Industrial Computer Products

Data Acquisition System

ET-7x00/PET-7x00 Series

Register Table



ET-7000/PET-7000 Series



ET-7200/PET-7200 Series

Version 1.1.5, April 2025

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Preface

About this Manual

This manual is intended to be used as a reference for users who need to communicate with the ET-7000/PET-7000/ET-7200/PET-7200 over a Modbus network.

This manual assumes that the user has some knowledge of commissioning and programming of Modbus devices, including some knowledge of the Modbus protocol and knowledge about your ET-7000/PET-7000/ET-7200/PET-7200 module.

This manual can be obtained from the ICP DAS website.

https://www.icpdas.com/en/download/show.php?num=2217

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Contents in this Manual

Each chapter contains the following information for each ET-7x00/PET-7x00 module:

- I/O Specifications
- Pin Assignments
- Wire Connections
- Modbus Register Table

The table below describes the properties of each field in a Modbus register table.

Field name	Description
Register	The Modbus register address
Point	The number of the I/O point
Description	The function description for the Modbus register
Data Format	Indicates the type of data in the Modbus register
Attribute	Indicates the attribute of Modbus register R: Readable W: Writable E: Store the data in EEPROM

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Selection Guide



Model Number		Description
ET-7002/PET-7002	ET-7202/PET-7202	Ethernet I/O Module with 3-ch AI, 6-ch DI and 3-ch Relay
-	ET-7204/PET-7204	Ethernet I/O Module with 4-ch AI, 4-ch AO and 4-ch DI
ET-7005/PET-7005	-	Ethernet I/O Module with 8-ch Thermistor Input and 4-ch DO
ET-7015/PET-7015	ET-7215/PET-7215	Ethernet I/O Module with 7-ch RTD Inputs
ET-7016/PET-7016	-	Ethernet I/O Module with 2-ch Strain Gauge Input, 2-ch DI and 2-ch DO
ET-7017/PET-7017	ET-7217/PET-7217	Ethernet I/O Module with 8-ch AI and 4-ch DO
-	ET-7217RMS/PET-7217RMS	Ethernet I/O Module with 8-ch AC input and 4-ch DO
-	ET-7217-A5/PET-7217-A5	Ethernet I/O Module with 8-ch AC input and 4-ch DO
ET-7017-10 PET-7017-10	ET-7217-10 PET-7217-10	Ethernet I/O Module with 10/20-ch AI
ET-7018Z/PET-7018Z	ET-7218Z/PET-7218Z	Ethernet I/O Module with 10-ch Thermocouple Inputs, 6-ch or 3-ch DO
ET-7019Z/PET-7019Z	ET-7219Z/PET-7219Z	Ethernet I/O Module with 10-ch universal AI, 6-ch or 3-ch DO
ET-7024/PET-7024	ET-7224/PET-7224	Ethernet I/O Module with 4-ch AO, 5-ch DI and 5-ch DO
ET-7026/PET-7026	ET-7226/PET-7226	Ethernet I/O Module with 6-ch AI, 2-ch AO, 2-ch DI and 2-ch DO
ET-7028/PET-7028	ET-7228/PET-7228	Ethernet I/O Module with 8-ch AO
ET-7042/PET-7042	ET-7242/PET-7242	Ethernet I/O Module with 16-ch DO
ET-7044/PET-7044	ET-7244/PET-7244	Ethernet I/O Module with 8-ch DI and 8-ch DO
-	ET-7245/PET-7245	Ethernet I/O Module with 16-ch DO
ET-7050/PET-7050	ET-7250A/PET-7250A	Ethernet I/O Module with 12-ch DI and 6-ch DO
ET-7051/PET-7051	ET-7251/PET-7251	Ethernet I/O Module with 16-ch DI
ET-7052/PET-7052	ET-7252/PET-7252	Ethernet I/O Module with 8-ch DI and 8-ch DO
ET-7053/PET-7053	ET-7253/PET-7253	Ethernet I/O Module with 16-ch DI
-	ET-7255/PET-7255	Ethernet I/O Module with 8-ch DI and 8-ch DO
-	ET-7258/PET-7258	Ethernet I/O Module with 8-ch AC/DC DI
-	ET-7258M-16/PET-7258M-16	Ethernet I/O Module with 16-ch AC/DC DI
-	ET-7259/PET-7259	Ethernet I/O Module with 8-ch AC/DC DI
-	ET-7259M-16/PET-7259M-16	Ethernet I/O Module with 16-ch AC/DC DI

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ET-7060/PET-7060	ET-7260/PET-7260	Ethernet I/O Module with 6-ch Relay and 6-ch DI
-	ET-7260A/PET-7260A	Ethernet I/O Module with 6-ch Relay and 6-ch DI
-	ET-7261/PET-7261	Ethernet I/O Module with 11-ch Relay
ET-7065	-	Ethernet I/O Module with 6-ch PhotoMOS Relay and 6-ch DI
ET-7066	-	Ethernet I/O Module with 8-ch PhotoMOS Relay
ET-7067/PET-7067	ET-7267/PET-7267	Ethernet I/O Module with 8-ch Relay
ET-7083/PET-7083	-	Ethernet I/O Module with 3-axis Encoder/Counter Inputs
-	ET-7284/PET-7284	Ethernet I/O Module with 4-ch DO and 4/8 counter/frequency/encoder inputs

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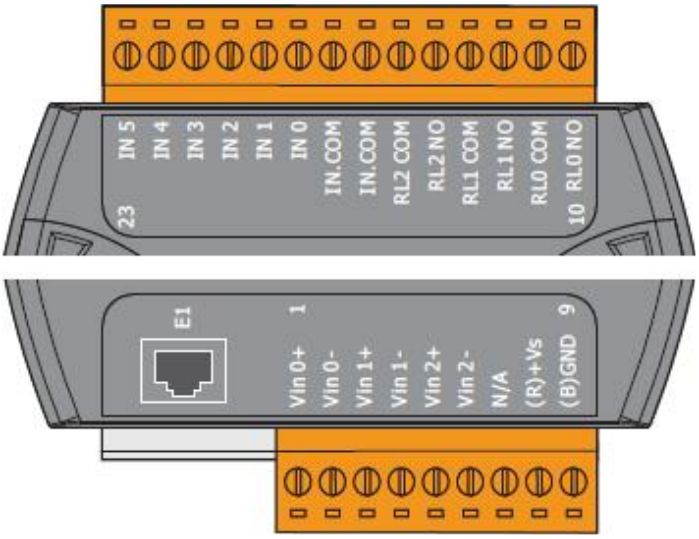
ET-7002/PET-7002/ET-7202/PET-7202

I/O Specifications

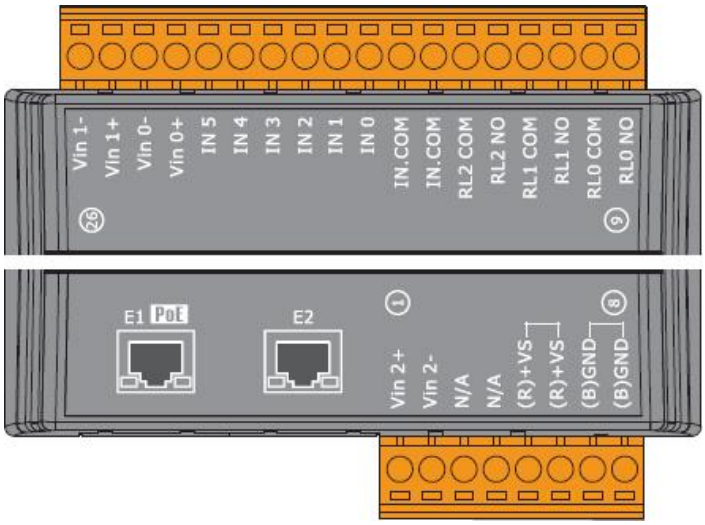
Analog Input		
Channels		3 (Differential)
Type		+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, 0~20 mA, +/-20 mA, 4~20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate	Normal Mode	10 Samples/Sec. (Total)
	Fast Mode	50 Samples/Sec. (Total)
Accuracy	Normal Mode	+/-0.1%
	Fast Mode	+/-0.5% or better
Zero Drift		+/-20 μV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection		240 Vrms
Overcurrent Protection		50 mA Max. at 110 V_{DC}/V_{AC} Max.
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
Common Mode Rejection		86 dB Min.
Normal Mode Rejection		100 dB
Open Wire Detection		Yes, for 4 ~ 20 mA only
Virtual Channel to Channel Isolation		+/-400 V_{DC}
Digital Input/Counter		
Channels		6
Contact		Wet Contact
Sink/Source (NPN/PNP)		Sink/Source
On Voltage Level		+10 V_{DC} ~ +50 V_{DC}
Off Voltage Level		+4V V_{DC} Max.
Input Impedance		10 KΩ, 0.5W
Counter	Max. Count	4,294,967,285 (32-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection		+70 V_{DC}
Power Relay		
Channels		3
Type		Power Relay Form A (SPST N.O.)
Operating Voltage Range		250 V_{AC}/30 V_{DC}
Max. Load Current		5.0 A/Channel at 25°C
Operate Time		6 ms (Typical)
Release Time		3 ms (Typical)
Electrical Life (Resistive load)	VDE	5 A @ 250 V_{AC} 30,000ops (10 ops/minute) at 75°C
		5 A @ 24 V_{DC} 70,000ops (10 ops/minute) at 75°C
	UL	5 A @ 250 V_{AC}/24 V_{DC} 6,000 ops.
		3 A @ 250 V_{AC}/24 V_{DC} 100,000 ops.
Mechanical Life		20,000,000 ops at no load (300 ops/minute)
Intra-module Isolation, Field-to-Logic		3750 V_{DC}
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable

Pin Assignments

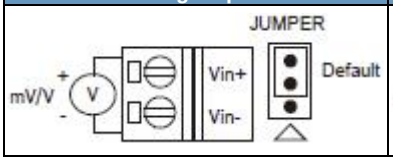
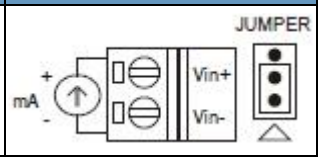
ET-7002/PET-7002



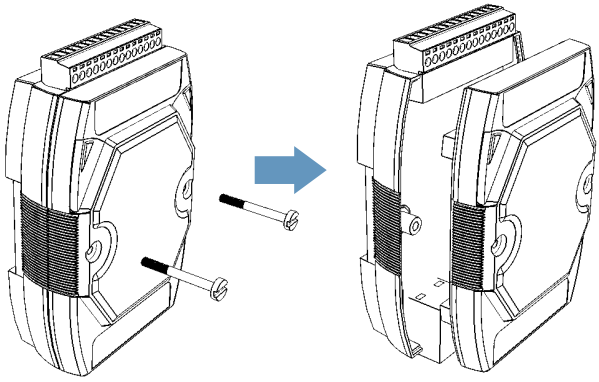
ET-7202/PET-7202



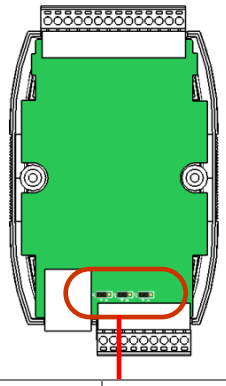
Voltage/Current Input Selection Jumper

Voltage Input	Current Input
	

Remove the top case of the module.

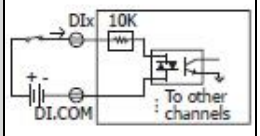
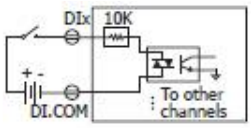
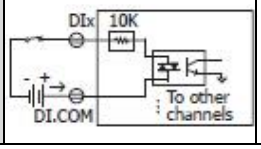
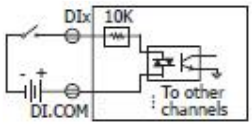


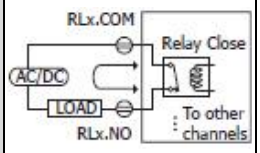
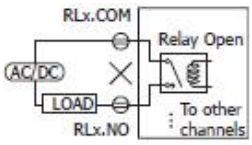
The selection jumpers are next to the connector.



Channel	Vin0±	Vin1±	Vin2±
Jumper	J1	J2	J3

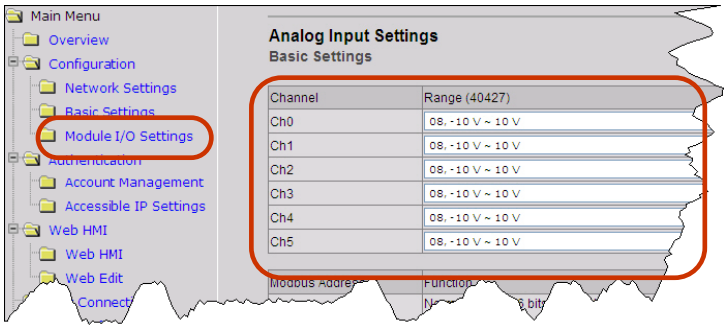
Wire Connections

Digital Input/ Counter	Readback as 1 +10 ~ +50 V_{DC}	Readback as 0 Open or <4 V_{DC}
Sink		
Source		

Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		

Tips & Warnings

The jumper settings of the input type for each AI channel must correspond to the input range for each AI channel.



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Default
DEC	HEX					
00000 : 00002	0000 : 0002	3	DO value	0: Off 1: On	R/W	-
00034 : 00039	0022 : 0027	6	Clear the DI counter value	1: Clear	W	-
00130 : 00135	0082 : 0087	6	Clear the DI latched value	1: Clear	W	-
00162 : 00164	00A2 : 00A4	3	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00196	00C2 : 00C4	3	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00350	015E	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00351 : 00356	015F : 0164	6	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00437	01B3 : 01B5	3	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00517	0203 : 0205	3	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00597	0253 : 0255	3	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00628	0274	1	Set the AI sampling rate	0: Normal mode (10 Hz) 1: Fast mode (50 Hz)	R/W/E	0
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency 50 Hz	R/W/E	0
00630	0276	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00638	027C : 027E	3	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00670	029C : 029E	3	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00702	02BC : 02BE	3	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0

00732 : 00734	02DC : 02DE	3	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00766	02FC : 02FE	3	Clear the AI high alarm status	1: Clear	W	-
00796 : 00798	031C : 031E	3	Clear the AI low alarm status	1: Clear	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10005	0000 : 0005	6	DI value	0: Off 1: On	R
10032 : 10037	0020 : 0025	6	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10069	0040 : 0045	6	Read DI “low latch” status	0: Normal 1: Latched	R
10224 : 10226	00E0 : 00E2	3	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10258	0100 : 0102	3	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30002	0000 : 0002	3	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30032 : 30043	0020 : 002B	6	2	DI counter value	0 to 4294967295	R
30236 : 30238	00EC : 00EE	3	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30270	010C : 010E	3	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30300	012C	1	1	Number of the DI channel	6	R
30310	0136	1	1	Number of the DO channel	3	R
30320	0140	1	1	Number of the AI channel	3	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

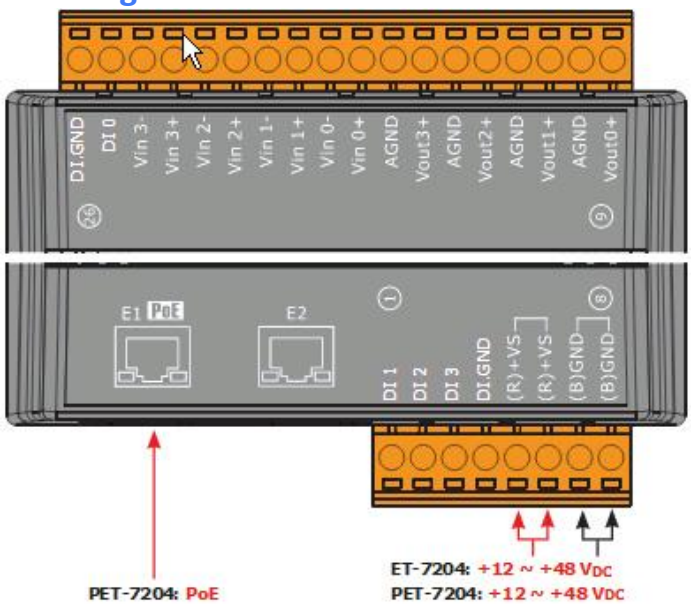
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40200 : 40211	00C8 : 00D3	6	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00630) is changed by a write operation.	0 to 4294967295	R/W	0
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40298	0128 : 012A	3	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40330	0148 : 014A	3	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40427 : 40429	01AB : 01AD	3	1	Set the AI range	0x07: 4~20 mA 0x08: +/-10 V 0x09: +/-5 V 0x0A: +/-1 V 0x0B: +/-500 mV 0x0C: +/-150 mV 0x0D: +/-20 mA 0x1A: 0~20 mA	R/W/E	0x08
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7002	R	-

ET-7204/PET-7204

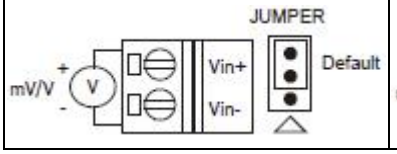
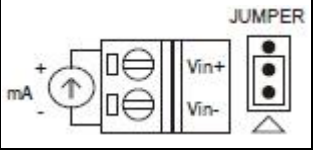
I/O Specifications

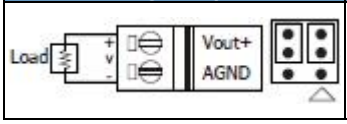
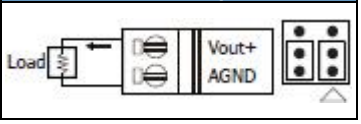
Analog Input		
Channels		4 (Differential)
Type		+/-500 mV, +/-1 V, +/-5 V, +/-10 V, 0 ~ 20 mA, +/-20 mA, 4 ~ 20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate	Normal Mode	10 Samples/Sec. (Total)
	Fast Mode	50 Samples/Sec. (Total)
Accuracy	Normal Mode	+/-0.1%
	Fast Mode	+/-0.5% or better
Zero Drift		+/-20 μV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection		240 Vrms
Overcurrent Protection		50 mA Max. at 110 V_{DC}/V_{AC} Max.
Common Voltage Protection		+/-200 V_{DC}
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
Common Mode Rejection		86 dB Min.
Normal Mode Rejection		100 dB
Virtual Channel to Channel Isolation		400 V_{DC}
Analog Output		
Channels		4
Type		0~5 V, +/-5 V, 0~10 V, +/-10 V, 0 ~ 20 mA, 4 ~ 20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		12-bit
Accuracy		+/-0.1% of FSR
Current Output Capability		20 mA @ 10 V
Current Load Resistance		400 Ω
Open Wire Detection		Yes, for 4 ~ 20 mA only
Power-on Value		Yes
Safe Value		Yes
Digital Input/Counter		
Channels		4
Dry Contact (Source)	On Voltage Level	Close to GND
	Off Voltage Level	Open
	Effective Distance for Dry Contact	500M Max.
Wet Contact (Sink)	On Voltage Level	+1 V_{DC} Max.
	Off Voltage Level	+3.5 V_{DC} ~ +30 V_{DC}
Input Impedance		-
Counter	Max. Count	4,294,967,285 (32-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection		+30 V_{DC}

Pin Assignments



Voltage/Current Input Selection Jumper

Voltage Input	Current Input
	

Voltage Output	Current Output
	

Wire Connections

Digital Input/ Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00034 : 00037	0022 : 0025	4	Clear the DI counter value	1: Clear	W	-
00130 : 00133	0082 : 0085	4	Clear the DI latched value	1: Clear	W	-
00162 : 00165	00A2 : 00A5	4	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00197	00C2 : 00C5	4	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00350	015E	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00351 : 00354	015F : 0162	4	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00595 : 00598	0253 : 0256	4	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00628	0274	1	Set the AI sampling rate	0: Normal mode (10 Hz) 1: Fast mode (50 Hz)	R/W/E	0
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency 50 Hz	R/W/E	0
00630	0276	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-
00631	0277	1	Set the AI/AO data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00639	027C : 027F	4	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00671	029C : 029F	4	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00703	02BC : 02BF	4	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00735	02DC : 02DF	4	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00767	02FC : 02FF	4	Clear the AI high alarm status	1: Clear	W	-
00796 :	031C :	4	Clear the AI high low status	1: Clear	W	-

00799	031F					
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10003	0000 : 0003	4	DI value	0: Off 1: On	R
10032 : 10035	0020 : 0023	4	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10067	0040 : 0043	4	Read DI “low latch” status	0: Normal 1: Latched	R
10224 : 10227	00E0 : 00E3	4	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10269	0100 : 0103	4	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30003	0000 : 0003	4	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30032 : 30039	0020 : 0027	4	2	DI counter value	0 to 4294967295	R
30236 : 30239	00EC : 00EF	4	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30271	010C : 010F	4	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30300	012C	1	1	Number of the DI channel	4	R
30320	0140	1	1	Number of the AI channel	4	R
30330	014A	1	1	Number of the AO channel	4	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40000 : 40003	0000 : 0003	4	1	AO value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W	-
40200 : 40207	00C8 : 00CF	4	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00630) is changed by a write operation.	0 to 4294967295	R/W	0
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40299	0128 : 012B	4	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40331	0148 : 014B	4	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40360 : 40363	0168 : 016B	4	1	Set the power-on value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40392 : 40395	0188 : 018B	4	1	Set the safe value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40427 : 40430	01AB : 01AE	4	1	Set the AI range	0x07: 4~20 mA 0x08: +/-10 V 0x09: +/-5 V 0x0A: +/-1 V 0x0B: +/-500 mV 0x0D: +/-20 mA 0x1A: 0~20 mA	R/W/E	0x08
40459 : 40462	01CB : 01CE	4	1	Set the AO range	0x30: 0~20 mA 0x31: 4~20 mA 0x32: 0~10 V 0x33: +/-10 V 0x34: 0~5 V 0x35: +/-5 V	R/W/E	0x32
40523 : 40526	020B : 020E	4	1	Set the AO slew rate range	0x00: Immediate 0x01: 0.0625 V/sec or 0.125 mA/sec 0x02: 0.125 V/sec or 0.25 mA/sec 0x03: 0.25 V/sec or 0.5 mA/sec 0x04: 0.5 V/sec or 1.0 mA/sec 0x05: 1.0 V/sec or 2.0 mA/sec 0x06: 2.0 V/sec or 4.0 mA/sec 0x07: 4.0 V/sec or 8.0 mA/sec 0x08: 8.0 V/sec or 16 mA/sec 0x09: 16 V/ser or 32 mA/sec 0x0a: 32 V/sec or 64 mA/sec 0x0b: 64 V/sec or 128 mA/sec 0x0c: 128 V/sec or 256 mA/sec 0x0d: 256 V/sec or 512 mA/sec 0x0e: 512 V/sec or 1024 mA/sec 0x0f: 1024 V/sec or 2048 mA/sec	R/W/E	0x00
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module	1 to 32767	R	-

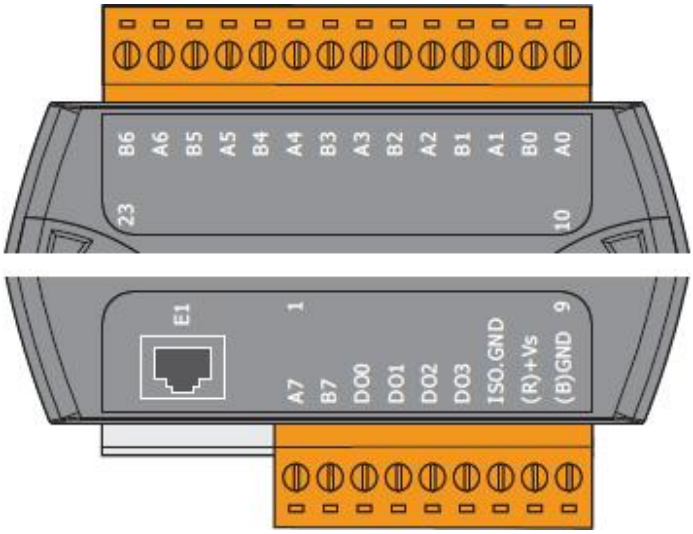
				The factory default value is 0 when the settings are set to the factory default values.			
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7204	R	-

ET-7005/PET-7005

I/O Specifications

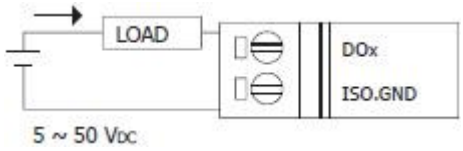
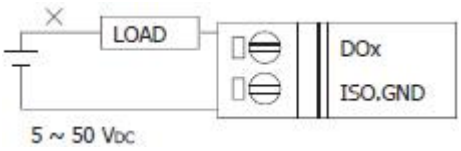
Thermistor Input	
Channels	8 (Differential)
Sensor Type	Precon ST-A3, Fenwell U, YSI L100, YSI L300, YSI L1000, YSI B2252, YSI B3000, YSI B5000, YSI B6000, YSI B10000, YSI H10000, YSI H30000, User-defined
Individual Channel Configuration	Yes
Resolution	16-bit
Sampling Rate	10 Samples/Second (Total)
Accuracy	+/-0.1% or better
Zero Drift	+/-20 μV/°C
Span Drift	+/-25 ppm/°C
Over voltage Protection	110 V_{DC}/V_{AC}
Common Mode Rejection	86 dB
Normal Mode Rejection	100 dB
Open Wire Detection	Yes
Digital Output	
Channels	4
Type	Isolated Open Collector
Sink/Source (NPN/PNP)	Sink
Max. Load Current	700 mA/Channel
Load Voltage	5 V_{DC} ~ 50 V_{DC}
Overvoltage Protection	60 V_{DC}
Overload Protection	1.4 A
Short-circuit Protection	Yes
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments



Wire Connections

Thermistor Input


Digital Output	ON State Readback as 1	ON State Readback as 0
Open Collector (Sink)		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00003	0000 : 0003	4	DO value	0: Off 1: On	R/W	-
00162 : 00169	00A2 : 00A9	8	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00201	00C2 : 00C9	8	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot module	1: Reboot	W	-
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00438	01B3 : 01B6	4	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00518	0203 : 0206	4	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00602	0253 : 025A	8	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00627	0273	1	Set the temperature scale	0: Celsius 1: Fahrenheit	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00643	027C : 0283	8	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00675	029C : 02A3	8	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00707	02BC : 02C3	8	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00739	02DC : 02E3	8	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00771	02FC : 0303	8	Clear the AI high alarm status	1: Clear	W	-
00796 : 00803	031C : 0323	8	Clear the AI low alarm status	1: Clear	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Active	W	-
00832	0340	1	Span calibration for the channel 0	1: Active	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10224 : 10231	00E0 : 00E7	8	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10263	0100 : 0107	8	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30007	0000 : 0007	8	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30236 : 30243	00EC : 00F3	8	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30275	010C : 0113	8	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30310	0136	1	1	Number of the DO channel	4	R
30320	0140	1	1	Number of the AI channel	8	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40110 : 40117	006E : 0075	8	1	Set the AI temperature offset value	-128 to 127	R/W/E	0
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40303	0128 : 012F	8	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40335	0148 : 014F	8	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-4096 (0xF000)
40427 : 40434	01AB : 01B2	8	1	Set the AI range	0x60: PreCon Type III 10K@25°C, -30°F ~ 240°F 0x61: Fenwell Type U 2K@25°C, -50°C ~ 150°C 0x62: Fenwell Type U 2K@25°C, 0°C ~ 150°C 0x63: YSI L Mix 100@25°C, -80°C ~ 100°C 0x64: YSI L Mix 300@25°C, -80°C ~ 100°C 0x65: YSI L Mix 1000@25°C, -70°C ~ 100°C 0x66: YSI B Mix 2252@25°C, -50°C ~ 150°C 0x67: YSI B Mix 3000@25°C, -40°C ~ 150°C 0x68: YSI B Mix 5000@25°C, -40°C ~ 150°C 0x69: YSI B Mix 6000@25°C, -30°C ~ 150°C 0x6A: YSI B Mix 10000@25°C, -30°C ~ 150°C 0x6B: YSI H Mix 10000@25°C, -30°C ~ 150°C 0x6C: YSI H Mix 30000@25°C, -10°C ~ 200°C 0x70 to 0x77: User-defined, -50°C ~ 150°C	R/W/E	0x60
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7005	R	-
40590 : 40605	024E : 025D	8	2	Set the AI Steinhart-hart coefficient A of user-defined type (0x70 to 0x77)	Steinhart-hart coefficient in IEEE-754 format	R/W/E	0
40622 : 40637	026E : 027D	8	2	Set the AI Steinhart-hart coefficient B of user-defined type (0x70 to 0x77)	Steinhart-hart coefficient in IEEE-754 format	R/W/E	0
40654 : 40669	028E : 029D	8	2	Set the AI Steinhart-hart coefficient C of user-defined type (0x70 to 0x77)	Steinhart-hart coefficient in IEEE-754 format	R/W/E	0

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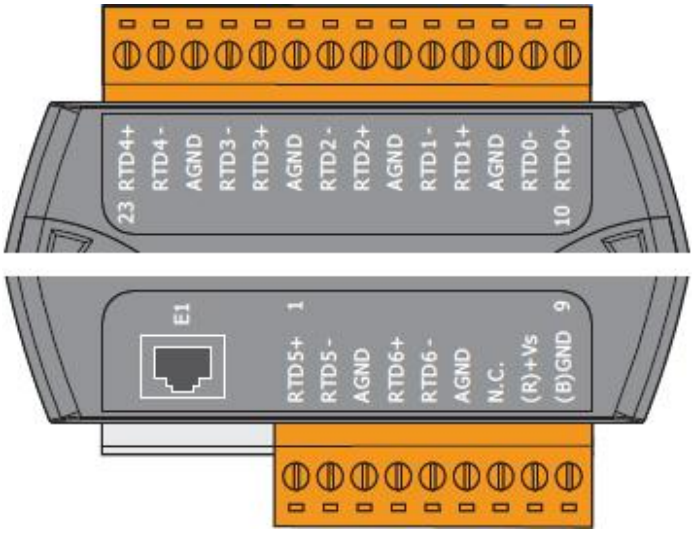
ET-7015/PET-7015/ET-7215/PET-7215

I/O Specifications

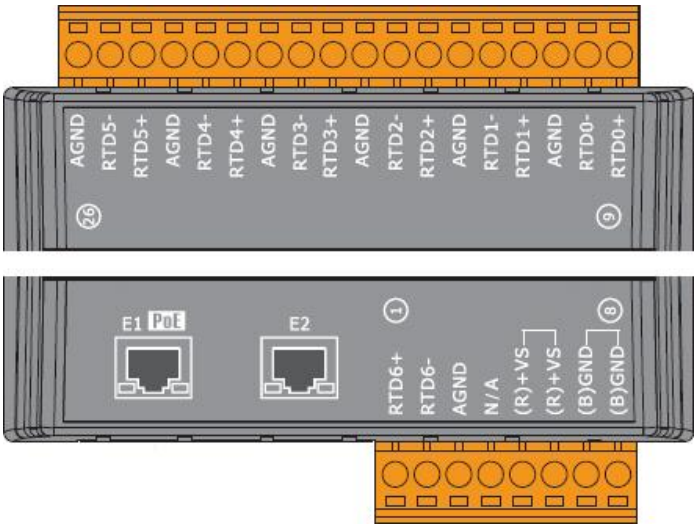
RTD Input	
Channels	7 (Differential)
Sensor Type	Pt100, Pt1000, Ni120, Cu100, Cu1000
Wire Connection	2/3 wire
Individual Channel Configuration	Yes
Resolution	16-bit
Sampling Rate	12 Samples/Second (Total)
Accuracy	+/-0.05%
Zero Drift	+/-0.5 μV/°C
Span Drift	+/-20 μV/°C
Common Mode Rejection	150 dB
Normal Mode Rejection	100 dB
Input Impedance	>1 MΩ
Open Wire Detection	Yes
3-wire RTD Lead Resistance Elimination	Yes
Overvoltage Protection	120V_{DC}
Resistance Measurement	3.2 KΩ Max.

