



ET-7018Z
PET-7018Z

ET-7218Z
PET-7218Z

Ethernet 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 Input: 10 Channels
 - DO: 6/3 Channels



Introduction

The "Z" version is another milestone in the development of the thermocouple series and is a testament to the excellence of ICP DAS products. The ET-7018Z/PET-7018Z/ET-7218Z/PET-7218Z is specifically designed for extremely accurate thermocouple measurement and features automatic cold-junction compensation for each channel to ensure temperature output consistency and stable temperature output in the field. Current input and voltage input are both supported. Another feature is that its ten input channels can be individually configured for different kinds of analog input. Open thermocouple detection and ESD/EFT/Surge protection mechanisms are also included. The six/five digital output channels can be set as alarm outputs with short-circuit protection 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 VDC	-	1500 VDC	-
I/O	2500 VDC			
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, Switch 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 to +30 VDC		+12 to +48 VDC	
Mechanical				
Dimensions (mm)	72 x 123 x 35 (W x L x H)		76 x 120 x 38 (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	Voltage, Current, Thermocouple			
Stable and Consistent Temperature Output	Yes			
Range	$\pm 15\text{ mV}$, $\pm 50\text{ mV}$, $\pm 100\text{ mV}$, $\pm 500\text{ mV}$, $\pm 1\text{ V}$, $\pm 2.5\text{ V}$			
	$\pm 20\text{ mA}$, $0\text{ to }20\text{ mA}$, $4\text{ to }20\text{ mA}$ (Requires Optional External $125\ \Omega$ Resistor)			
	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, and $L_{DIN43710}$)			
Resolution	16-bit			
Accuracy	$\pm 0.1\%$ of FSR or better			
Sampling Rate	10 Hz (total channels)			
Input Impedance	$> 300\text{ k}\Omega$			
Over Voltage Protection	240 Vrms			
Individual Channel Configuration	Yes			
Open Wire Detection	Yes			
Virtual Channel to Channel Isolation	$\pm 400\text{ VDC}$			
Digital Output				
Channels	6		3	
Type	Isolated Open Collector			
Sink/Source (NPN/PNP)	Sink			
Load Voltage	$+5\text{ to }+50\text{ VDC}$			
Load Current	700 mA/channel		650 mA/channel	
Overvoltage Protection	$+60\text{ VDC}$			
Overload Protection	1.4 A			
Short-circuit Protection	Yes			
Power on Value	Programmable			
Safe Value	Programmable			

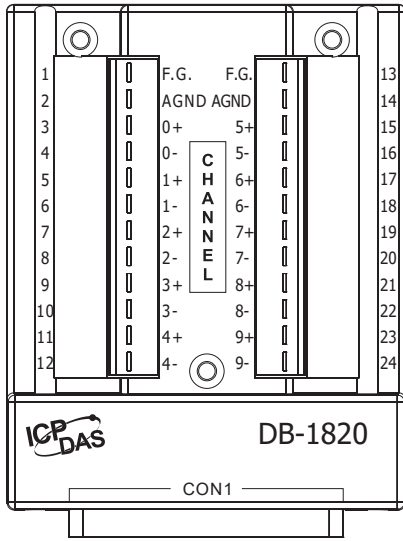
Wire Connections

Voltage Input (Default)	
Thermocouple Input (Default)	
Current Input	
<p>Note: When connecting to a current source, an optional external $125\ \Omega$ resistor is required.</p>	

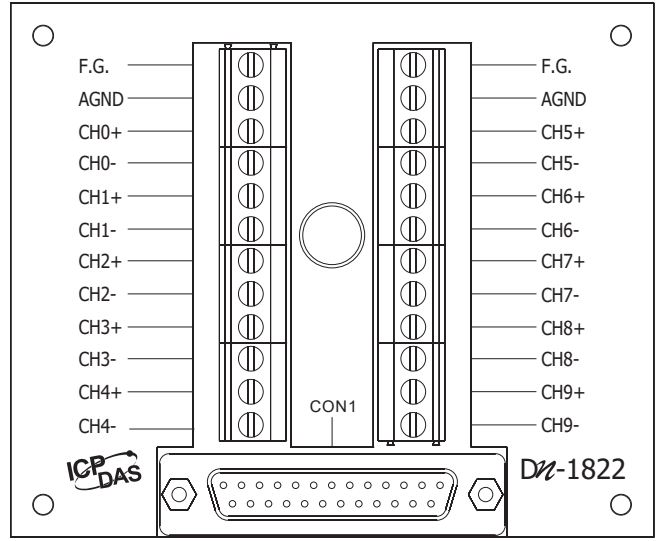
Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Pin Assignments

