

Features

- Built-in Web Server
- Web HMI
- Support for both Modbus/TCP and Modbus/UDP Protocols
- Communication Security
- Dual Watchdog
- Wide Operating Temperature Range: -25 °C ~ +75 °C
- I/O Pair Connection
- Built-in I/O
 - AI: 10 Channels with 240 V_{rms} Overvoltage Protection
 - DO: 6 Channels



Introduction

The ET-7019Z/PET-7019Z is a web-based Ethernet I/O module that features a built-in web server which allows remote configuration, I/O monitoring and I/O control simply by using a regular web browser. Remote control is as easy as surfing the Internet. In addition, the web HMI function means that programming or HTML skills are no longer required so creating dynamic and attractive web pages for I/O monitoring and I/O control purposes will be more fun for engineers in the future. The ET-7019Z/PET-7019Z offers easy and safe access for users at anytime and from anywhere, and also supports the Modbus/TCP protocol that ensures perfect integration with SCADA software. Furthermore, the PET-7019Z features "PoE", meaning that not only is data transmitted through an Ethernet cable but also power making installation of the PET-7019Z a piece of cake. Imagine no more unnecessary wires with only an Ethernet cable being required to take care of everything in the field.

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-7019Z/PET-7019Z 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 be configured for different kinds of analog input. Open thermocouple detection and ESD/EFT/Surge protection mechanisms are also included. The six digital output channels can be set as alarm outputs with short-circuit protection and overload protection.

Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.

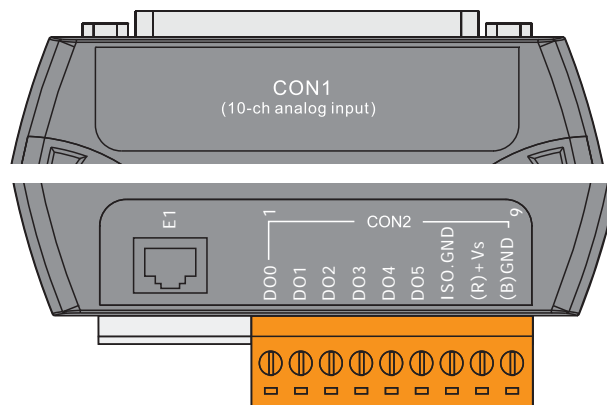
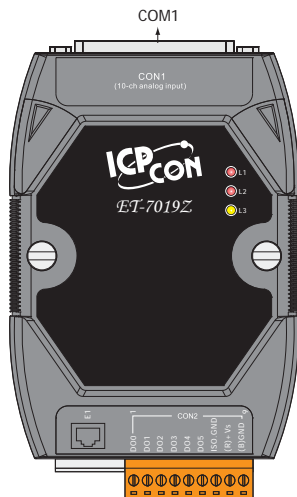
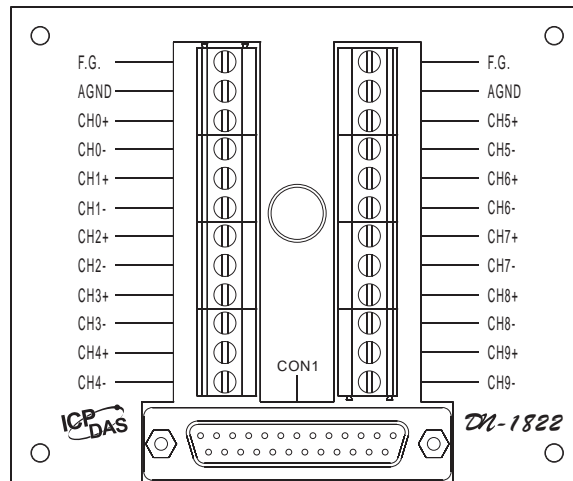
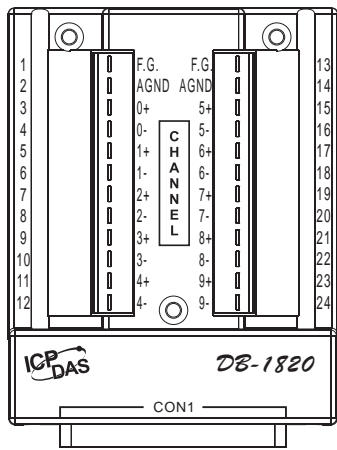
System Specifications