Pin Assignments

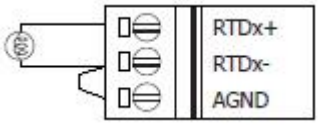
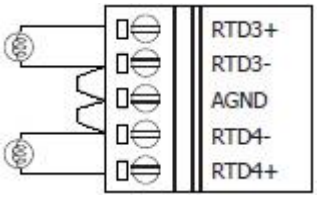
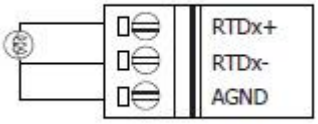
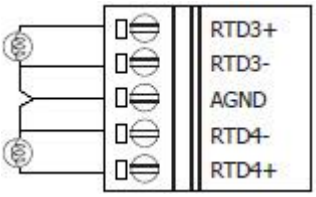
ET-7015/PET-7015



ET-7215/PET-7215



Wire Connections

RTD Input	CH0 1, 2, 5 and 6	CH3 and CH4
2-wire of RTD		
3-wire of RTD		

Tips & Warnings

- Use 26-12 AWG wire for signal connections
- Strip the wire to a length of 7±0.5mm
- Use a crimp terminal for wiring
- Avoid high-voltage cables and power equipment as much as possible
- Use shielded wire and connect the shielding to the Ax terminal of the channel

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00595 : 00601	0253 : 0259	7	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency: 50 Hz	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-
00833	0341	1	Zero calibration for the channel 1	1: Set	W	-
00834	0342	1	Span calibration for the channel 1	1: Set	W	-
00835	0343	1	Zero calibration for the channel 2	1: Set	W	-
00836	0344	1	Span calibration for the channel 2	1: Set	W	-
00837	0345	1	Zero calibration for the channel 3	1: Set	W	-
00838	0346	1	Span calibration for the channel 3	1: Set	W	-
00839	0347	1	Zero calibration for the channel 4	1: Set	W	-
00840	0348	1	Span calibration for the channel 4	1: Set	W	-
00841	0349	1	Zero calibration for the channel 5	1: Set	W	-
00842	034A	1	Span calibration for the channel 5	1: Set	W	-
00843	034B	1	Zero calibration for the channel 6	1: Set	W	-
00844	034C	1	Span calibration for the channel 6	1: Set	W	-

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30006	0000 : 0006	7	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30320	0140	1	1	Number of the AI channel	7	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R

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Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40110 : 40116	006E : 0074	7	1	Set the AI temperature offset value	-128 to 127	R/W/E	0
40142 : 40148	008E : 0094	7	1	Set the AI resistance offset value	0 to 255	R/W/E	0
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40427 : 40433	01AB : 01B1	7	1	Set the AI range	0x20: Platinum 100, α=0.00385, -100°C ~ 100°C 0x21: Platinum 100, α=0.00385, 0°C ~ 100°C 0x22: Platinum 100, α=0.00385, 0°C ~ 200°C 0x23: Platinum 100, α=0.00385, 0°C ~ 600°C 0x24: Platinum 100, α=0.003916, -100°C ~ 100°C 0x25: Platinum 100, α=0. 003916, 0°C ~ 100°C 0x26: Platinum 100, α=0. 003916, 0°C ~ 200°C 0x27: Platinum 100, α=0. 003916, 0°C ~ 600°C 0x28: Nickel 120, -80°C ~ 100°C 0x29: Nickel 120, 0°C ~ 100°C 0x2A: Platinum 1000, α=0. 00385, -200°C ~ 600°C 0x2B: Cu 100 @ 0°C, α=0. 00421, -20°C ~ 150°C 0x2C: Cu 100 @ 25°C, α=0. 00427, 0°C ~ 200°C 0x2D: Cu 1000 @ 0°C, α=0. 00421, -20°C ~ 150°C 0x2E: Platinum 100, α=0. 00385, -200°C ~ 200°C 0x2F: Platinum 100, α=0. 003916, -200°C ~ 200°C 0x80: Platinum 100, α=0. 00385, -200°C ~ 600°C 0x81: Platinum 100, α=0. 003916, -200°C ~ 600°C 0x82: Cu 50 @ 0°C, -50°C ~ 150°C 0x83: Nickel 100, -60°C ~ 180°C	R/W/E	0x20
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40559	022F	1	1	Read the module name	0x7015	R	-

ET-7016/PET-7016

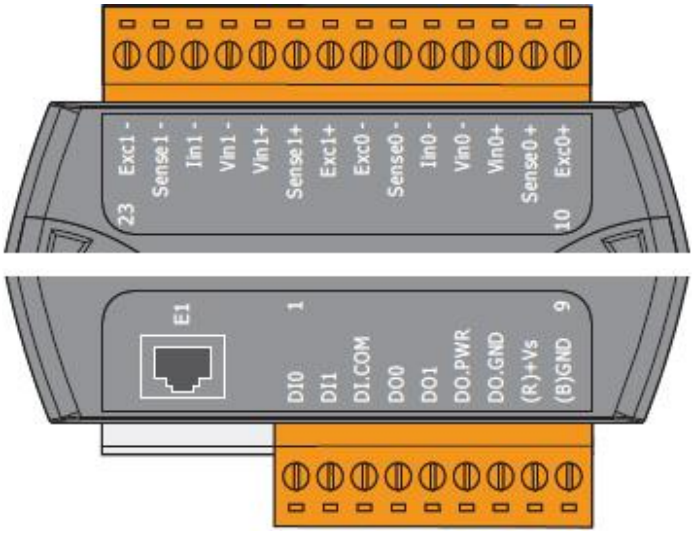
I/O Specifications

Strain Gauge Input		
Channels		2 (Differential)
Type		+/-15 mV, +/-50 mV, +/-100 mV, +/-500 mV, +/-1 V, +/-2.5 V, 0~20 mA, +/-20 mA, 4~20 mA
Strain Gauge Type		Full-Bridge, Half-Bridge and Quarter-Bridge
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate		10 Samples/Second (Total)
Accuracy		+/-0.05%
Zero Drift		+/-0.5 uV/°C
Span Drift		+/-25 ppm/°C
Over voltage Protection		30 V_{DC}
Input Impedance	Voltage	>400 KΩ
	Current	124 Ω
Common Mode Rejection		150 dB Min.
Normal Mode Rejection		100 dB
Excitation Voltage Output		
Channels		1
Output Range		0 ~ 10V
Max. Output Load Current		60 mA
Accuracy		+/-0.05% of FSR
Drift		+/-50 ppm/°C
Power-on Value		Yes
Digital Input/Counter		
Channels		2
Type		Wet Contact
Sink/Source (NPN/PNP)		Sink/Source
On Voltage Level		+3.5 V_{DC} ~ +50 V_{DC}
Off Voltage Level		+1V V_{DC} Max.
Counter	Max. Count	4,294,967,285 (32-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection		+70 V_{DC}
Digital Output		
Channels		2
Type		Isolated Open Collector (Sink)
Sink/Source (NPN/PNP)		Sink
Max. Load Current		700 mA/Channel
Load Voltage		5 V_{DC} ~ 50 V_{DC}
Overvoltage Protection		60 V_{DC}
Overload Protection		1.4 A
Short-circuit Protection		Yes
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable

Excitation Voltage

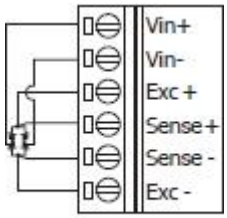
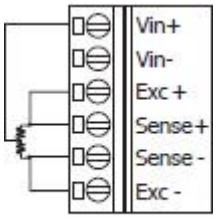
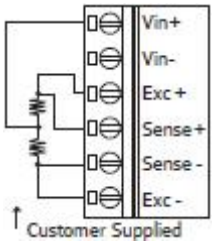
Strain Gauge	Quarter-Bridge	Half-Bridge	Full-Bridge
120R	7.0V	7.0V	3.5V
350R	10V	10V	10V

Pin Assignments

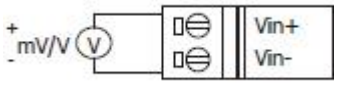
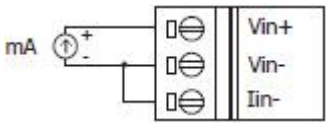


Wire Connections

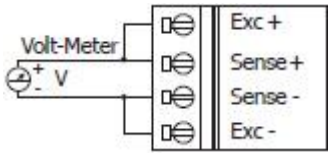
Bridge Sensor/Load Cell/Strain Gauge

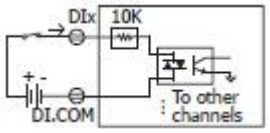
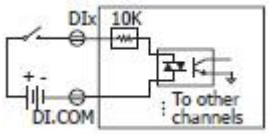
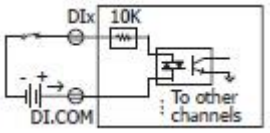
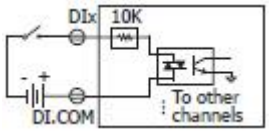
Full Bridge	Half Bridge	Quarter Bridge
		

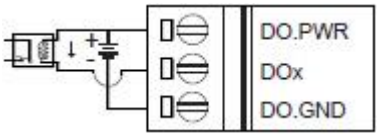
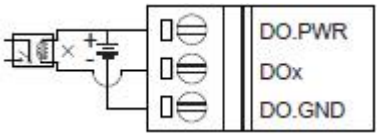
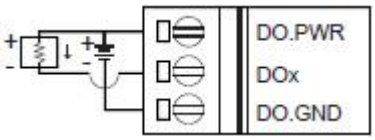
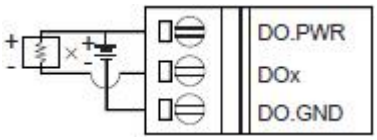
Analog Input

Voltage Input	Current Input
	

Excitation Voltage Output



Digital Input/ Counter	Readback as 1	Readback as 0
	+10 ~ +50 V_{DC}	Open or <1 V_{DC}
Sink		
Source		

Digital Output	ON State Readback as 1	OFF State Readback as 0
Drive Relay		
Resistance Load		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Default
DEC	HEX					
00000 : 00001	0000 : 0001	2	DO value	0: Off 1: On	R/W	-
00034 : 00035	0022 : 0023	2	Clear the DI counter value	1: Clear	W	-
00130 : 00131	0082 : 0083	2	Clear the DI latched value	1: Clear	W	-
00162 : 00163	00A2 : 00A3	2	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00195	00C2 : 00C3	2	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00341 : 00342	0155 : 0156	2	Set the strain gauge input type	0: Full-bridge 1: Half-bridge/Quarter-bridge	R/W/E	0
00343 : 00344	0157 : 0158	2	Enable/Disable the start-up voltage output	0: Disable 1: Enable	R/W/E	0
00345 : 00346	0159 : 016A	2	Enable/Disable the linear mapping	0: Disable 1: Enable	R/W/E	0
00350	015E	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00351 : 00352	015F : 0160	2	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00436	01B3 : 01B4	2	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00516	0203 : 0204	2	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00596	0253 : 0254	2	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency 50 Hz	R/W/E	0
00630	0276	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-
00631	0277	1	Set the AI/AO data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-

00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00637	027C : 027D	2	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00669	029C : 029D	2	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00701	02BC : 02BD	2	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00733	02DC : 02DD	2	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00765	02FC : 02FD	2	Clear the AI high alarm status	1: Clear	W	-
00796 : 00797	031C : 031D	2	Clear the AI low alarm status	1: Clear	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10001	0000 : 0001	2	DI value	0: Off 1: On	R
10032 : 10033	0020 : 0021	2	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10065	0040 : 0041	2	Read DI “low latch” status	0: Normal 1: Latched	R
10224 : 10225	00E0 : 00E1	2	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10257	0100 : 0101	2	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30001	0000 : 0001	2	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30032 : 30035	0020 : 0023	2	2	DI counter value	0 to 4294967295	R
30236 : 30237	00EC : 00ED	2	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30269	010C : 010D	2	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30300	012C	1	1	Number of the DI channel	6	R
30310	0136	1	1	Number of the DO channel	3	R
30320	0140	1	1	Number of the AI channel	3	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40000 : 40001	0000 : 0001	2	1	Set the excitation voltage output	-32768 to 32767 (0x0000 to 0xFFFF)	R/W	-
40200 : 40203	00C8 : 00CB	2	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00630) is changed by a write operation.	0 to 4294967295	R/W	0
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40297	0128 : 0129	2	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40329	0148 : 0149	2	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40360 : 40361	0168 : 0169	2	1	Set the start-up excitation voltage	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40427 : 40428	01AB : 01AC	2	1	Set the strain gauge input range	0x00: +/-15 mV 0x01: +/-50 mV 0x02: +/-100 mV 0x03: +/-500 mV 0x04: +/-1 V 0x05: +/-2.5 V 0x06: +/-20 mA 0x07: 4 ~ 20 mA 0x1A: 0 ~ 20 mA	R/W/E	0x05
40461	01CD	1	1	Set the source low value for the channel 0	-32768 to 32767	R/W/E	0

					(0x0000 to 0xFFFF)		
40462	01CE	1	1	Set the source high value for the channel 0	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40463	01CF	1	1	Set the target low value for the channel 0	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40464	01D0	1	1	Set the target high value for the channel 0	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40465	01D1	1	1	Set the source low value for the channel 1	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40466	01D2	1	1	Set the source high value for the channel 1	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40467	01D3	1	1	Set the target low value for the channel 1	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40468	01D4	1	1	Set the target high value for the channel 1	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7016	R	-

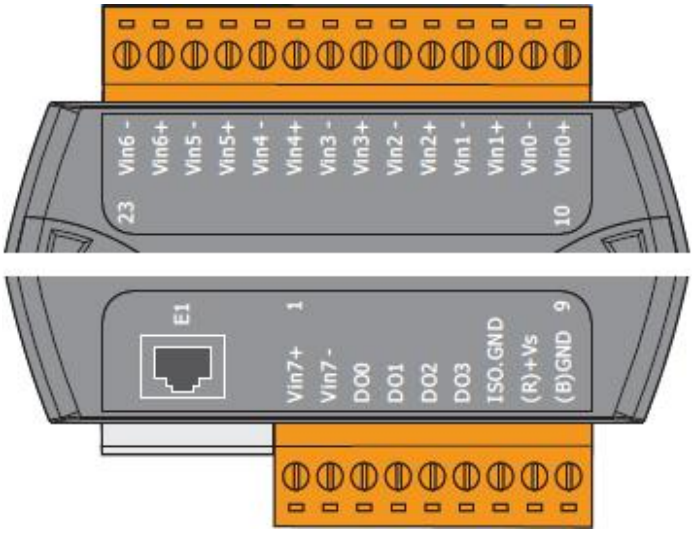
ET-7017/PET-7017/ET-7217/PET-7217

I/O Specifications

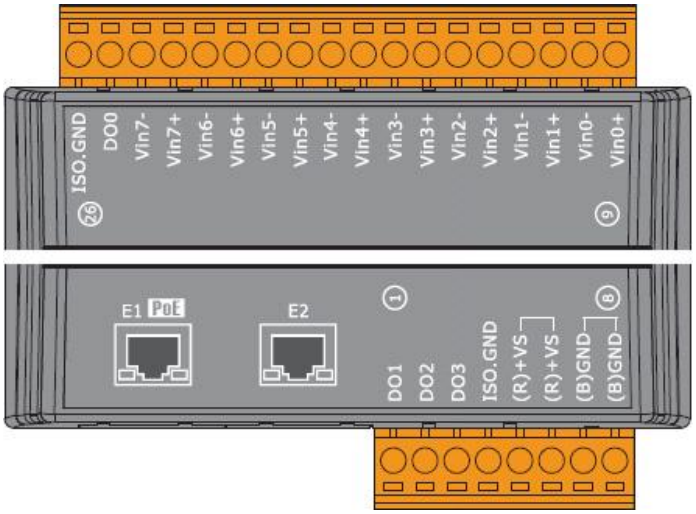
Analog Input		
Channels		8 (Differential)
Type		+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, 0~20 mA, +/-20 mA, 4~20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate	Normal Mode	10 Samples/Sec. (Total)
	Fast Mode	50 Samples/Sec. (Total)
Accuracy	Normal Mode	+/-0.1%
	Fast Mode	+/-0.5% or better
Zero Drift		+/-20 μV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection		240 Vrms
Common Voltage Protection		+/-200 V_{DC}
Overcurrent Protection		Yes, 50 mA at 110 V_{DC}
Open Wire Detection		Yes, for 4~20 mA only
Virtual Channel to Channel Isolation		Yes, 400 V_{DC}
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
Common Mode Rejection		86 dB Min.
Normal Mode Rejection		100 dB
Digital Output		
Channels		4
Type		Isolated Open Collector
Sink/Source (NPN/PNP)		Sink
Max. Load Current		700 mA/Channel
Load Voltage		5 V_{DC} ~ 50 V_{DC}
Overvoltage Protection		60 V_{DC}
Overload Protection		1.4 A
Short-circuit Protection		Yes
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable

Pin Assignments

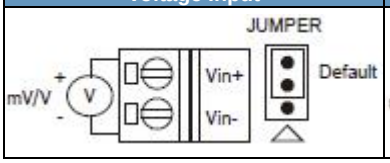
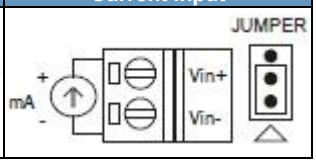
ET-7017/PET-7017



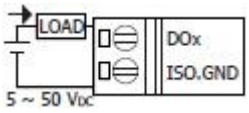
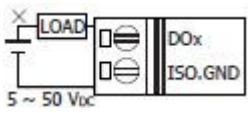
ET-7217/PET-7217



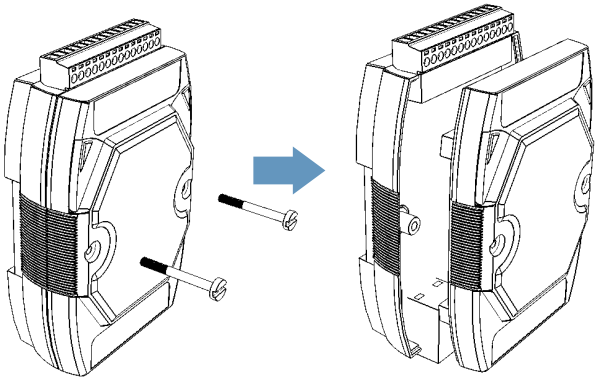
Voltage/Current Input Selection Jumper

Voltage Input	Current Input
	

Wire Connections

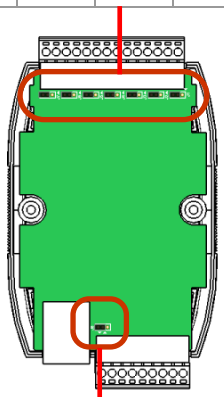
Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Remove the top case of the module



The selection jumpers are next to the connector.

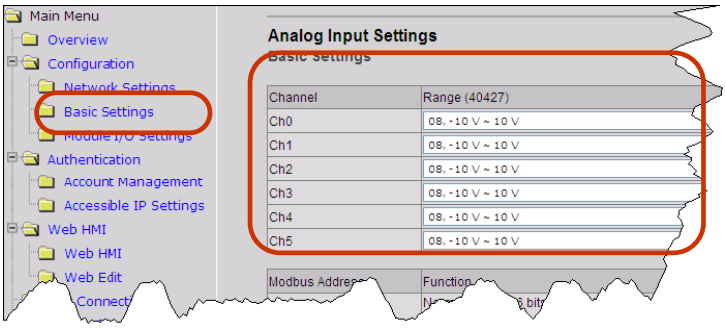
Channel	Vin6±	Vin5±	Vin4±	Vin3±	Vin2±	Vin1±	Vin0±
Jumper	J7	J6	J5	J4	J3	J2	J1



Channel	Vin7±
Jumper	J8

Tips & Warnings

The jumper settings of the input type for each AI channel must correspond to the input range for each AI channel.



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00003	0000 : 0003	4	DO value	0: Off 1: On	R/W	-
00162 : 00169	00A2 : 00A9	8	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00201	00C2 : 00C9	8	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00438	01B3 : 01B6	4	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00518	0203 : 0206	4	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00602	0253 : 025A	8	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00628	0274	1	Set the AI sampling rate	0: Normal mode (10 Hz) 1: Fast mode (50 Hz)	R/W/E	0
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency: 50 Hz	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00643	027C : 0283	8	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00675	029C : 02A3	8	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00707	02BC : 02C3	8	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00739	02DC : 02E3	8	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00771	02FC : 0303	8	Clear the AI high alarm status	1: Clear	W	-
00796 : 00803	031C : 0323	8	Clear the AI low alarm status	1: Clear	W	-

00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10224 : 10231	00E0 : 00E7	8	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10263	0100 : 0107	8	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30007	0000 : 0007	8	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30236 : 30243	00EC : 00F3	8	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30275	010C : 0113	8	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30310	0136	1	1	Number of the DO channel	4	R
30320	0140	1	1	Number of the AI channel	8	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40303	0128 : 012F	8	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40335	0148 : 014F	8	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40427 : 40434	01AB : 01B2	8	1	Set the AI range	0x07: 4 ~ 20 mA 0x08: +/-10 V 0x09: +/-5 V 0x0A: +/-1 V 0x0B: +/-500 mV 0x0C: +/-150 mV 0x0D: +/-20 mA 0x1A: 0~20 mA	R/W/E	0x08
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7017	R	-

ET-7217RMS/PET-7217RMS

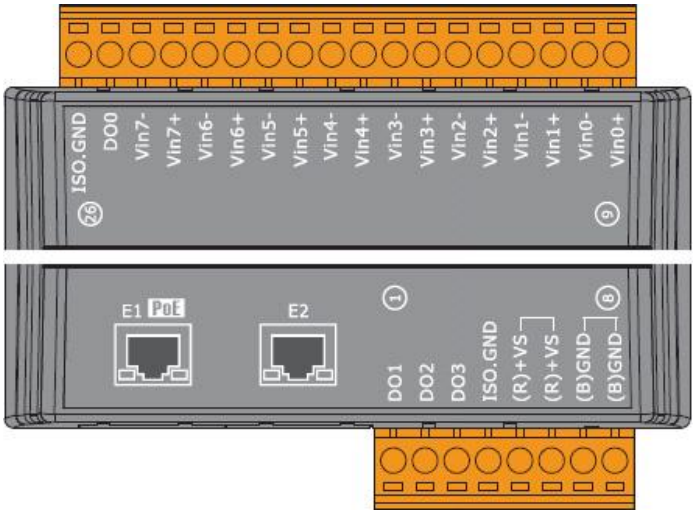
I/O Specifications

Analog Input		
Channels		8 (Differential)
Type		0~150 mVrms, 0~500 mVrms, 0~1 Vrms 0~5 Vrms, 0~10 Vrms
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate		10 Samples/Sec. (Total)
Accuracy	Sinusoid	
	50/60 Hz	+/-0.15% of FSR
	45 Hz to 10 KHz	+/-0.5% of FSR
	Non-Sinusoid	
	Crest Factor = 1 to 2	+/-0.2% of FSR
	Crest Factor = 2 to 3	+/-0.35% of FSR
	DC	
	0 ~ +10 Vrms 0 ~ +5 Vrms 0 ~ 1 Vrms	+/-0.3% of FSR
	Other	+/-0.7% of FSR
-3dB Bandwidth		15.7 Hz
Zero Drift		+/-20 μV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection		+/35 Vrms / +/-28 V_{DC}
Input Impedance		> 2 MΩ
Common Mode Rejection		86 dB Min.
Normal Mode Rejection		100 dB

Digital Output	
Channels	4
Type	Isolated Open Collector
Sink/Source (NPN/PNP)	Sink
Max. Load Current	700 mA/Channel
Load Voltage	5 V_{DC} ~ 50 V_{DC}
Overvoltage Protection	60 V_{DC}
Overload Protection	1.4 A
Short-circuit Protection	Yes
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

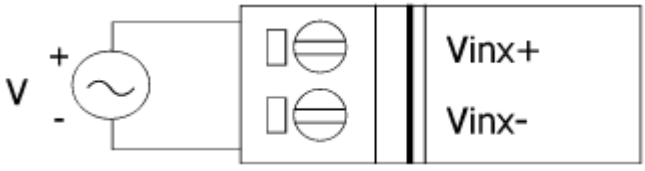
Pin Assignments

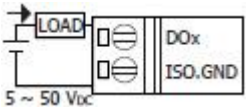
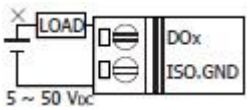
ET-7217RMS/PET-7217RMS



Wire Connections

Voltage Input



Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00003	0000 : 0003	4	DO value	0: Off 1: On	R/W	-
00162 : 00169	00A2 : 00A9	8	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00201	00C2 : 00C9	8	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00438	01B3 : 01B6	4	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00518	0203 : 0206	4	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00602	0253 : 025A	8	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency: 50 Hz	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00643	027C : 0283	8	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00675	029C : 02A3	8	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00707	02BC : 02C3	8	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00739	02DC : 02E3	8	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00771	02FC : 0303	8	Clear the AI high alarm status	1: Clear	W	-
00796 : 00803	031C : 0323	8	Clear the AI low alarm status	1: Clear	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-

00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10224 : 10231	00E0 : 00E7	8	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10263	0100 : 0107	8	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30007	0000 : 0007	8	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30236 : 30243	00EC : 00F3	8	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30275	010C : 0113	8	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30310	0136	1	1	Number of the DO channel	4	R
30320	0140	1	1	Number of the AI channel	8	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40303	0128 : 012F	8	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40335	0148 : 014F	8	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40427 : 40434	01AB : 01B2	8	1	Set the AI range	0x08: +/-10 V 0x09: +/-5 V 0x0A: +/-1 V 0x0B: +/-500 mV 0x0C: +/-150 mV	R/W/E	0x08
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7217	R	-

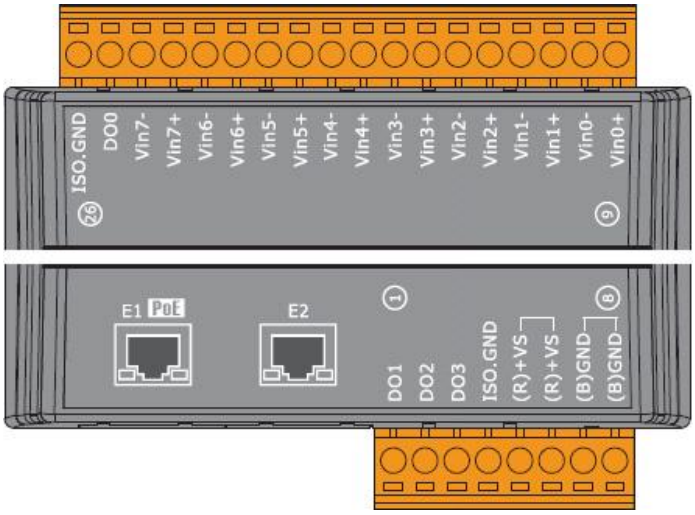
ET-7217-A5/PET-7217-A5

I/O Specifications

Analog Input		
Channels		8 (Differential)
Type		+/-50 V and +/-150 V
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate	Normal Mode	10Hz (Total channels)
	Fast Mode	50Hz (Total channels)
Accuracy	Normal Mode	+/-0.1%
	Fast Mode	+/-0.5% or better
Common Voltage Protection		+/- 200 V_{DC}
Overvoltage Protection		+/- 200 V_{DC}
Input Impedance		290 kΩ
Virtual Channel to Channel Isolation		+/- 400 V_{DC}
Digital Output		
Channels		4
Type		Isolated Open Collector
Sink/Source (NPN/PNP)		Sink
Max. Load Current		700 mA/Channel
Load Voltage		+5 V_{DC} ~ +50 V_{DC}
Overvoltage Protection		60 V_{DC}
Overload Protection		1.4 A
Short-circuit Protection		Yes
Power-on Value		Programmable
Safe Value		Programmable

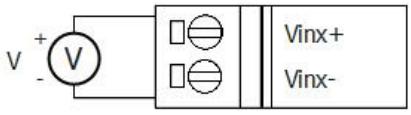
Pin Assignments

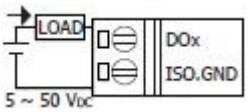
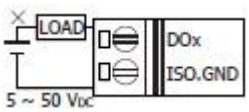
ET-7217-A5/PET-7217-A5



Wire Connections

Voltage Input



Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00003	0000 : 0003	4	DO value	0: Off 1: On	R/W	-
00162 : 00169	00A2 : 00A9	8	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00201	00C2 : 00C9	8	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00438	01B3 : 01B6	4	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00518	0203 : 0206	4	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00602	0253 : 025A	8	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency: 50 Hz	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00643	027C : 0283	8	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00675	029C : 02A3	8	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00707	02BC : 02C3	8	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00739	02DC : 02E3	8	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00771	02FC : 0303	8	Clear the AI high alarm status	1: Clear	W	-
00796 : 00803	031C : 0323	8	Clear the AI low alarm status	1: Clear	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-

00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10224 : 10231	00E0 : 00E7	8	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10263	0100 : 0107	8	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30007	0000 : 0007	8	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30236 : 30243	00EC : 00F3	8	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30275	010C : 0113	8	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30310	0136	1	1	Number of the DO channel	4	R
30320	0140	1	1	Number of the AI channel	8	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40303	0128 : 012F	8	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40335	0148 : 014F	8	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40427 : 40434	01AB : 01B2	8	1	Set the AI range	0x1B: +/-150 V 0x1C: +/-50 V	R/W/E	0x1B
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7217	R	-

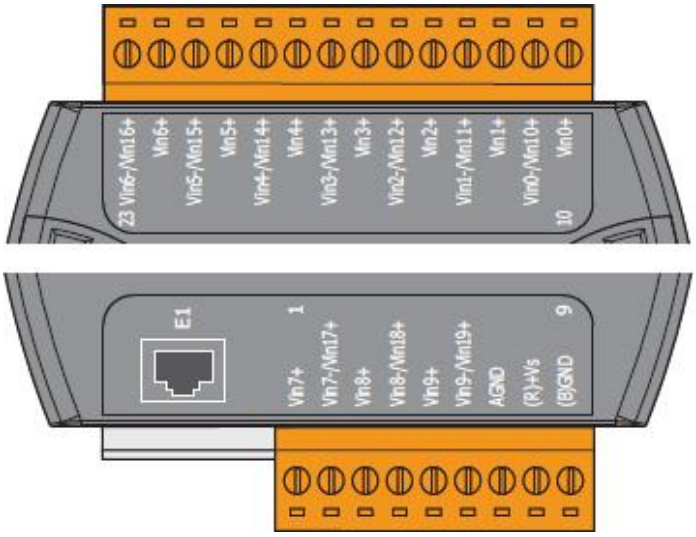
ET-7017-10/PET-7017-10/ET-7217-10/PET-7217-10

I/O Specifications

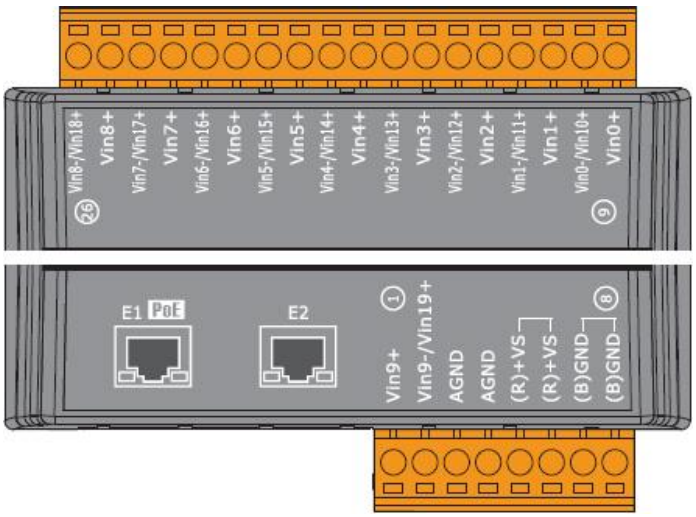
Analog Input		
Channels		10 differential or 20 single-ended (Note) (software selectable)
Type		+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, 0~20 mA, +/-20 mA, 4~20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate	Normal Mode	10 Samples/Sec. (Total)
	Fast Mode	50 Samples/Sec. (Total)
Accuracy	Normal Mode	+/-0.1%
	Fast Mode	+/-0.5% or better
Zero Drift		+/-20 μV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection	Differential	240 Vrms
	Single-ended	150 Vrms
Common Voltage Protection		+/-200 V_{DC}
Overcurrent Protection		Yes, 50 mA at 110 V_{DC}
Virtual Channel to Channel Isolation		Yes, 400 V_{DC}
Open Wire Detection for 4~20 mA		Yes
Input Impedance	Voltage	2 MΩ (Differential), 1 MΩ (Single-ended)
	Current	125 Ω
Common Mode Rejection		86 dB Min.
Normal Mode Rejection		100 dB
Note: Differential mode can be used for voltage input and current input. Single-ended mode can be used for voltage input only.		

