



ET-7018Z
PET-7018Z

ET-7218Z
PET-7218Z

thernet I/O Module with 10-ch Thermocouple Input,
6/3-ch DO

Features

- Built-in Web Server
- Web HMI
- Support for both Modbus TCP and Modbus UDP Protocols
- Communication Access Control
- 2-port Ethernet Switch (LAN bypass) for Daisy-chain Wiring
- Dual Watchdog
- I/O Pair Connection
- Built-in I/O
- Thermocouple/Voltage/Current Input: 10 Channels
- DO: 6/3 Channels



Introduction

The ET-7018Z, PET-7018Z, ET-7218Z, and PET-7218Z modules are designed for high-precision thermocouple measurement. Each input channel provides automatic cold-junction compensation to ensure consistent and stable temperature readings in the field. The modules include open thermocouple detection as well as EMS (EFT/ESD/Surge) protection. In addition to supporting multiple thermocouple input types, every input channel can also be individually configured for current or voltage input, delivering optimal flexibility for a wide range of application requirements. This series also offers digital output channels, each equipped with short-circuit and overload protection.

System Specifications

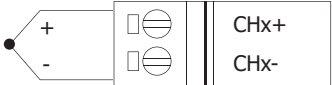
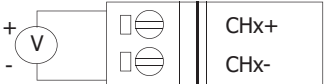
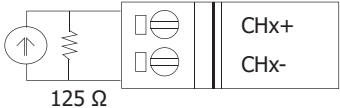
Model	ET-7018Z	PET-7018Z	ET-7218Z	PET-7218Z
Software				
Built-in Web Server	Yes			
CPU Module				
Watchdog Timer	Module, Communication (Programmable)			
2-Way Isolation				
Ethernet	1500 V _{DC}	-	1500 V _{DC}	-
I/O	2500 V _{DC}			
EMS Protection				
EFT (IEC 61000-4-4)	±4 kV for Power Line		±2 kV for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point			
Surge (IEC 61000-4-5)	±0.5 kV for Power Line		±2 kV for Power Line	
LED Indicators				
Status	Run, Ethernet	Run, Ethernet, PoE	Run, Ethernet, I/O	Run, Ethernet, I/O, PoE
Ethernet				
Ports	1 x RJ-45, 10/100 Base-TX		2 x RJ-45, 10/100 Base-TX, Swtich Ports	
PoE	-	Yes	-	Yes
LAN bypass	-		Yes	
Access Control	ID, Password and IP Filter			
Protocol	Modbus TCP, Modbus UDP			
Power				
Reverse Polarity Protection	Yes			
Consumption	2.0 W (max.)	3.0 W (max.)	3.1 W (max.)	3.3 W (max.)
Powered from PoE	-	IEEE 802.3af, Class1	-	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)		76 x 120 x 42 (W x L x H)	
Installation	DIN-Rail Mounting			

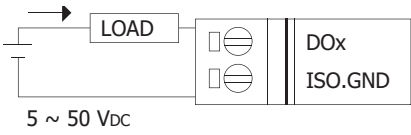
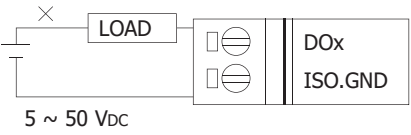
Environment	
Operating Temperature	25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90% RH, Non-condensing

I/O Specifications

Model	ET-7018Z	PET-7018Z	ET-7218Z	PET-7218Z
Analog Input				
Channels	10 (Differential)			
Type	Thermocouple, Voltage, Current			
Stable and Consistent Temperature Output	Yes			
Range	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, and LDIN43710)			
	±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)			
Resolution	16-bit			
Accuracy	±0.1% of FSR or better			
Sampling Rate	10 Hz (total channels)			
Input Impedance	>300 kΩ			
Over Voltage Protection	240 V _{rms}			
Individual Channel Configuration	Yes			
Open Wire Detection	Yes			
Virtual Channel to Channel Isolation	±400 V _{DC}			
Digital Output				
Channels	6		3	
Type	Isolated Open Collector			
Sink/Source (NPN/PNP)	Sink			
Load Voltage	+5 ~ +50 V _{DC}			
Load Current	700 mA/channel		650 mA/channel	
Overvoltage Protection	+60 V _{DC}			
Overload Protection	1.4 A			
Short-circuit Protection	Yes			
Power on Value	Programmable			
Safe Value	Programmable			

