



ET-2228-16
PET-2228-16
ET-2228C-32
PET-2228C-32

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

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-2228-16: 16-ch AO
  - ☐ (P)ET-2228C-32: 32-ch Current Output

Introduction

(P)ET-2228-16 is a 16-channel analog output module that provides a variety of programmable output ranges, including 0 ~ 5 V, +/-5 V, 0 ~ 10 V, +/-10 V, 4 ~ 20 mA, 0 ~ 20 mA.

(P)ET-2228C-32 is a 32-channel current output module that provides an output range of 4 ~ 20 mA. It offers configurable AO Power-on value and safe value settings, as well as open wire detection for each 4 ~ 20 mA output channel. 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-2228-16	PET-2228-16	ET-2228C-32	PET-2228C-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	-	1500 VDC	-
	I/O	3000 VDC			
EMS Protection					
EFT (IEC 61000-4-4)		±4 kV for Power Line			
ESD (IEC 61000-4-2)		±3 kV Contact for Each Terminal ±8 kV Air for Random Point		±4 kV Contact for Each Terminal ±8 kV Air for Random Point	
Surge (IEC 61000-4-5)		±2 kV for Power Line		±1.5 kV for Power Line	
LED Indicators					
Status		Run, Ethernet	Run, Ethernet, PoE	Run, Ethernet	Run, Ethernet, PoE
Ethernet					
Ports		2 x RJ-45, 10/100 Base-Tx, Switch Ports			
PoE		-	Yes	-	Yes
LAN bypass		Yes			
Access Control		Password and IP Filter			
Protocol		Modbus TCP, Modbus UDP, MQTT, SNMP V2c			

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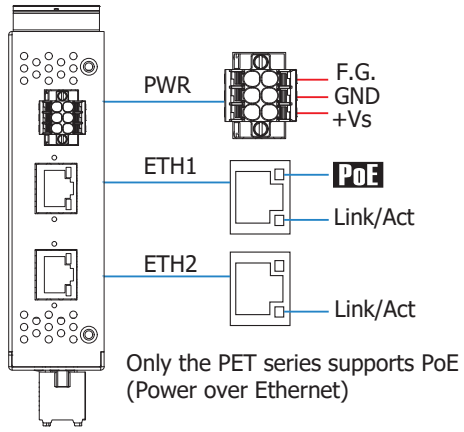
Model	ET-2228-16	PET-2228-16	ET-2228C-32	PET-2228C-32
Power				
Reverse Polarity Protection	Yes			
Consumption	9.8 W (max.)	10.2 W (max.)	16.1 W (max.)	16.4 W (max.)
Powered from PoE	-	IEEE 802.3af, Class3	-	IEEE 802.3at, Class4
Powered from Terminal Block	+10 ~ +48 VDC			
Mechanical				
Casing	Metal			
Dimensions (mm)	31 x 159 x 137 (W x L x H)			
Installation	DIN-Rail Mounting / Wall mounting (Optional ASO-0015)			
Environment				
Operating Temperature	-25 ~ +75 ℃			
Storage Temperature	-40 ~ +80 ℃			
Humidity	10 ~ 90% RH, Non-condensing			

I/O Specifications

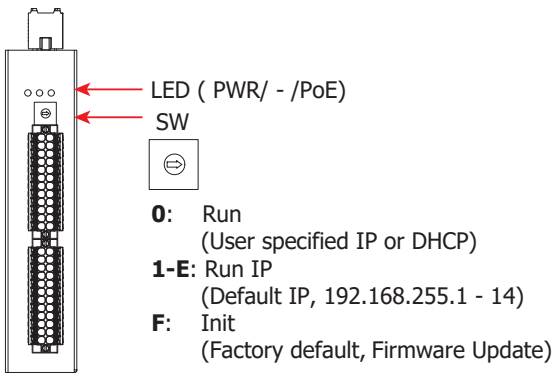
Model		(P)ET-2228-16	(P)ET-2228C-32
Analog Output			
Channels		16	32
Type	Voltage	0 ~ +5 VDC, ±5 VDC, 0 ~ +10 VDC, ±10 VDC	-
	Current	0 ~ 20 mA, 4 ~ 20 mA	4 ~ 20 mA
Refresh Rate		0.25 ms (per channel)	0.125 ms (per channel)
Resolution		12-bit	
Accuracy		±0.1% of FSR	
Open Wire Detection		For 4 ~ 20 mA only	
Voltage Output Capability		10 V @ 10 mA	-
Current Load Resistance		500 Ω	
Individual Channel Configuration		Yes	
Power-on Value		Programmable	
Safe Value		Programmable	

