I-87019ZW/S | I-87019ZW/S2

10-Channel Thermocouple Input Module

Features

- 10-channel Universal Analog Input
- 240 Vrms Overvoltage Protection
- Individual Channel Configuration
- Open Thermocouple Detection
- Temperature Output Consistency
- Stable temperature output in the field
- 4 kV ESD Protection
- 3000 VDC Intra-module Isolation, Field-to-Logic

Introduction

The I-87019ZW is a 10-channel universal analog input module with an RS-485 interface that is a specially designed for extremely accurate thermocouple measurement and features automatic coldjunction compensation for each channel to ensure temperature output consistency and stable temperature output in the field.

The innovative design of the enhanced model ensures that thermocouple measurement is more accurate than with the earlier design. Besides the thermocouple inputs, the I-87019ZW also supports voltage and current inputs. The voltage input range can be form ±15 mV to ±10 V, and the current input range can be either +4 ~ +20 mA, 0 ~ +20 mA, or ±20 mA. Up to 10 analog inputs of diff erent types can be connected to a single module. Overvoltage protection of up to 240 Vrms is provided. The module also features per-channel open wire detection for thermocouple and +4 ~ +20 mA inputs.

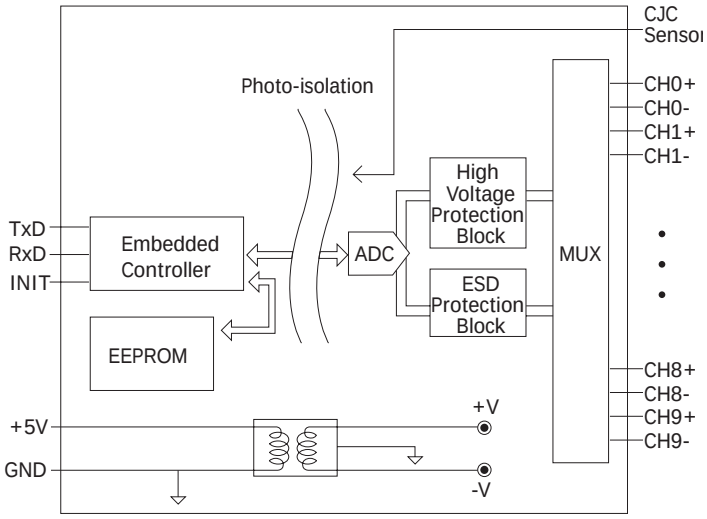
System Specifications

COM Port	
Ports	RS-485
Data Format	N, 8, 1
Baud Rate	1200 ~ 115200 bps
Protocol	DCON
CPU Module	
Dual Watchdog Timer	Module (1.6 Seconds), Communication (Programmable)
LED Indicators	
System LED Indicator	1
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for Each port, ±8 kV Air for Random Poin
Power	
Consumption	1.4 W
Mechanical	
Dimensions (W x L x H, unit: mm)	I-87019ZW: 31 x 86 x 114, CN-1820: 65 x 22 x 78, CN-1822:103 x 27 x 96
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95 % RH, Non-condensing

I/O Specifications

Analog Input		
Channels		10
Wiring		Differential
Sensor Type	Voltage	±15 mV, ±50 mV, ±100 mV, ±150 mV, ±500 mV, ±1 VDC, ±2.5 VDC, ±5 VDC, ±10 VDC
	Current	±20, 0 ~ +20, +4 ~ +20 mA (Jumper Selectable)
	Thermocouple	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)
Resolution		16-bit
Accuracy		±0.1 % of FSR
Sampling Rate		10 Hz (Total)
Zero Drift		±20 μV/°C
Span Drift		±25 ppm/°C
Common Mode Rejection		86 dB
Normal Mode Rejection		100 dB
Input Impedance	Voltage	> 400 MΩ
	Current	125 MΩ
Individual Channel Configuration		Yes
Open Wire Detection		Yes (Software Selectable)
Overvoltage Protection		240 Vrms

Internal I/O Structure

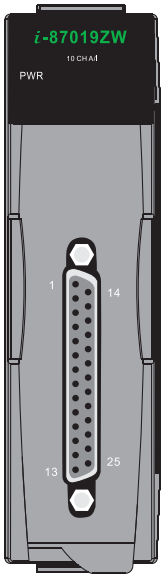


Thermocouple Type

Type Code	Type	Temperature Range
0E	J	-210 ~ + 760 °C
0F	K	-270 ~ + 1372 °C
10	T	-270 ~ + 400 °C
11	E	-270 ~ + 1000 °C
12	R	0 ~ + 1768 °C
13	S	0 ~ + 1768 °C
14	B	0 ~ + 1820 °C
15	N	-270 ~ + 1300 °C
16	C	0 ~ + 2320 °C
17	L	-200 ~ + 800 °C
18	M	-200 ~ + 100 °C
19	LDIN43710	-200 ~ + 900 °C

