

## ET-7000/PET-7000/ET-7200/PET-7200 (Web based)

### Introduction



The ET-7x00/PET-7x00, a web-based Ethernet I/O module, features a Built-in web server which allows configuration, I/O monitoring and I/O control by simply using a regular web browser. Remote control is as easy as surfing the Internet.

Besides Web HMI function, no more programming or HTML skills are required; creating dynamic and attractive web pages for I/O monitoring and I/O control would be fun to engineers ever after. The ET-7x00/PET-7x00 offers easy and safe access for users from anytime and anywhere! In addition, the ET-7x00/PET-7x00 also supports Modbus TCP protocol that makes perfect integration to SCADA software.

Furthermore, PET-7x00 features "PoE" that not only Ethernet but also power is carried through an Ethernet cable. This feature makes installation of PET-7x00 a piece of cake. Imagine that no more unnecessary wires, only an Ethernet cable takes care of everything in the field.

### Features

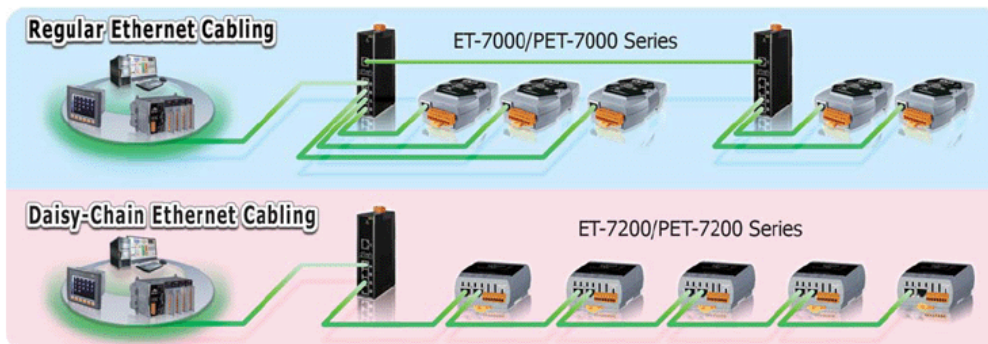
#### 1. Power over Ethernet (PoE)

The PET-7000/PET-7200 series module can be powered by an IEEE802.3af compliant PoE switch. Both Ethernet and power can be carried by an Ethernet cable eliminating the need for additional wiring and power supply.



#### 2. Daisy-Chain Ethernet Cabling

The ET-7200/PET-7200 Series has a built-in two-port Ethernet switch to implement daisy-chain topology. The cabling is much easier and total costs of cable and switch are significantly reduced.



#### 3. LAN Bypass

LAN Bypass feature guarantees the Ethernet communication. It will automatically active to continue the network traffic when the ET-7200/PET-7200 loses its power.



#### 4. Communication Security

Account and password are needed when logging into the web server. An IP address filter is also included, which can be used to allow or deny connections with specific IP addresses.

#### 5. Support for both Modbus TCP and Modbus UDP Protocols

The Modbus TCP, Modbus UDP slave function on the Ethernet port can be used to provide data to remote SCADA software.

#### 6. Built-in I/O

Various I/O components are mixed with multiple channels in a single I/O module, which provides the most cost effective I/O usage and enhances performance of the I/O operations.

### 7. Dual Watchdog

The Dual Watchdog consists of a Module Watchdog and a Communication Watchdog. The action of AO,DO are also associated to the Dual Watchdog.

**Module Watchdog** is a built-in hardware circuit to monitor the operation of the module and will reset the CPU if a failure occurs in the hardware or the software. Then the Power-on Value of AO,DO will be loaded.

**Communication Watchdog** is a software function to monitor the communication between the host and the I/O module. The timeout of the communication Watchdog is programmable, when the I/O doesn't receive commands from the host for a while, the watchdog forces the AO,DO to pre-programmed Safe Value to prevent unpredictable damage of the connected devices.

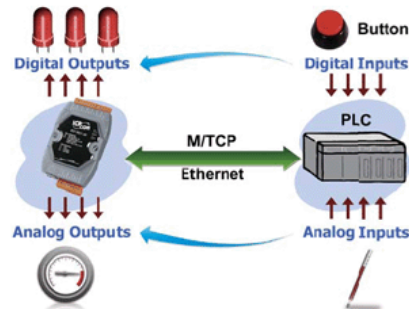
### 8. Highly Reliable Under Harsh Environment

- Wide Operating Temperature Range: -25 ~ +75°C
- storage Temperature: -30 ~ +80°C
- Humidity 10 ~ 90% RH (Non-condensing)



### 9. I/O Pair Connection

This function is used to create a AI/DI to AO/DO pair through the Ethernet. Once the configuration is completed, the I/O module can poll the status of remote AI/DI devices and then use the Modbus TCP protocol to continuously write to a local AO/DO channels in the background.