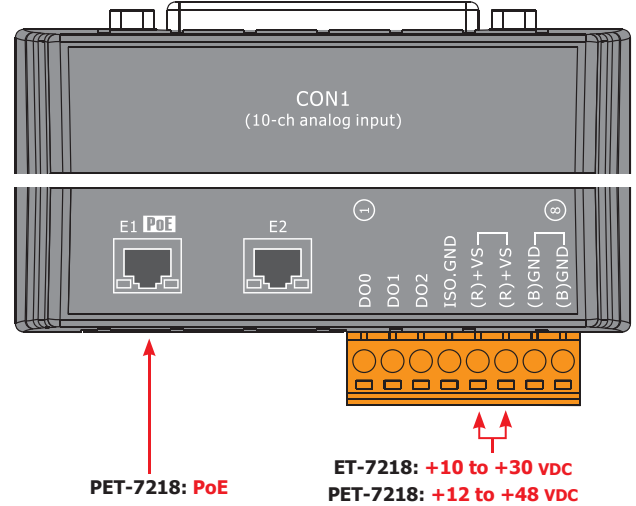
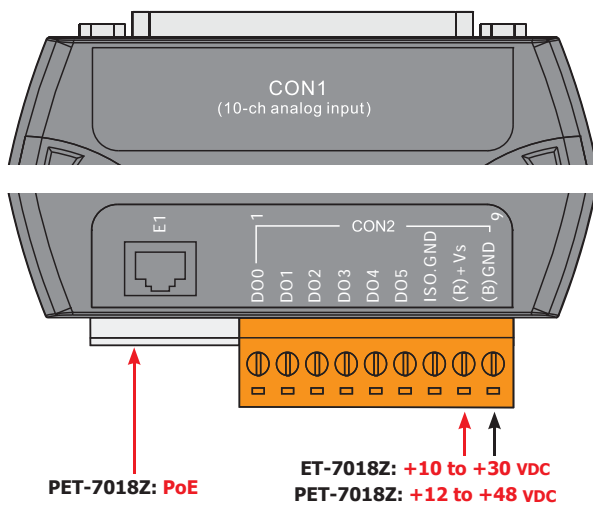
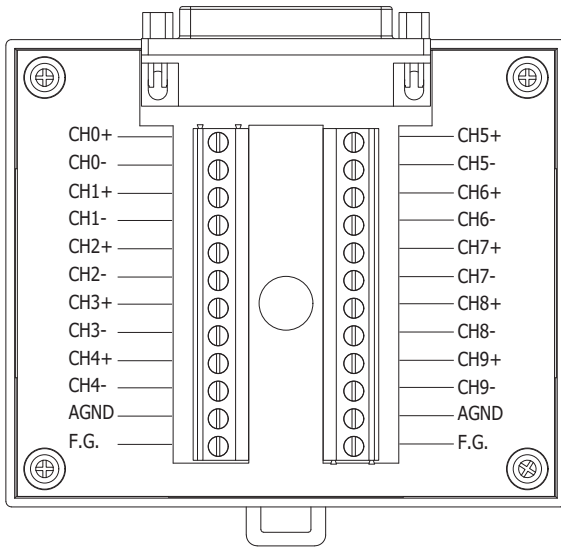
DB-1820



