



ET-2255
PET-2255

ET-2255-32
PET-2255-32

Ethernet I/O Module with 8/16-ch DI, 8/16-ch DO

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-2255:
8-ch DI (Wet/Dry), 8-ch DO (Sink)
 - (P)ET-2255-32:
16-ch DI (Wet/Dry), 16-ch DO (Sink)
- LED Display to Indicate the I/O Status



Introduction

(P)ET-2255/(P)ET-2255-32 is a 8 or 16-channel DI (Wet/Dry Contact) and 8 or 16-channel DO (Sink-type) module. Each input channel can function as a 32-bit counter, while each output channel can be configured with a power-on value and safe value, ensuring the module's safe operation in applications with hazardous voltages. 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. The module features optical-isolated 3000 Vrms transient overvoltage protection and does not support channel-to-channel isolation. Additionally, it provides EMS (EFT/ESD/Surge) protection and 3000 VDC I/O isolation to enhance noise protection capabilities in industrial environments.

System Specifications

Model	ET-2255	ET-2255-32	PET-2255	PET-2255-32
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-2255: ±8 kV Contact for Each Terminal, ±16 kV Air for Random Point (P)ET-2255-32: ±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	3.5 W (max.)	4.7 W (max.)	4.3 W (max.)	4.8 W (max.)
Powered from PoE	-		IEEE 802.3af, Class2	
Powered from Terminal Block	+10 ~ +30 VDC	+10 ~ +48 VDC		
Mechanical				
Casing	Plastic			
Dimensions (mm)	(P)ET-2255: 33 x 126 x 108 (W x L x H), (P)ET-2255-32: 31 x 157 x 126 (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

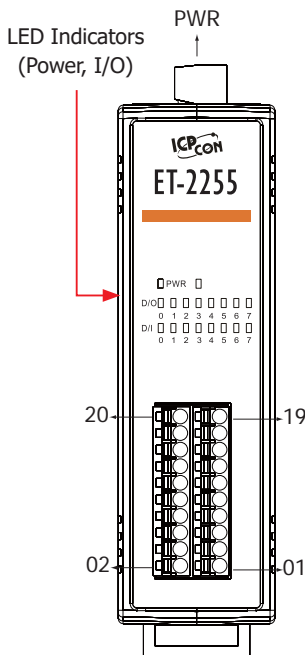
Model	(P)ET-2255	(P)ET-2255-32
Digital Input/Counter		
Channels	8	16
Type	Dry Contact Wet Contact	
Sink/Source (NPN/PNP)	Dry: Source Wet: Sink/Source	
ON Voltage Level	Dry: Close to GND Wet: +5 ~ +50 VDC	
OFF Voltage Level	Dry: Open Wet: +1 VDC (max.)	
Max. Counts	4,294,967,295 (32-bit)	
Frequency	3 kHz	2.5 kHz
Low Pass Filter	1 ~ 6500 ms (0.08 Hz ~ 500 Hz)	
Input Impedance	7.5 kΩ	
Overvoltage Protection	+70 VDC	
Digital Output		
Channels	8	16
Type	Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+3.5 ~ +50 V	
Load Current	650 mA/channel	500 mA/channel
Overvoltage Protection	+60 VDC	
Overload Protection	1.4 A (with short-circuit protection)	
Short Circuit Protection	Yes	
Power-on Value	Programmable	
Safe Value	Programmable	

Wire Connections

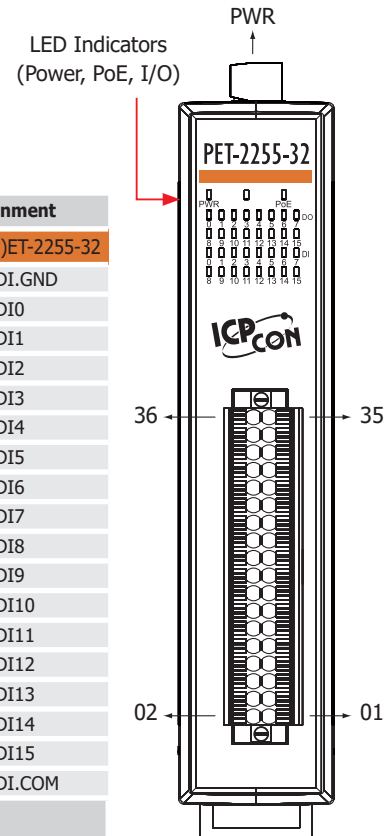
Digital Input / Counter	Readback as 1	Readback as 0
Dry Contact	Close to GND 	Open
	+5 ~ +50 VDC 	OPEN or <1 VDC
Wet Contact (Source)	+5 ~ +50 VDC 	OPEN or <1 VDC

Output Type	ON State Readback as 1	OFF State Readback as 0
Inductive Load		
Resistance Load		