Models	ET-7019Z	PET-7019Z
Software		
✓ Built-in Web Server	Yes	
✓ Web HMI	Yes	
✓ I/O Pair Connection	Yes	
Communication		
✓ Ethernet Port	10/100 Base-TX with Auto MDI/MDI-X	
✓ PoE	-	Yes
✓ Protocol	Modbus/TCP, Modbus/UDP	
✓ Security	ID, Password and IP Filter	
✓ Dual Watchdog	Yes, Module (0.8 seconds), Communication (Programmable)	
LED Indicators		
L1 (System Running)	Yes	
L2 (Ethernet Link/Act)	Yes	
L3 (Ethernet 10/100 M Speed)	Yes	
PoE Power	-	Yes
2-Way Isolation		
Ethernet	1500 V _{DC}	-
I/O	2500 V _{DC}	2500 V _{DC}
EMS Protection		
ESD (IEC 61000-4-2)	4 kV Contact for Each Terminal and 8 kV Air for Random Point	
EFT (IEC 61000-4-4)	+/-4 kV for Power	
Surge (IEC 61000-4-5)	+/-3 kV for Power	
Power Requirements		
Reverse Polarity Protection	Yes	
Powered from Terminal Block	Yes, 10 ~ 30 V _{DC}	Yes, 12 ~ 48 V _{DC}
Powered from PoE	-	Yes, IEEE 802.3af, Class1
Consumption	2.5 W	3.5 W
Mechanical		
Dimensions (W x L x H)	72 mm x 116 mm x 35 mm	
Installation	DIN-Rail or Wall Mounting	
Environment		
Operating Temperature	-25 °C ~ +75 °C	
Storage Temperature	-30 °C ~ +80 °C	
Humidity	10 ~ 90% RH, Non-condensing	

I/O Specifications

Analog Input	
Channels	10 (Differential)
Sensor Type	+/-15 mV, +/-50 mV, +/-100 mV, +/-150 mV, +/-500 mV, +/-1 V, +/-2.5 V, +/-5 V, +/-10 V, +/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA (Jumper Selectable) Thermocouple (J, K, T, E, R, S, B, N, C, L, M, and L _{DIN43710})
Individual Channel Configuration	Yes
Resolution	16-bit
Sampling Rate	10 Samples/Second (Total)
Accuracy	+/-0.1% of FSR or better
Zero Drift	+/-0.5 μ V/ $^{\circ}$ C
Span Drift	+/-25 ppm/ $^{\circ}$ C
Over Voltage Protection	240 V _{rms}
Input Impedance	>300 k Ω
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
Digital Output	
Channels	6
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

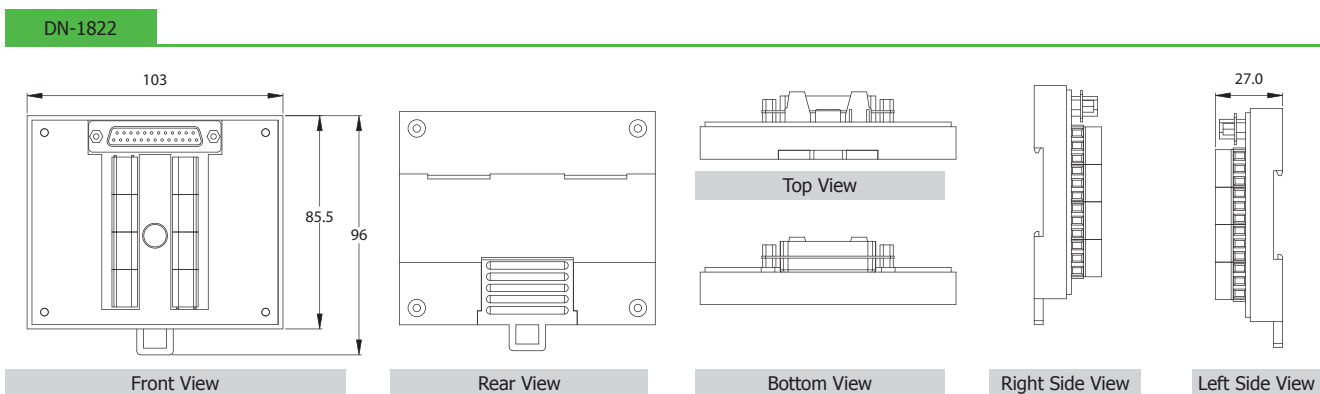
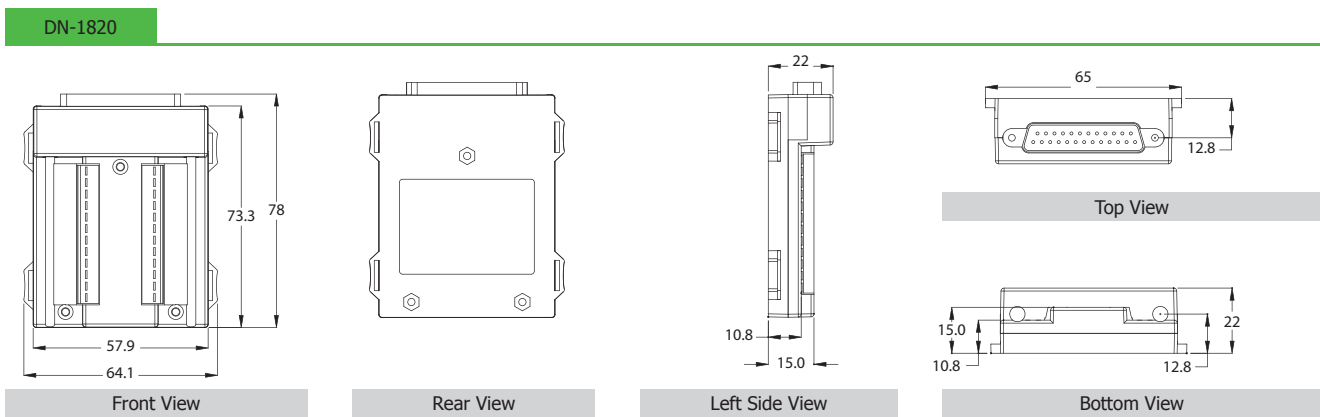
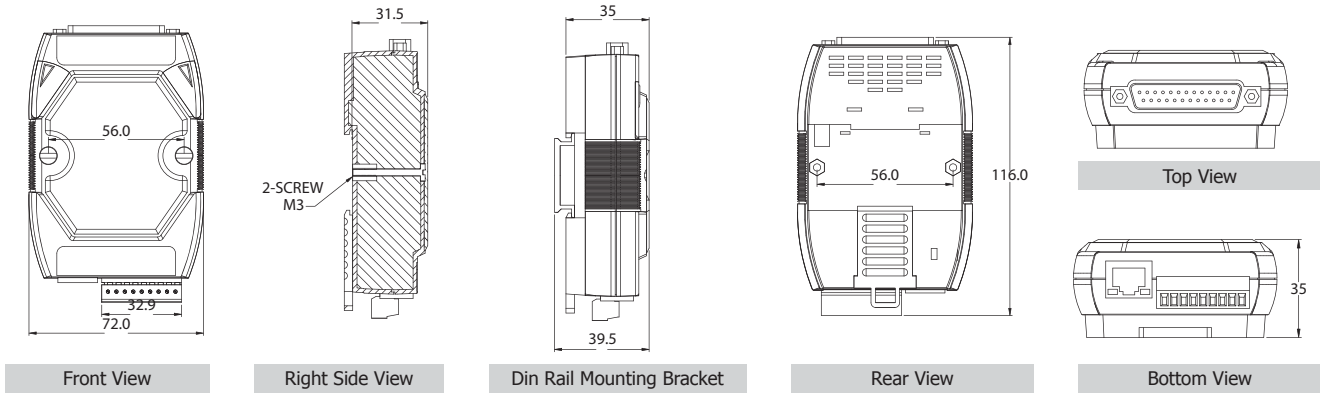
Pin Assignments



