

I-87018ZW/S | I-87018ZW/S2

10-Channel Thermocouple Input Module

Features

- Current Input, Voltage Input and Thermocouple 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 "Z" version is another milestone in the development of I-87018 and a testament to excellence by ICP DAS R&D team. I-87018ZW is specifically designed for extremely accurate thermocouple measurement. It features automatic compensation for each channel. Current input and voltage input are supported.

Another feature is that ten of its input channels can individually be configured with different kinds of analog input. I-87018ZW also got open thermocouple detection and many protection mechanisms.

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	1.3 W
Mechanical	
Dimensions (W x L x H, unit: mm)	I-87018ZW: 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

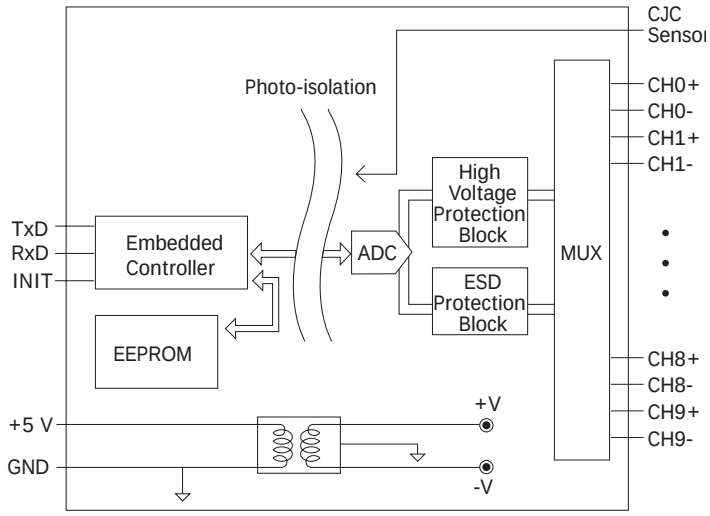
Analog Input		
Channels		10
Wiring		Differential
Sensor Type	Voltage	±15 mV, ±50 mV, ±100 mV, ±500 mV, ±1 VDC, ±2.5 VDC
	Current	±20, 0 ~ +20, +4 ~ +20 mA (Requires Optional External 125 Ω Resistor)
	Thermocouple	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)
Resolution		16-bit
Accuracy		±0.1 % of FSR
Sampling Rate		10 Hz (Total)
-3dB Bandwidth		15.7 Hz
Zero Drift		±0.5 μV/°C
Span Drift		±25 ppm/°C
Common Mode Rejection		150 dB
Normal Mode Rejection		100 dB
Input Impedance		> 400 MΩ
Individual Channel Configuration		Yes
Open Wire Detection		Yes
Overvoltage Protection		240 Vrms

Applications

- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

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Internal I/O Structure

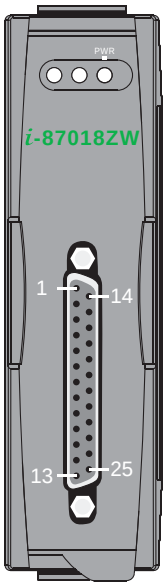


Thermocouple Type

Type Code	Temperature Range
J	-210 ~ + 760 °C
K	-270 ~ + 1372 °C
T	-270 ~ + 400 °C
E	-270 ~ + 1000 °C
R	0 ~ + 1768 °C
S	0 ~ + 1768 °C
B	0 ~ + 1820 °C
N	-270 ~ + 1300 °C
C	0 ~ + 2320 °C
L	-200 ~ + 800 °C
M	-200 ~ + 100 °C
LDIN43710	-200 ~ + 900 °C