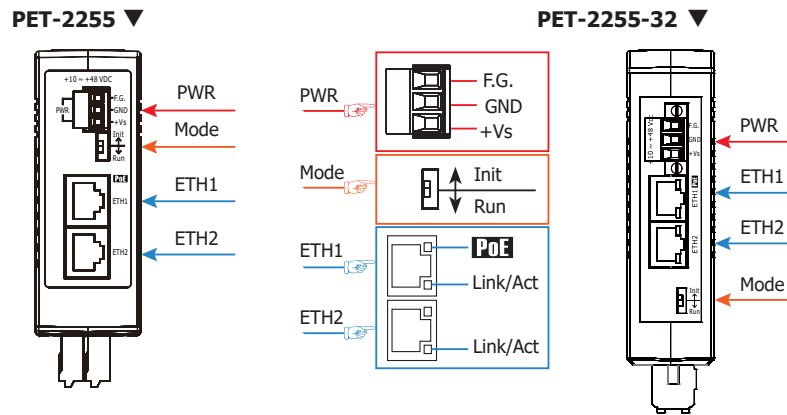
Pin Assignments



Pin Assignment		Terminal No.	Pin Assignment	
(P)ET-2255	(P)ET-2255-32		(P)ET-2255	(P)ET-2255-32
	E.GND	36	35	DI.GND
	DO0	34	33	DI0
	DO1	32	31	DI1
	DO2	30	29	DI2
	DO3	28	27	DI3
	DO4	26	25	DI4
	DO5	24	23	DI5
	DO6	22	21	DI6
	E.GND	DO7	19	DI.GND
	DO0	DO8	17	DI0
	DO1	DO9	15	DI1
	DO2	DO10	13	DI2
	DO3	DO11	11	DI3
	DO4	DO12	09	DI4
	DO5	DO13	07	DI5
	DO6	DO14	05	DI6
	DO7	DO15	03	DI7
	E.PWR	E.PWR	02	DI.COM
			01	DI.COM

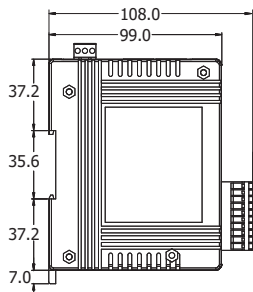


Appearance

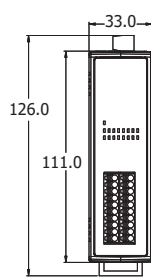


Dimensions (Units: mm)

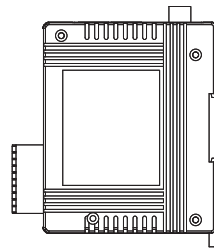
(P)ET-2255



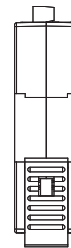
Left Side View



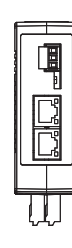
Front View



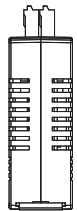
Right Side View



Rear View

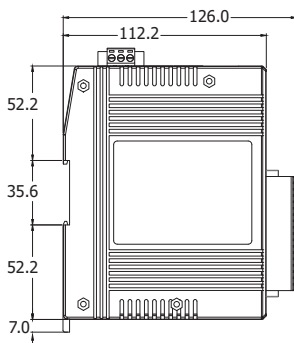


Top View

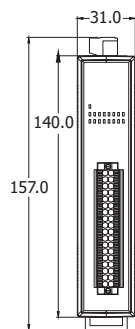


Bottom View

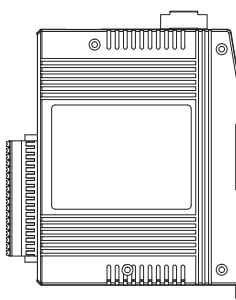
(P)ET-2255-32



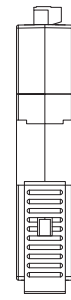
Left Side View



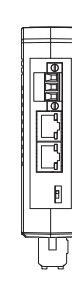
Front View



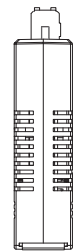
Right Side View



Rear View



Top View



Bottom View

Ordering Information

ET-2255 CR	Ethernet I/O Module with 2-port Ethernet Switch, 8-ch DI, 8-ch DO (Sink) (RoHS)
PET-2255 CR	PoE I/O Module with 2-port Ethernet Switch, 8-ch DI, 8-ch DO (Sink) (RoHS)
ET-2255-32 CR	Ethernet I/O Module with 2-port Ethernet Switch, 16-ch DI, 16-ch DO (Sink) (RoHS)
PET-2255-32 CR	PoE I/O Module with 2-port Ethernet Switch, 16-ch DI, 16-ch DO (Sink) (RoHS)