Wire Connections



Voltage Input (Default) 		Thermocouple Input (Default) 		
Current Input 				
Digital Output Open Collector (Sink)	ON State Readback as 1 		OFF State Readback as 0 	

Dimensions (Units: mm)








Ordering Information

ET-7019Z/S CR	10-channel Thermocouple Input Module with DB-1820 Daughter Board (RoHS)
PET-7019Z/S CR	10-channel Thermocouple Input Module with DB-1820 Daughter Board with PoE (RoHS)
ET-7019Z/S2 CR	10-channel Thermocouple Input Module with DN-1822 Daughter Board and a 1.8 m Cable (RoHS)
PET-7019Z/S2 CR	10-channel Thermocouple Input Module with DN-1822 Daughter Board and a 1.8 m Cable with PoE (RoHS)

 <p>ET-7019Z/S = DB-1820 Connects to the ET-7019Z Directly PET-7019Z/S = DB-1820 Connects to the PET-7019Z Directly</p>	 <p>ET-7019Z/S2 = DN-1822 Connects to the ET-7019Z Directly PET-7019Z/S2 = DN-1822 Connects to the PET-7019Z Directly</p>
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Accessories

	NS-205 CR	Unmanaged 5-port Industrial Ethernet Switch; requires a 24 V _{dc} Input (RoHS)
	NS-205PSE CR	Unmanaged Ethernet switch with 4-PoE and 1 RJ45 uplink; requires a 48 V _{dc} Input (RoHS)
	NS-205PSE-24V CR	Unmanaged Ethernet switch with 4-PoE and 1 RJ45 uplink; requires a 24 V _{dc} Input (RoHS)
	MDR-20-24 CR	24V/1A, 24 W Power Supply with DIN-Rail Mounting (RoHS)
	DIN-KA52F-48 CR	48V/0.52A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
	CD-2518D CR	25F-25M 1.8 m Cable with DIN-Rail Mount for the DB-1820 (RoHS)
	CD-25015 CR	25F-25M 15 cm Cable with DIN-Rail Mount for the DB-1820 (RoHS)
	4PAPP-006-G CR	Plastic Rack (RoHS)

 <p>PET-7019Z/S + CD-25015 + 4PAPP-006-G</p>	 <p>CD-25015 15 cm Cable + DB-1820</p>  <p>4PAPP-006-G</p>	 <p>PET-7019Z/S + CD-2518D</p>	 <p>CD-2518D 1.8 m Cable + DB-1820</p>
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