



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
Software				
Built-in Web Server	Yes			
CPU Module				
CPU	32-bit ARM			
Watchdog Timer	Module, Communication (Programmable)			
Isolation				
2-way Isolation	Ethernet: 1500 VDC, I/O: 3000 VDC		I/O: 3000 VDC	
EMS Protection				
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			
LED Indicators				
Status	Run, Ethernet, I/O		Run, Ethernet, I/O, PoE	
Ethernet				
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			
Power				
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	
Mechanical				
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 129 (W x L x H)			
Installation	DIN-Rail Mounting			
Environment				
Operating Temperature	-25 ~ +75 °C			
Storage Temperature	-40 ~ +80 °C			
Humidity	10 ~ 90% RH, Non-condensing			

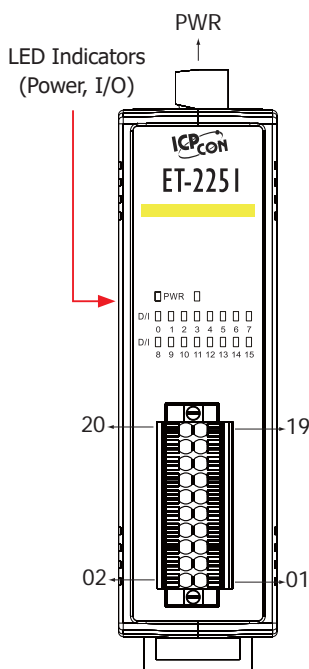
I/O Specifications

Model	(P)ET-2251	(P)ET-2251-32
Digital Input/Counter		
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	
Overshoot Protection	+ 70 VDC	
Low Pass Filter	1 ~ 6500 ms (0.08 Hz ~ 500 Hz)	

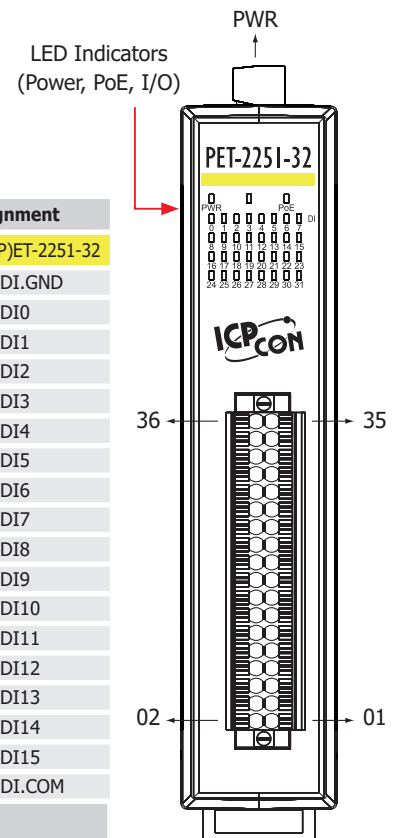
Wire Connections

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
	+5 ~ +50 VDC 	OPEN or <1 VDC 			

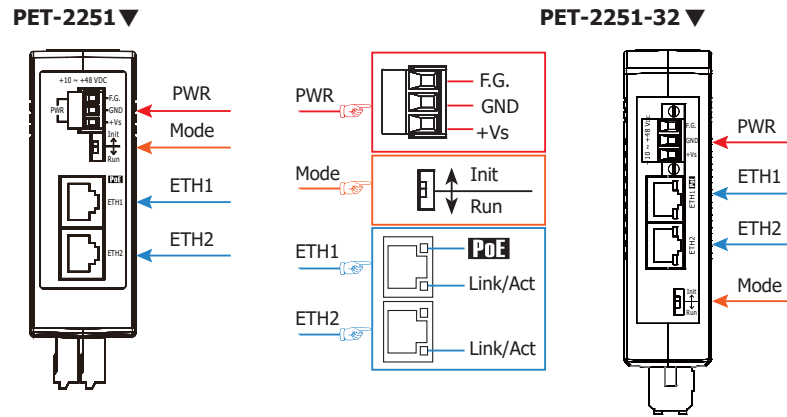
Pin Assignments



Pin Assignment		Terminal No.	Pin Assignment	
(P)ET-2251	(P)ET-2251-32		(P)ET-2251	(P)ET-2251-32
DI.GND	DI16	36	35	DI.GND
DI8	DI17	18	33	DI0
DI9	DI18	16	31	DI1
DI10	DI19	14	29	DI2
DI11	DI20	12	27	DI3
DI12	DI21	10	25	DI4
DI13	DI22	8	23	DI5
DI14	DI23	6	21	DI6
DI15	DI24	4	19	DI7
DI.COM	DI25	2	17	DI8
	DI26		15	DI9
	DI27		13	DI10
	DI28		11	DI11
	DI29		9	DI12
	DI30		7	DI13
	DI31		5	DI14
	DI.COM		3	DI15
			01	DI.COM

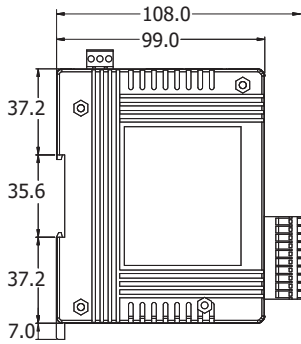


Appearance

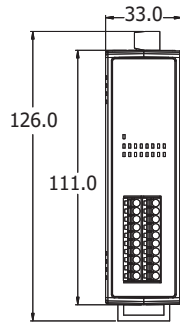


Dimensions (Units: mm)

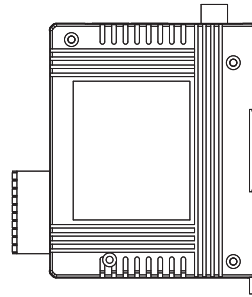
(P)ET-2251



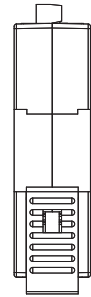
Left Side View



Front View

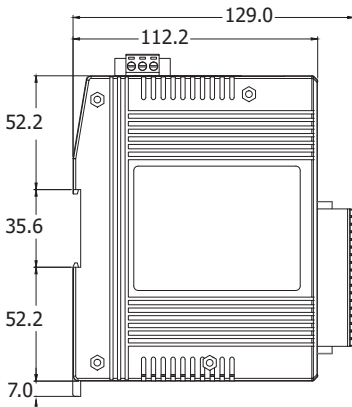


Right Side View

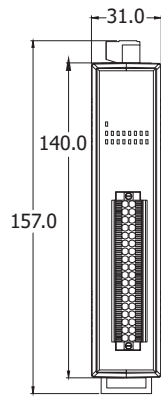


Rear View

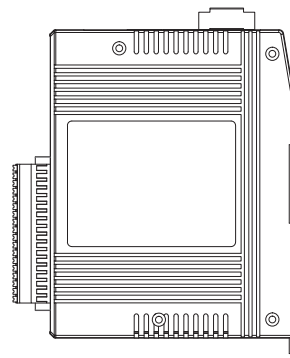
(P)ET-2251-32



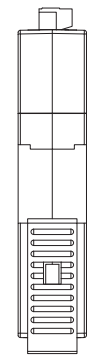
Left Side View



Front View



Right Side View



Rear View

Ordering Information

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