DN-1822

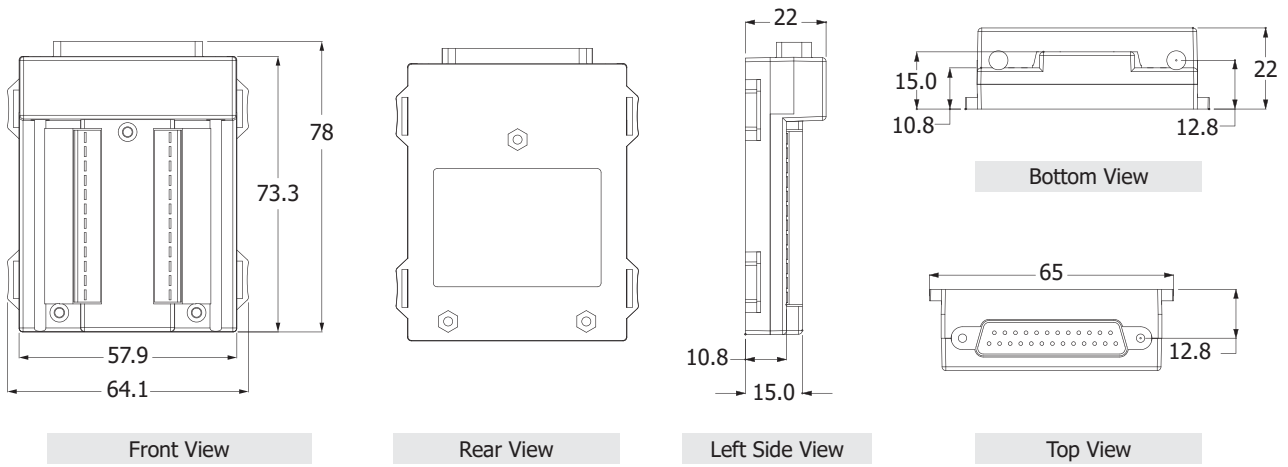


DN-1823

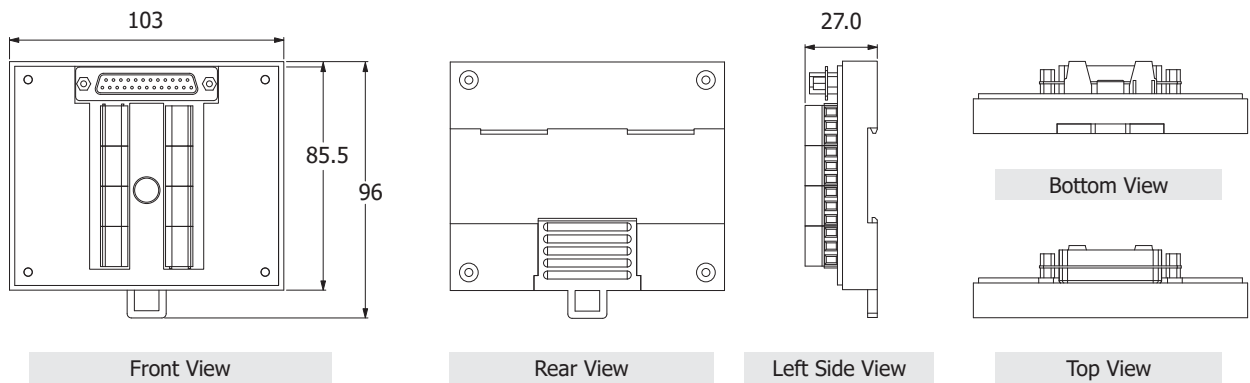


Dimensions (Units: mm)

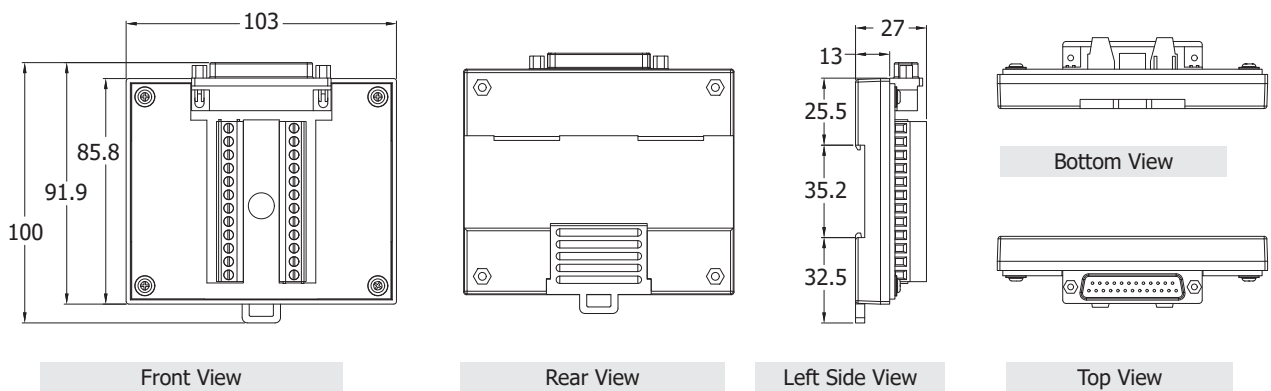
DB-1820



DN-1822

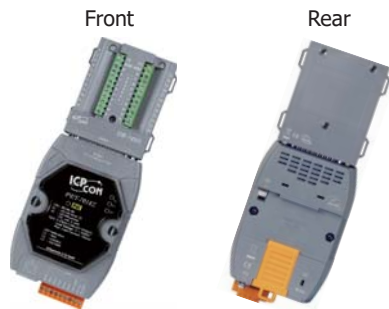


DN-1823



Ordering Information

ET-7018Z/S CR	Ethernet I/O Module with 10-ch Thermocouple Input, 6-ch DO (RoHS)	
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)	Includes DB-1820 Daughter Board
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