Pin Assignments

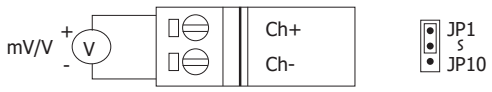
I-87019ZW



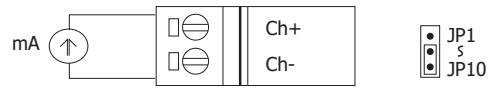
Pin Assignment	Terminal	No.	Pin Assignment
+5 V	01	14	AGND
CJC	02	15	CH 0+
CH 0-	03	16	CH 1+
CH 1-	04	17	CH 2+
CH 2-	05	18	CH 3+
CH 3-	06	19	CH 4+
CH 4-	07	20	CH 5+
CH 5-	08	21	CH 6+
CH 6-	09	22	CH 7+
CH 7-	10	23	CH 8+
CH 8-	11	24	CH 9+
CH 9-	12	25	N.C.
N.C.	13		

Wire Connections

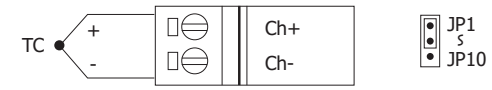
Voltage Input



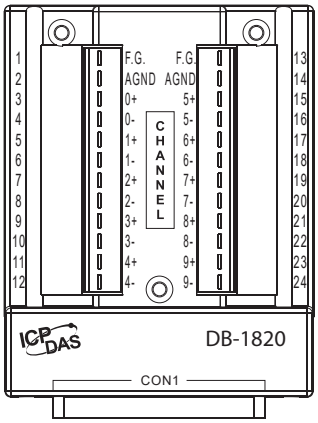
Current Input



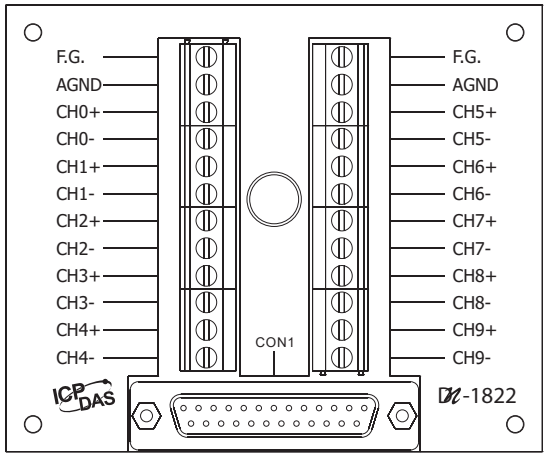
Thermocouple Input



DB-1820

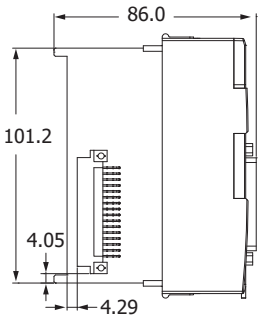


DN-1822

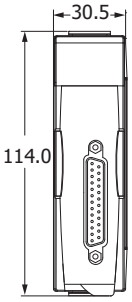


Dimensions (Unit: mm)

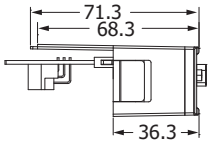
I-87019ZW



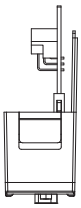
Left Side Veiw



Front Veiw

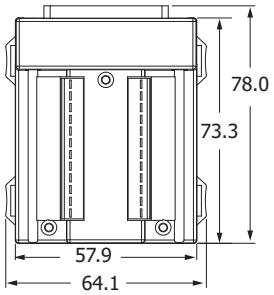


Top View

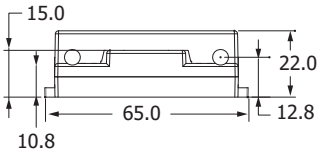


Top View

DB-1820

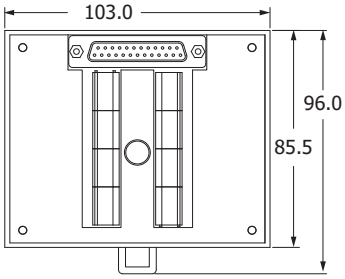


Front View

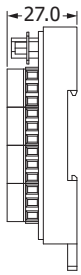


Bottom View

DN-1822



Front View



Right Side Veiw

Accessories

CD-2518D CR

25F-25M 1.8 m Cable with DIN-Rail Mounting for the DB-1820 (RoHs)

Ordering Information

I-87019ZW-G/S CR

10-channel Universal Analog Input Module (RoHS)

Includes the I-87019ZW Module and a DB-1820 Daughter Board

I-87018ZW-G/S = I-87018ZW Connects DB-1820 Directly

I-87019ZW/S =  **I-87019ZW** +  **DB-1820**

I-87019ZW-G/S2 CR

10-channel Universal Analog Input Module (RoHS)

Include I-87019ZW Module,DN-1822 Daughter Board

and 1.8 m Cable

I-87019ZW-G/S2 = I-87019ZW Connects DN-1822 Directly

I-87019ZW/S2 =  **I-87019ZW** +  **DN-1822**