



**ET-2251**  
**PET-2251**



**ET-2251-32**  
**PET-2251-32**

Ethernet I/O Module with 16/32-ch DI

## Features

- Web Server for Configuration
- Support Modbus TCP/UDP, MQTT, and SNMP V2c Protocols
- 2-port Ethernet Switch (LAN Bypass) for Daisy-chain Wiring
- Supports Dual-watchdog
- I/O Pair Connection (Push and Pull)
- Built-in I/O
  - (P)ET-2251: 16-ch DI (Wet/Dry)
  - (P)ET-2251-32: 32-ch DI (Wet/Dry)
- LED Display to Indicate the I/O Status



## Introduction

(P)ET-2251/(P)ET-2251-32 is a 16 or 32-channel digital input (Wet/Dry Contact) module and each channel can function as a 32-bit counter. The module includes a built-in 2-port Ethernet switch, facilitating a daisy-chain topology. This feature offers flexibility in device configuration, simplifies installation, and reduces infrastructure costs. Additionally, the module provides EMS (EFT/ESD/Surge) protection and 3000 VDC I/O isolation to enhance noise protection capabilities in industrial environments.

## System Specifications

Model	ET-2251	ET-2251-32	PET-2251	PET-2251-32
<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)	(P)ET-2251: ±8 kV Contact for Each Terminal, ±16 kV Air for Random Point (P)ET-2251-32: ±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, I/O		Run, Ethernet, I/O, PoE	
<b>Ethernet</b>				
Ports	2 x RJ-45, 10/100 Base-Tx, Switch Ports			
PoE	-		Yes	
LAN bypass	Yes			
Access Control	Password and IP Filter			
Protocol	Modbus TCP, Modbus UDP, MQTT, SNMP V2c			
<b>Power</b>				
Reverse Polarity Protection	Yes			
Consumption	3.0 W (max.)	3.8 W (max.)	3.6 W (max.)	3.9 W (max.)
Powered from PoE	-		IEEE 802.3af, Class1	IEEE 802.3af, Class2
Powered from Terminal Block	+10 ~ +30 VDC		+10 ~ +48 VDC	
<b>Mechanical</b>				
Casing	Plastic			
Dimensions (mm)	(P)ET-2251: 33 x 126 x 108 (W x L x H), (P)ET-2251-32: 31 x 157 x 126 (W x L x H)			
Installation	DIN-Rail Mounting			
<b>Environment</b>				
Operating Temperature	-25 ~ +75 °C			
Storage Temperature	-40 ~ +80 °C			
Humidity	10 ~ 90% RH, Non-condensing			