Pin Assignments

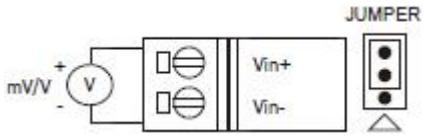
ET-7017-10/PET-7017-10

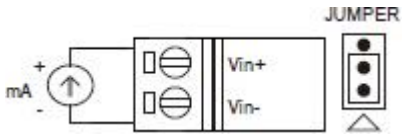


ET-7217-10/PET-7217-10

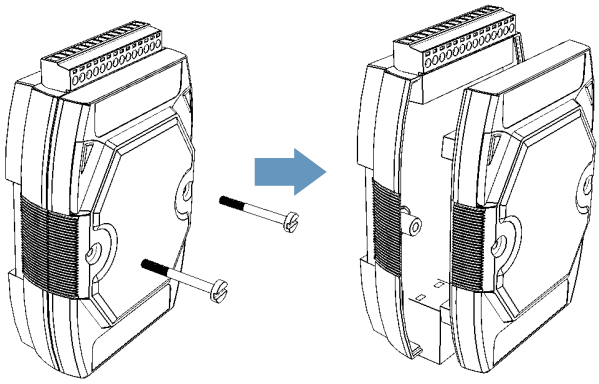


Voltage/Current Input Selection Jumper

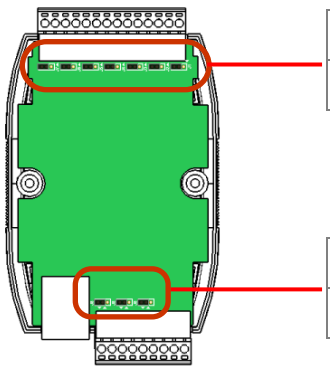
Voltage Input (Differential Mode)	Voltage Input (Single-ended Mode)
	

Current Input


Remove the top case of the module



The selection jumpers are next to the connector

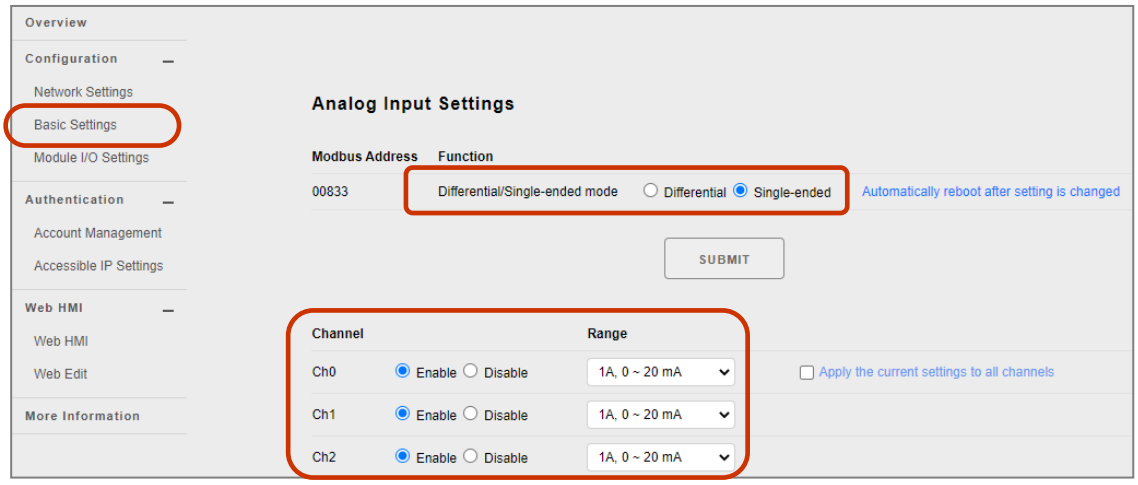


Channel	Vin6±	Vin5±	Vin4±	Vin3±	Vin2±	Vin1±	Vin0±
Jumper	J7	J6	J5	J4	J3	J2	J1

Channel	Vin7±	Vin8±	Vin9±
Jumper	J8	J9	J10

Tips & Warnings

The jumper settings of the input type for each AI channel must correspond to the input range for each AI channel.



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Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00162 : 00181	00A2 : 00B5	20	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00213	00C2 : 00D5	20	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00595 : 00614	0253 : 0266	20	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00628	0274	1	Set the AI sampling rate	0: Normal mode (10 Hz) 1: Fast mode (50 Hz)	R/W/E	0
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency 50 Hz	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00655	027C : 028F	20	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00687	029C : 02AF	20	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00719	02BC : 02CF	20	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00751	02DC : 02EF	20	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00783	02FC : 030F	20	Clear the AI high alarm status	1: Clear	W	-
00796 : 00815	031C : 032F	20	Clear the AI low alarm status	1: Clear	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-
00833	0341	1	Set the AI mode	0: Differential 1: Single-ended	R/W/E	0

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10224 : 10243	00E0 : 00F3	20	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10275	0100 : 0113	20	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30019	0000 : 0013	20	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30236 : 30255	00EC : 00FF	20	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30287	010C : 011F	20	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30320	0140	1	1	Number of the AI channel	10/20	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40315	0128 : 013B	20	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40347	0148 : 015B	20	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40427 : 40446	01AB : 01BF	20	1	Set the AI range	0x07: 4 ~ 20 mA 0x08: +/-10 V 0x09: +/-5 V 0x0A: +/-1 V 0x0B: +/-500 mV 0x0C: +/-150 mV 0x0D: +/-20 mA 0x1A: 0~20 mA	R/W/E	0x08
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40559	022F	1	1	Read the module name	0x7017	R	-

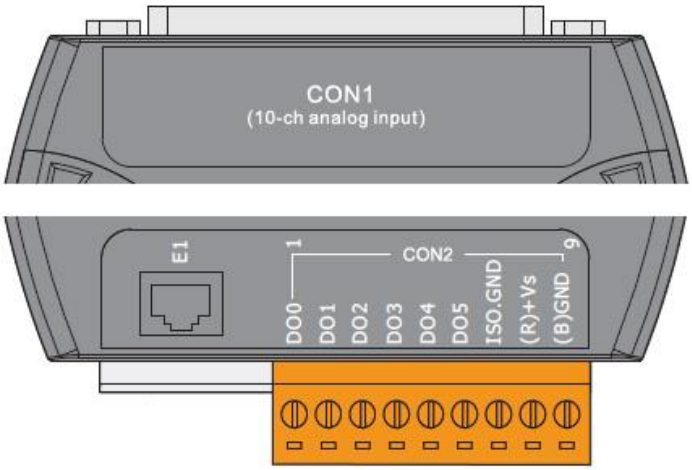
ET-7018Z/PET-7018Z/ET-7218Z/PET-7218Z

I/O Specifications

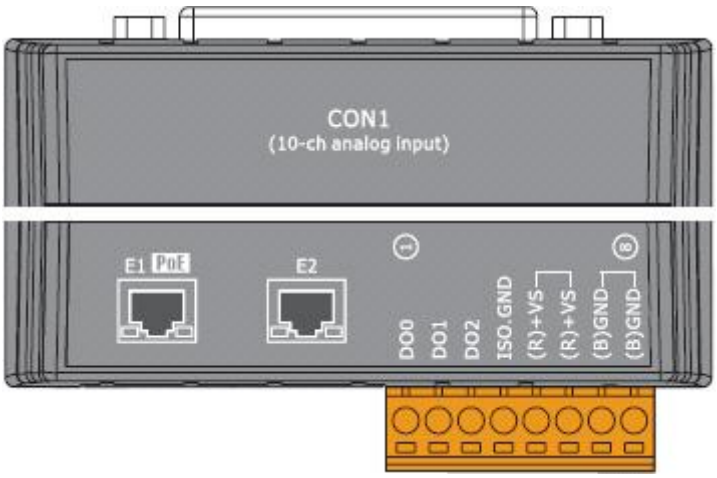
Analog Input	
Channels	10 (Differential)
Type	+/-15 mV, +/-50 mV, +/-100 mV, +/-500 mV, +/-1 V, +/-2.5 V
	+/-20 mA, 0~20 mA, 4~20 mA (Requires Optional External 125 Ω Resistor)
	Thermocouple (J, K, T, E, R, S, B, N, C, L, M and LDIN43710)
Individual Channel Configuration	Yes
Resolution	16-bit
Sampling Rate	10 Samples/Second (Total)
Accuracy	+/-0.1% of FSR or better
Zero Drift	+/-0.5 μV/°C
Span Drift	+/-25 ppm/°C
Overvoltage Protection	240 Vrms
Input Impedance	>300 KΩ
Common Mode Rejection	150 dB Min.
Normal Mode Rejection	100 dB
Temperature Output Consistency	Yes
Stable Temperature Output in the Field	Yes
Open Wire Detection	Yes
Virtual Channel to Channel Isolation	Yes, +/-400 V_{DC}
Digital Output	
Channels	6/3
Type	Isolated Open Collector
Sink/Source (NPN/PNP)	Sink
Max. Load Current	700 mA/Channel
Load Voltage	5 V_{DC}~50 V_{DC}
Overvoltage Protection	60 V_{DC}
Overload Protection	1.4 A
Short-circuit Protection	Yes
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments

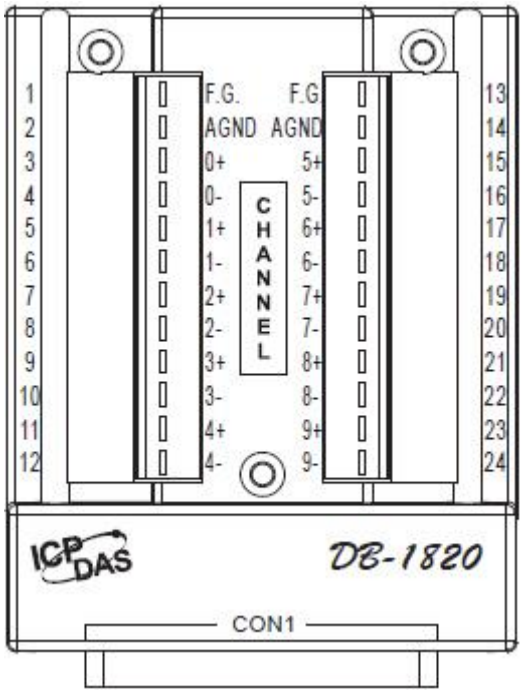
ET-7018Z/PET-7018Z



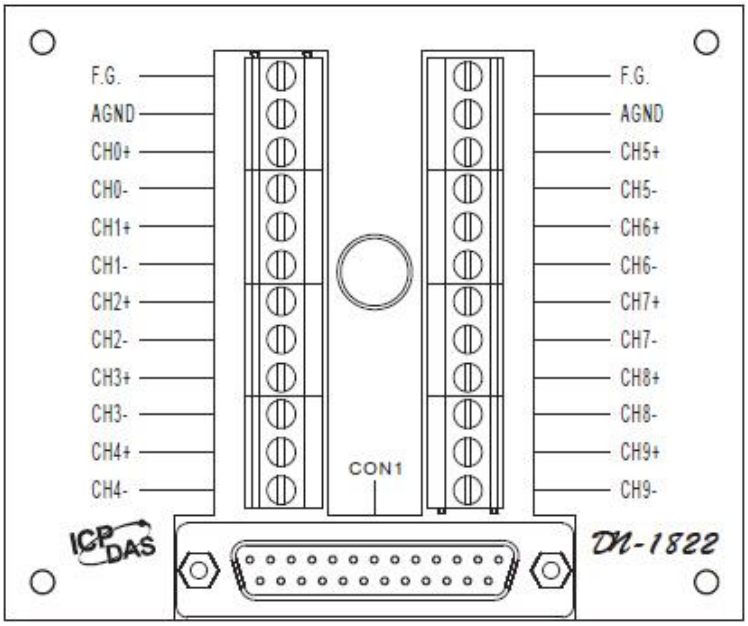
ET-7218Z/PET-7218Z



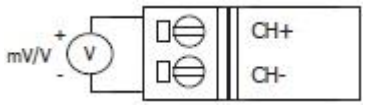
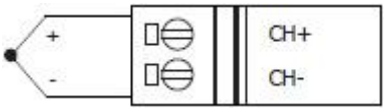
DB-1820

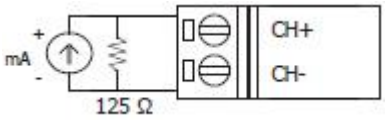


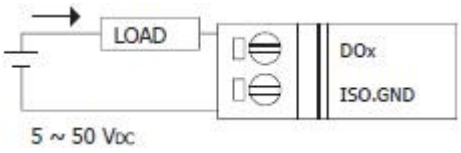
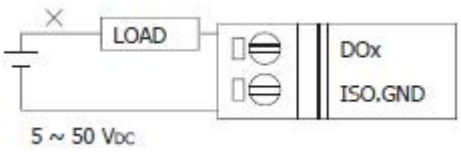
DN-1822



Wire Connections

Voltage Input	Thermocouple Input
	

Current Input	
	Note that an optional external 125 Ω resistor is required when connecting to a current source,

Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00005	0000 : 0005	6	DO value	0: Off 1: On	R/W	-
00162 : 00171	00A2 : 00AB	10	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00203	00C2 : 00CB	10	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00440	01B3 : 01B8	6	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00520	0203 : 0208	6	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00604	0253 : 025C	10	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00627	0273	1	Enable/Disable the CJC function	0: Disable 1: Enable	R/W/E	1
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency 50 Hz	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00645	027C : 0285	10	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00677	029C : 02A5	10	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00709	02BC : 02C5	10	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00741	02DC : 02E5	10	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00773	02FC : 0305	10	Clear the AI high alarm status	1: Clear	W	-
00796 : 00805	031C : 0325	10	Clear the AI low alarm status	1: Clear	W	-

00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10224 : 10233	00E0 : 00E9	10	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10265	0100 : 0109	10	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30009	0000 : 0009	10	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30143	008F	1	1	CJC value	-32768 to 32767	R
30236 : 30245	00EC : 00F5	10	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30277	010C : 0115	10	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30310	0136	1	1	Number of the DO channel	6 / 3	R
30320	0140	1	1	Number of the AI channel	10	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40305	0128 : 0131	10	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40337	0148 : 0151	10	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40427 : 40436	01AB : 01B4	10	1	Set the AI range	0x00: +/-15 mV 0x01: +/-50 mV 0x02: +/-100 mV 0x03: +/-500 mV 0x04: +/-1 V 0x05: +/-2.5 V 0x06: +/-20 mA 0x07: 4 ~ 20 mA 0x0E: Type J, -210°C ~ 760°C 0x0F: Type K, -270°C ~ 1372°C 0x10: Type T, -270°C ~ 400°C 0x11: Type E, -270°C ~ 1000°C 0x12: Type R, 0°C ~ 1768°C 0x13: Type S, 0°C ~ 1768°C 0x14: Type B, 0°C ~ 1820°C 0x15: Type N, -270°C ~ 1300°C 0x16: Type C, 0°C ~ 2320°C 0x17: Type L, -200°C ~ 800°C 0x18: Type M, -200°C ~ 100°C 0x19: Type L DIN43710, -200°C ~ 900°C 0x1A: 0 ~ 20 mA	R/W/E	0x05
40491 : 40500	01EB : 01F4	10	1	Set the CJC Offset for the single channel	-9999 to 9999	R/W/E	0
40523	020B	1	1	Set the CJC Offset for all channels	-9999 to 9999	R/W/E	0
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7018	R	-
40589	024D	1	1	Set the CJC operation status	0: Stop 1: Start 2: Read once	R/W/E	1

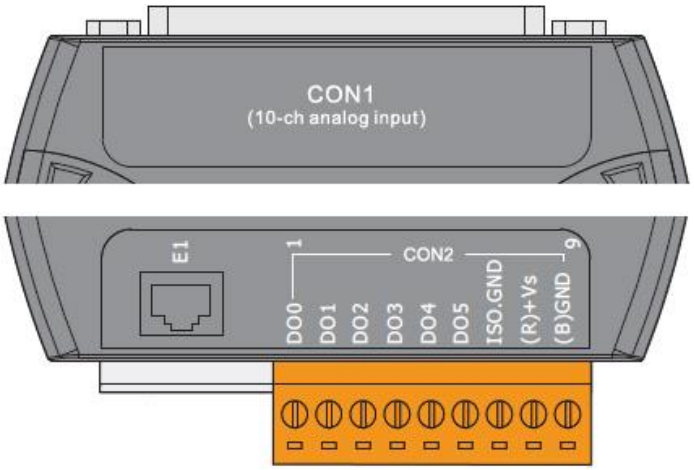
ET-7019Z/PET-7019Z/ET-7219Z/PET-7219Z

I/O Specifications

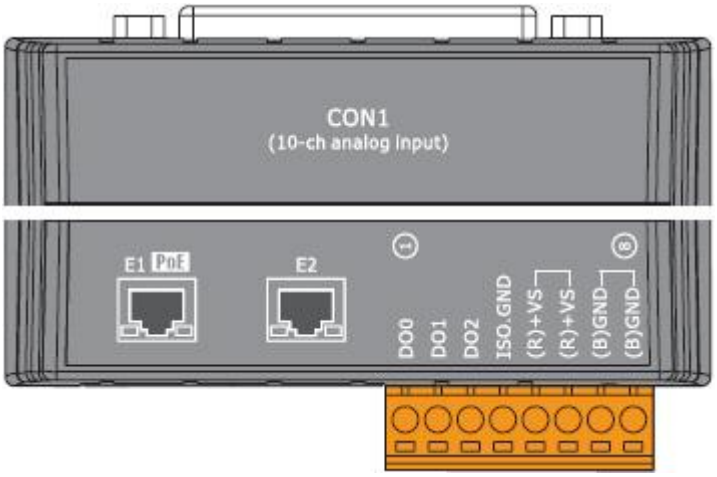
Analog Input	
Channels	10 (Differential)
Type	+/-15 mV, +/-50 mV, +/-100 mV, +/-150 mV, +/-500 mV, +/-1 V, +/-2.5 V, +/-5 V, +/-10 V, 0~20 mA, +/-20 mA, 4~20 mA Thermocouple (J, K, T, E, R, S, B, N, C, L, M and LDIN43710)
Individual Channel Configuration	Yes
Resolution	16-bit
Sampling Rate	10 Samples/Sec. (Total)
Accuracy	+/-0.1% of FSR or better
Zero Drift	+/-0.5 μV/°C
Span Drift	+/-25 ppm/°C
Overvoltage Protection	240 Vrms
Input Impedance	>300 KΩ
Common Mode Rejection	86 dB Min.
Normal Mode Rejection	100 dB
Temperature Output Consistency	Yes
Stable Temperature Output in the Field	Yes
Open Wire Detection	Yes
Virtual Channel to Channel Isolation	Yes, +/-400 V_{DC}
Digital Output	
Channels	6/3
Type	Isolated Open Collector
Sink/Source (NPN/PNP)	Sink
Max. Load Current	700 mA/Channel
Load Voltage	5 V_{DC}~50 V_{DC}
Overvoltage Protection	60 V_{DC}
Overload Protection	1.4 A
Short-circuit Protection	Yes
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments

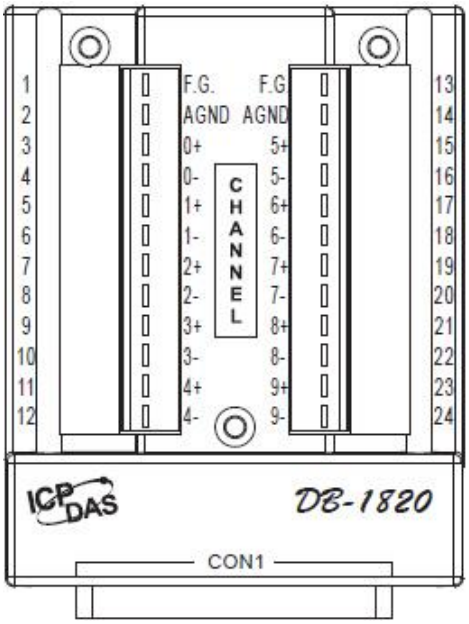
ET-7019Z/PET-7019Z



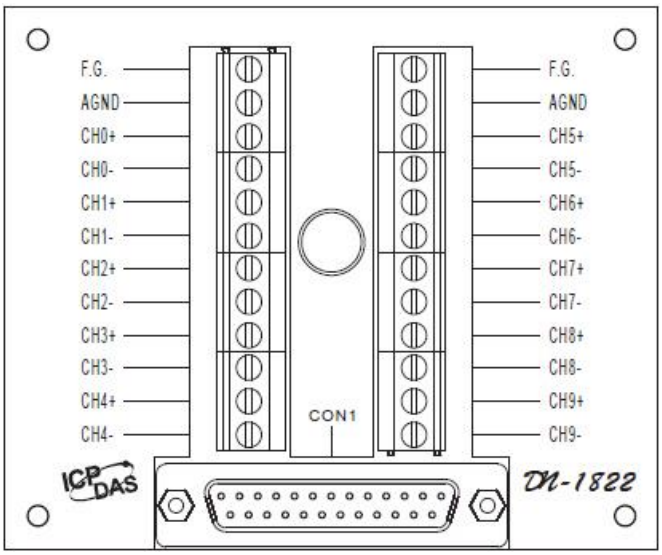
ET-7019Z/PET-7019Z



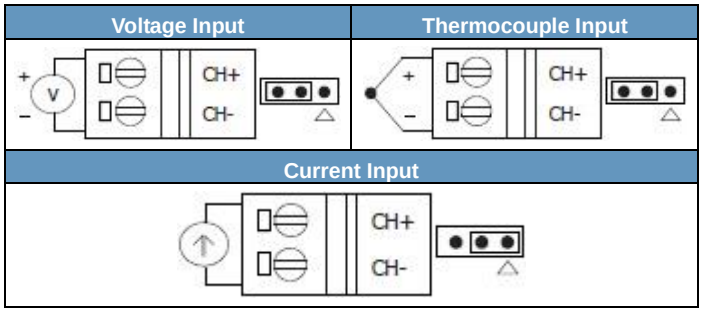
DB-1820



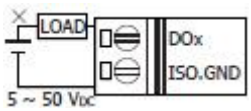
DN-1822



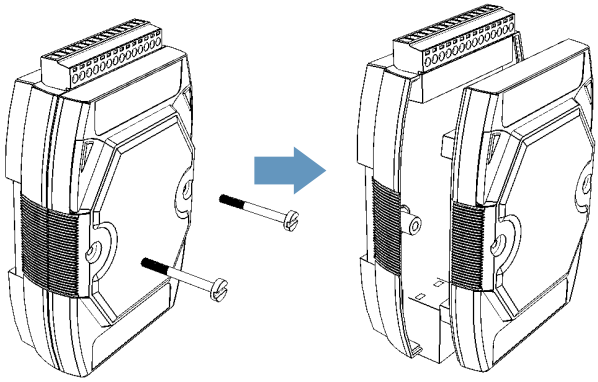
Voltage/Current Input Selection Jumper



Wire Connections

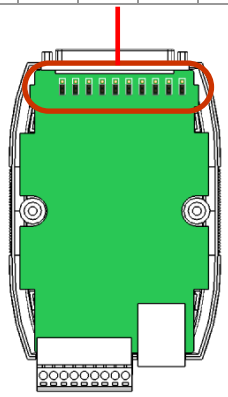
Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Remove the top case of the module



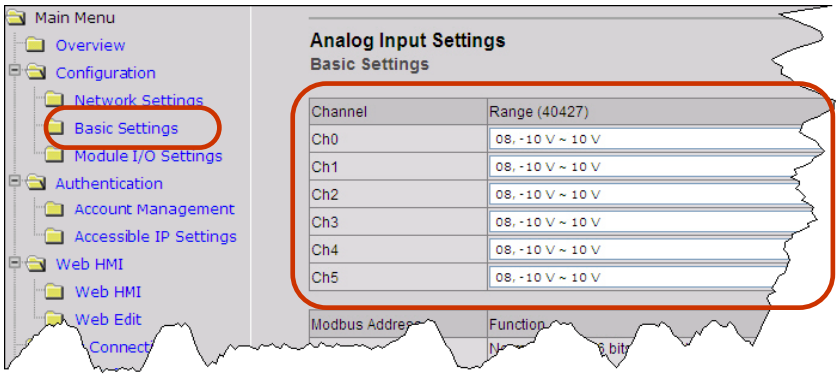
The selection jumpers are next to the connector

Channel	CH0±	CH1±	CH2±	CH3±	CH4±	CH 5±	CH 6±	CH 7±	CH 8±	CH 9±
Jumper	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10



Tips & Warnings

The jumper settings of the input type for each AI channel must correspond to the input range for each AI channel.