Appearance

▼ ET-2228-16 / PET-2228-16 / ET-2228C-32 / PET-2228C-32



Only the PET series supports PoE
(Power over Ethernet)

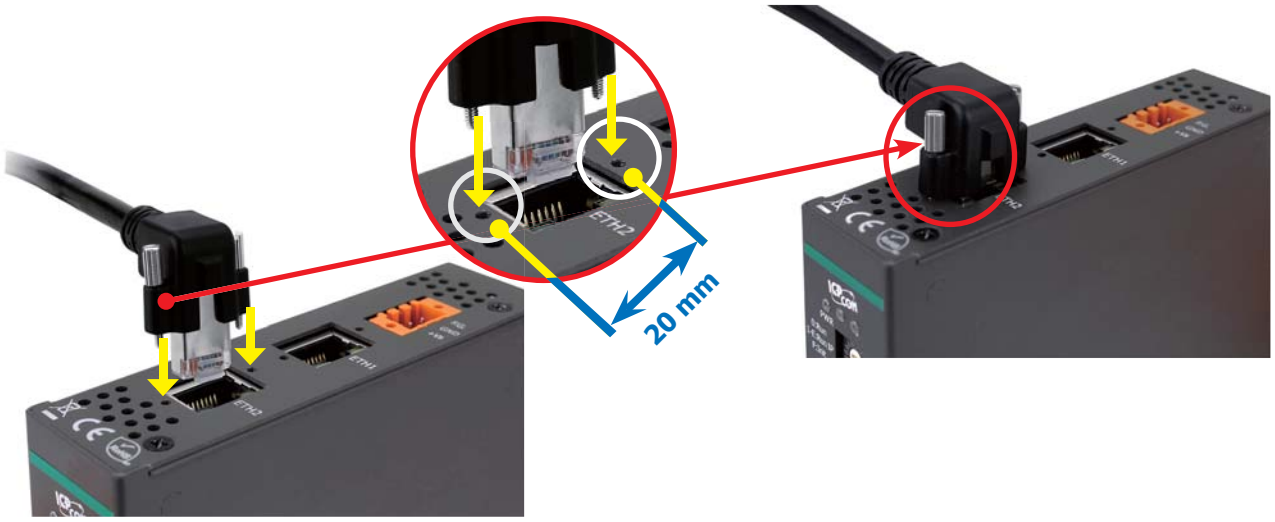


0: Run
(User specified IP or DHCP)
1-E: Run IP
(Default IP, 192.168.255.1 - 14)
F: Init
(Factory default, Firmware Update)

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Ethernet Cable Locking Hole

(P)ET-2228-16/(P)ET-2228C-32 series include the locking holes for the Ethernet cable to prevent accidental loosening.