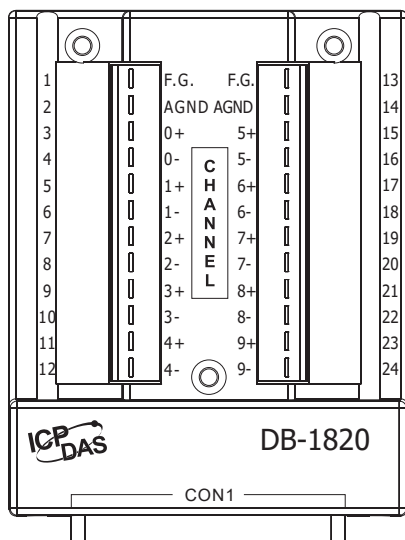
Wire Connections

Thermocouple Input (Default)	
	
Voltage Input (Default)	
	
Current Input	
	
Note: When connecting to a current source, an optional external 125 Ω resistor is required.	

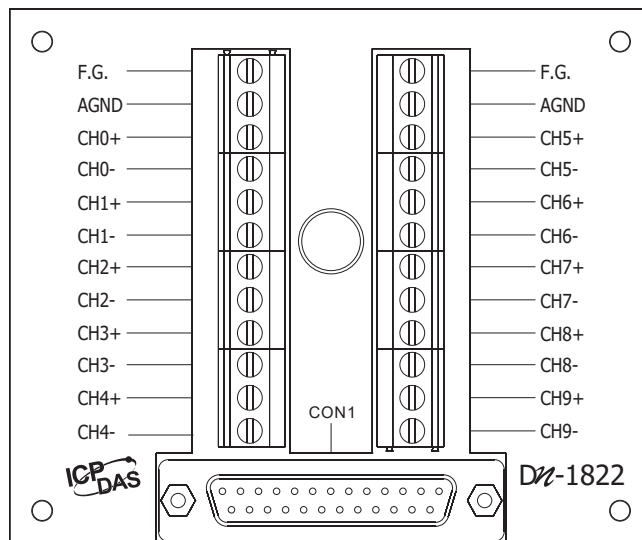
Digital Output	ON State, Readback as 1	OFF State, Readback as 0
Open Collector (Sink)		

Pin Assignments

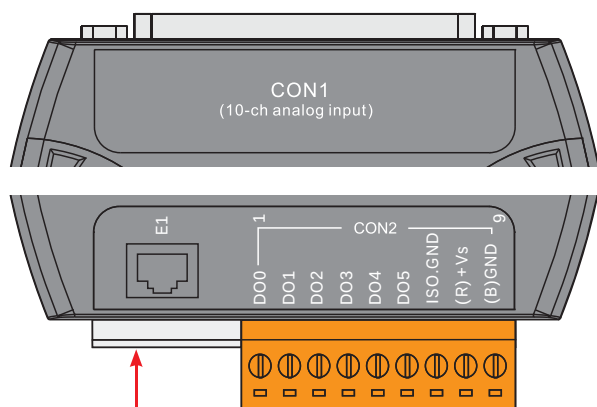
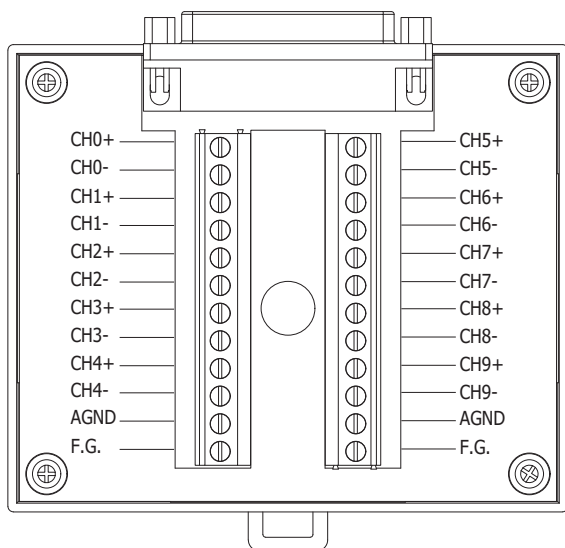
DB-1820



