I-87018W | I-87018RW

8-channel Thermocouple Input Module

Features

- 8-channel Analog Input
- Current Input, Voltage Input and Thermocouple Input
- High Resolution: 16-bit
- 3000 VDC Intra-module Isolation
- Open Wire Detection
- 240 Vrms Overvoltage Protection
- 4 kV ESD Protection

Introduction

The I-87018W is an 8-channel analog input module that provides current input and voltage input, as well as thermocouple input. The I-87018RW is an upgraded version of I-87018W with an extremely high-quality protection mechanism where the overvoltage protection can be as high as 240 Vrms. The input type can be set to either current or voltage, as well as thermocouple. The only difference between the two modules is that the I-87018RW is more suitable for critically harsh environments. Moreover, the newlyadded open thermocouple detection feature makes the I-87018RW more attractive than ever. Both the I-87018W and the I-87018RW also features 4 kV ESD protection and 3000 VDC intra-module isolation.

System Specifications

Model	I-87018W	I-87018RW
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	
I/O LED Indicator	-	16
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	0.8 W Max.	0.6 W Max.
Mechanical		
Dimensions (W x L x H)	I-87018W: 32 mm × 117 mm × 96 mm I-87018RW: 30 mm × 115 mm × 102 mm	
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95 % RH, Non-condensing	

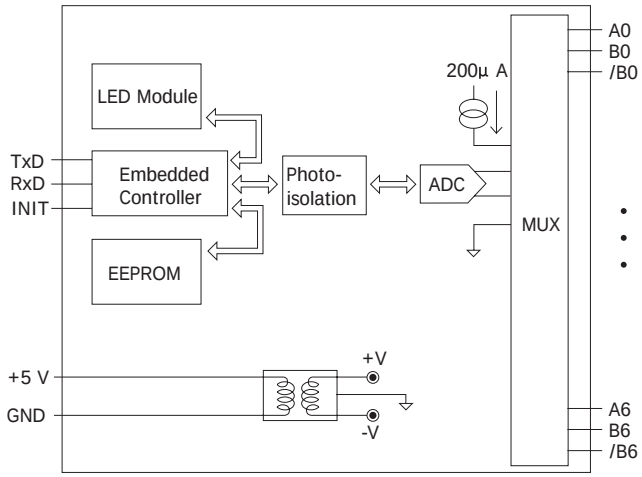
I/O Specifications

Model	I-87018W	I-87018RW
Analog Input		
Channels	8	
Wiring	Differential	
Sensor Typee	±15 mV, ±50 mV, ±100 mV, ±500 mV, ±1 VDC, ±2.5 VDC	
	-20 mA ~ +20 mA (Requires Optional External 125 Ω Resistor)	
	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	±10 μV/°C
Span Drift	±25 ppm/°C	
Common Mode Rejection	150 dB	
Normal Mode Rejection	100 dB	
Input Impedance	> 400 MΩ	
Open Wire Detection	-	Yes (Thermocouple)
Overvoltage Protection	±35 VDC	240 Vrms

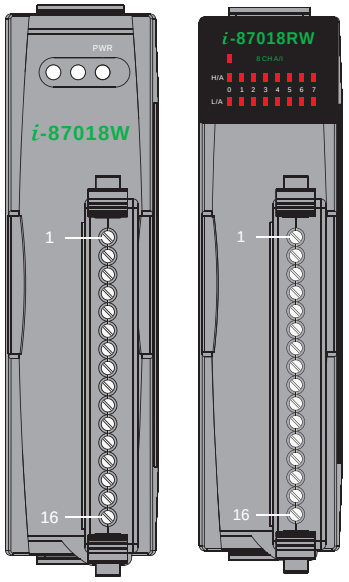
Applications

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

Internal I/O Structure



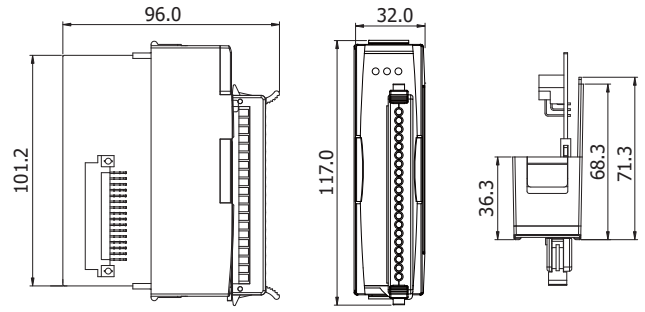
Pin Assignments



Terminal No.	Pin Assignment
01	Vin0+
02	Vin0-
03	Vin1+
04	Vin1-
05	Vin2+
06	Vin2-
07	Vin3+
08	Vin3-
09	Vin4+
10	Vin4-
11	Vin5+
12	Vin5-
13	Vin6+
14	Vin6-
15	Vin7+
16	Vin7-

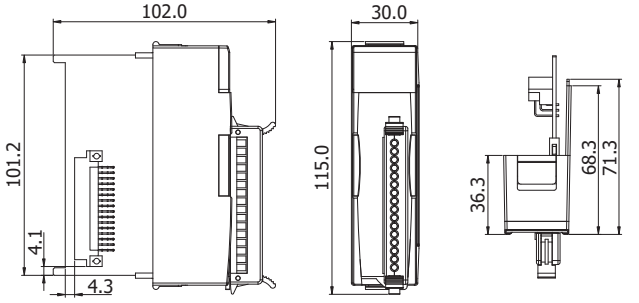
Dimensions

I-87018W



Left View | Front View | Top View

I-87018RW



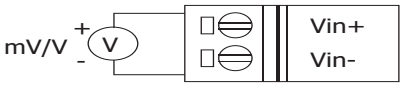
Left View | Front View | Top View

Thermocouple Type

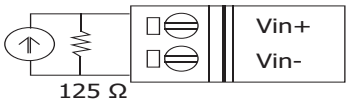
Type Code	Temperature Range
J	-210 ~ +760 °C
K	-270 ~ +1372 °C
T	-270 ~ +400 °C
E	-270 ~ +1000 °C
R	0 ~ +1768 °C
S	0 ~ +1768 °C
B	0 ~ +1820 °C
N	-270 ~ +1300 °C
C	0 ~ +2320 °C
L	-200 ~ + 800 °C
M	-200 ~ + 100 °C
LDIN43710	-200 ~ + 900 °C

Wire Connections

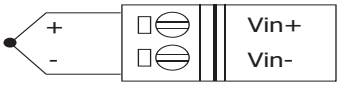
Voltage Input



Current Input



Thermocouple Input



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

Ordering Information

I-87018W-G CR	8-channel Thermocouple Input Module (RoHS)
I-87018RW-G CR	8-channel Thermocouple Input Module with High Overvoltage Protection (RoHS)

Accessories

2AB125R CR	125 Ω, 0.1% DIP Resistor used for Current Type Input Modules (RoHS)