



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.)

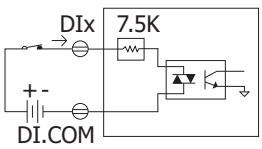
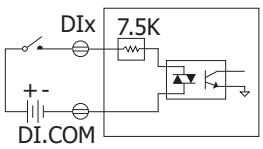
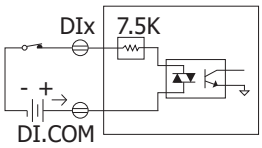
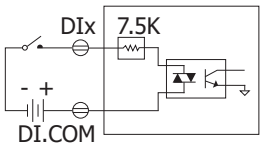
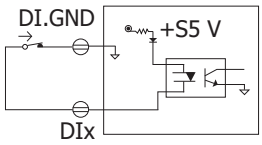
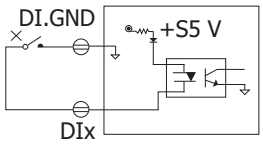
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Model	ET-2251	ET-2251-32	PET-2251	PET-2251-32
Powered from PoE	-		IEEE 802.3af, Class1	IEEE 802.3af, Class2
Powered from Terminal Block	+10 ~ +30 V_{DC}	+10 ~ +48 V_{DC}		
Mechanical				
Casing	Plastic			
Dimensions (mm)	(P)ET-2251: 33 x 126 x 108 (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 ℃			
Storage Temperature	-40 ~ +80 ℃			
Humidity	10 ~ 90% RH, Non-condensing			

I/O Specifications

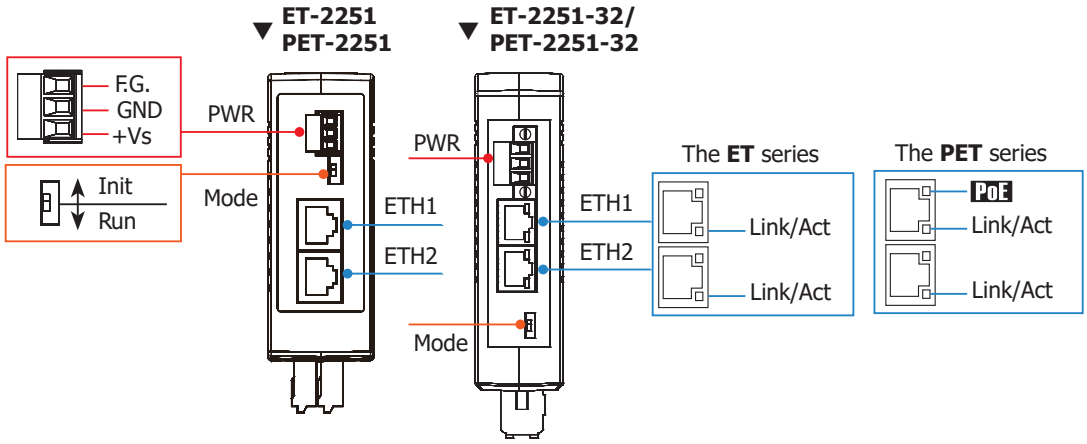
Model	(P)ET-2251	(P)ET-2251-32
Digital Input/Counter		
Channels	16	32
Type	Dry Contact Wet Contact	
Sink/Source (NPN/PNP)	Dry: Source Wet: Sink/Source	
ON Voltage Level	Dry: Close to GND Wet: +5 ~ +50 V_{DC}	
OFF Voltage Level	Dry: Open Wet: +1 V_{DC} (max.)	
Max. Counts	4,294,967,295 (32-bit)	
Frequency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

Wire Connections

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

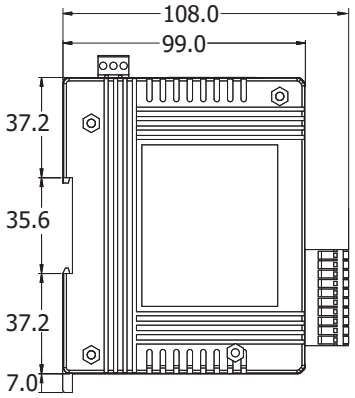
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Appearance

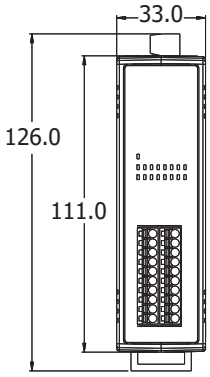


Dimensions (Units: mm)