### 10. Power-on Value and Safe Value

Besides setting by the set AO,DO commands, the AO,DO can be set under two other conditions.

**Power-on Value:** The Power-on Value is loaded into the AO,DO under 3 conditions: Power-on, reset by Module Watchdog, reset by reset command.

**Safe Value:** When the Communication Watchdog is enabled and a Communication Watchdog timeout occurs, the "safe value" is loaded into the AO,DO.

### 11. LED indicators for DIO status

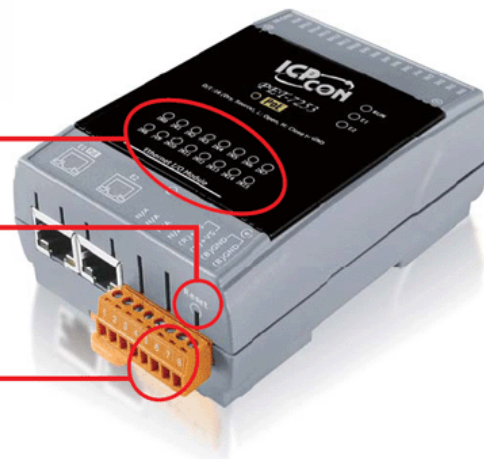
The LED indicators for DIO status are for ET-7200/PET-7200 series.

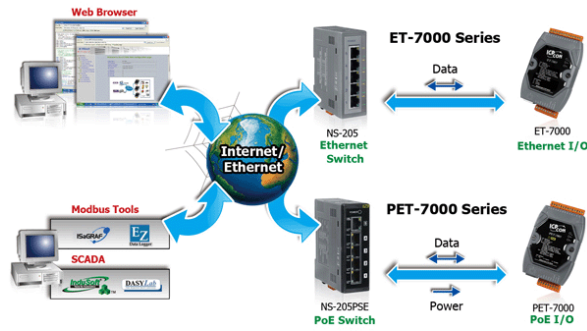
### 12. Reset button

The reset button is for ET-7200/PET-7200 series. It is used to clear all data and restore all settings to the factory default values. It is very useful especially when you forget the ID, password to log into the web server, or IP address to access the Ethernet I/O module.

### 13. Two pair of power input pins

For ET-7000/PET-7000 series, there are only two pins for power input. To ease the wiring, the pins are increased to four pins as two pairs for ET-7200/PET-7200 series.





The ET-7000/ET-7200 series is a family of Internet/Ethernet data acquisition and control modules that support Modbus/TCP protocols and it is an Ethernet remote I/O module with the built-in web server that used for all configuration and I/O data monitoring and controlling using a regular web browser. [more...](#)

- ▶ Will be available
- ▶ Available soon
- ▶ Will be phased out

#### Analog Input Model

Model	Channel	AI		Sensor Input	Channel	DO	
		Voltage & Current Input				Type	Sink/Source
ET-7005 PET-7005	8	-	-	Thermistor	4	Open Collector	Sink
ET-7015 PET-7015	7	-	-	RTD: Pt100, Pt1000, Ni120, Cu100, Cu1000	-	-	-
ET-7017 PET-7017	8	+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA, 0 ~ 20 mA, 4 ~ 20mA	-	-	4	Open Collector	Sink
ET-7017-10 PET-7017-10	10/20	+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA	-	-	-	-	-
ET-7018Z PET-7018Z	10	+/-15 mV, +/-50 mV, +/-100 mV, +/-500 mV, +/-1 V, +/-2.5 V +/-20 mA, 0~20 mA, 4~20 mA	Thermocouple: J, K, T, E, R, S, B, N, C, L, M, LDIN43710	6/3 (Note 2)	Open Collector	Sink	
ET-7019 PET-7019	8	+/-15 mV, +/-50 mV, +/-100 mV, +/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA, 0~20 mA, 4~20 mA	Thermocouple: J, K, T, E, R, S, B, N, C, L, M, LDIN43710	4	Open Collector	Sink	
ET-7019Z PET-7019Z	10	+/-15 mV, +/-50 mV, +/-100 mV, +/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA, 0~20 mA, 4~20 mA	Thermocouple: J, K, T, E, R, S, B, N, C, L, M, LDIN43710	6/3 (Note 2)	Open Collector	Sink	

**Note 1:** We recommend to choose ET-7018Z-PET-7018Z and ET-7019Z-PET-7019Z for extremely accurate thermocouple measurement.

**Note 2:** 6 DO channels for ET-7018Z, PET-7018Z, ET-7019Z and PET-7019Z.  
3 DO channels for ET-7218Z, PET-7218Z, ET-7219Z and PET-7219Z.