DN-1822

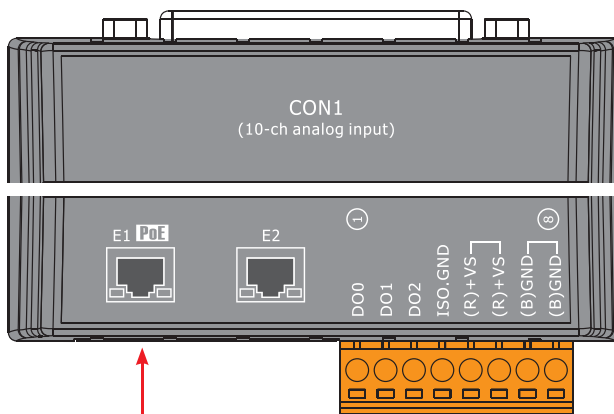


DN-1823



PET-7018Z: PoE

ET-7018Z: +10 ~ +30 Vdc
PET-7018Z: +12 ~ +48 Vdc

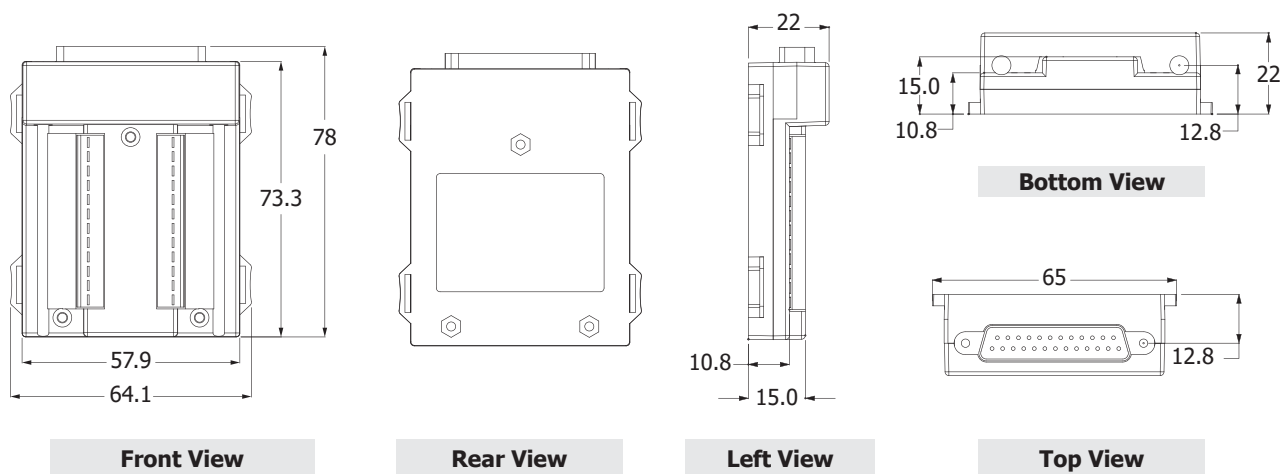


PET-7218: PoE

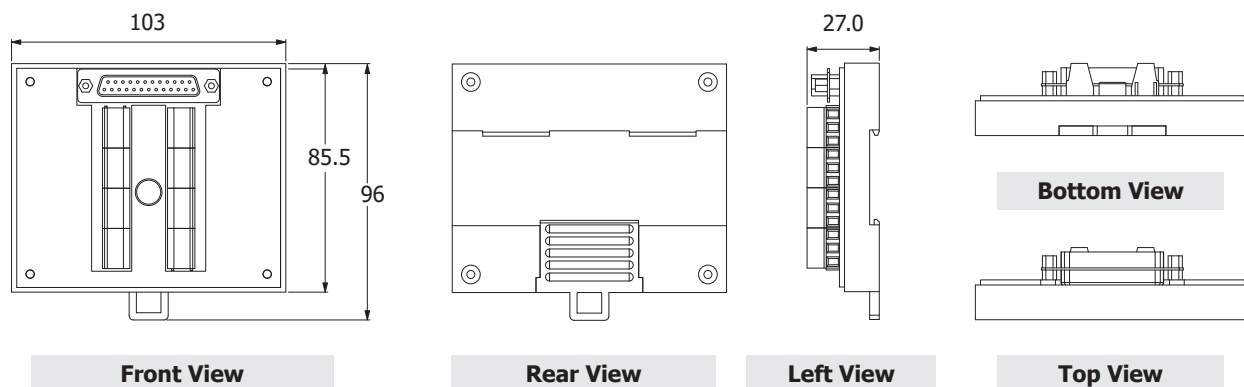
ET-7218: +10 ~ +30 Vdc
PET-7218: +12 ~ +48 Vdc

■ Dimensions (Units: mm)