Pin Assignments

ET-2228-16/PET-2228-16

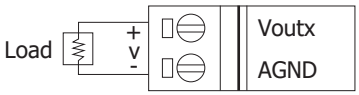
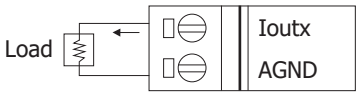
Pin Assignment	Terminal No.		Pin Assignment
Iout 0	1	2	Vout 0
Iout 1	3	4	Vout 1
Iout 2	5	6	Vout 2
Iout 3	7	8	Vout 3
Iout 4	9	10	Vout 4
Iout 5	11	12	Vout 5
Iout 6	13	14	Vout 6
Iout 7	15	16	Vout 7
AGND	17	18	AGND
AGND	19	20	AGND
AGND	21	22	AGND
AGND	23	24	AGND
Iout 8	25	26	Vout 8
Iout 9	27	28	Vout 9
Iout 10	29	30	Vout 10
Iout 11	31	32	Vout 11
Iout 12	33	34	Vout 12
Iout 13	35	36	Vout 13
Iout 14	37	38	Vout 14
Iout 15	39	40	Vout 15
AGND	41	42	AGND
AGND	43	44	AGND
AGND	45	46	AGND
AGND	47	48	AGND

ET-2228C-32/PET-2228C-32

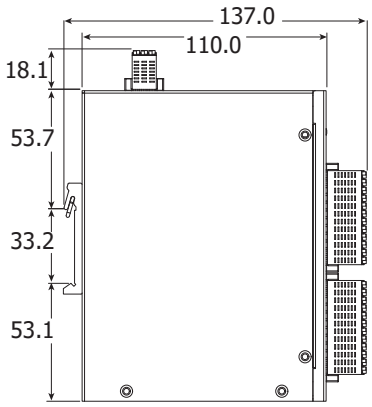
Pin Assignment	Terminal No.		Pin Assignment
Iout 0	1	2	Iout 8
Iout 1	3	4	Iout 9
Iout 2	5	6	Iout 10
Iout 3	7	8	Iout 11
Iout 4	9	10	Iout 12
Iout 5	11	12	Iout 13
Iout 6	13	14	Iout 14
Iout 7	15	16	Iout 15
AGND	17	18	AGND
AGND	19	20	AGND
AGND	21	22	AGND
AGND	23	24	AGND
Iout 16	25	26	Iout 24
Iout 17	27	28	Iout 25
Iout 18	29	30	Iout 26
Iout 19	31	32	Iout 27
Iout 20	33	34	Iout 28
Iout 21	35	36	Iout 29
Iout 22	37	38	Iout 30
Iout 23	39	40	Iout 31
AGND	41	42	AGND
AGND	43	44	AGND
AGND	45	46	AGND
AGND	47	48	AGND

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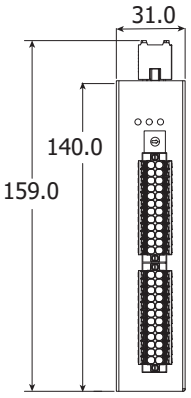
Wire Connections

Voltage Output	Current Output
	

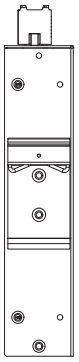
Dimensions (Units: mm)



Left Side View



Front View



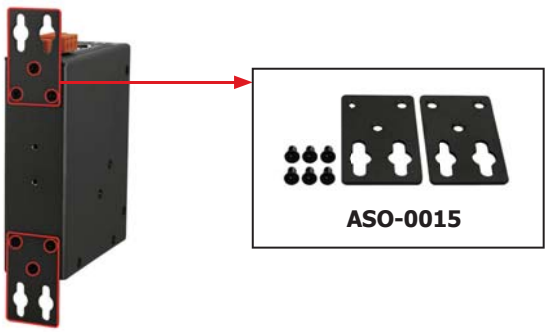
Rear View

Ordering Information

ET-2228-16 CR	Ethernet I/O Module with 2-port Ethernet Switch, 16-ch AO (RoHS)
PET-2228-16 CR	PoE I/O Module with 2-port Ethernet Switch, 16-ch AO (RoHS)
ET-2228C-32 CR	Ethernet I/O Module with 2-port Ethernet Switch, 32-ch Current Output (RoHS)
PET-2228C-32 CR	PoE I/O Module with 2-port Ethernet Switch, 32-ch Current Output (RoHS)

Accessories

ASO-0015 CR	Wall Mount Kit (W: 28 mm) (RoHS)



(P)ET-2200 + ASO-0015

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