#### Multifunction I/O

Model	Channel	AI		AO		DI/Counter		DO	
		Voltage & Current Input	Sensor Input	Channel	Voltage & Current Output	Channel	Type	Channel	Type
ET-7002 PET-7002	3	+/- 150 mV, +/- 500 mV, +/- 1V, +/- 5 V, +/- 10 V, +0 ~ +20 mA, +/- 20 mA, 4 ~ 20mA	-	-	-	6	Wet (Sink,Source)	3	Power Relay (Form A)
-	▶ET-7204 ▶PET-7204	+/- 500 mV, +/- 1V, +/- 5 V, +/- 10 V, +0 ~ +20 mA, +/- 20 mA, 4 ~ 20mA	-	4	0 ~ 5 V, +/- 5 V, 0 ~ 10 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA	4	Dry (Source), Wet (Sink)	-	-
ET-7016 PET-7016	2	+/- 15 mV, +/- 50 mV, +/- 100 mV, +/- 500 mV, +/- 1 V, +/- 2.5 V, 0 ~ 20 mA, +/- 20 mA, 4 ~ 20mA	Strain Gauge, Load Cell, Full-Bridge, Half-Bridge, Quarter-Bridge	1 (Note)	0 ~ 10 V	2	Wet (Sink,Source)	2	Open Collector (Sink)
NEW ET-7024 ▶PET-7024	▶ET-7224 ▶PET-7224	-	-	4	0 ~ 5 V, +/- 5 V, 0 ~ 10 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA	5	Dry (Source), Wet (Sink,Source)	5	Open Collector (Sink)
ET-7026 PET-7026	NEW ET-7226 NEW PET-7226	+/- 500 mV, +/- 1 V, +/- 5 V, +/-10 V, 0 ~ 20 mA, +/- 20 mA, 4~20mA	-	2	0 ~ 5 V, +/- 5 V, 0 ~ 10 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA	2	Dry (Source), Wet (Sink,Source)	2	Open Collector (Sink)

**Note:** The AO is configured as a voltage excitation source for the strain gauge.

Model		Analog Output						
Resolution	Channel	Voltage Output	AO Current Output	Safe Value	Power-on Value			
▶ET-7028 ▶PET-7028	▶ET-7228 ▶PET-7228	12-bit	8	-0 ~ 5 V <sub>r</sub> +/- 5 V <sub>r</sub> 0 ~ 10 V <sub>r</sub> +/- 10 V	0 ~ 20 mA, 4 ~ 20 mA	Yes	Yes	

▶ Will be available  
▶ Available soon  
▶ Will be phased out

Model		Digital I/O						
		DI			DO			
Channel	Type	Sink/Source	Channel	Type	Sink/Source	Max. Load Current @ 25 °C		
ET-7042 PET-7042	NEW ET-7242 NEW PET-7242	-	-	-	16	Open Collector	Sink	100 mA/channel
ET-7044 PET-7044	NEW ET-7244 NEW PET-7244	8	Wet	Sink, Source	8	Open Collector	Sink	300 mA/channel
ET-7050 PET-7050	-	12	Wet	Sink, Source	6	Open Collector	Sink	100 mA/channel
ET-7051 PET-7051	NEW ET-7251 NEW PET-7251	16	Wet	Sink, Source	-	-	-	-
ET-7052 PET-7052	NEW ET-7252 NEW PET-7252	8	Wet	Sink, Source	8	Open Collector	Source	650 mA/channel
ET-7053 PET-7053	NEW ET-7253 NEW PET-7253	16	Dry	Source	-	-	-	-
-	NEW ET-7255 NEW PET-7255	8	Dry, Wet	Sink, Source	8	Open Collector	Source	650 mA/channel

Model		Relay Output & Digital Input						
		Relay Output				DI		
Channel	Relay	Type	Max. Load Current @ 25 °C	Channel	Type	Sink/Source		
ET-7060 PET-7060	NEW ET-7260 NEW PET-7260	6	Power Relay	Form A (SPST N.O.)	5.0 A/channel	6	Wet	Sink, Source
-	NEW ET-7261 NEW PET-7261	11	Power Relay	Form A (SPST N.O.)	5.0 A/channel	-	-	-
ET-7065 ▶PET-7065	-	6	PhotoMOS Relay	Form A (SPST N.O.)	1.0 A/channel	6	Wet	Sink, Source
ET-7066 ▶PET-7066	-	8	PhotoMOS Relay	Form A (SPST N.O.)	1.0 A/channel	-	-	-
ET-7067 PET-7067	NEW ET-7267 ▶PET-7267	8	Power Relay	Form A (SPST N.O.)	5.0 A/channel	-	-	-

Model		Encoder/Counter Input			
Axis	Counter	Counting Mode	Input Level	Count Value Retention	

Pulse/Direction: 4 MHz max.