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00005	0000 : 0005	6	DO value	0: Off 1: On	R/W	-
00162 : 00171	00A2 : 00AB	10	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00203	00C2 : 00CB	10	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00440	01B3 : 01B8	6	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00520	0203 : 0208	6	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00604	0253 : 025C	10	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00627	0273	1	Enable/Disable the CJC function	0: Disable 1: Enable	R/W/E	1
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency 50 Hz	R/W/E	0
00631	0277	1	Set the AI data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00645	027C : 0285	10	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00677	029C : 02A5	10	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0
00700 : 00709	02BC : 02C5	10	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00741	02DC : 02E5	10	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00773	02FC : 0305	10	Clear the AI high alarm status	1: Clear	W	-
00796 : 00805	031C : 0325	10	Clear the AI low alarm status	1: Clear	W	-

00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10224 : 10233	00E0 : 00E9	10	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10265	0100 : 0109	10	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30009	0000 : 0009	10	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30143	008F	1	1	CJC value	-32768 to 32767	R
30236 : 30245	00EC : 00F5	10	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30277	010C : 0115	10	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30310	0136	1	1	Number of the DO channel	6 / 3	R
30320	0140	1	1	Number of the AI channel	10	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40064 : 40073	0040 : 0049	10	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R	
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40305	0128 : 0131	10	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40337	0148 : 0151	10	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40427 : 40436	01AB : 01B4	10	1	Set the AI range	0x00: +/-15 mV 0x01: +/-50 mV 0x02: +/-100 mV 0x03: +/-500 mV 0x04: +/-1 V 0x05: +/-2.5 V 0x06: +/-20 mA 0x07: 4 ~ 20 mA 0x08: +/-10 V 0x09: +/-5 V 0x0A: +/-1V 0x0B: +/-500 mV 0x0C: +/-150 mV 0x0D: +/-20 mA 0x0E: Type J, -210°C ~ 760°C 0x0F: Type K, -270°C ~ 1372°C 0x10: Type T, -270°C ~ 400°C 0x11: Type E, -270°C ~ 1000°C 0x12: Type R, 0°C ~ 1768°C 0x13: Type S, 0°C ~ 1768°C 0x14: Type B, 0°C ~ 1820°C 0x15: Type N, -270°C ~ 1300°C 0x16: Type C, 0°C ~ 2320°C 0x17: Type L, -200°C ~ 800°C 0x18: Type M, -200°C ~ 100°C 0x19: Type L DIN43710, -200°C ~ 900°C 0x1A: 0 ~ 20 mA	R/W/E	0x05
40491 : 40500	01EB : 01F4	10	1	Set the CJC Offset for the single channel	-9999 to 9999	R/W/E	0
40523	020B	1	1	Set the CJC Offset for all channels	-9999 to 9999	R/W/E	0
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7019	R	-

40589	024D	1	1	Set the CJC operation status	0: Stop 1: Start 2: Read once	R/W/E	1

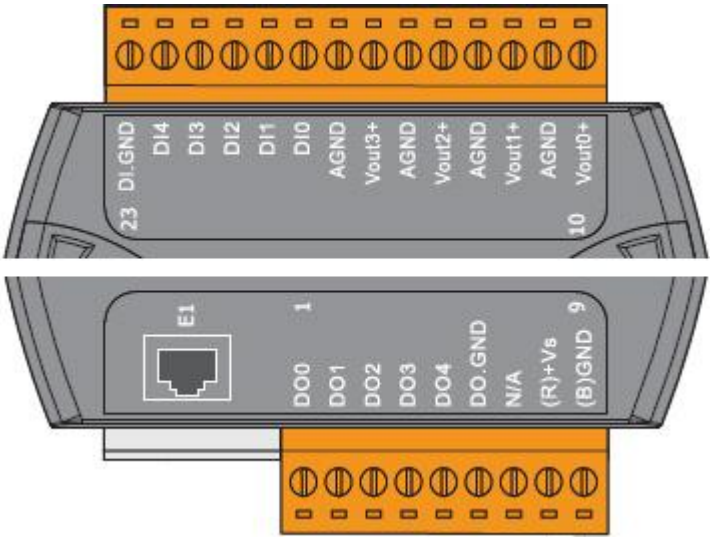
ET-7024/PET-7024/ET-7224/PET-7224

I/O Specifications

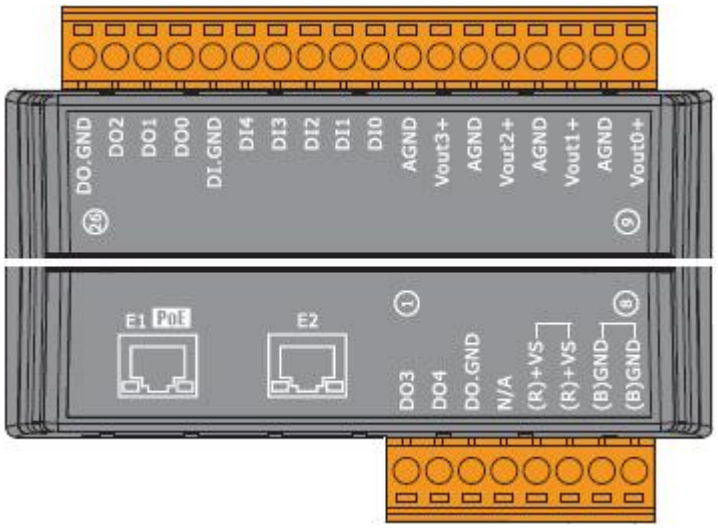
Analog Output		
Channels		4
Type		0~5 V, +/-5 V, 0~10 V, +/-10 V 0~20 mA, 4~20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		12-bit
Accuracy		+/-0.1% of FSR
Voltage Output Capability		10 V @ 20 mA
Current Load Resistance		500 Ω
Open Wire Detection		Yes, for 4~20 mA only
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable
Digital Input/Counter		
Channels		5
Contact		Dry and Wet Contact
Dry Contact (Source)	On Voltage Level	Close to GND
	Off Voltage Level	Open
	Effective Distance for Dry Contact	500 Meters Max.
Wet Contact (Sink/Source)	On Voltage Level	+1 V_{DC} Max.
	Off Voltage Level	+3.5 V_{DC} ~ +30V_{DC}
Counters	Max. Count	4,294,967,285 (32-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection		30 V_{DC}
Digital Output		
Channels		5
Type		Isolated Open Collector
Sink/Source (NPN/PNP)		Sink
Max. Load Current		600 mA/Channel
Load Voltage		+5 V_{DC} ~ +50 V_{DC}
Overvoltage Protection		60 V_{DC}
Overload Protection		1.4 A
Short-circuit Protection		Yes
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable

Pin Assignments

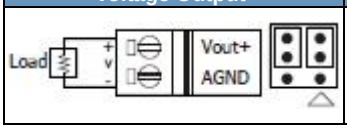
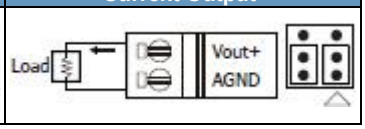
ET-7024/PET-7024



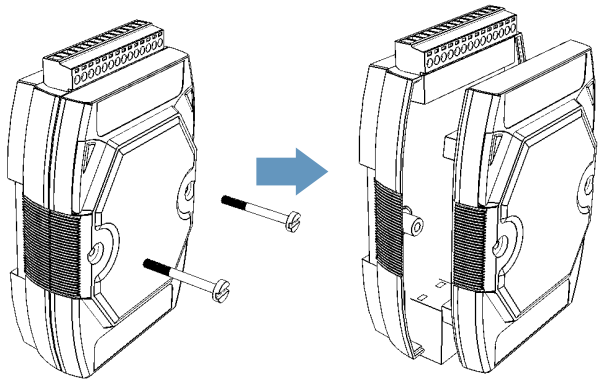
ET-7224/PET-7224



Voltage/Current Input Selection Jumper

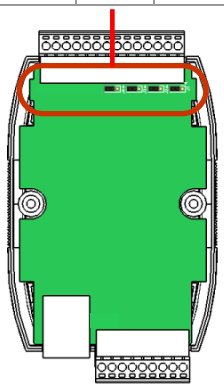
Voltage Output	Current Output
	

Remove the top case of the module.



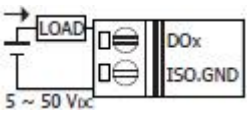
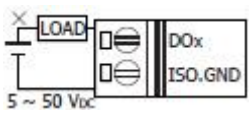
The selection jumpers are next to the connector.

Channel	Vout3	Vout2	Vout1	Vout0
Jumper	J4	J3	J2	J1



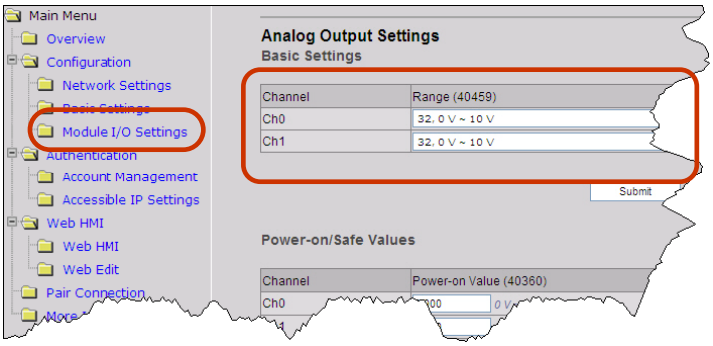
Wire Connections

Digital Input/ Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact		

Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Tips & Warnings

The jumper settings of the output type for each AO channel must correspond to the output range.



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00004	0000 : 0004	5	DO value	0: Off 1: On	R/W	-
00034 : 00038	0022 : 0026	5	Clear the DI counter value	1: Clear	W	-
00130 : 00134	0082 : 0086	5	Clear the DI latched value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00350	015E	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00351 : 00355	015F : 0163	5	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00439	01B3 : 01B7	5	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00519	0203 : 0207	5	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00630	0276	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-
00631	0277	1	Set the AO data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AO calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00830	033E	1	Enable/Disable the AO calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10004	0000 : 0004	5	DI value	0: Off 1: On	R
10032 : 10036	0020 : 0024	5	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10068	0040 : 0044	5	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30032 : 30041	0020 : 0029	5	2	DI counter value	0 to 4294967295	R
30300	012C	1	1	Number of the DI channel	6	R
30310	0136	1	1	Number of the DO channel	2	R
30320	0140	1	1	Number of the AI channel	2	R
30330	014A	1	1	Number of the AO channel	2	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40000 : 40003	0000 : 0003	4	1	AO value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W	-
40200 : 40209	00C8 : 00D1	5	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00630) is changed by a write operation.	0 to 4294967295	R/W	0
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40360 : 40363	0168 : 016B	4	1	Set the power-on value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40392 : 40395	0188 : 018B	4	1	Set the safe value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40459 : 40462	01CB : 01CE	4	1	Set the AO range	0x30: 0~20 mA 0x31: 4~20 mA 0x32: 0~10 V 0x33: +/-10 V 0x34: 0~5 V 0x35: +/-5 V	R/W/E	0x32
40523 : 40526	020B : 020E	4	1	Set the AO slew rate range	0x00: Immediate 0x01: 0.0625 V/sec or 0.125 mA/sec 0x02: 0.125 V/sec or 0.25 mA/sec 0x03: 0.25 V/sec or 0.5 mA/sec 0x04: 0.5 V/sec or 1.0 mA/sec 0x05: 1.0 V/sec or 2.0 mA/sec 0x06: 2.0 V/sec or 4.0 mA/sec 0x07: 4.0 V/sec or 8.0 mA/sec 0x08: 8.0 V/sec or 16 mA/sec 0x09: 16 V/ser or 32 mA/sec 0x0a: 32 V/sec or 64 mA/sec 0x0b: 64 V/sec or 128 mA/sec 0x0c: 128 V/sec or 256 mA/sec 0x0d: 256 V/sec or 512 mA/sec 0x0e: 512 V/sec or 1024 mA/sec	R/W/E	0x00

					0x0f: 1024 V/sec or 2048 mA/sec		
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7024	R	-

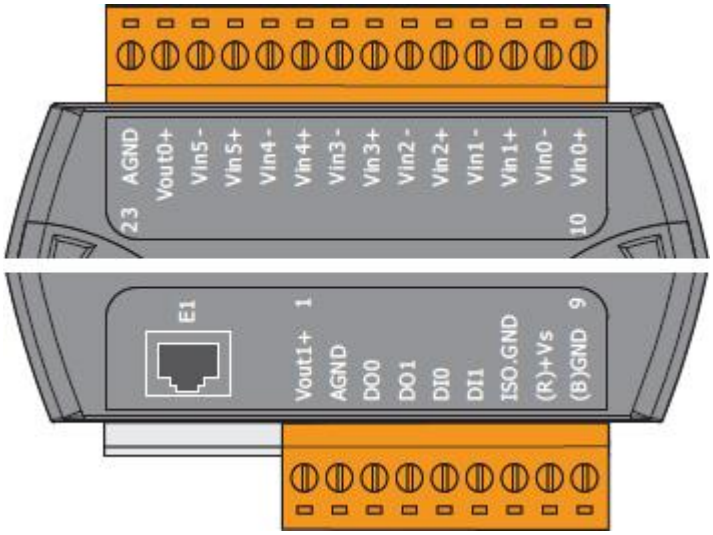
ET-7026/PET-7026/ET-7226/PET-7226

I/O Specifications

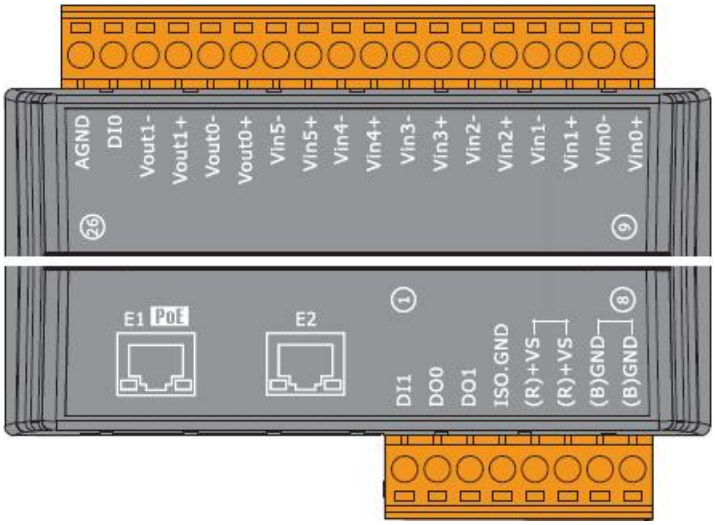
Analog Input		
Channels		6 (Differential)
Type		+/-500 mV, +/-1 V, +/-5 V, +/-10 V, 0~20 mA, +/-20 mA, 4~20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		16-bit
Sampling Rate	Normal Mode	10 Samples/Sec. (Total)
	Fast Mode	50 Samples/Sec. (Total)
Accuracy	Normal Mode	+/-0.1%
	Fast Mode	+/-0.5% or better
Zero Drift		+/-20 μV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection		240 Vrms
Overcurrent Protection		50 mA Max. at 110 V_{DC} Max.
Common Voltage Protection		+/-200 V_{DC}
Virtual Channel to Channel Isolation		Yes, 400 V_{DC}
Open Wire Detection		Yes, for 4 ~ 20 mA only
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
Common Mode Rejection		86 dB Min.
Normal Mode Rejection		100 dB
Analog Output		
Channels		2
Type		0~5 V, +/-5 V, 0~10 V, +/-10 V 0~20 mA, 4~20 mA (Jumper selectable)
Individual Channel Configuration		Yes
Resolution		12-bit
Accuracy		+/-0.1% of FSR
Voltage Output Capability		20 mA @ 10 V
Current Load Resistance		500 Ω
Open Wire Detection		Yes, for 4~20 mA only
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable
Digital Input/Counter		
Channels		2
Contact		Dry and Wet Contact
Dry Contact (Source)	On Voltage Level	Close to GND
	Off Voltage Level	Open
	Effective Distance for Dry Contact	500 Meter Max.
Wet Contact (Sink/Source)	On Voltage Level	+1 V_{DC} Max.
	Off Voltage Level	+3.5 V_{DC} ~ +30V_{DC}
Counters	Max. Count	4,294,967,285 (32-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection		30 V_{DC}
Digital Output		
Channels		2
Type		Isolated Open Collector
Sink/Source (NPN/PNP)		Sink
Max. Load Current		700 mA/Channel
Load Voltage		+5 V_{DC} ~ +50 V_{DC}
Overvoltage Protection		60 V_{DC}
Overload Protection		1.4 A
Short-circuit Protection		Yes
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable

Pin Assignments

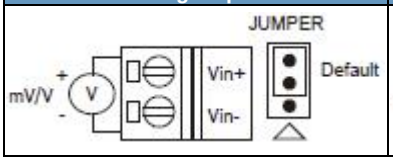
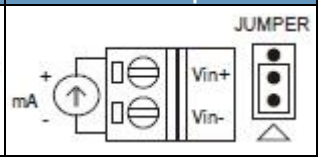
ET-7026/PET-7026

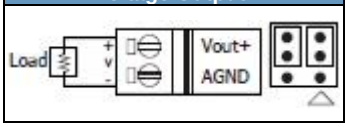
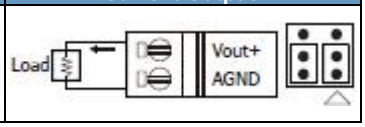


ET-7226/PET-7226



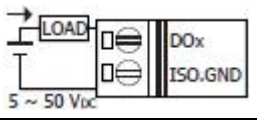
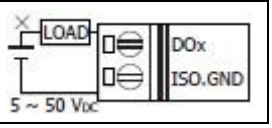
Voltage/Current Input Selection Jumper

Voltage Input	Current Input
	

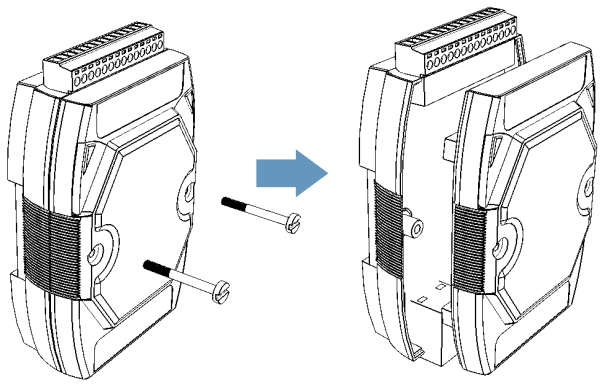
Voltage Output	Current Output
	

Wire Connections

Digital Input/ Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact		

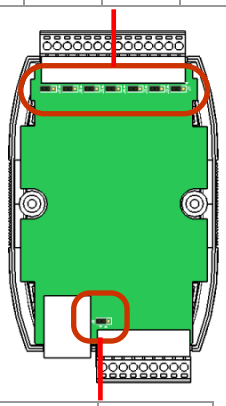
Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Remove the top case of the module.



The selection jumpers are next to the connector.

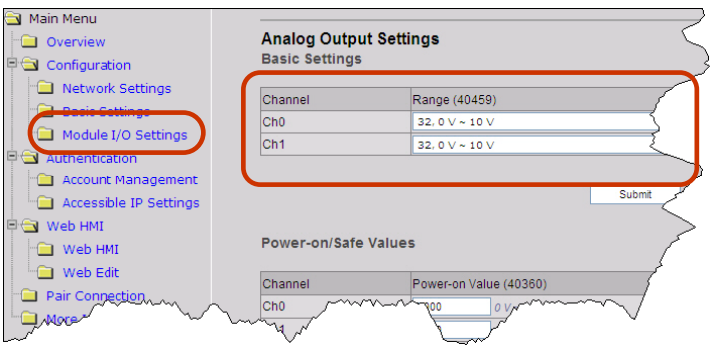
Channel	Vout0	Vin5±	Vin4±	Vin3±	Vin2±	Vin1±	Vin0±
Jumper	JP5	J6	J5	J4	J3	J2	J1

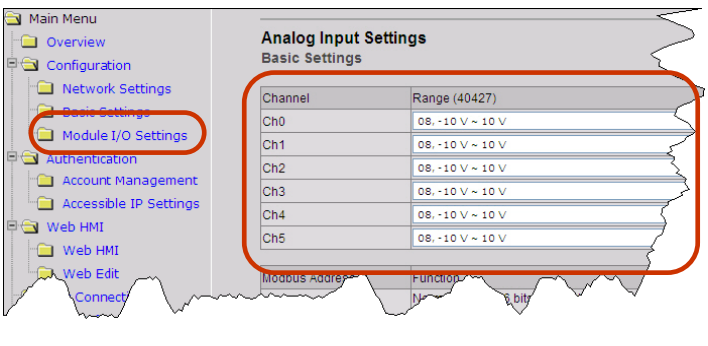


Channel	Vout1
Jumper	JP6

Tips & Warnings

The jumper settings of the input type for each AI/AO channel must correspond to the input range for each AI channel.





Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00001	0000 : 0001	2	DO value	0: Off 1: On	R/W	-
00034 : 00035	0022 : 0023	2	Clear the DI counter value	1: Clear	W	-
00130 : 00131	0082 : 0083	2	Clear the DI latched value	1: Clear	W	-
00162 : 00167	00A2 : 00A7	6	Clear 1-ch historical AI max. value	1: Clear	W	-
00194 : 00199	00C2 : 00C7	6	Clear 1-ch historical AI min. value	1: Clear	W	-
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00350	015E	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00351 : 00352	015F : 0160	2	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00431	01AF	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00432	01B0	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00435 : 00436	01B3 : 01B4	2	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00515 : 00516	0203 : 0204	2	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00595 : 00560	0253 : 0258	6	Enable/Disable the AI function	0: Disable 1: Enable	R/W/E	1
00628	0274	1	Set the AI sampling rate	0: Normal mode (10 Hz) 1: Fast mode (50 Hz)	R/W/E	0
00629	0275	1	Set the AI noise filter	0: Frequency 60 Hz 1: Frequency 50 Hz	R/W/E	0
00630	0276	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-
00631	0277	1	Set the AI/AO data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AI calibration to the factory settings	1: Reset	W	-
00634	027A	1	Clear all historical AI max. values	1: Clear	W	-
00635	027B	1	Clear all historical AI min. values	1: Clear	W	-
00636 : 00641	027C : 0281	6	Enable/Disable the AI high alarm function	0: Disable 1: Enable	R/W/E	0
00668 : 00670	029C : 02A1	6	Enable/Disable the AI low alarm function	0: Disable 1: Enable	R/W/E	0

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00700 : 00705	02BC : 02C1	6	Set the AI high alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00732 : 00737	02DC : 02E1	6	Set the AI low alarm mode	0: Momentary mode 1: Latching mode	R/W/E	0
00764 : 00769	02FC : 0301	6	Clear the AI high alarm status	1: Clear	W	-
00796 : 00801	031C : 0321	6	Clear the AI low alarm status	1: Clear	W	-
00830	033E	1	Enable/Disable the AI calibration	0: Disable 1: Enable	R/W	-
00831	033F	1	Zero calibration for the channel 0	1: Set	W	-
00832	0340	1	Span calibration for the channel 0	1: Set	W	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10001	0000 : 0001	2	DI value	0: Off 1: On	R
10032 : 10033	0020 : 0021	2	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10065	0040 : 0041	2	Read DI “low latch” status	0: Normal 1: Latched	R
10224 : 10229	00E0 : 00E5	6	Read AI high alarm status. When the AI value is higher than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R
10256 : 10261	0100 : 0105	6	Read AI low alarm status. When the AI value is lower than the high alarm value, the status becomes 1.	0: Normal 1: Alarmed	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30000 : 30005	0000 : 0005	6	1	AI value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30032 : 30035	0020 : 0023	2	2	DI counter value	0 to 4294967295	R
30236 : 30241	00EC : 00F1	6	1	AI historical max. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30268 : 30273	010C : 0111	6	1	AI historical min. value	-32768 to 32767 (0x0000 to 0xFFFF)	R
30300	012C	1	1	Number of the DI channel	6	R
30310	0136	1	1	Number of the DO channel	2	R
30320	0140	1	1	Number of the AI channel	2	R

30330	014A	1	1	Number of the AO channel	2	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40000 : 40001	0000 : 0001	2	1	AO value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W	-
40200 : 40203	00C8 : 00CB	2	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00630) is changed by a write operation.	0 to 4294967295	R/W	0
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40296 : 40301	0128 : 012D	6	1	Set the AI high alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	32767 (0x7FFF)
40328 : 40333	0148 : 014D	6	1	Set the AI low alarm value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	-32768 (0x8000)
40360 : 40361	0168 : 0169	2	1	Set the power-on value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40392 : 40393	0188 : 0189	2	1	Set the safe value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40427 : 40432	01AB : 01B0	6	1	Set the AI range	0x07: 4~20 mA 0x08: +/-10 V 0x09: +/-5 V 0x0A: +/-1 V 0x0B: +/-500 mV 0x0C: +/-150 mV 0x0D: +/-20 mA 0x1A: 0~20 mA	R/W/E	0x08
40459 : 40460	01CB : 01CC	2	1	Set the AO range	0x30: 0~20 mA 0x31: 4~20 mA 0x32: 0~10 V 0x33: +/-10 V 0x34: 0~5 V 0x35: +/-5 V	R/W/E	0x32
40523 : 40524	020B : 020C	2	1	Set the AO slew rate range	0x00: Immediate 0x01: 0.0625 V/sec or 0.125 mA/sec 0x02: 0.125 V/sec or 0.25 mA/sec 0x03: 0.25 V/sec or 0.5 mA/sec 0x04: 0.5 V/sec or 1.0 mA/sec 0x05: 1.0 V/sec or 2.0 mA/sec 0x06: 2.0 V/sec or 4.0 mA/sec 0x07: 4.0 V/sec or 8.0 mA/sec 0x08: 8.0 V/sec or 16 mA/sec 0x09: 16 V/ser or 32 mA/sec 0x0a: 32 V/sec or 64 mA/sec	R/W/E	0x00

					0x0b: 64 V/sec or 128 mA/sec 0x0c: 128 V/sec or 256 mA/sec 0x0d: 256 V/sec or 512 mA/sec 0x0e: 512 V/sec or 1024 mA/sec 0x0f: 1024 V/sec or 2048 mA/sec		
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7026	R	-

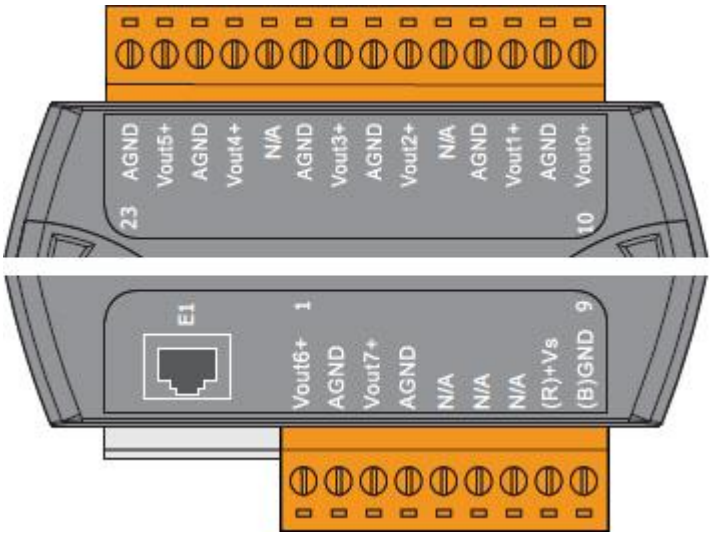
ET-7028/PET-7028/ET-7228/PET-7228

I/O Specifications

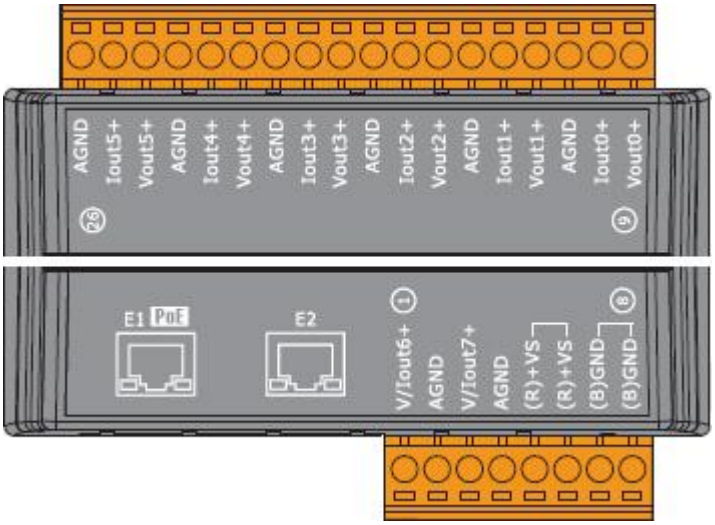
Analog Output	
Channels	8
Type	0~5 V, +/-5 V, 0~10 V, +/-10 V 0~20 mA, 4~20 mA (Jumper selectable)
Individual Channel Configuration	Yes
Resolution	12-bit
Accuracy	+/-0.1% of FSR
Voltage Output Capability	10 V @ 10 mA
Current Load Resistance	500 Ω
Open Wire Detection	Yes, for 4~20 mA only
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments

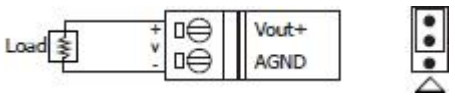
ET-7028/PET-7028



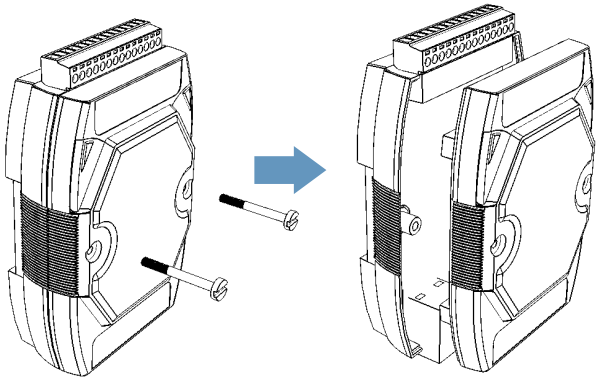
ET-7228/PET-7228



Voltage/Current Output Selection Jumper

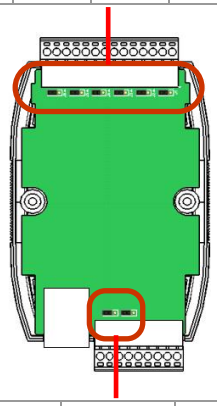
Voltage Output

Current Output


Remove the top case of the module.



The selection jumpers are next to the connector.

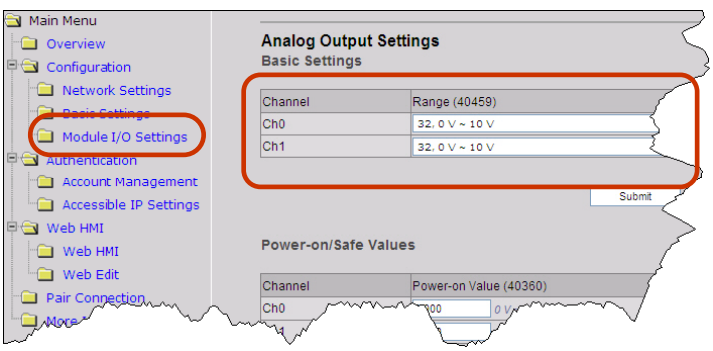
Channel	Vout5	Vout4	Vout3	Vout2	Vout1	Vout0
Jumper	JP10	JP9	JP8	JP7	JP6	JP5



Channel	Vout6	Vout7
Jumper	JP11	JP12

Tips & Warnings

The jumper settings of the output type must correspond to the output range for each AO channel.