Pin Assignments

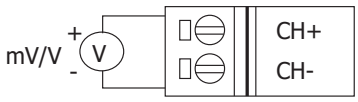
I-87018ZW



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		

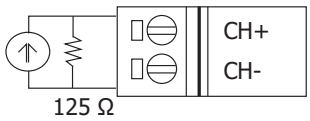
Wire Connections

Voltage Input

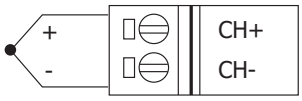


Current Input

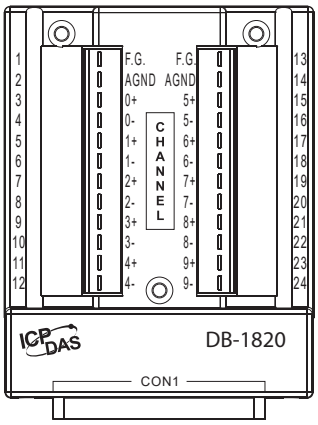
Note: When connecting to a current source, an optional external 125 Ω resistor is required



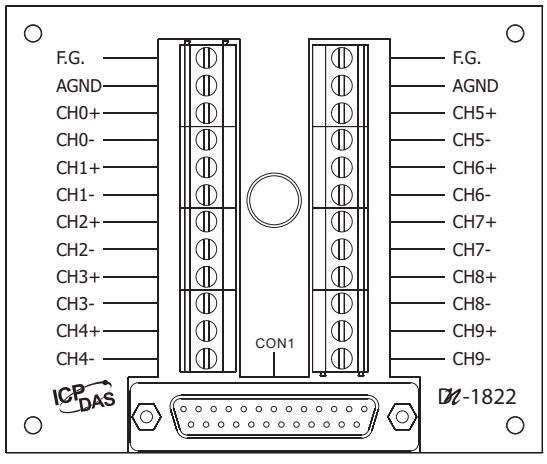
Thermocouple Input



DB-1820



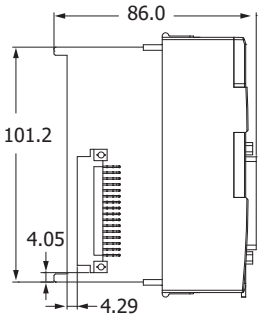
DN-1822



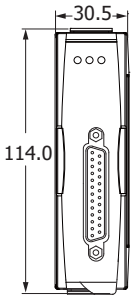
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Dimensions (Unit: mm)

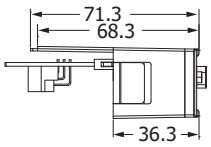
I-87018ZW



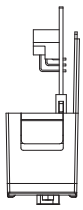
Left Side Veiw



Front Veiw

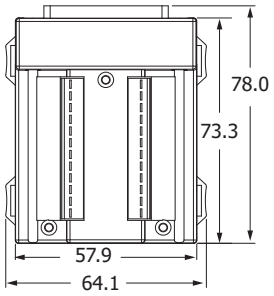


Top View

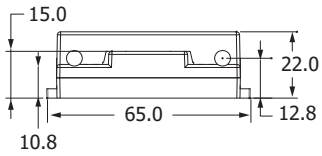


Top View

DB-1820

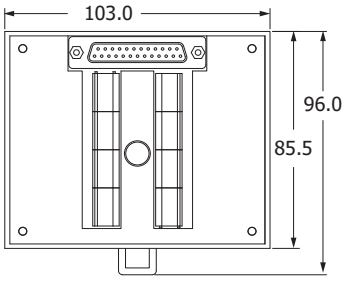


Front View

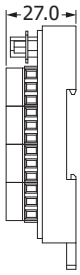


Bottom View

DN-1822



Front View



Right Side Veiw

Accessories

2AB125R CR



DIP Resistor, 125 ohm, 0.1%, 1/4W, MF, 50 ppm/°C (RoHS)

SG-770 CR



7/14-channel Differential/Single-ended Surge Protector (RoHS)

SG-3000 Series



Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers

Suggested Accessories

CD-2518D CR

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



Ordering Information

I-87018ZW-G/S CR

10-channel Thermocouple Input Module (RoHS)
Include I-87018Z Module and DB-1820 Daughter Board

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



I-87018ZW/S =  **I-87018ZW** +  **DB-1820**

I-87018ZW-G/S2 CR

10-channel Thermocouple Input Module (RoHS)
Include I-87018Z Module,DN-1822 Daughter Board
and 1.8 m Cable
I-87018ZW-G/S2 = I-87018ZW Connects DN-1822 Directly



I-87018ZW/S2 =  **I-87018ZW** +  **DN-1822**

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