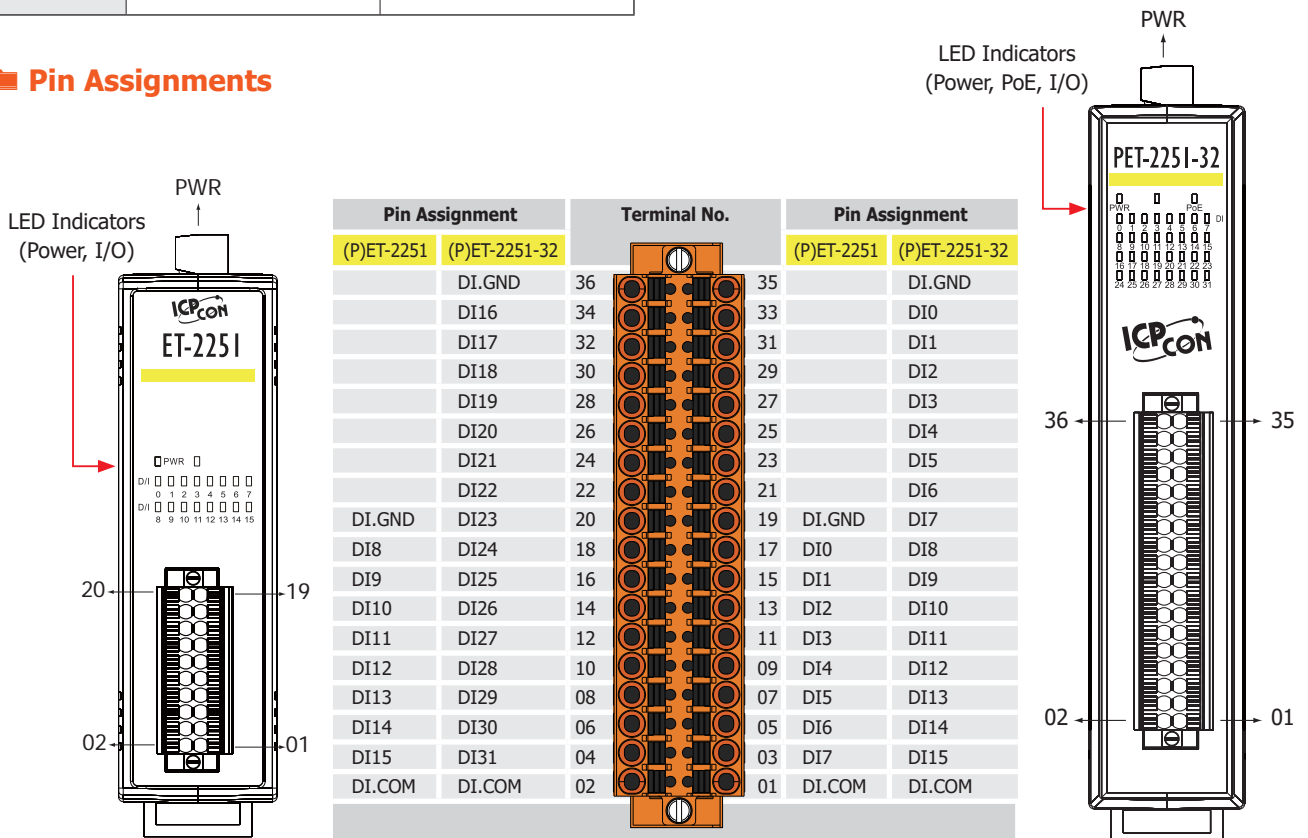
## I/O Specifications

Model	(P)ET-2251	(P)ET-2251-32
<b>Digital Input/Counter</b>		
Channels	16	32
Type	Dry Contact Wet Contact	
Sink/Source (NPN/PNP)	Dry: Source Wet: Sink/Source	
ON Voltage Level	Dry: Close to GND Wet: +5 ~ +50 VDC	
OFF Voltage Level	Dry: Open Wet: +1 VDC (max.)	
Max. Counts	4,294,967,295 (32-bit)	
Frequency	3 kHz	2.5 kHz
Input Impedance	7.5 kΩ	
Oversvoltage Protection	+ 70 VDC	
Low Pass Filter	1 ~ 6500 ms (0.08 Hz ~ 500 Hz)	

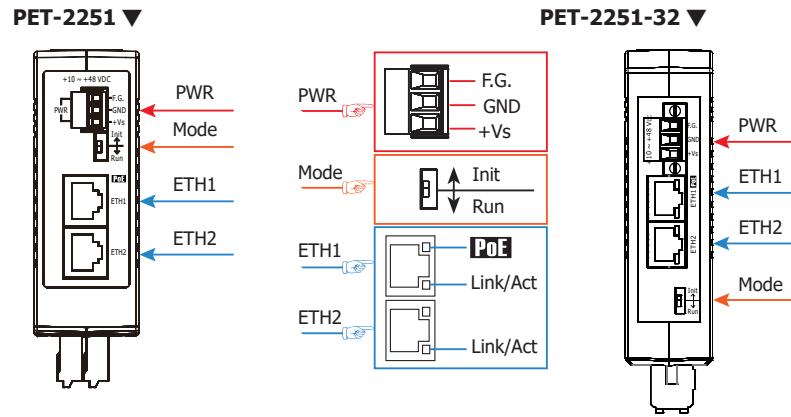
## Wire Connections

Digital Input /Counter	Readback as 1	Readback as 0	Digital Input /Counter	Readback as 1	Readback as 0
Wet Contact (Sink)	+5 ~ +50 VDC 	OPEN or <1 VDC 	Dry Contact	Close to GND 	Open 
	Wet Contact (Source)	+5 ~ +50 VDC 		OPEN or <1 VDC 	Close to GND 

## Pin Assignments

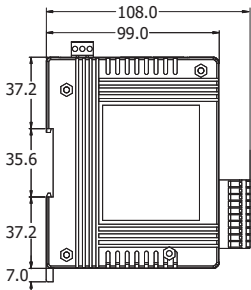


## Appearance

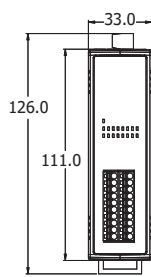


## Dimensions (Units: mm)

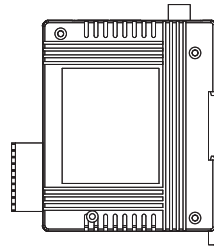
(P)ET-2251



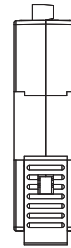
Left Side View



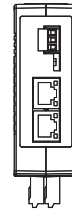
Front View



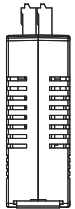
Right Side View



Rear View

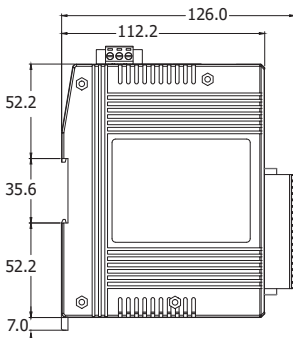


Top View

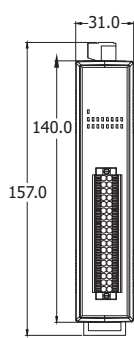


Bottom View

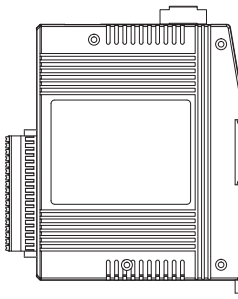
(P)ET-2251-32



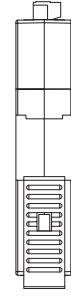
Left Side View



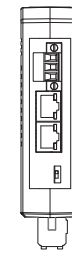
Front View



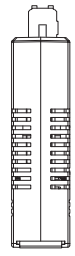
Right Side View



Rear View



Top View



Bottom View

## Ordering Information

<b>ET-2251 CR</b>	Ethernet I/O Module with 2-port Ethernet Switch, 16-ch DI (RoHS)
<b>PET-2251 CR</b>	PoE I/O Module with 2-port Ethernet Switch, 16-ch DI (RoHS)
<b>ET-2251-32 CR</b>	Ethernet I/O Module with 2-port Ethernet Switch, 32-ch DI (RoHS)
<b>PET-2251-32 CR</b>	PoE I/O Module with 2-port Ethernet Switch, 32-ch DI (RoHS)