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00226	00E2	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00233	00E9	1	Reboot the module	1: Reboot	W	-
00631	0277	1	Set the AO data format	0: Hexadecimal format 1: Engineering unit	R/W/E	0
00632	0278	1	Reset the AO calibration to the factory settings	1: Reset	W	-

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30330	014A	1	1	Number of the AO channel	8	R
30350	015E	1	1	OS image version	0x123 means version 1.2.3	R
30351	015F	1	1	Firmware version	0x123 means version 1.2.3	R
30353	0161	1	1	I/O version	0x123 means version 1.2.3	R
30360	0168	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40000 : 40007	0000 : 0007	8	1	AO value	-32768 to 32767 (0x0000 to 0xFFFF)	R/W	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1
40360 : 40367	0168 : 016F	8	1	Set the power-on value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40392 : 40399	0188 : 018F	8	1	Set the safe value for the AO channel	-32768 to 32767 (0x0000 to 0xFFFF)	R/W/E	0
40459 : 40466	01CB : 01D2	8	1	Set the AO range	0x30: 0~20 mA 0x31: 4~20 mA 0x32: 0~10 V 0x33: +/-10 V 0x34: 0~5 V 0x35: +/-5 V	R/W/E	0x32
40523 : 40530	020B : 0212	8	1	Set the AO slew rate range	0x00: Immediate 0x01: 0.0625 V/sec or 0.125 mA/sec 0x02: 0.125 V/sec or 0.25 mA/sec 0x03: 0.25 V/sec or 0.5 mA/sec 0x04: 0.5 V/sec or 1.0 mA/sec 0x05: 1.0 V/sec or 2.0 mA/sec 0x06: 2.0 V/sec or 4.0 mA/sec 0x07: 4.0 V/sec or 8.0 mA/sec 0x08: 8.0 V/sec or 16 mA/sec 0x09: 16 V/ser or 32 mA/sec 0x0a: 32 V/sec or 64 mA/sec 0x0b: 64 V/sec or 128 mA/sec 0x0c: 128 V/sec or 256 mA/sec	R/W/E	0x00

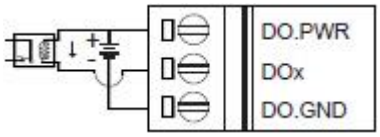
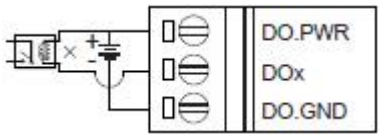
					0x0d: 256 V/sec or 512 mA/sec 0x0e: 512 V/sec or 1024 mA/sec 0x0f: 1024 V/sec or 2048 mA/sec		
40555	022B	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40556	022C	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40557	022D	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 6 to 65535: Enable the Host WDT	R/W/E	0
40558	022E	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40559	022F	1	1	Read the module name	0x7028	R	-

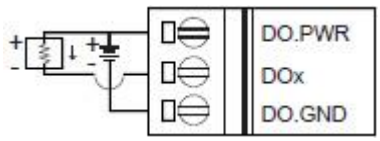
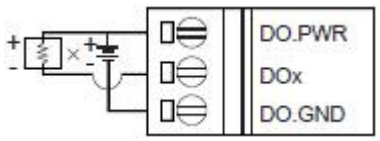
ET-7042/PET-7042/ET-7242/PET-7242

I/O Specifications

Model	ET-7042	PET-7042	ET-7242	PET-7242
Digital Output				
Channels	16			
Type	Isolated Open Collector			
Sink/Source (NPN/PNP)	Sink			
Max. Load Current	100 mA/Channel at 25°C Direct Drive Power Relay Module			
Load Voltage	+5 V_{DC} ~ +30 V_{DC}			
Overvoltage Protection	-	60 V_{DC}		
Overload Protection	-	1.3 A		
Short-circuit Protection	-	Yes		
Power-on Value	Yes, Programmable			
Safe Value	Yes, Programmable			

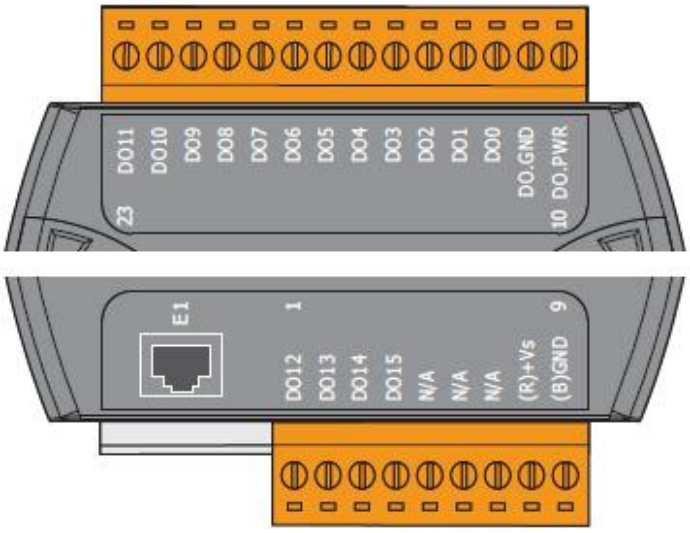
Wire Connections

Output Type	ON State Readback as 1
Drive Relay	
	OFF State Readback as 0
	

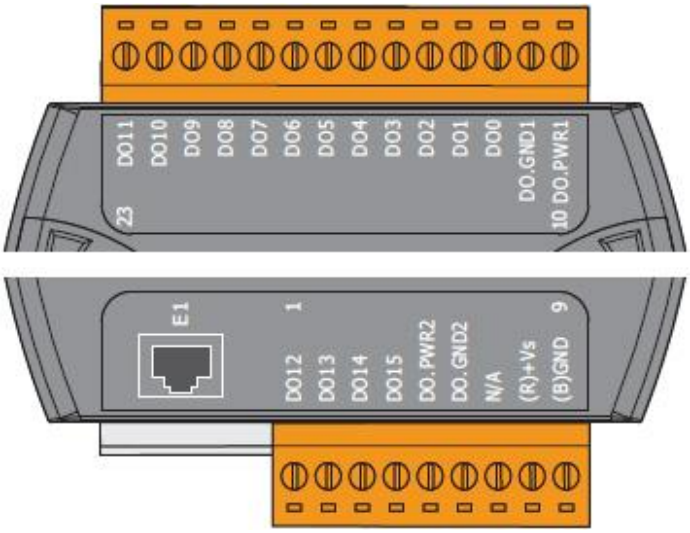
Output Type	ON State Readback as 1
Resistance Load	
	OFF State Readback as 0
	

Pin Assignments

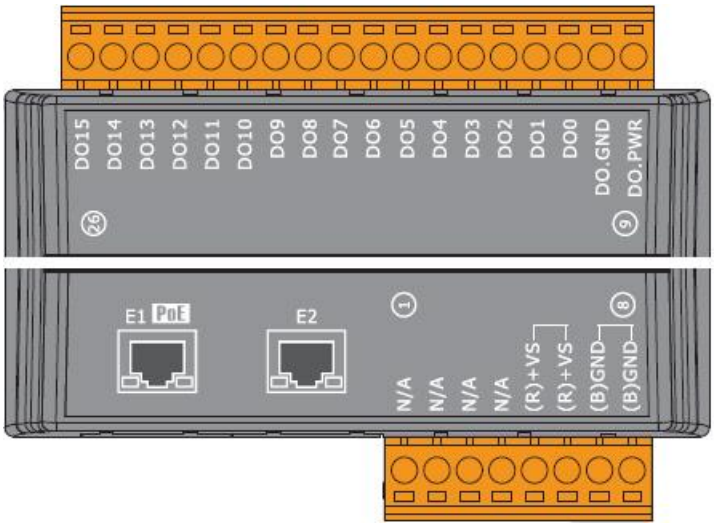
ET-7042



PET-7042



ET-7242/PET-7242



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00015	0000 : 000F	16	DO value	0: Off 1: On	R/W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00250	00EB : 00FA	16	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00282	010B : 011A	16	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30110	006E	1	1	Number of the DO channel	16	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160	00A0	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7042	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

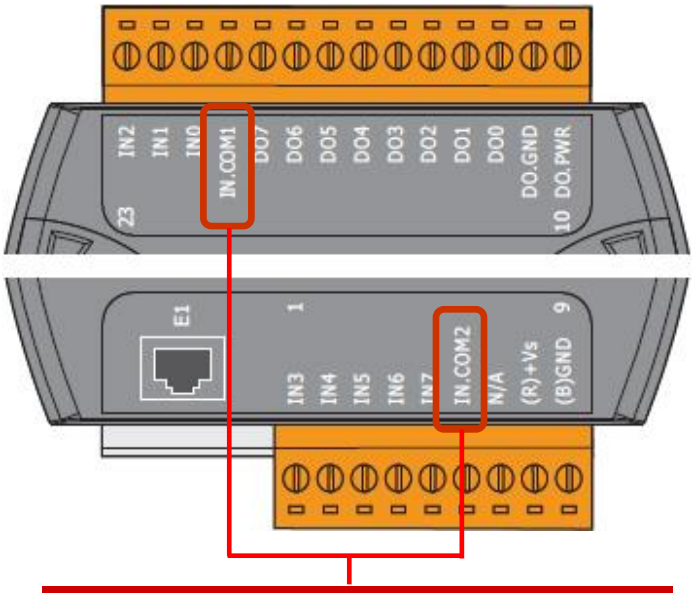
ET-7044/PET-7044/ET-7244/PET-7244

I/O Specifications

Digital Input/Counter		ET-7044	PET-7044	ET-7244	PET-7244
Channels		8			
Contact		Wet Contact			
Sink/Source (NPN/PNP)		Sink/Source			
On Voltage Level		+10 V_{DC} ~ +50V_{DC}			
Off Voltage Level		+4 V_{DC} Max.			
Input Impedance		10 KΩ			
Counters	Max. Count	4,294,967,285 (32-bit)			
	Max. Input Frequency	500 Hz		100 Hz	
	Min. Pulse Width	1 ms		5 ms	
Overvoltage Protection		70 V_{DC}			
Digital Output					
Channels		8			
Type		Isolated Open Collector			
Sink/Source (NPN/PNP)		Sink			
Max. Load Current		300 mA/Channel at 25°C Direct Drive Power Relay Module		650 mA/Channel at 25°C Direct Drive Power Relay Module	
Load Voltage		+10 V_{DC} ~ +40 V_{DC}		+3.5 V_{DC} ~ +50 V_{DC}	
Overvoltage Protection		60 V_{DC}			
Overload Protection		1.4 A			
Short-circuit Protection		Yes			
Power On Value		Yes, Programmable			
Safe Value		Yes, Programmable			

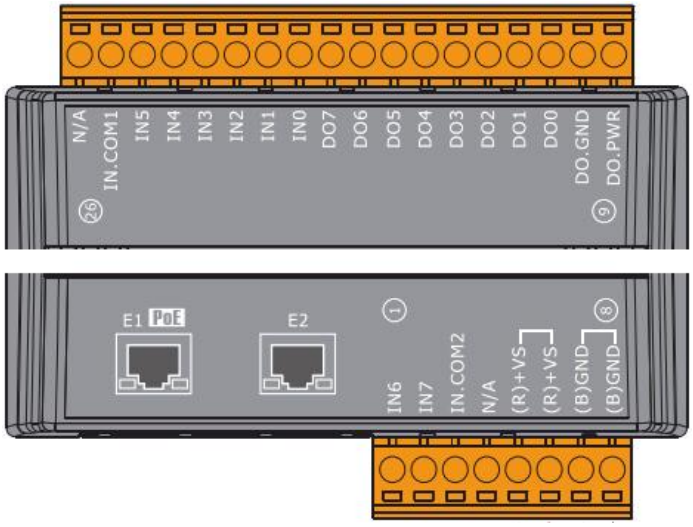
Pin Assignments

ET-7044/PET-7044

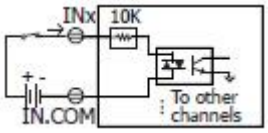
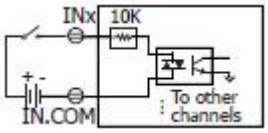
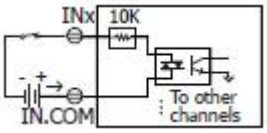
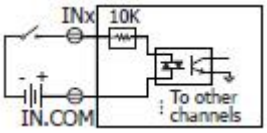


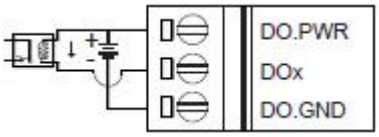
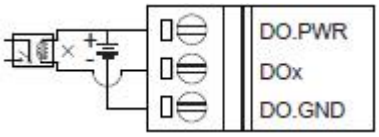
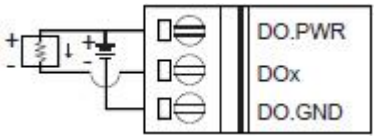
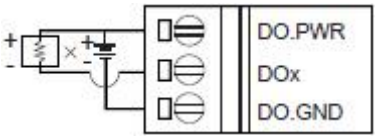
The IN.COM1 and IN.COM2 of the ET-7044 are internally wired together. But in the PET-7044, they are separate.

ET-7244/PET-7244



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Source	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

Digital Output	ON State Readback as 1	OFF State Readback as 0
Drive Relay		
Resistance Load		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00007	0000 : 0007	8	DO value	0: Off 1: On	R/W	-
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00041	0022 : 0029	8	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00158	0097 : 009E	8	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00242	00EB : 00F2	8	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00274	010B : 0112	8	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10007	0000 : 0007	8	DI value	0: Off 1: On	R
10032 : 10039	0020 : 0027	8	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10071	0040 : 0047	8	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30031	0010 : 001F	8	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	8	R
30110	006E	1	1	Number of the DO channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160 : 30161	00A0 : 00A1	2	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40065	0032 : 0041	8	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40082 : 40089	0052 : 0059	8	1	Enable/Disable the digital output values to a predefined safe status when the following situations arise: 1. Host Watchdog timeout expired 2. Pair-connection failed	0: Disabled - Maintain the current status 1: Enabled - Host Watchdog 2: Enabled – Pair Connection	R/W/E	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7044	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

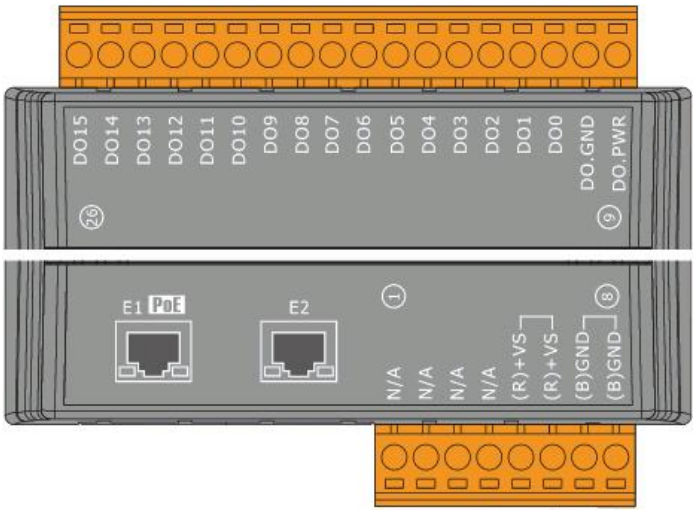
ET-7245/PET-7245

I/O Specifications

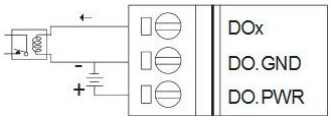
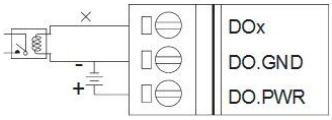
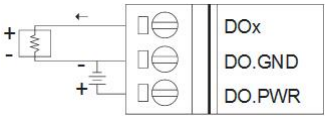
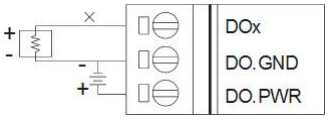
Digital Output	ET-7245	ET-7245
Channels	16	
Type	Isolated Open Source	
Sink/Source (NPN/PNP)	Source	
Max. Load Current	600 mA/Channel	
Load Voltage	+10 V_{DC} ~ +40 V_{DC}	
Overvoltage Protection	47 V_{DC}	
Overload Protection	1.4 A (with short-circuit protection)	
Short-circuit Protection	Yes	
Power On Value	Yes, Programmable	
Safe Value	Yes, Programmable	

Pin Assignments

ET-7245/PET-7245



Wire Connections

Digital Output	ON State Readback as 1	OFF State Readback as 0
Drive Relay		
Resistance Load		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00015	0000 : 000F	16	DO value	0: Off 1: On	R/W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00250	00EB : 00FA	16	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00282	010B : 011A	8	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30110	006E	1	1	Number of the DO channel	16	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160	00A0	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40082 : 40089	0052 : 0059	8	1	Enable/Disable the digital output values to a predefined safe status when the following situations arise: 1. Host Watchdog timeout expired 2. Pair-connection failed	0: Disabled - Maintain the current status 1: Enabled - Host Watchdog 2: Enabled – Pair Connection	R/W/E	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7245	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

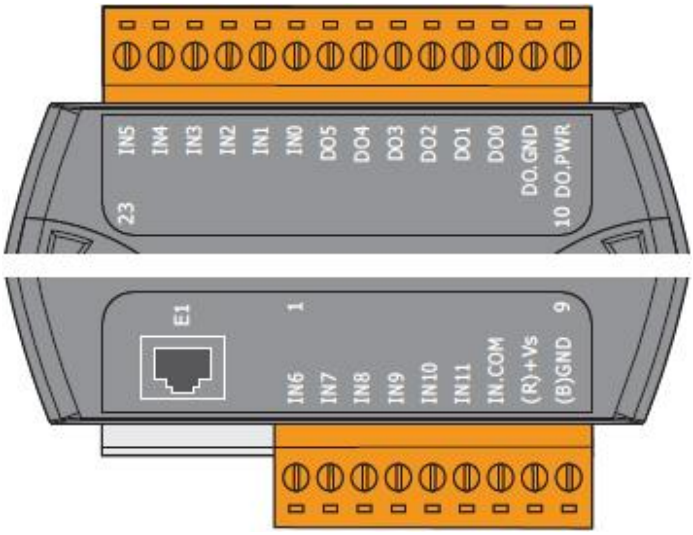
ET-7050/PET-7050/ET-7250A/PET-7250A

I/O Specifications

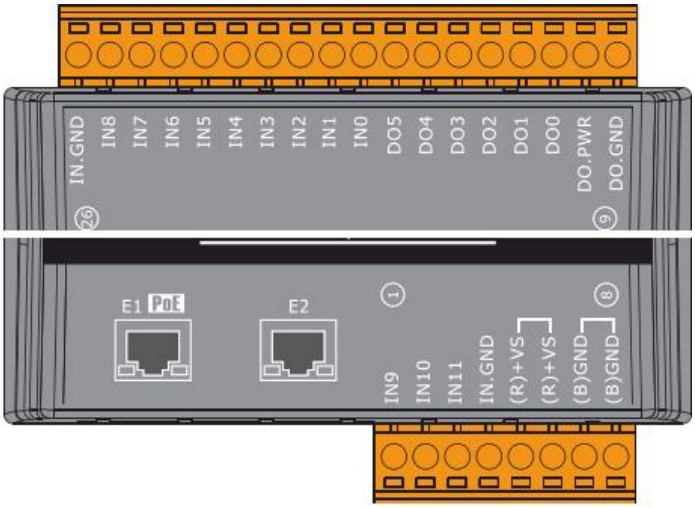
Model		ET-7050	PET-7050	ET-7250A	PET-7250A
Digital Input/Counter					
Channels		12			
Contact		Wet Contact		Dry + Wet Contact	
Sink/Source (NPN/PNP)		Sink/Source		Dry: Source Wet: Sink/Source	
Wet Contact	On Voltage Level	+10 V_{DC} ~ +50V_{DC}		+1 V_{DC} Max.	
	Off Voltage Level	+4 V_{DC} Max.		+3.5 V_{DC} ~ +50V_{DC}	
Dry Contact	On Voltage Level	-		Close to GND	
	Off Voltage Level	-		Open	
Input Impedance		10 KΩ			
Counters	Max. Count	4,294,967,285 (32-bit)			
	Max. Input Frequency	500 Hz		100 Hz	
	Min. Pulse Width	1 ms		5 ms	
Overvoltage Protection		70 V_{DC}		60 V_{DC}	
Digital Output					
Channels		6			
Type		Isolated Open Collector			
Sink/Source (NPN/PNP)		Sink			
Max. Load Current		100mA/Channel at 25°C Direct Drive Power Relay Module		500 mA/channel	
Load Voltage		+5 V_{DC} ~ +30 V_{DC}		+5 V_{DC} ~ +50 V_{DC}	
Overvoltage Protection		-	60 V_{DC}		
Overload Protection		-	1.3 A		
Short-circuit Protection		-	Yes		
Power-on Value		Yes, Programmable			
Safe Value		Yes, Programmable			

Pin Assignments

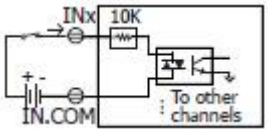
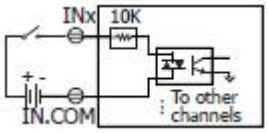
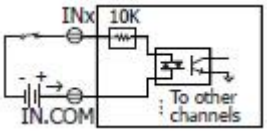
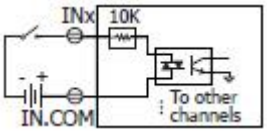
ET-7050/PET-7050

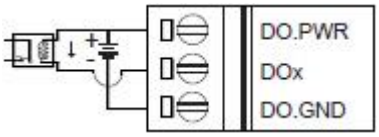
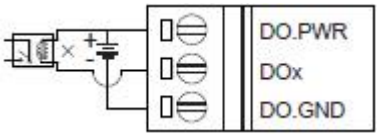
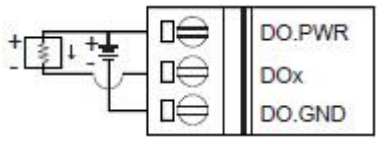
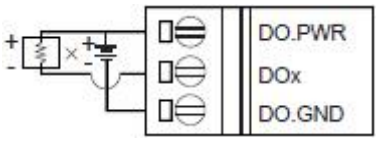


ET-7250A/PET-7250A



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Source	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

Digital Output	ON State Readback as 1	OFF State Readback as 0
Drive Relay		
Resistance Load		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00005	0000 : 0005	6	DO value	0: Off 1: On	R/W	-
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00045	0022 : 002D	12	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00162	0097 : 00A2	12	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00240	00EB : 00F0	6	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00272	010B : 0110	6	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10011	0000 : 000B	12	DI value	0: Off 1: On	R
10032 : 10043	0020 : 002B	12	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10075	0040 : 004B	12	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30039	0010 : 0027	12	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	12	R
30110	006E	1	1	Number of the DO channel	6	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160 : 30161	00A0 : 00A1	2	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40073	0032 : 0049	12	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7050	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

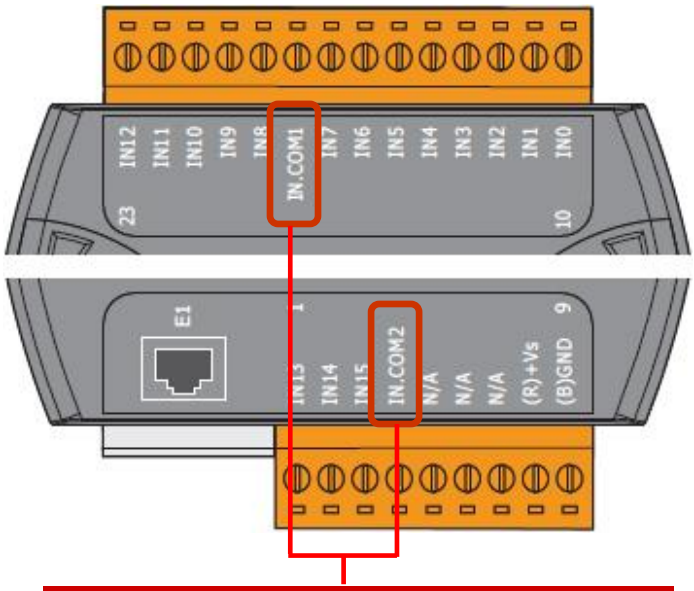
ET-7051/PET-7051/ET-7251/PET-7251

I/O Specifications

Digital Input/Counter		ET-7051	PET-7051	ET-7251	PET-7251
Channels		16			
Contact		Wet Contact			
Sink/Source (NPN/PNP)		Sink/Source			
On Voltage Level		+10 V_{DC} ~ +50V_{DC}			
Off Voltage Level		+4 V_{DC} Max.			
Input Impedance		10 KΩ			
Counters	Max. Count	4,294,967,285 (32-bit)			
	Max. Input Frequency	500 Hz		100 Hz	
	Min. Pulse Width	1 ms		5 ms	
Overvoltage Protection		70 V_{DC}			

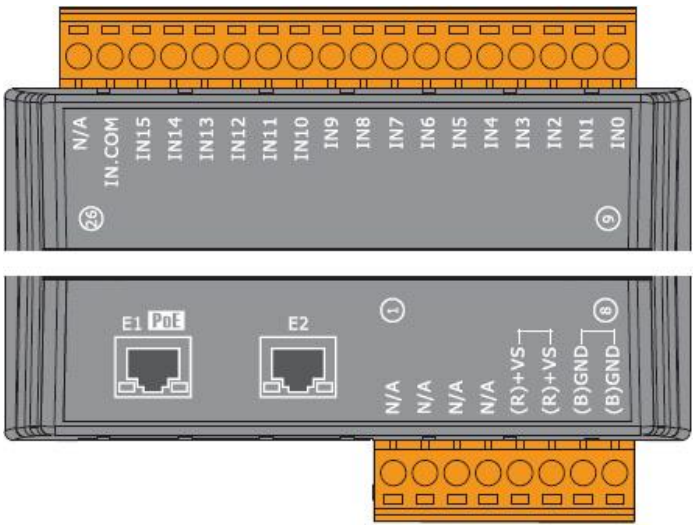
Pin Assignments

ET-7051/PET-7051

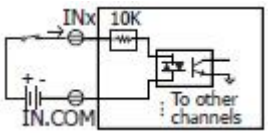
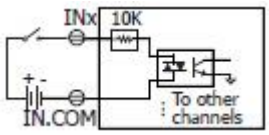
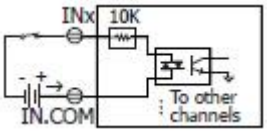
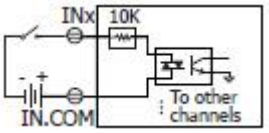


The IN.COM1 and IN.COM2 of the ET-7051 are internally wired together. But in the PET-7051, they are separate.

ET-7251/PET-7251



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Source	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00049	0022 : 0031	16	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00166	0097 : 00A6	16	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10015	0000 : 000F	16	DI value	0: Off 1: On	R
10032 : 10047	0020 : 002F	16	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10079	0040 : 004F	16	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30047	0010 : 002F	16	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	16	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30161	00A1	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40081	0032 : 0051	16	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40260	0104	1	1	Read the module name	0x7051	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

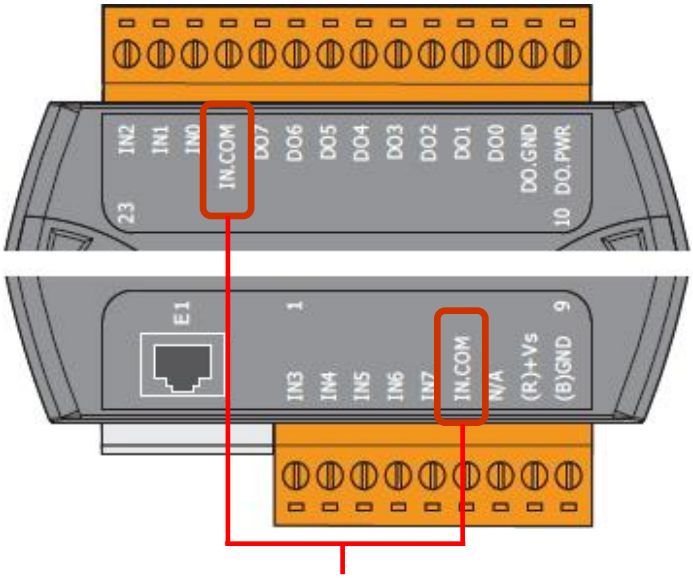
ET-7052/PET-7052/ET-7252/PET-7252

I/O Specifications

Digital Input/Counter		ET-7052	PET-7052	ET-7252	PET-7252
Channels		8			
Contact		Wet Contact			
Sink/Source (NPN/PNP)		Sink/Source			
On Voltage Level		+10 V_{DC} ~ +50V_{DC}			
Off Voltage Level		+4 V_{DC} Max.			
Input Impedance		10 KΩ			
Counter	Max. Count	4,294,967,285 (32-bit)			
	Max. Input Frequency	500 Hz		100 Hz	
	Min. Pulse Width	1 ms		5 ms	
Overvoltage Protection		70 V_{DC}			
Digital Output					
Channels		8			
Type		Isolated Open Collector			
Sink/Source (NPN/PNP)		Source			
Max. Load Current		650 mA/Channel at 25°C			
Load Voltage		+10 V_{DC} ~ +40 V_{DC}			
Overvoltage Protection		47 V_{DC}			
Overload Protection		-			
Short-circuit Protection		Yes			
Power-on Value		Yes, Programmable			
Safe Value		Yes, Programmable			

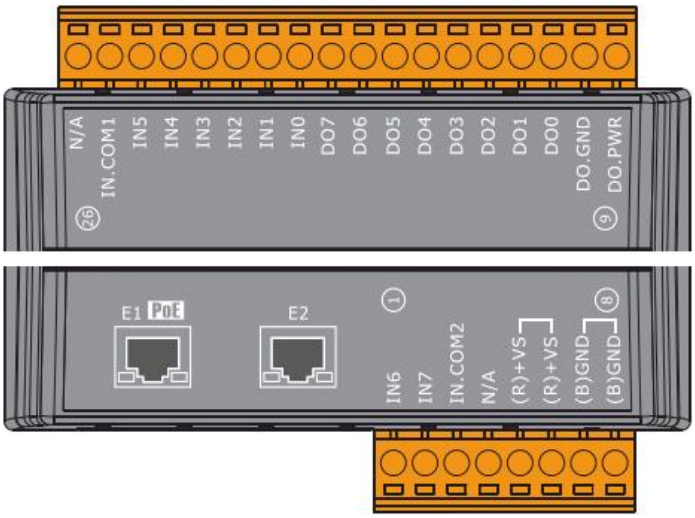
Pin Assignments

ET-7052/PET-7052

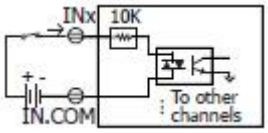
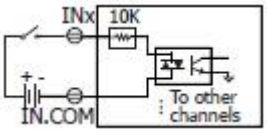
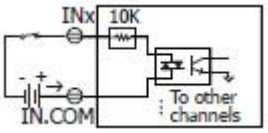
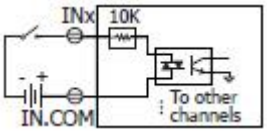


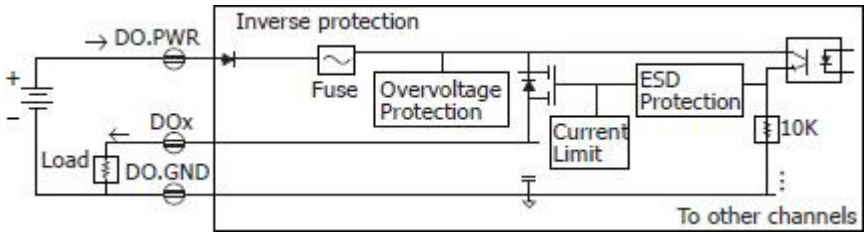
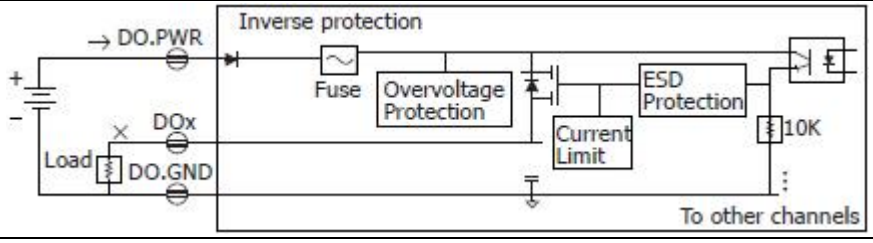
The input common terminals are electrically isolated, each having independent wiring.