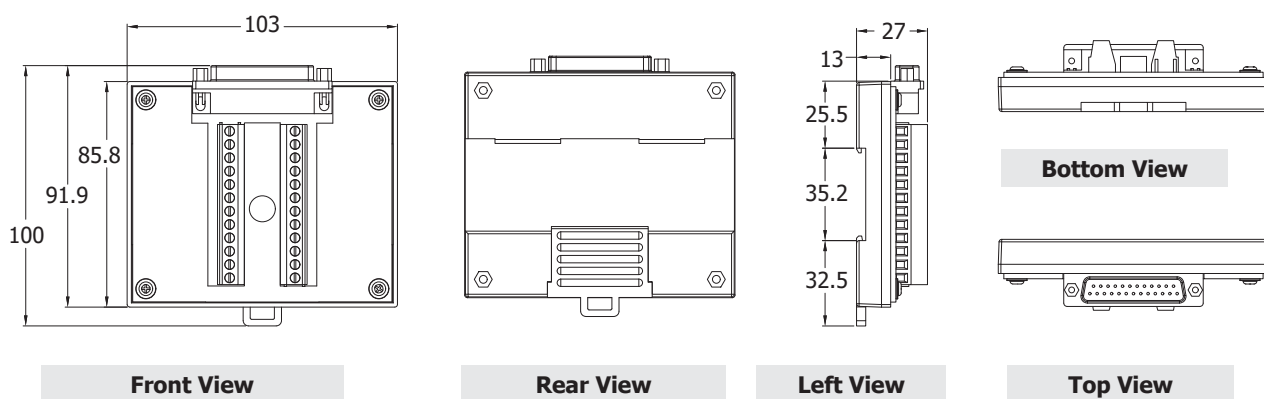
DB-1820



DN-1822

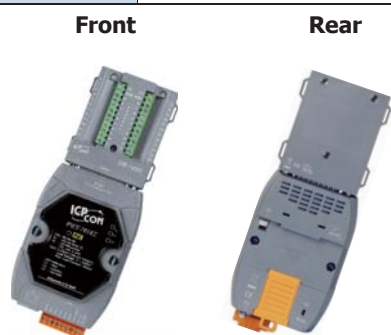


DN-1823



Ordering Information

ET-7018Z/S CR	Ethernet I/O Module with 10-ch Thermocouple Input, 6-ch DO (RoHS)	Includes DB-1820 Daughter Board
PET-7018Z/S CR	PoE I/O Module with 10-ch Thermocouple Input, 6-ch DO (RoHS)	
ET-7218Z/S CR	Ethernet I/O Module with 2-port Ethernet Switch, 10-ch Thermocouple Input, 3-ch DO (RoHS)	
PET-7218Z/S CR	PoE I/O Module with 2-port Ethernet Switch, 10-ch Thermocouple Input, 3-ch DO (RoHS)	
ET-7018Z/S2 CR	Ethernet I/O Module with 10-ch Thermocouple Input, 6-ch DO (RoHS)	Includes DN-1822 Daughter Board, CA-252518D-1 1.8 m Cable, 4PAPP-006-G
PET-7018Z/S2 CR	PoE I/O Module with 10-ch Thermocouple Input, 6-ch DO (RoHS)	
ET-7218Z/S2 CR	Ethernet I/O Module with 2-port Ethernet Switch, 10-ch Thermocouple Input, 3-ch DO (RoHS)	
PET-7218Z/S2 CR	PoE I/O Module with 2-port Ethernet Switch, 10-ch Thermocouple Input, 3-ch DO (RoHS)	
ET-7018Z/S3 CR	Ethernet I/O Module with 10-ch Thermocouple Input, 6-ch DO (RoHS)	Includes DN-1823 Daughter Board, CA-2525015D 15 cm Cable, 4PAPP-006-G
PET-7018Z/S3 CR	PoE I/O Module with 10-ch Thermocouple Input, 6-ch DO (RoHS)	
ET-7218Z/S3 CR	Ethernet I/O Module with 2-port Ethernet Switch, 10-ch Thermocouple Input, 3-ch DO (RoHS)	
PET-7218Z/S3 CR	PoE I/O Module with 2-port Ethernet Switch, 10-ch Thermocouple Input, 3-ch DO (RoHS)	



(P)ET-7018Z/S, (P)ET-7218Z/S: DB-1820
Connects to the (P)ET-7x18Z Directly



(P)ET-7018Z/S2, (P)ET-7218Z/S2: DN-1822
connects to the (P)ET-7x018Z/S2 via a 1.8 m long flex cable



(P)ET-7018Z/S3:
DN-1823
connects to the (P)ET-7018Z/S3
via a 15 cm long flex cable



(P)ET-7218Z/S3:
DN-1823
connects to the (P)ET-7218Z/S3
via a 15 cm long flex cable

Accessories



**PET-7018Z/S +
CD-25015 + 4PAPP-006-G**



CD-25015



4PAPP-006-G



**PET-7018Z/S + CD-2518D
PET-7218Z/S + CD-2518D**



CD-2518D