



ET-7016 **PET-7016**

Ethernet I/O Module with 2-ch Strain Gauge Input, 2-ch DI, 2-ch DO

Features

- Built-in Web Server
- Web HMI
- Support for both Modbus TCP and Modbus UDP Protocols
- Communication Access Control
- Dual Watchdog
- I/O Pair Connection
- Built-in I/O
  - ☐ Strain Gauge Input: 2 Channels
  - ☐ DI/Counter: 2 Channels
  - ☐ DO: 2 Channels

Introduction

The ET-7016/PET-7016 is a strain gauge module with 2 analog input channels, 1 excitation voltage output channel, 2 digital input channels and 2 digital output channels module. It provides various programmable analog inputs (+/-1 mV, +/-50 mV, +/-100 mV, +/-500 mV, +/-1 V, and +/-2.5 V) and supports full-bridge, half-bridge, and quarter-bridge. The range for each analog input is allowed to be configured individually. The excitation voltage output can be in the range of 0 ~ 10 V with a 60 mA driving efficiency. Digital outputs can also be set as alarm outputs. The ET-7016/PET-1016 can also provide long-distance strain gauge measurement that compensates for the loss of voltage resulting from long-distance measurements.

System Specifications

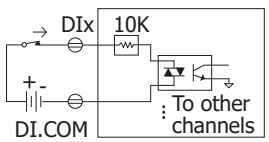
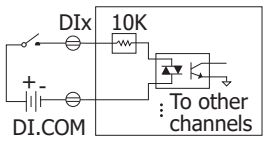
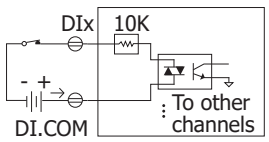
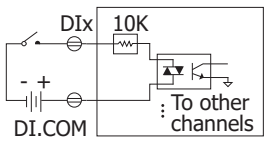
Model	ET-7016	PET-7016
Software		
Built-in Web Server	Yes	
CPU Module		
Watchdog Timer	Module, Communication (Programmable)	
2-Way Isolation		
Ethernet	1500 V_{DC}	-
I/O	2500 V_{DC}	2500 V_{DC}
EMS Protection		
EFT (IEC 61000-4-4)	±4 kV for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point	
LED Indicators		
Status	Run, Ethernet	Run, Ethernet, PoE
Ethernet		
Ports	1 x RJ-45, 10/100 Base-TX	
PoE	-	Yes
Access Control	ID, Password and IP Filter	
Protocol	Modbus TCP, Modbus UDP	
Power		
Reverse Polarity Protection	Yes	
Consumption	2.9 W (max.)	3.2 W (max.)
Powered from PoE	-	IEEE 802.3af, Class1
Powered from Terminal Block	+10 ~ +30 V_{DC}	+12 ~ +48 V_{DC}
Mechanical		
Dimensions (mm)	72 x 123 x 35 (W x L x H)	
Installation	DIN-Rail Mounting	
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-30 ~ +80 °C	
Humidity	10 ~ 90% RH, Non-condensing	

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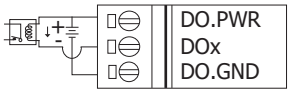
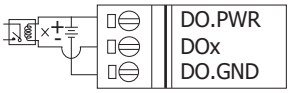
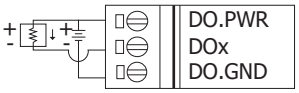
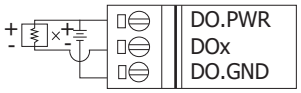
I/O Specifications