ET-7252/PET-7252



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Source	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

Digital Output	ON State Readback as 1
Source	
	OFF State **Readback as 0**
	

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00007	0000 : 0007	8	DO value	0: Off 1: On	R/W	-
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00041	0022 : 0029	8	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00158	0097 : 009E	8	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00242	00EB : 00F2	8	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00274	010B : 0112	8	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10007	0000 : 0007	8	DI value	0: Off 1: On	R
10032 : 10039	0020 : 0027	8	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10071	0040 : 0047	8	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30031	0010 : 001F	8	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	8	R
30110	006E	1	1	Number of the DO channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160 : 30161	00A0 : 00A1	2	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

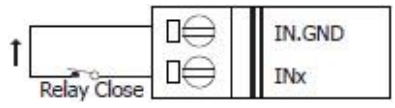
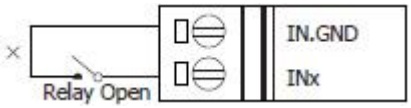
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40065	0032 : 0041	8	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7052	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7053/PET-7053/ET-7253/PET-7253

I/O Specifications

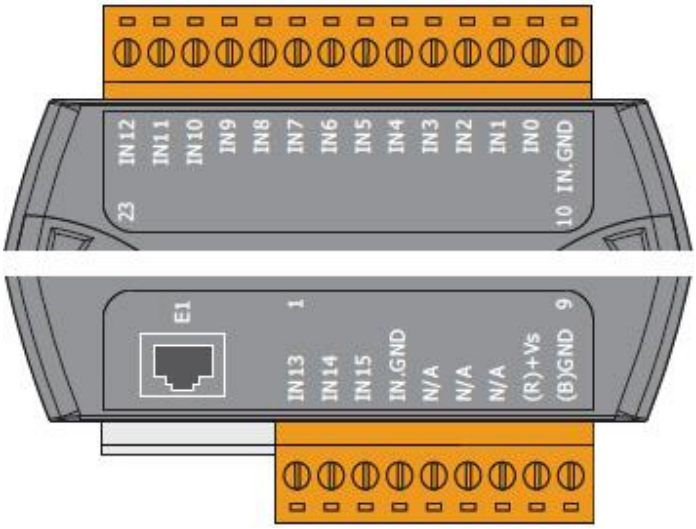
Digital Input/Counter		ET-7053	PET-7053	ET-7253	PET-7253
Channels		16			
Contact		Dry Contact			
Sink/Source (NPN/PNP)		Source			
On Voltage Level		Close to GND			
Off Voltage Level		Open			
Counter	Max. Count	4,294,967,285 (32-bit)			
	Max. Input Frequency	500 Hz		100 Hz	
	Min. Pulse Width	1 ms		5 ms	
Overvoltage Protection		-			
Effective Distance		500 M Max.			

Wire Connections

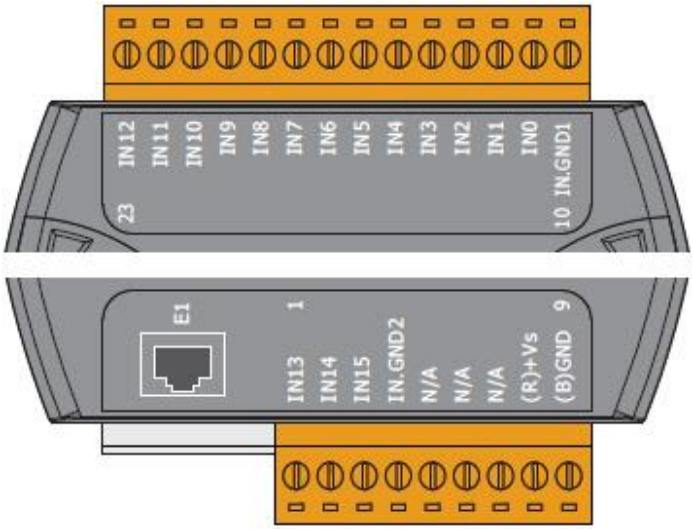
Digital Input/Counter	ON State Readback as 1
Dry Contact	
	OFF State **Readback as 0**
	

Pin Assignments

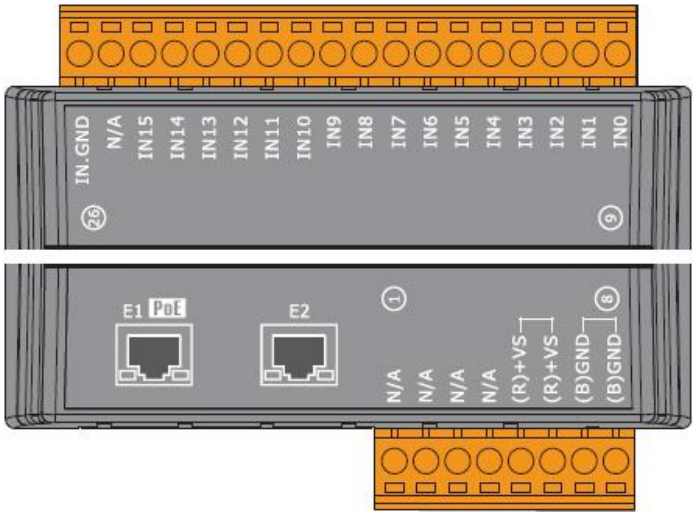
ET-7053



PET-7053



ET-7253/PET-7253



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00049	0022 : 0031	16	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00166	0097 : 00A6	16	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10015	0000 : 000F	16	DI value	0: Off 1: On	R
10032 : 10047	0020 : 002F	16	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10079	0040 : 004F	16	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30047	0010 : 002F	16	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	16	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30161	00A1	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40081	0032 : 0051	16	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40260	0104	1	1	Read the module name	0x7053	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

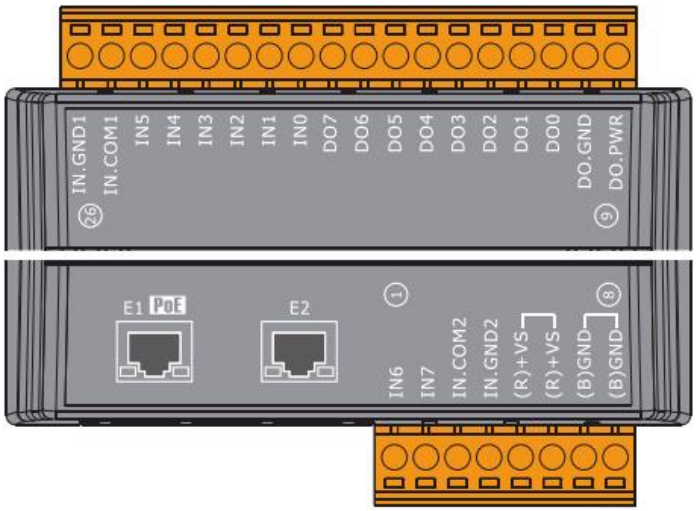
ET-7255/PET-7255

I/O Specifications

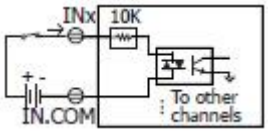
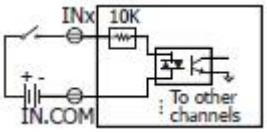
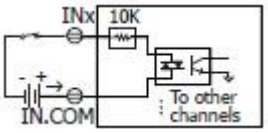
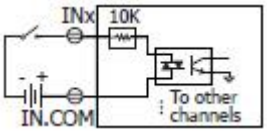
Digital Input/Counter		ET-7255	PET-7255
Channels		8	
Contact		Dry and Wet Contact	
Sink/Source (NPN/PNP)		Dry: Source Wet: Sink/Source	
Wet Contact	On Voltage Level	+10 V_{DC} ~ +50 V_{DC}	
	Off Voltage Level	+4 V_{DC} Max.	
Dry Contact	On Voltage Level	Close to GND	
	Off Voltage Level	Open	
Input Impedance		10 KΩ	
Counters	Max. Count	4,294,967,285 (32-bit)	
	Max. Input Frequency	100 Hz	
	Min. Pulse Width	5 ms	
Overvoltage Protection		+70 V_{DC}	
Effective Distance		500 Meter Max.	
Digital Output			
Channels		8	
Type		Isolated Open Collector	
Sink/Source (NPN/PNP)		Source	
Max. Load Current		650 mA/channel at 25°C	
Load Voltage		+10 V_{DC} ~ +40 V_{DC}	
Overvoltage Protection		47 V_{DC}	
Overload Protection		-	
Short-circuit Protection		Yes	
Power-on Value		Yes, Programmable	
Safe Value		Yes, Programmable	

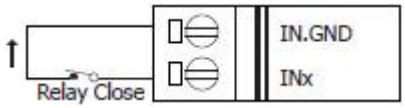
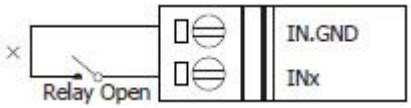
Pin Assignments

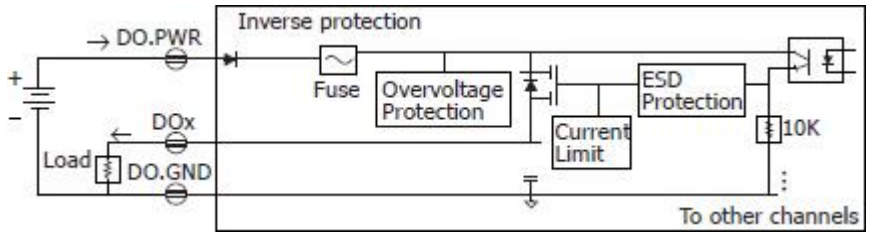
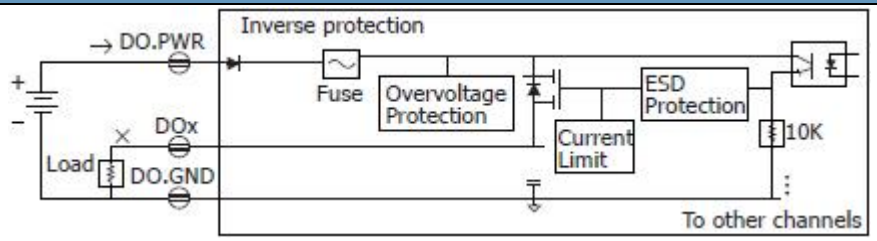
ET-7255/PET-7255



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Wet Contact (Sink)	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Wet Contact (Source)	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact		

Digital Output	ON State Readback as 1
Source	
	OFF State Readback as 0
	

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00007	0000 : 0007	8	DO value	0: Off 1: On	R/W	-
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00041	0022 : 0029	8	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00158	0097 : 009E	8	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00242	00EB : 00F2	8	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00274	010B : 0112	8	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10007	0000 : 0007	8	DI value	0: Off 1: On	R
10032 : 10039	0020 : 0027	8	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10071	0040 : 0047	8	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30031	0010 : 001F	8	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	6	R
30110	006E	1	1	Number of the DO channel	6	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160 : 30161	00A0 : 00A1	2	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

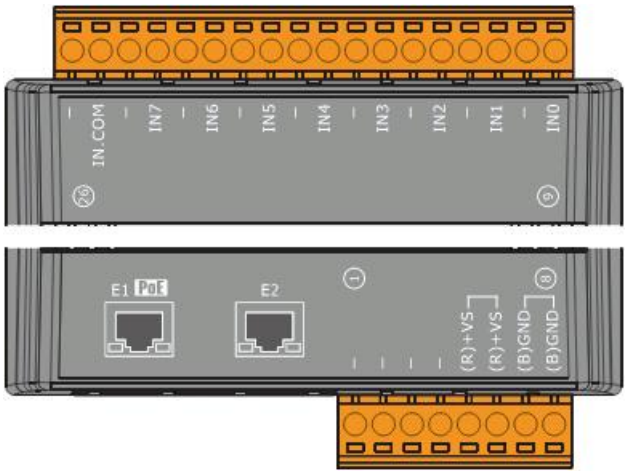
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40065	0032 : 0041	8	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7055	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7258/PET-7258

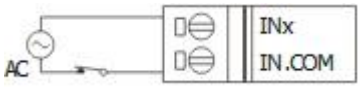
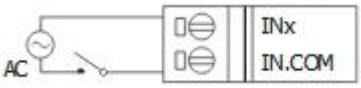
I/O Specifications

AC Digital Input/Counter		ET-7258	PET-7258
Channels		8	
Contact		Wet Contact	
Sink/Source (NPN/PNP)		Sink/Source	
On Voltage Level		80 V_{AC} ~ 250 V_{AC}	
		90 V_{DC} ~ 250 V_{DC}	
Off Voltage Level		30 V_{AC} Max.	
		30 V_{DC} Max.	
Input Impedance		150 KΩ	
Counters	Max. Count	4,294,967,285 (32-bit)	
	Max. Input Frequency	100 Hz	
	Min. Pulse Width	5 ms	
Overvoltage Protection		300 V_{AC}	

Pin Assignments



Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
AC Digital Input	80 V_{AC} ~ 250 V_{AC}	Open or < 30 V_{AC}
		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00041	0022 : 0029	8	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00158	0097 : 009E	8	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10007	0000 : 0007	8	DI value	0: Off 1: On	R
10032 : 10039	0020 : 0027	8	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10071	0040 : 0047	8	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30031	0010 : 001F	8	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30161	00A1	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

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Holding Register (4xxxx)

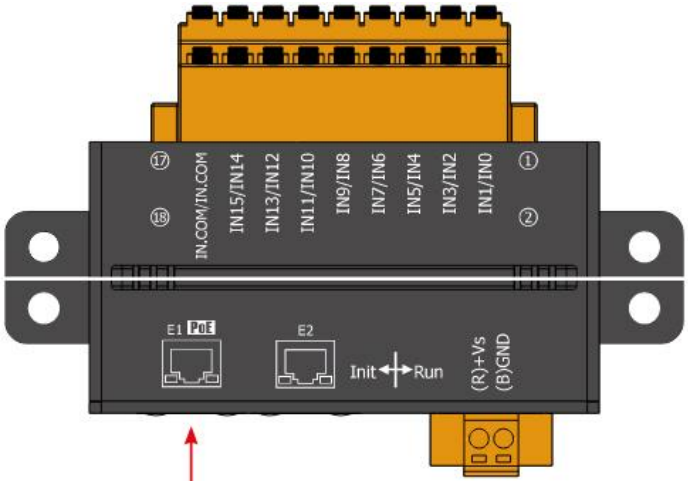
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40065	0032 : 0041	8	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7258	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7258M-16/PET-7258M-16

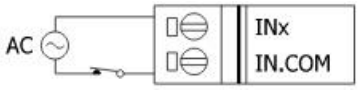
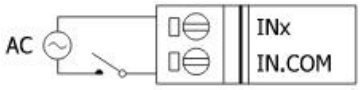
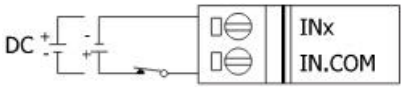
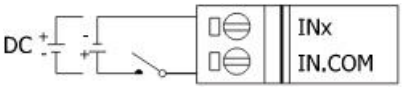
I/O Specifications

AC Digital Input/Counter		ET-7258M-16	PET-7258M-16
Channels		16	
Contact		Wet Contact	
Sink/Source (NPN/PNP)		Sink/Source	
On Voltage Level		80 V_{AC} ~ 250 V_{AC}	
		±100 V_{DC} ~ ±250 V_{DC}	
Off Voltage Level		30 V_{AC} Max.	
		±30 V_{DC} Max.	
Input Impedance		150 KΩ	
Counters	Max. Count	4,294,967,285 (32-bit)	
	Max. Input Frequency	100 Hz	
	Min. Pulse Width	5 ms	
Overvoltage Protection		300 V_{AC}	

Pin Assignments



Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
AC Digital Input	80 V_{AC} ~ 250 V_{AC}	Open or < 30 V_{AC}
		
DC Digital Input	±100 V_{DC} ~ ±250 V_{DC}	Open or < ±30 V_{DC}
		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00049	0022 : 0031	16	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00166	0097 : 00A6	16	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10015	0000 : 000F	16	DI value	0: Off 1: On	R
10032 : 10047	0020 : 002F	16	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10079	0040 : 004F	16	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30047	0010 : 002F	16	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	16	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30161	00A1	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

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Holding Register (4xxxx)

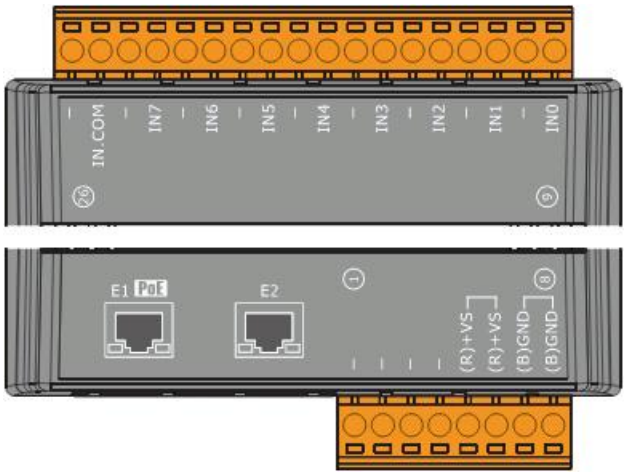
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40081	0032 : 0051	16	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7258	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7259/PET-7259

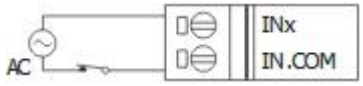
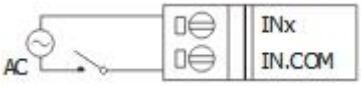
I/O Specifications

AC Digital Input/Counter		ET-7259	PET-7259
Channels		8	
Contact		Wet Contact	
Sink/Source (NPN/PNP)		Sink/Source	
On Voltage Level		10 V_{AC} ~ 80 V_{AC}	
		15 V_{DC} ~ 80 V_{DC}	
Off Voltage Level		3 V_{AC} Max.	
		3 V_{DC} Max.	
Input Impedance		30 KΩ	
Counters	Max. Count	4,294,967,285 (32-bit)	
	Max. Input Frequency	100 Hz	
	Min. Pulse Width	5 ms	
Overvoltage Protection		120 V_{AC}	

Pin Assignments



Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
AC Digital Input	10 V_{AC} ~ 80 V_{AC}	Open or < 3 V_{AC}
		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00041	0022 : 0029	8	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00158	0097 : 009E	8	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10007	0000 : 0007	8	DI value	0: Off 1: On	R
10032 : 10039	0020 : 0027	8	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10071	0040 : 0047	8	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30031	0010 : 001F	8	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30161	00A1	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

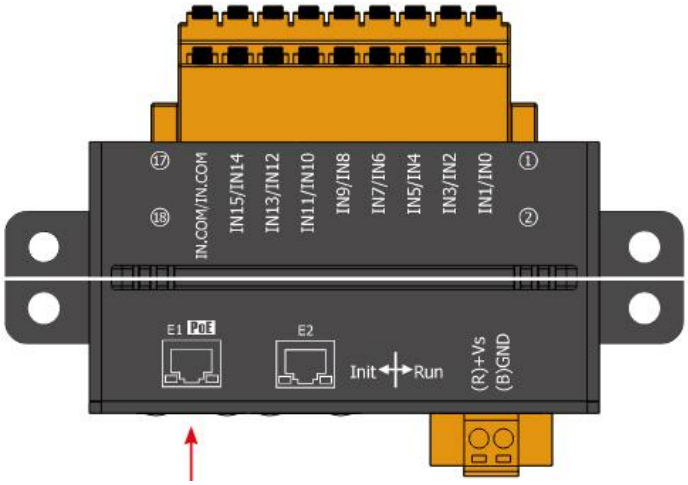
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40065	0032 : 0041	8	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7259	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7259M-16/PET-7259M-16

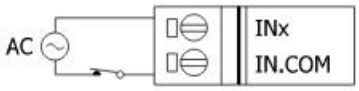
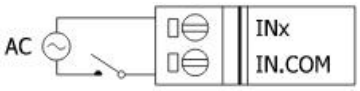
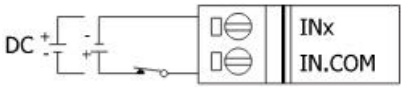
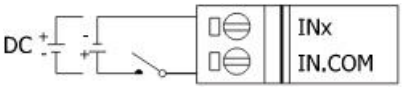
I/O Specifications

AC Digital Input/Counter		ET-7259M-16	PET-7259M-16
Channels		16	
Contact		Wet Contact	
Sink/Source (NPN/PNP)		Sink/Source	
On Voltage Level		15 V_{AC} ~ 90 V_{AC}	
		±20 V_{DC} ~ ±90 V_{DC}	
Off Voltage Level		3 V_{AC} Max.	
		±3 V_{DC} Max.	
Input Impedance		30 KΩ	
Counters	Max. Count	4,294,967,285 (32-bit)	
	Max. Input Frequency	100 Hz	
	Min. Pulse Width	5 ms	
Overvoltage Protection		120 V_{AC}	

Pin Assignments



Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
AC Digital Input	15 V_{AC} ~ 90 V_{AC}	Open or < 3 V_{AC} Max.
		
DC Digital Input	±20 V_{DC} ~ ±90 V_{DC}	Open or < ±3 V_{DC} Max.
		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00049	0022 : 0031	16	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00166	0097 : 00A6	16	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10015	0000 : 000F	16	DI value	0: Off 1: On	R
10032 : 10047	0020 : 002F	16	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10079	0040 : 004F	16	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30047	0010 : 002F	16	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	16	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30161	00A1	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40065	0032 : 0041	8	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7259	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7060/PET-7060/ET-7260/PET-7260

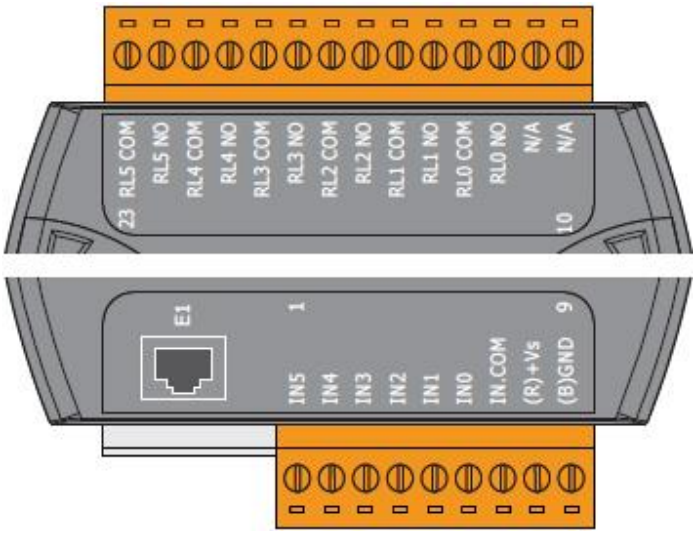
I/O Specifications

Digital Input/Counter		ET-7060	PET-7060	ET-7260	PET-7260
Channels		6			
Contact		Wet Contact			
Sink/Source (PNP/NPN)		Sink/Source			
On Voltage Level		+10 V_{DC} ~ +50V_{DC}			
Off Voltage Level		+4 V_{DC} Max.			
Input Impedance		10 KΩ			
Counters	Max. Count	4,294,967,285 (32-bit)			
	Max. Input Frequency	500 Hz		100 Hz	
	Min. Pulse Width	1 ms		5 ms	
Overvoltage Protection		70 V_{DC}			

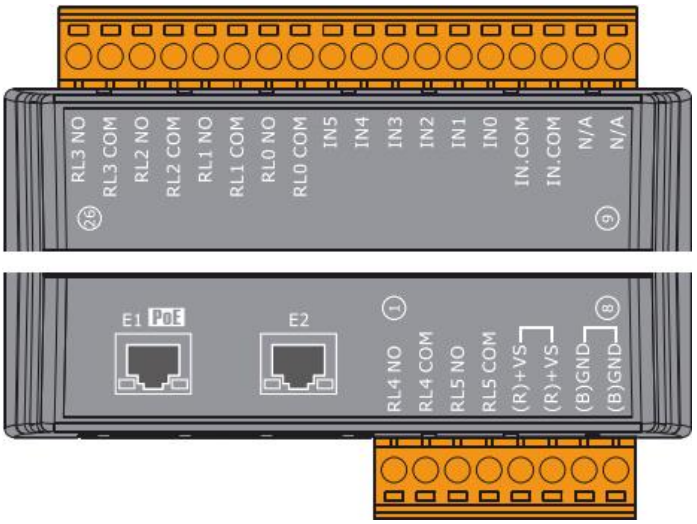
Power Relay	
Channels	6
Type	Power Relay, Form A (SPST N.O.)
Contact Rating	5 A @ 250 V_{AC}/24 V_{DC} (Resistive Load)
Min. Contact Load	10 mA @ 5 V
Operate Time	10 ms (max.)
Release Time	5 ms (max.)
Mechanical Endurance	20,000,000 ops.
Electrical Endurance	100,000 ops.
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments

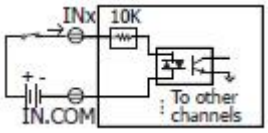
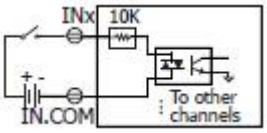
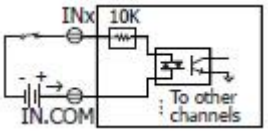
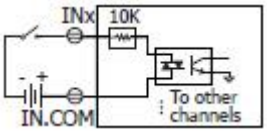
ET-7060/PET-7060

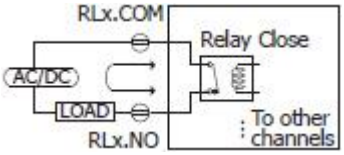
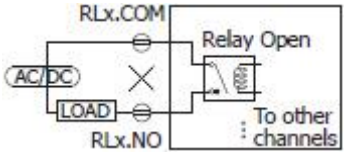


ET-7260/PET-7260



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Source	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00005	0000 : 0005	6	DO value	0: Off 1: On	R/W	-
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00039	0022 : 0027	6	Clear the DI counter value	1: Clear	W	-
00064 : 00069	0040 : 0045	6	DI value	0: Off 1: On	R	
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00156	0097 : 009C	6	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00240	00EB : 00F0	6	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00272	010B : 0110	6	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10005	0000 : 0005	6	DI value	0: Off 1: On	R
10032 : 10037	0020 : 0025	6	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10069	0040 : 0045	6	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30027	0010 : 001B	6	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	6	R
30110	006E	1	1	Number of the DO channel	6	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160 : 30161	00A0 : 00A1	2	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40061	0032 : 003D	6	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7060	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

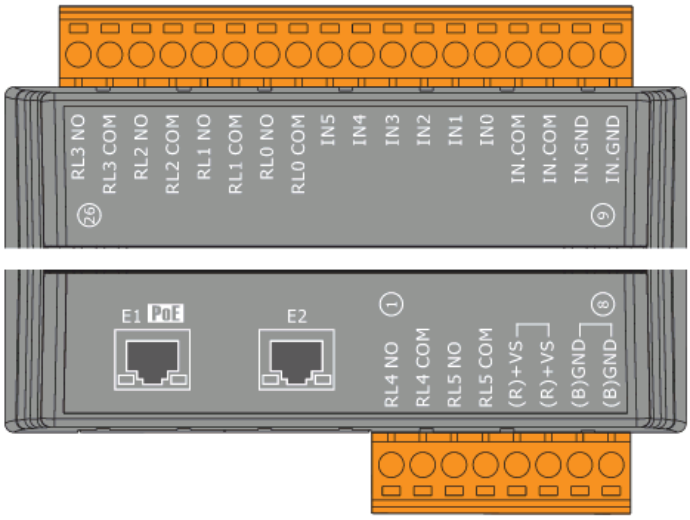
ET-7260A/PET-7260A

I/O Specifications

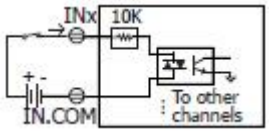
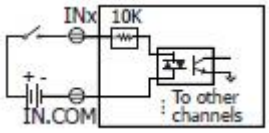
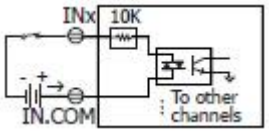
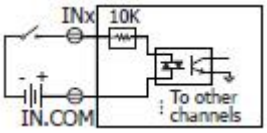
Digital Input/Counter		ET-7260A	PET-7260A
Channels		6	
Contact		Dry Contact, Wet Contact	
Sink/Source (PNP/NPN)		Wet: Sink/Source Dry: Source	
On Voltage Level	Wet	+10 V_{DC} ~ +50V_{DC}	
	Dry	Close to GND	
Off Voltage Level	Wet	+4 V_{DC} Max.	
	Dry	Open	
Input Impedance		10 KΩ	
Counters	Max. Count	4,294,967,285 (32-bit)	
	Max. Input Frequency	100 Hz	
	Min. Pulse Width	5 ms	
Overvoltage Protection		70 V_{DC}	
Power Relay			
Channels		6	
Type		Power Relay, Form A (SPST N.O.)	
Contact Rating		5 A @ 250 V_{AC}/24 V_{DC} (Resistive Load)	
Min. Contact Load		10 mA @ 5 V	
Operate Time		10 ms (max.)	
Release Time		5 ms (max.)	
Mechanical Endurance		20,000,000 ops.	
Electrical Endurance		100,000 ops.	
Power-on Value		Yes, Programmable	
Safe Value		Yes, Programmable	