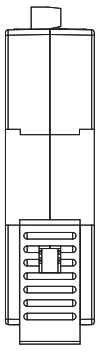
(P)ET-2251



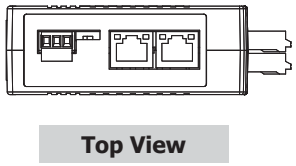
Left Side View



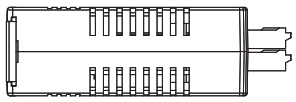
Front View



Rear View

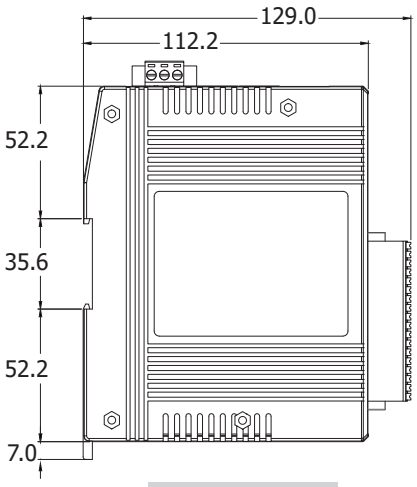


Top View

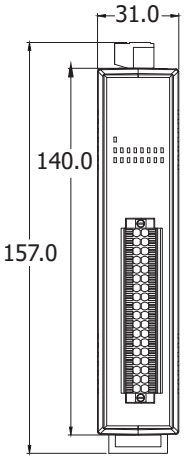


Bottom View

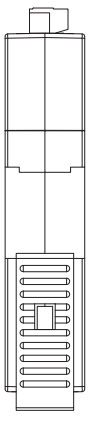
(P)ET-2251-32



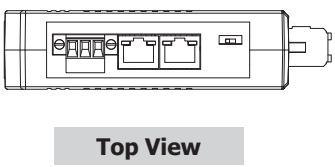
Left Side View



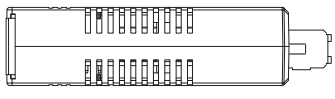
Front View



Rear View



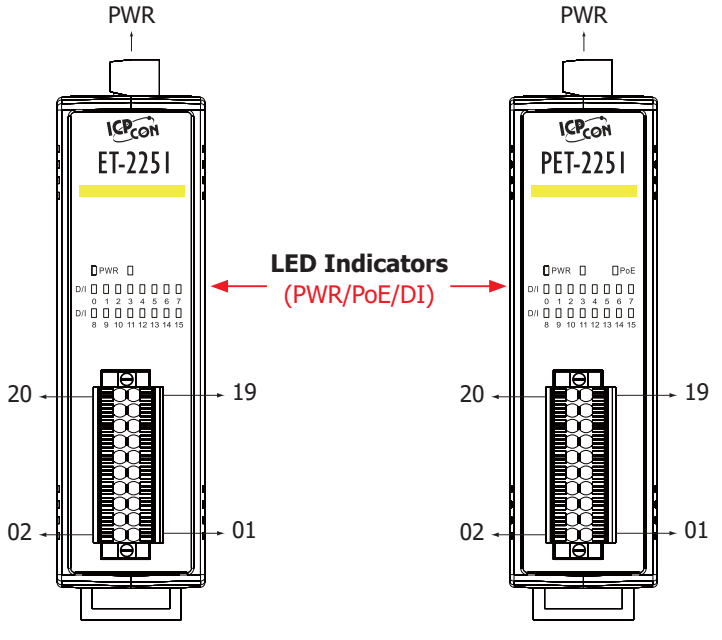
Top View



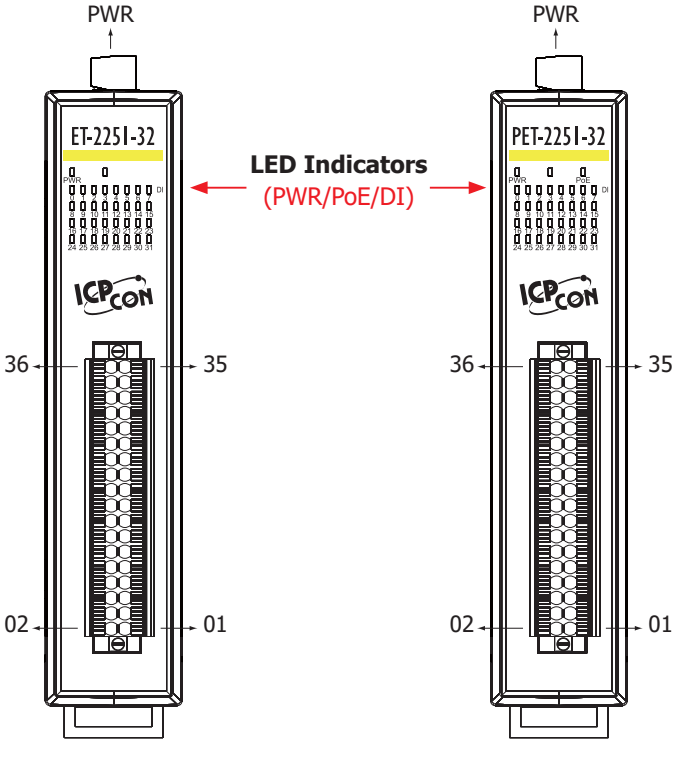
Bottom View

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Pin Assignments



Pin Assignment	Terminal No.		Pin Assignment
DI.GND	20	19	DI.GND
DI8	18	17	DI0
DI9	16	15	DI1
DI10	14	13	DI2
DI11	12	11	DI3
DI12	10	09	DI4
DI13	08	07	DI5
DI14	06	05	DI6
DI15	04	03	DI7
DI.COM	02	01	DI.COM



Pin Assignment	Terminal No.		Pin Assignment
DI.GND	36	35	DI.GND
DI16	34	33	DI0
DI17	32	31	DI1
DI18	30	29	DI2
DI19	28	27	DI3
DI20	26	25	DI4
DI21	24	23	DI5
DI22	22	21	DI6
DI23	20	19	DI7
DI24	18	17	DI8
DI25	16	15	DI9
DI26	14	13	DI10
DI27	12	11	DI11
DI28	10	09	DI12
DI29	08	07	DI13
DI30	06	05	DI14
DI31	04	03	DI15
DI.COM	02	01	DI.COM

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)
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