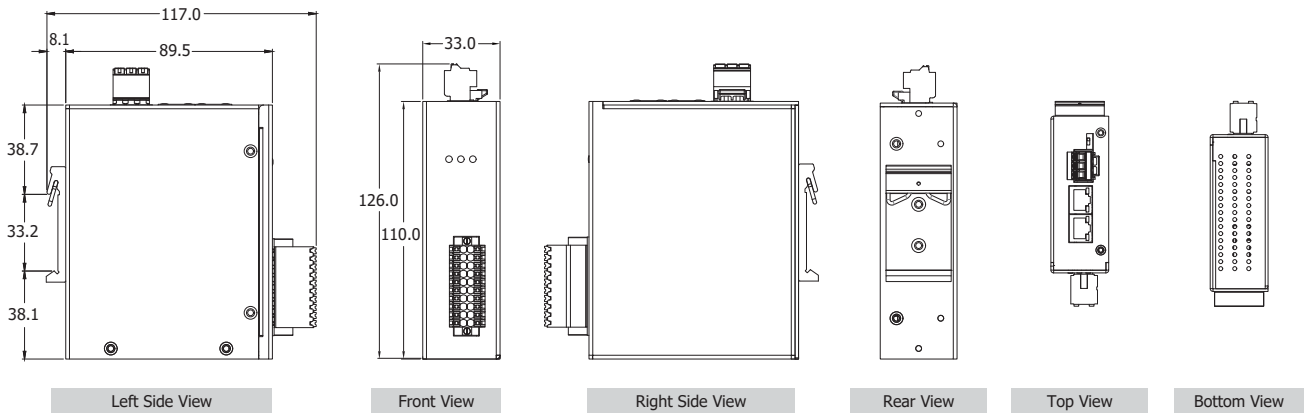
## Pin Assignments



## Appearance



## Dimensions (Units: mm)



## Ordering Information

<b>ET-2224 CR</b>	Ethernet I/O Module with 2-port Ethernet Switch, 4-ch Analog Outputs (RoHS)
<b>PET-2224 CR</b>	PoE Ethernet I/O Module with 2-port Ethernet Switch, 4-ch Analog Outputs (RoHS)
<b>ET-2228 CR</b>	Ethernet I/O Module with 2-port Ethernet Switch, 8-ch Analog Outputs (RoHS)
<b>PET-2228 CR</b>	PoE Ethernet I/O Module with 2-port Ethernet Switch, 8-ch Analog Outputs (RoHS)

## Accessories

<b>ASO-0015 CR</b>	Wall Mount Kit (W:28mm) (RoHS)
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