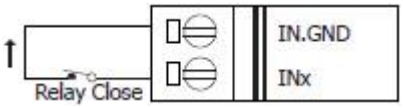
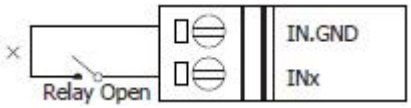
Pin Assignments

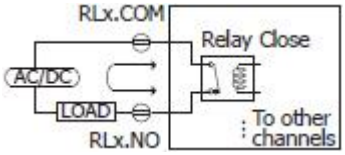
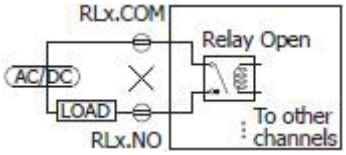
ET-7260A/PET-7260A



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Source	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact		

Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00005	0000 : 0005	6	DO value	0: Off 1: On	R/W	-
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00039	0022 : 0027	6	Clear the DI counter value	1: Clear	W	-
00064 : 00069	0040 : 0045	6	DI value	0: Off 1: On	R	
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00156	0097 : 009C	6	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00240	00EB : 00F0	6	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00272	010B : 0110	6	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 10005	0000 : 0005	6	DI value	0: Off 1: On	R
10032 : 10037	0020 : 0025	6	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10069	0040 : 0045	6	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30027	0010 : 001B	6	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	6	R
30110	006E	1	1	Number of the DO channel	6	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160 : 30161	00A0 : 00A1	2	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40061	0032 : 003D	6	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40082 : 40087	0052 : 0057	6	1	Enable/Disable the digital output values to a predefined safe status when the following situations arise: 1. Host Watchdog timeout expired 2. Pair-connection failed	0: Disabled - Maintain the current status 1: Enabled - Host Watchdog 2: Enabled – Pair Connection	R/W/E	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7260	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

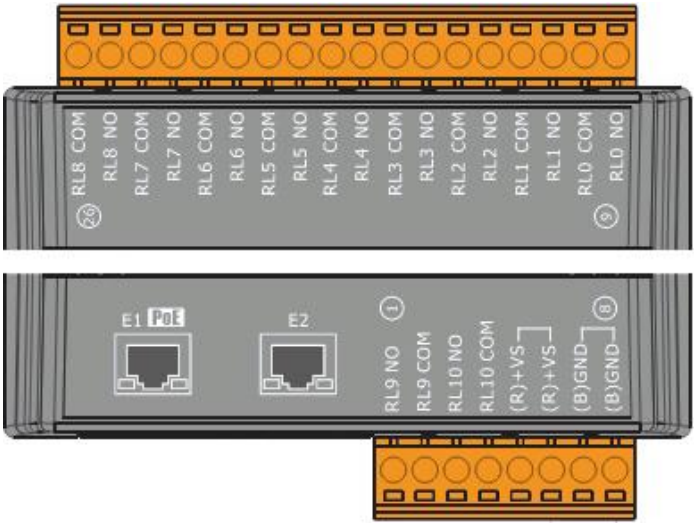
ET-7261/PET-7261

I/O Specifications

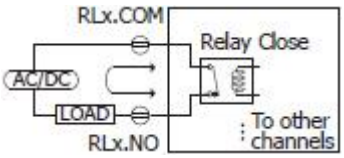
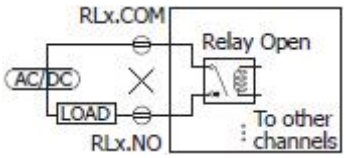
PhotoMOS Relay	
Channels	11
Type	Power Relay, Form A (SPST N.O.)
Contact Rating	5 A @ 250 V_{AC}/24 V_{DC} (Resistive Load)
Man. Contact Load	10 mA/5 V
Operate Time	10 ms (max.)
Release Time	5 ms (max.)
Electrical Endurance	100,000 ops.
Mechanical Life	20,000,000 ops.
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments

ET-7261/PET-7261



Wire Connections

Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00010	0000 : 000A	11	DO value	0: Off 1: On	R/W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00245	00EB : 00F5	11	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00277	010B : 0115	11	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30110	006E	1	1	Number of the DO channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160	00A0	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7061	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

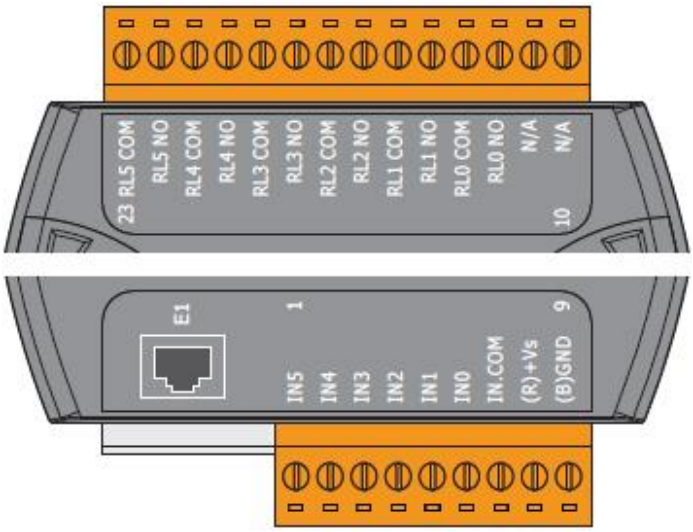
ET-7065/PET-7065

I/O Specifications

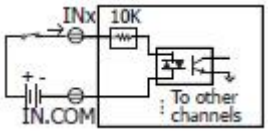
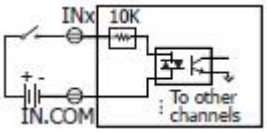
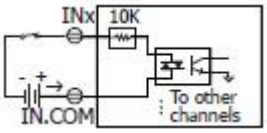
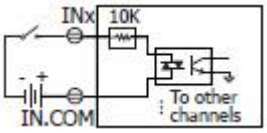
Digital Input/Counter		
Channels		6
Contact		Wet Contact
Sink/Source		Sink/Source
On Voltage Level		+10 V_{DC} ~ +50V_{DC}
Off Voltage Level		+4 V_{DC} Max.
Input Impedance		10 KΩ
Counters	Max. Count	4,294,967,285 (32-bit)
	Max. Input Frequency	500 Hz
	Min. Pulse Width	1 ms
Overvoltage Protection		70 V_{DC}

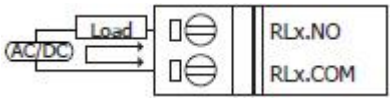
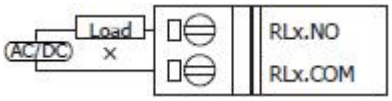
PhotoMOS Relay	
Channels	6
Type	PhotoMOS Relay, Form A
Load Voltage	60 V_{DC} / 60 V_{AC}
Max. Load Current	60 V/1.0 A (Operating Temperature -25°C ~ 40°C)
	60 V/0.8 A (Operating Temperature 40°C ~ 60°C)
	60 V/0.7 A (Operating Temperature 60°C ~ 75°C)
Operate Time	1.3 ms (Typical)
Release Time	0.1 ms (Typical)
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments



Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		
Source	+10 ~ +50 V_{DC}	Open or <4 V_{DC}
		

PhotoMOS Relay	ON State Readback as 1	OFF State Readback as 0
Form A Relay Contact		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00005	0000 : 0005	6	DO value	0: Off 1: On	R/W	-
00032	0020	1	Clear the historical max. value for all DI channels	1: Clear	W	-
00033	0021	1	Clear the historical min. value for all DI channels	1: Clear	W	-
00034 : 00039	0022 : 0027	6	Clear the DI counter value	1: Clear	W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00150	0096	1	Enable/Disable the DI latch function	0: Disable 1: Enable	R/W/E	0
00151 : 00156	0097 : 009C	6	Enable/Disable the DI counter function	0: Disable 1: Enable	R/W/E	0
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO save value to the EEPROM	1: Save	W/E	-
00235 : 00240	00EB : 00F0	6	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00272	010B : 0110	6	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10000 : 1005	0000 : 0005	6	DI value	0: Off 1: On	R
10032 : 10037	0020 : 0025	6	Read DI “high latch” status	0: Normal 1: Latched	R
10064 : 10069	0040 : 0045	6	Read DI “low latch” status	0: Normal 1: Latched	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30027	0010 : 001B	6	2	DI counter value	0 to 4294967295	R
30100	0064	1	1	Number of the DI channel	6	R
30110	006E	1	1	Number of the DO channel	6	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160 : 30161	00A0 : 00A1	2	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

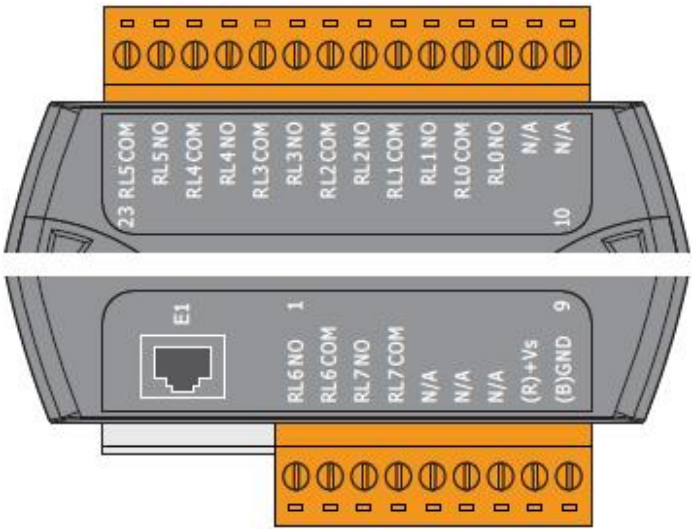
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40050 : 40061	0032 : 003D	6	2	Set a preset value for the DI Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7065	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7066/PET-7066

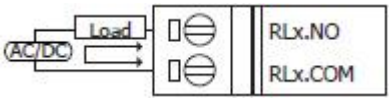
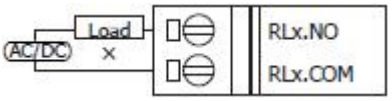
I/O Specifications

PhotoMOS Relay	
Channels	8
Type	PhotoMOS Relay, Form A
Load Voltage	60 V_{DC} / 60 V_{AC}
Max. Load Current	60 V/1.0 A (Operating Temperature -25°C ~ 40°C)
	60 V/0.8 A (Operating Temperature 40°C ~ 60°C)
	60 V/0.7 A (Operating Temperature 60°C ~ 75°C)
Operate Time	1.3 ms (Typical)
Release Time	0.1 ms (Typical)
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments



Wire Connections

PhotoMOS Relay	ON State Readback as 1	OFF State Readback as 0
Form A Relay Contact		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00007	0000 : 0007	8	DO value	0: Off 1: On	R/W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00242	00EB : 00F2	8	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00274	010B : 0112	8	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30110	006E	1	1	Number of the DO channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160	00A0	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7066	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

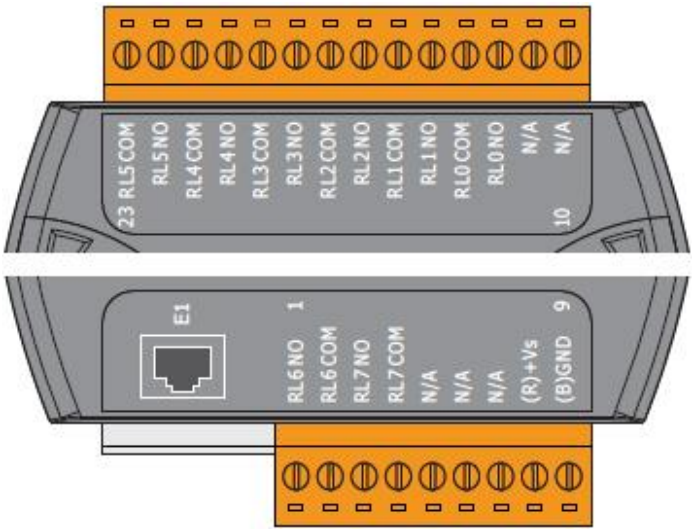
ET-7067/PET-7067/ET-7267/PET-7267

I/O Specifications

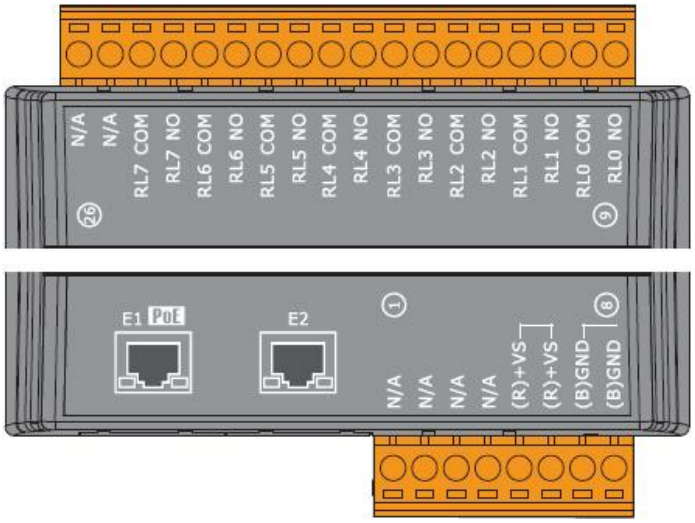
PhotoMOS Relay	
Channels	8
Type	Power Relay, Form A (SPST N.O.)
Contact Rating	5 A @ 250 V_{AC} / 24 V_{DC} (Resistive Load)
Min. Contact Load	10 mA @ 5 V
Operate Time	10 ms (max.)
Release Time	5 ms (max.)
Electrical Endurance	100,000 ops.
Mechanical Life	20,000,000 ops.
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

Pin Assignments

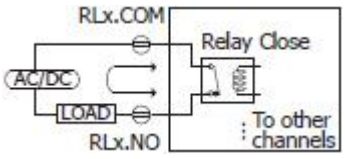
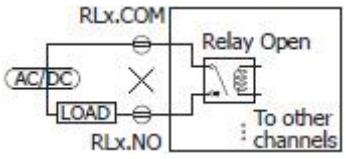
ET-7067/PET-7067



ET-7267/PET-7267



Wire Connections

Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00007	0000 : 0007	8	DO value	0: Off 1: On	R/W	-
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00231	00E7	1	Save the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Save the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00242	00EB : 00F2	8	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00274	010B : 0112	8	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30110	006E	1	1	Number of the DO channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160	00A0	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

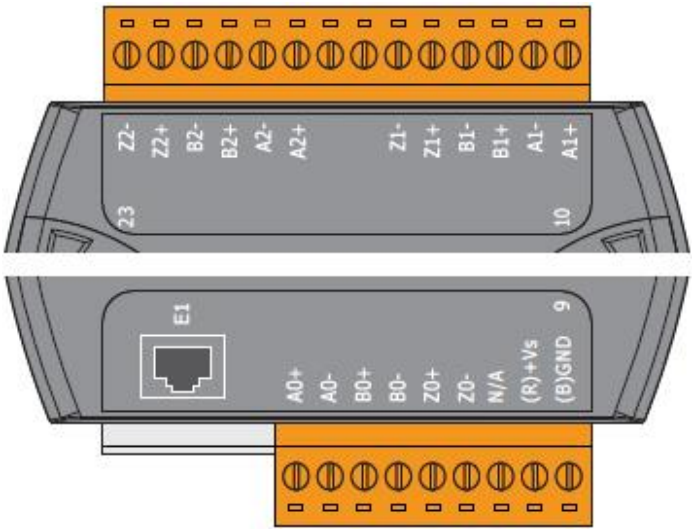
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40257	0101	1	1	Set the Host WDT timeout (unit: 0.1 second)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7067	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7083/PET-7083

I/O Specifications

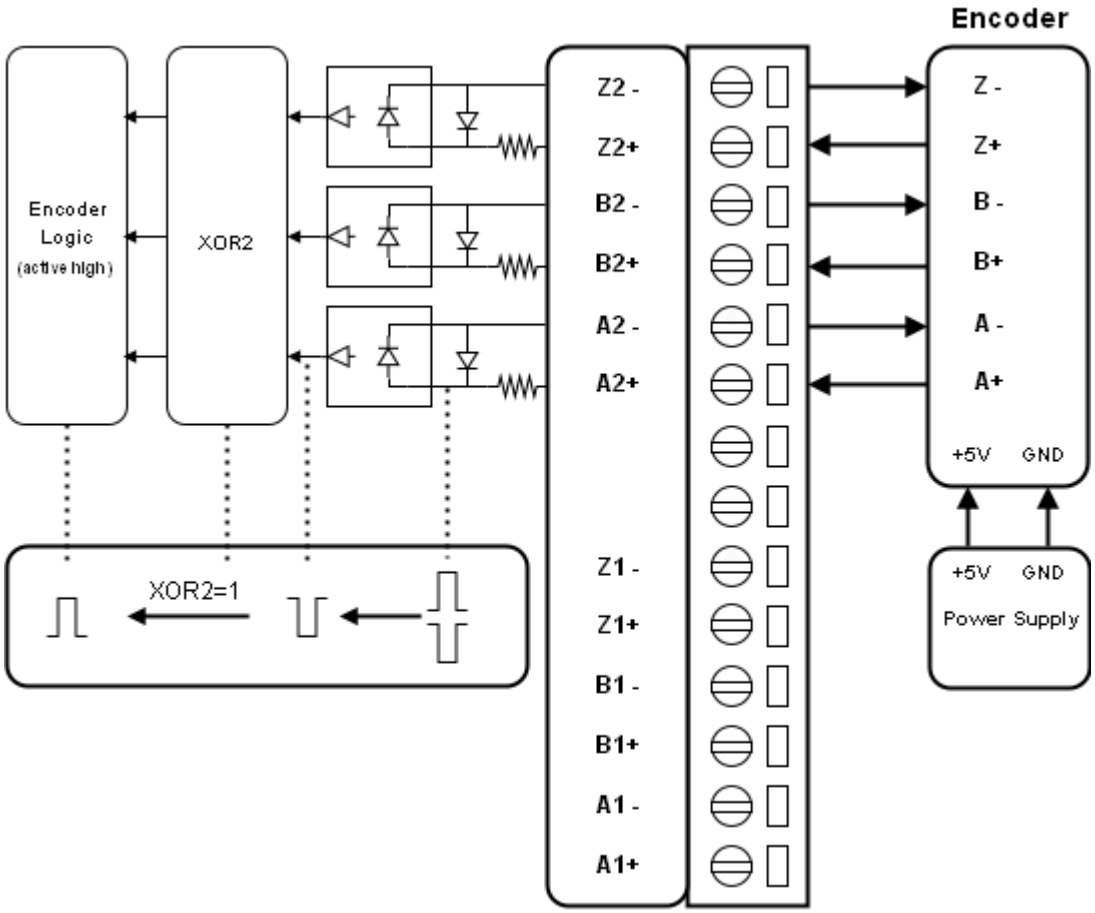
Counter Input	
Axis	3
Counting Mode	Quadrant
	CW/CCW
	Pulse/Direction
Maximum Count	4,294,967,285 (32-bit)
Maximum Counting Rate	Quadrant mode: 1 MHz
	CW/CCW mode: 4 MHz
	Pulse/Direction mode: 4 MHz
Count Value Retention	Yes, for 10 years
Counter Preset Value	Programmable
Input Signal Level	5 V_{DC}
	12 V_{DC} with 1 KΩ external resistor (1/2 W)
	22 V_{DC} with 2 KΩ external resistor (1/2 W)
Intra-module Isolation, Field to Logic	2500 Vrms