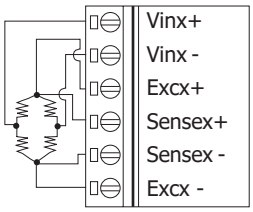
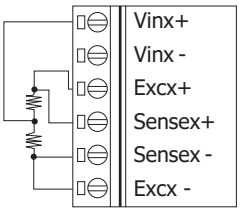
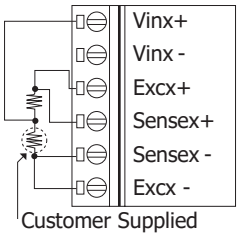
Model	ET-7016	PET-7016
Digital Input/Counter		
Channels	2	
Type	Wet Contact	
Sink/Source (NPN/PNP)	Sink/Source	
ON Voltage Level	+3.5 VDCto +50 VDC	
OFF Voltage Level	+1 VDC (max.)	
Max. Counts	4,294,967,295 (32-bit)	
Frequency	100 Hz	
Min. Pulse Width	5 ms	
Overvoltage Protection	+70 VDC	
Digital Output		
Channels	2	
Type	Isolated Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+5 ~ +50 VDC	
Load Current	700 mA/channel	
Overvoltage Protection	+60 VDC	
Overload Protection	1.4 A	
Short-circuit Protection	Yes	
Power on Value	Programmable	
Safe Value	Programmable	
Strain Gauge, Load Cell Input		
Channels	2 (Differential)	
Type	Strain Gauge, Voltage, Current	
Range	±15 mV, ±50 mV, ±100 mV, ±500 mV, ±1 V, ±2.5 V, ±20 mA, 10 ~ 20 mA, 4 ~ 20 mA	
Wiring	Full-Bridge, Half-Bridge, and Quarter-Bridge	
Accuracy	±0.05%	
Resolution	16-bit	
Sampling Rate	10 Hz (total channels)	
Input Impedance	Voltage Input: >400 kΩ, Current Input: 125 Ω	
Individual Channel Configuration	Yes	
Overvoltage Protection	+30 VDC	
Excitation Voltage Output		
Channels	1	
Range	0 ~ 10 V	
Accuracy	±0.05% of FSR	
Max. Output Load Current	60 mA	
Drift	±50 ppm/℃	
Power on Value	Yes	

Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
	+10 ~ +50 VDC	OPEN or <4 VDC
Sink		
	+10 ~ +50 VDC	OPEN or <4 VDC
Source		

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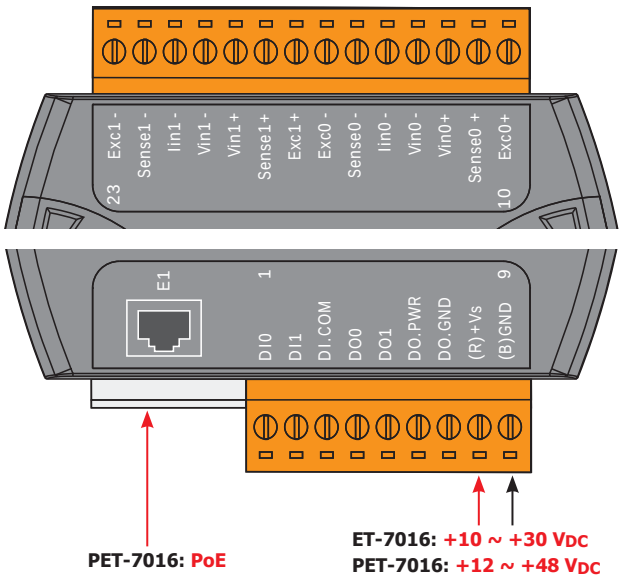
Output Type	ON State, Readback as 1	OFF State, Readback as 0
Drive Relay		
Resistance Load		

Bridge Sensor/Load Cell/Strain Gauge		
Full Bridge	Half Bridge	Quarter Bridge
		

Excitation Voltage

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

Pin Assignments

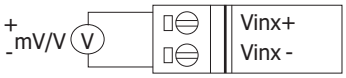


PET-7016: **PoE**

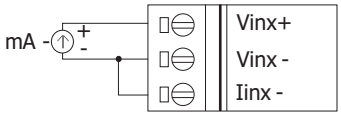
ET-7016: **+10 ~ +30 VDC**
PET-7016: **+12 ~ +48 VDC**

Analog Input

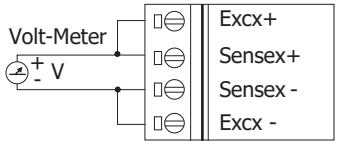
Voltage Input



Current Input



Analog Output



Ordering Information

ET-7016 CR	Ethernet I/O Module with 2-ch Strain Gauge Input, 2-ch DI, 2-ch DO (RoHS)
PET-7016 CR	PoE I/O Module with 2-ch Strain Gauge Input, 2-ch DI, 2-ch DO (RoHS)

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