Pin Assignments

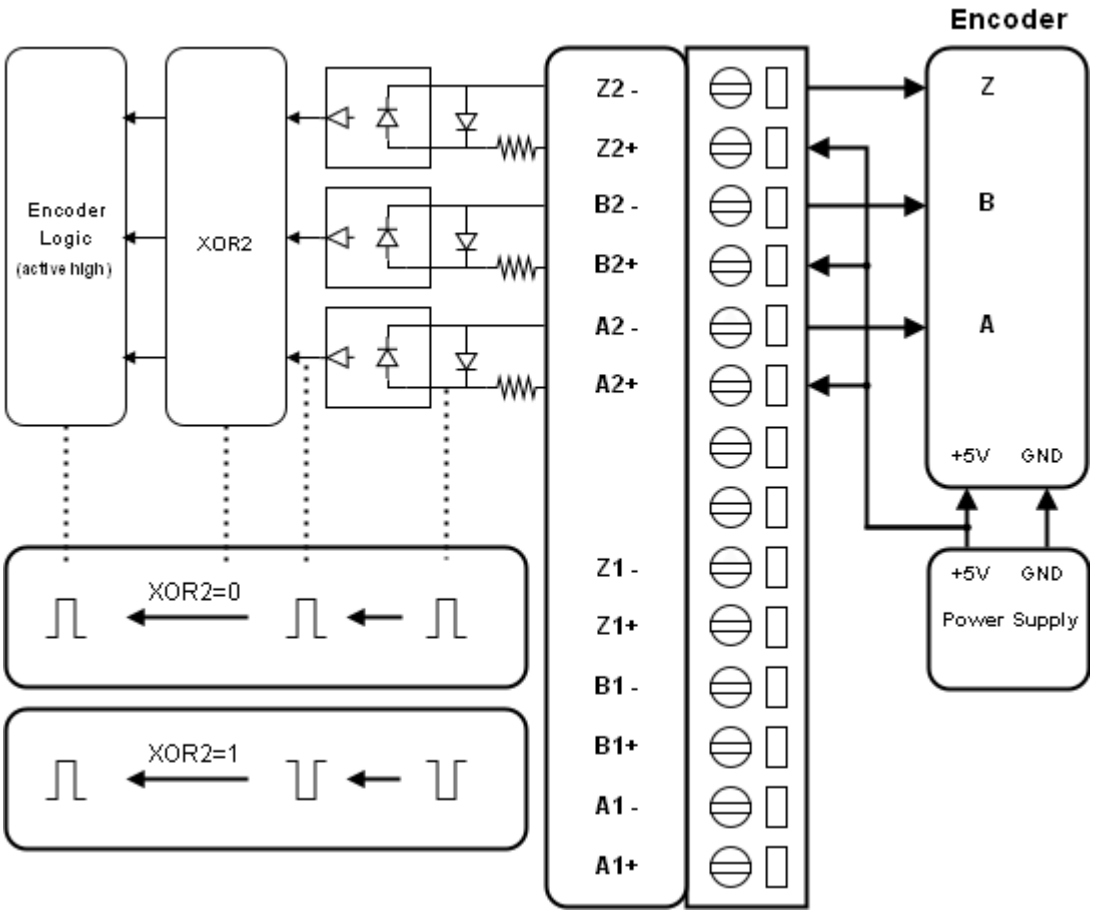


Wire Connections

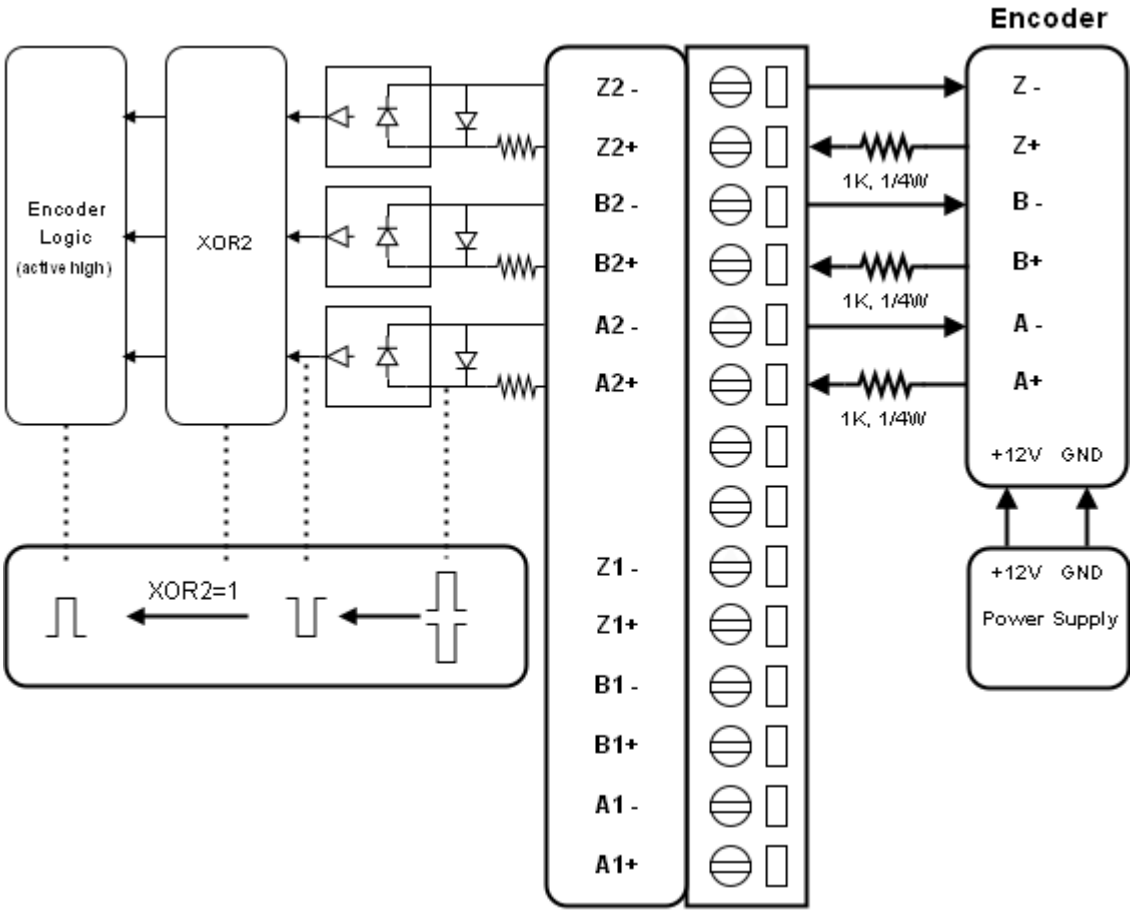
5V Differential Encoder



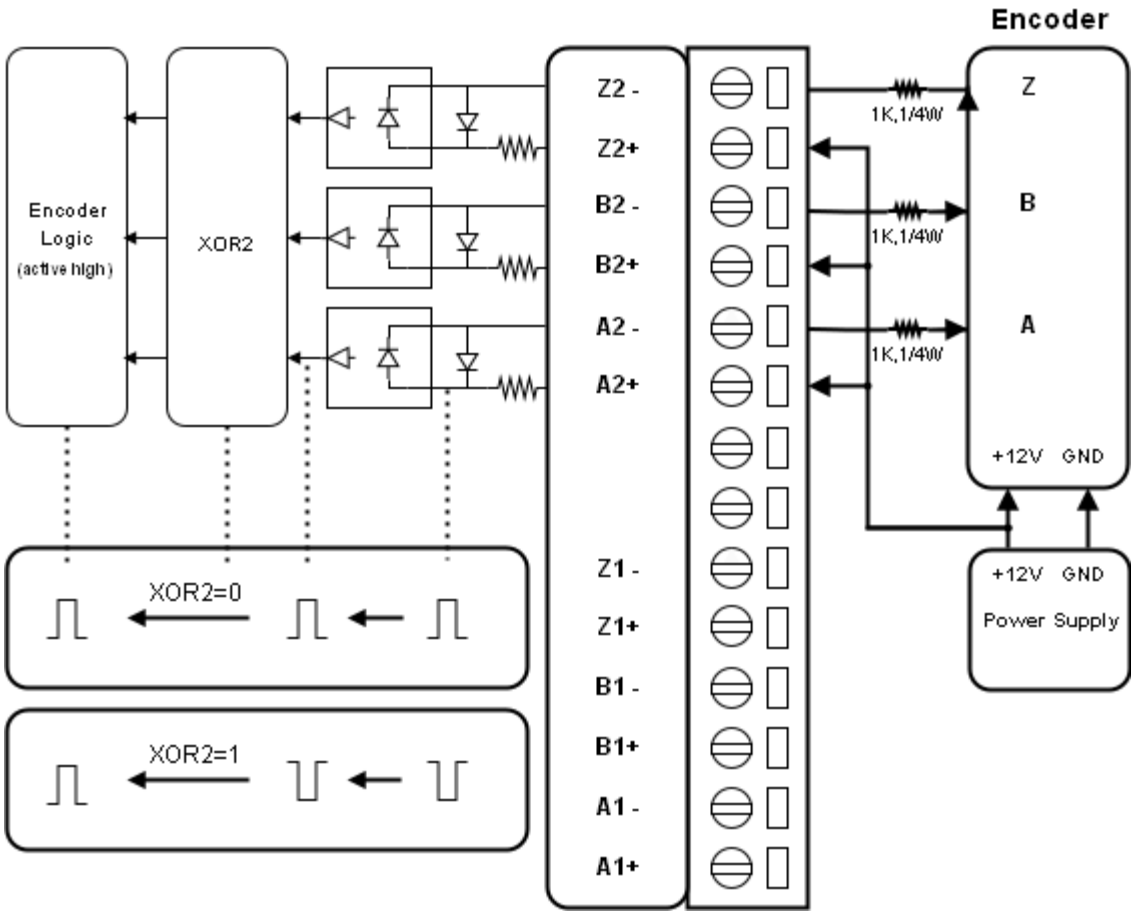
5V Single-ended Encoder



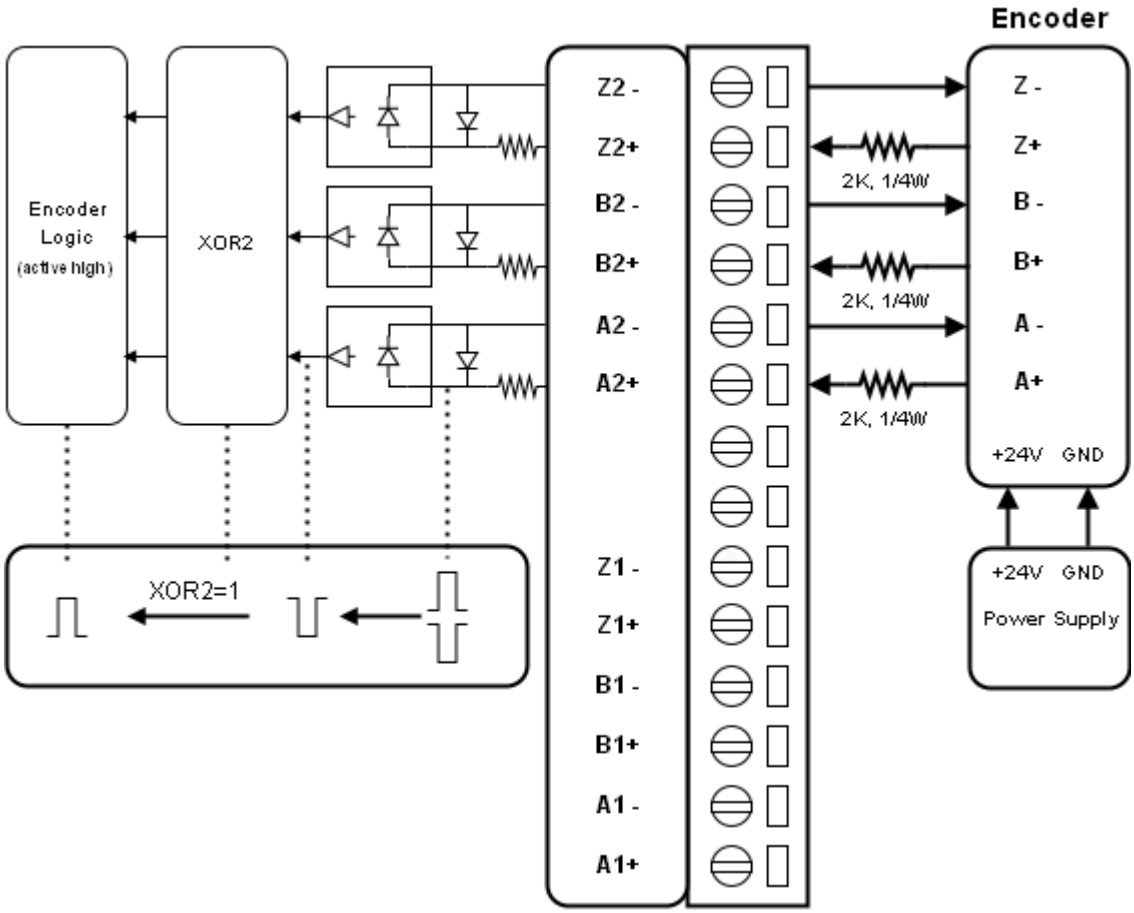
12V Differential Encoder



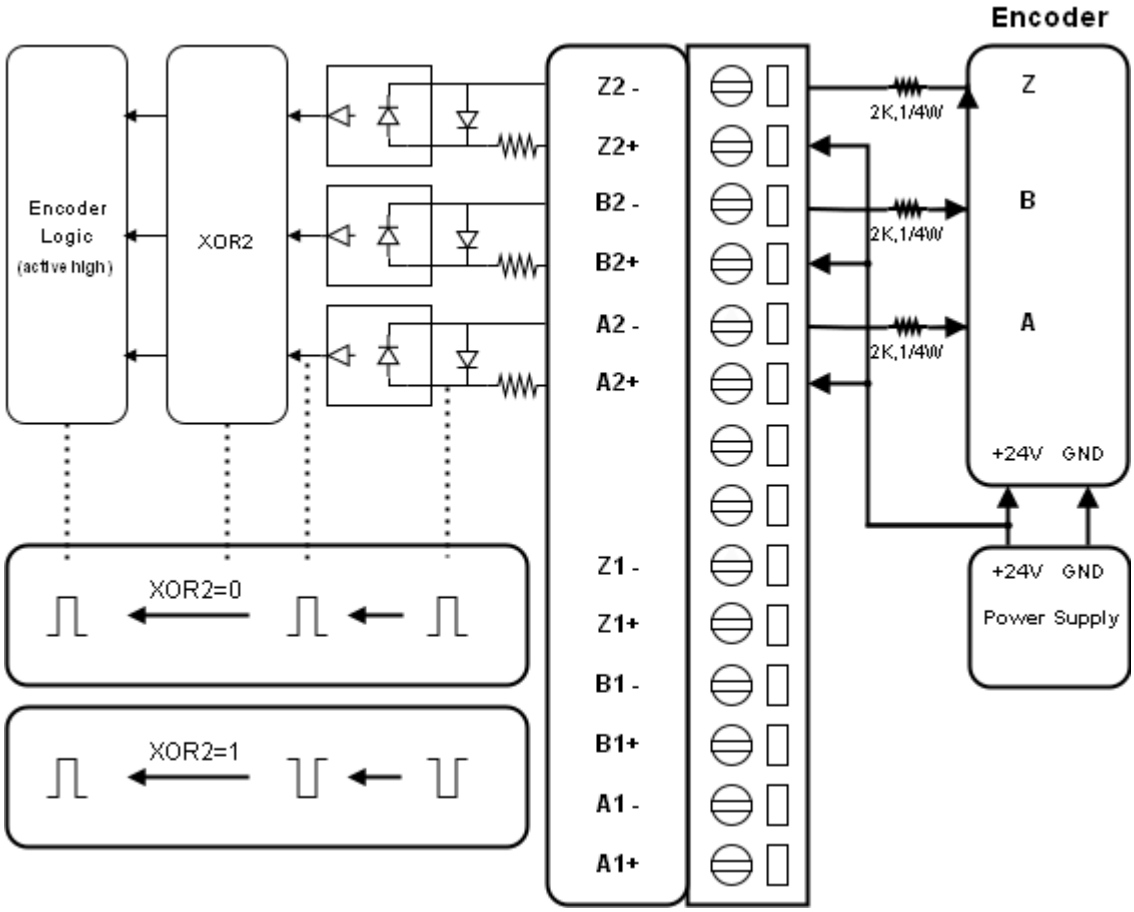
12V Single-ended Encoder



24V Differential Encoder



24V Single-ended Encoder



Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00034 : 00036	0022 : 0024	3	Clear the counter value	1: Clear	W	-
00098 : 00100	0062 : 0064	3	XOR control bit	0: Active high input 1: Active low input	R/W/E	0
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00345 : 00347	0159 : 015B	3	Back-up the counter values	0: Disable 1: Enable	R/W/E	0
00318	013E	1	Save preset values for the DI counter to the EEPROM	1: Save	W/E	-

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10096 : 10098	0060 : 0062	3	Z index channel status	0: Index channel is low 1: Index channel is high	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30021	0010 : 0015	3	2	Encoder counter value	0 to 4294967295	R
30140	008C	1	1	Number of counter channels	3	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R

Holding Register (4xxxx)

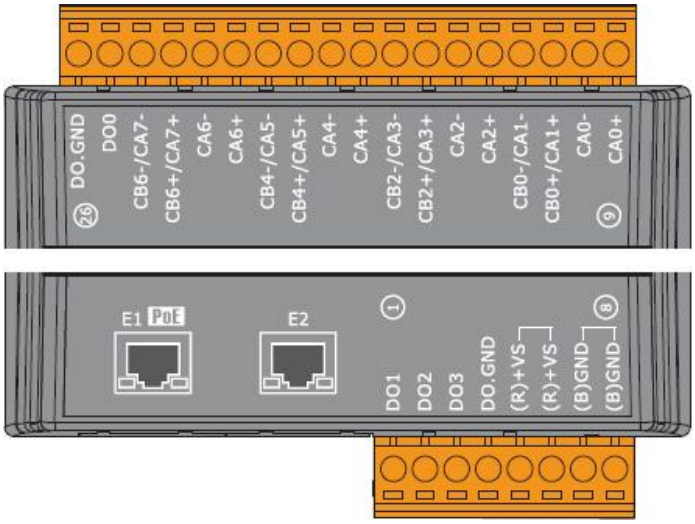
Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
30032 : 30034	0020 : 0022	3	1	Encoder counting mode	1: CW/CCW Counting Mode 2: Pulse/Direction Counting Mode 3: Quadrant Counting Mode	R/W/E	1
40050 : 40055	0032 : 0037	3	2	Set a preset value for the Counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4294967295	R/W	0
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R	-
40260	0104	1	1	Read the module name	0x7083	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

ET-7284/PET-7284

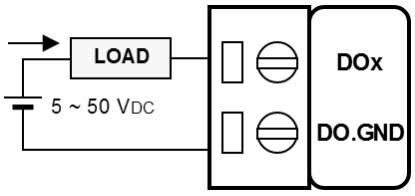
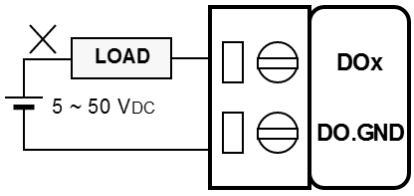
I/O Specifications

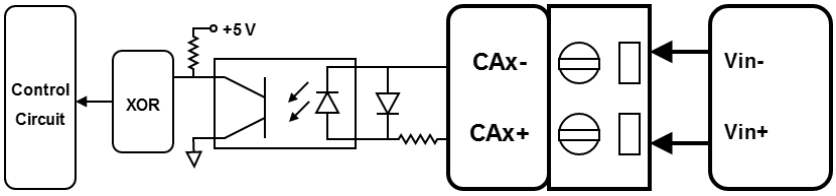
Counter/Frequency/Encoder Input	
Counter/Frequency/Encoder Input	4-channel Up/Down Counter (CW/CCW) 4-channel Dir/Pulse Counter (Bi-directional) 4-channel A/B Phase (Quadrant Counting) 8-channel Up Counter 8-channel Frequency
Contact	Wet
Sink/Source (NPN/PNP)	Sink
Maximum Count	4,294,967,295 (32-bit)
Input Level	Logic Level 0: +1 V_{DC} Max.
	Logic Level 1: +3.5 V_{DC} ~ +30 V_{DC}
Programmable Low Pass Filter	1 ~ 32767 μs
Individual Channel Configuration	Yes
Maximum Speed	200 KHz : +3.5 V_{DC} ~ +10 V_{DC}
	150 KHz : +10 V_{DC} ~ +30 V_{DC}
Frequency Accuracy	+/-0.025% Input frequency ranging from 1 Hz to 200 KHz
	+/-0.1% Input frequency ranging from 200 KHz to 1 MHz
Count Value Retention	Yes
Digital Output	
Channels	4
Type	Isolated Open Collector
Sink/Source (NPN/PNP)	Sink
Max. Load Current	650 mA/Channel
Load Voltage	+5 V_{DC} ~ +50 V_{DC}
Overvoltage Protection	60 V_{DC}
Overload Protection	1.4 A
Short-circuit Protection	Yes
Power-on Value	Yes, Programmable
Safe Value	Yes, Programmable

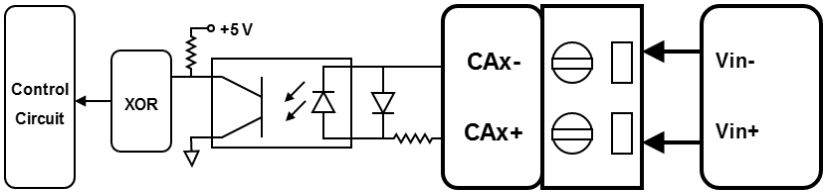
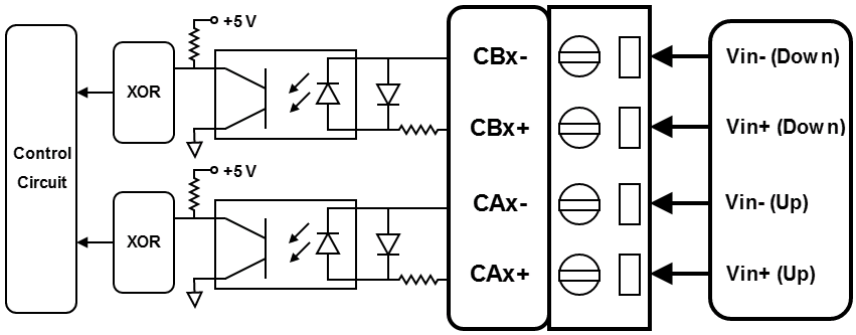
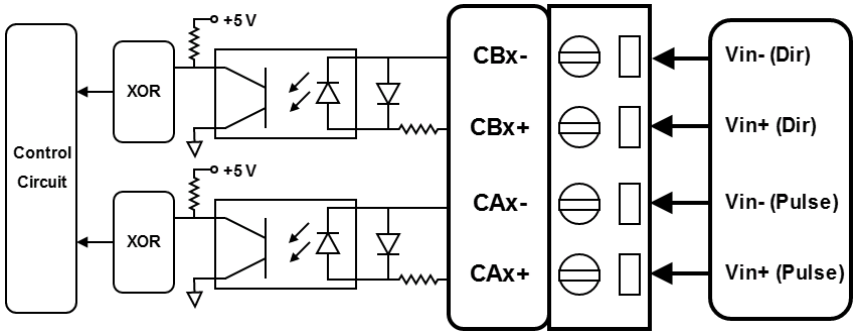
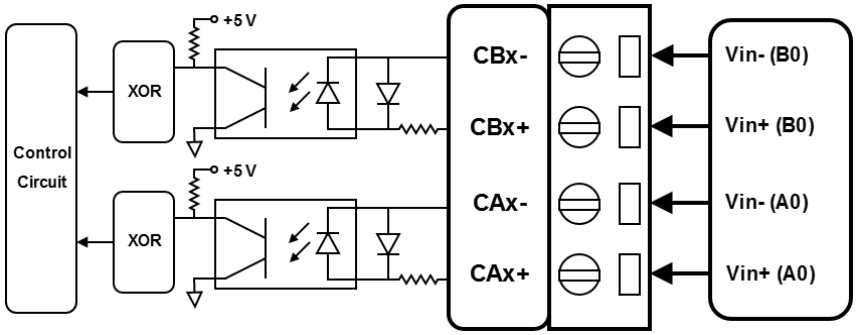
Pin Assignments



Wire Connections

Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Frequency


Counter Type	
Up Counter	
Up/Down Counter	
Dir/Pulse	
A/B Phase	

Modbus Register Table

Coils (0xxxx)

Register		Points	Description	Data Format	Attribute	Factory Value
DEC	HEX					
00000 : 00003	0000 : 0003	4	DO value	0: Off 1: On	R/W	-
00034 : 00041	0022 : 0029	8	Clear the counter value	1: Clear	W	-
00064 : 00071	0040 : 0047	8	Clear the counter overflow status	1: Clear	W	-
00080 : 00087	0050 : 0057	8	Count value retention	0: Disable 1: Enable	R/W/E	0
00096 : 00103	0060 : 0067	8	Automatic switching between high/low frequency mode	0: Disable 1: Enable	R/W/E	0
00126	007E	1	Reset the I/O settings to the factory default state	1: Reset	W	-
00133	0085	1	Reboot the module	1: Reboot	W	-
00231	00E7	1	Safe the DO power-on value to the EEPROM	1: Save	W/E	-
00232	00E8	1	Safe the DO safe value to the EEPROM	1: Save	W/E	-
00235 : 00238	00EB : 00EE	4	Enable/Disable the DO power-on value function	0: Disable 1: Enable	R/W	0
00267 : 00270	010B : 010E	4	Enable/Disable the DO safe value function	0: Disable 1: Enable	R/W	0
00318	013E	1	Save preset values for the counter to the EEPROM	1: Save	W/E	-
00319	013F	1	Save maximum values for the counter to the EEPROM	1: Save	W/E	-
00352	0160	1	Data format for frequency type	0: Hex 1: float	R/W/E	0
00360 : 00367	0168 : 016F	8	High/low frequency mode for frequency measurement	0: Normal speed 1: High speed	R/W/E	0
00376 : 00383	0178 : 017F	8	Stop counting on counter overflow	0: Disable 1: Enable	R/W/E	0
00392 : 00399	0188 : 018F	8	Enable/Disable low-pass filter for counter	0: Disable 1: Enable	R/W/E	0
00408 : 00415	0198 : 019F	8	XOR mask	0: Disable 1: Enable	R/W/E	0

Discrete Inputs (1xxxx)

Register		Points	Description	Data Format	Attribute
DEC	HEX				
10096 : 10103	0060 : 0067	8	Input status after XOR operation	0: Off 1: On	R
10112 : 10119	0070 : 0077	8	Input status after low-pass filter	0: Off 1: On	R
10128 : 10135	0080 : 0087	8	Counter overflow status	0: Underflow 1: Overflow	R

Input Register (3xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute
DEC	HEX					
30016 : 30031	0010 : 001F	8	2	Counter/frequency value	0 to 4294967295 (0 to 0xFFFFFFFF)	R
30140	008C	1	1	Number of the counter channel	8	R
30150	0096	1	1	OS image version	0x123 means version 1.2.3	R
30151	0097	1	1	Firmware version	0x123 means version 1.2.3	R
30153	0099	1	1	I/O version	0x123 means version 1.2.3	R
30160	00A0	1	1	Communication state of the pair-connection	0: Normal <0: Failed	R

Holding Register (4xxxx)

Register		Points	No. Per Point	Description	Data Format	Attribute	Factory Value
DEC	HEX						
40032 : 40039	0020 : 0027	8	1	Type code of channel	0x50: Up Counter 0x51: Frequency 0x54: Up/Down Counter (CW/CCW) 0x55: Dir/Pulse (Bi-directional) 0x56: A/B Phase (Quadrant Counting)	R/W/E	0x50
40050 : 40065	0032 : 0041	8	2	Set a preset value for the counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00318) is changed by a write operation.	0 to 4,294,967,295	R/W	0
40066 : 40081	0042 : 0051	8	2	Set a maximum value for the counter Any values updated based on the Modbus communication will not take immediate effect and not be saved to EEPROM until the register (00319) is changed by a write operation.	0 to 4,294,967,295	R/W	4294967295
40102	0066	1	1	Frequency measurement timeout (units: 100 ms)	1 to 255	R/W/E	1
40104	0068	1	1	Low-pass filter time for channel 0 and 1 (units: μs)	1 to 32767	R/W/E	1
40105	0069	1	1	Low-pass filter time for channel 2 and 3 (units: μs)	1 to 32767	R/W/E	1
40106	006A	1	1	Low-pass filter time for channel 4 and 7 (units: μs)	1 to 32767	R/W/E	1
40255	00FF	1	1	Read the module reset status	1: Power-on 2: Module Watchdog 3: Software Reset Command	R	-
40256	0100	1	1	Read the boot count of the module The factory default value is 0 when the settings are set to the factory default values.	1 to 32767	R/W/E	1

40257	0101	1	1	Set the Host WDT timeout (units: 0.1 sec)	0: Disable the Host WDT 1 to 65535: Enable the Host WDT	R/W/E	0
40258	0102	1	1	Read the WDT event count The initial value is 0 when the module is reset, and is increased when the WDT even happens.	0 to 32767	R	-
40260	0104	1	1	Read the module name	0x7284	R	-
40271	010F	1	1	Set the module identification (Modbus NetID)	0 to 255	R/W/E	1

Appendix

A. Analog Input Type and Data Format Table

Type Code	Input Range	Data Format	+F.S	-F.S
00	-15 ~ +15 mV	Engineering Unit	+15000	-15000
		2's comp HEX	7FFF	8000
01	-50 ~ +50 mV	Engineering Unit	+5000	-5000
		2's comp HEX	7FFF	8000
02	-100 ~ +100 mV	Engineering Unit	+10000	-10000
		2's comp HEX	7FFF	8000
03	-500 ~ +500 mV	Engineering Unit	+5000	-5000
		2's comp HEX	7FFF	8000
04	-1 ~ +1 V	Engineering Unit	+10000	-10000
		2's comp HEX	7FFF	8000
05	-2.5 ~ +2.5 V	Engineering Unit	+25000	-25000
		2's comp HEX	7FFF	8000
06	-20 ~ +20 mA	Engineering Unit	+20000	-20000
		2's comp HEX	7FFF	8000
07	+4 ~ +20 mA	Engineering Unit	+20000	+4000
		2's comp HEX	FFFF	0000
08	-10 ~ +10 V	Engineering Unit	+10000	-10000
		2's comp HEX	7FFF	8000
09	-5 ~ +5 V	Engineering Unit	+5000	-5000
		2's comp HEX	7FFF	8000
0A	-1 ~ +1 V	Engineering Unit	+10000	-10000
		2's comp HEX	7FFF	8000
0B	-500 ~ +500 mV	Engineering Unit	+5000	-5000
		2's comp HEX	7FFF	8000
0C	-150 ~ +150 mV	Engineering Unit	+15000	-15000
		2's comp HEX	7FFF	8000
0D	-20 ~ +20 mA	Engineering Unit	+20000	-20000
		2's comp HEX	7FFF	8000
1A	0 ~ +20 mA	Engineering Unit	+20000	0
		2's comp HEX	FFFF	0000

Type Code	Input Range	Data Format	+F.S	-F.S
0E	Type J Thermocouple -210 ~ 760°C	Engineering Unit	+7600	-2100
		2's comp HEX	7FFF	DCA2
0F	Type K Thermocouple -270 ~ 1372°C	Engineering Unit	+13720	-2700
		2's comp HEX	7FFF	E6D0
10	Type T Thermocouple -270 ~ 400°C	Engineering Unit	+4000	-2700
		2's comp HEX	7FFF	A99A
11	Type E Thermocouple -270 ~ 1000°C	Engineering Unit	10000	-2700
		2's comp HEX	7FFF	DD71
12	Type R Thermocouple 0 ~ 1768°C	Engineering Unit	+17680	0
		2's comp HEX	7FFF	0000
13	Type S Thermocouple 0 ~ 1768°C	Engineering Unit	+17680	0
		2's comp HEX	7FFF	0000
14	Type B Thermocouple 0 ~ 1820°C	Engineering Unit	+18200	0
		2's comp HEX	7FFF	0000
15	Type N Thermocouple -270 ~ 1300°C	Engineering Unit	+13000	-2700
		2's comp HEX	7FFF	E56B

Type Code	Input Range	Data Format	+F.S	-F.S
16	Type C Thermocouple 0 ~ 2320°C	Engineering Unit	+23200	0
		2's comp HEX	7FFF	0000
17	Type L Thermocouple -200 ~ 800°C	Engineering Unit	+8000	-2000
		2's comp HEX	7FFF	E000
18	Type M Thermocouple -200 ~ 100°C	Engineering Unit	+10000	-20000
		2's comp HEX	4000	8000
19	Type L DIN43710 Thermocouple -200 ~ 900°C	Engineering Unit	9000	-2000
		2's comp HEX	FFFF	E38E
20	Platinum 100, α=0.00385 -100 ~ 100°C	Engineering Unit	+10000	-10000
		2's comp HEX	7FFF	8000
21	Platinum 100, α=0.00385 0 ~ 100°C	Engineering Unit	+10000	0
		2's comp HEX	7FFF	0000
22	Platinum 100, α=0.00385 0 ~ 200°C	Engineering Unit	+20000	0
		2's comp HEX	7FFF	0000
23	Platinum 100, α=0.00385 0 ~ 600°C	Engineering Unit	+6000	0
		2's comp HEX	7FFF	0000
24	Platinum 100, α=0.003916 -100 ~ 100°C	Engineering Unit	+10000	-10000
		2's comp HEX	7FFF	8000
25	Platinum 100, α=0.003916 0 ~ 100°C	Engineering Unit	+10000	0
		2's comp HEX	7FFF	0000
26	Platinum 100, α=0.003916 0 ~ 200°C	Engineering Unit	+20000	0
		2's comp HEX	7FFF	0000
27	Platinum 100, α=0.003916 0 ~ 600°C	Engineering Unit	+6000	0
		2's comp HEX	7FFF	0000
28	Nickel 120, -80 ~ 100°C	Engineering Unit	+10000	-8000
		2's comp HEX	7FFF	999A
29	Nickel 120 0 ~ 100°C	Engineering Unit	+10000	0
		2's comp HEX	7FFF	0000
2A	Platinum 1000, α=0.00385 -200 ~ 600°C	Engineering Unit	+6000	-2000
		2's comp HEX	7FFF	D556
2B	Cu 100, α=0.00421 -20 ~ 150°C	Engineering Unit	+15000	-2000
		2's comp HEX	7FFF	EEEF
2C	Cu 100, α=0.00427 0 ~ 200°C	Engineering Unit	+20000	0
		2's comp HEX	7FFF	0000
2D	Cu 1000, α=0.00421 -20 ~ 150°C	Engineering Unit	+15000	-2000
		2's comp HEX	7FFF	EEEF
2E	Platinum 100, α=0.00385 -200 ~ 200°C	Engineering Unit	+20000	-20000
		2's comp HEX	7FFF	8000
2F	Platinum 100, α=0.003916 -200 ~ 200°C	Engineering Unit	+20000	-20000
		2's comp HEX	7FFF	8000
80	Platinum 100, α=0.00385 -200 ~ 600°C	Engineering Unit	+6000	-2000
		2's comp HEX	7FFF	D556
81	Platinum 100, α=0.003916 -200 ~ 600°C	Engineering Unit	+6000	-2000
		2's comp HEX	7FFF	D556
82	Cu 50 -50 ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
83	Nickel 100 -60 ~ 180°C	Engineering Unit	+18000	-6000
		2's comp HEX	7FFF	D556

Type Code	Input Range	Data Format	+F.S	-F.S
60	PreCon Type III 10K@25°C, -30°F ~ 240°F	Engineering Unit	+24000	-3000
		2's comp HEX	7FFF	F000
61	Fenwell Type U 2K@25°C, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
62	Fenwell Type U 2K@25°C, 0°C ~ 150°C	Engineering Unit	+15000	0
		2's comp HEX	7FFF	0000
63	YSI L Mix 100@25°C, -80°C ~ 100°C	Engineering Unit	10000	-8000
		2's comp HEX	7FFF	999A
64	YSI L Mix 300@25°C, -80°C ~ 100°C	Engineering Unit	+10000	-8000
		2's comp HEX	7FFF	999A
65	YSI L Mix 1000@25°C, -70°C ~ 100°C	Engineering Unit	+10000	-7000
		2's comp HEX	7FFF	A667
66	YSI B Mix 2252@25°C, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
67	YSI B Mix 3000@25°C, -40°C ~ 150°C	Engineering Unit	+15000	-4000
		2's comp HEX	7FFF	DDDE
68	YSI B Mix 5000@25°C, -40°C ~ 150°C	Engineering Unit	+15000	-4000
		2's comp HEX	7FFF	DDDE
69	YSI B Mix 6000@25°C, -30°C ~ 150°C	Engineering Unit	+15000	-3000
		2's comp HEX	7FFF	E667
6A	YSI B Mix 10000@25°C, -30°C ~ 150°C	Engineering Unit	+15000	-3000
		2's comp HEX	7FFF	E667
6B	YSI H Mix 10000@25°C, -30°C ~ 150°C	Engineering Unit	+15000	-3000
		2's comp HEX	7FFF	E667
6C	YSI H Mix 30000@25°C, -10°C ~ 200°C	Engineering Unit	+20000	-1000
		2's comp HEX	7FFF	F99A
70	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
71	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
72	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
73	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
74	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
75	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
76	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556
77	User-defined, -50°C ~ 150°C	Engineering Unit	+15000	-5000
		2's comp HEX	7FFF	D556

B. Analog Output Type and Data Format Table

Type Code	Input Range	Data Format	+F.S	-F.S
30	0 ~ +20 mV	Engineering Unit	+20000	0
		2's comp HEX	FFFF	0000
31	4 ~ +20 mV	Engineering Unit	+20000	4000
		2's comp HEX	FFFF	0000
32	0 ~ +10 V	Engineering Unit	+10000	0
		2's comp HEX	7FFF	0000
33	-10 ~ +10 V	Engineering Unit	+10000	-10000
		2's comp HEX	7FFF	8000
34	0 ~ +5 V	Engineering Unit	+5000	0
		2's comp HEX	7FFF	0000
35	-5 ~ +5 V	Engineering Unit	+5000	-5000
		2's comp HEX	7FFF	8000

Revision History

Revision	Date	Description
1.0.1	December 2011	Initial issue
1.0.2	February 2013	• Added more information and the tip about the jumper configuration in product page of the analog input and analog output I/O module. • Added the revision history in “Revision History” section
1.0.3	May 2013	Added information about the new product, ET-7083/PET-7083
1.0.4	September 2013	• Added information about the new product, ET-7200/PET-7200 series • Added information about the new product, ET-7055/PET-7055
1.0.5	December 2013	• Corrected the I/O specification of ET-7x55 • Corrected the I/O specification of ET-7x60
1.0.6	July 2014	• Added information about the new product, ET-7x24/PET-7x24 • Added information about the new product, ET-7261/PET-7261 • Corrected the I/O specification of ET-7218Z • Corrected the I/O specification of ET-7219Z
1.0.7	March 2015	• Added information about the new product, ET-7x28/PET-7x28
1.0.8	August 2016	• Added information about the new product, ET-7204/PET-7204
1.0.9	June 2017	• Added ET-7083/PET-7083 wiring diagram
1.1.0	September 2017	• Added information about the new product, ET-7250A • Added information about ET-7258/PET-7258 and ET-7259/PET-7259
1.1.1	July 2018	• Added information about the new product, ET-7245/PET-7245 • Added information about the new product, ET-7284/PET-7284
1.1.2	July 2021	• Added information about the new product, ET-7217RMS/PET-7217RMS • Added information about the new product, ET-7258M-16/PET-7258M-16 • Added information about the new product, ET-7259M-16/PET-7259M-16
1.1.3	June 2022	• Added information about the new product, ET-7260A/PET-7260A
1.1.4	September 2023	• Added information about the new product, ET-7217-A5/PET-7217-A5
1.1.5	April 2025	• The pin assignment of ET-7217/ET-7217-RMS/ET-7217-A5 has been corrected in this revision to correct an error found in previous versions • Corrected the I/O specification of ET-7x26

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