



I-87019RW

8-channel Universal Analog Input Module
with High Overvoltage Protection

Features

- 8-channel Different Analog Input
- Current, Voltage and Thermocouple Input
- Open thermocouple detection
- Wider Input Range for Voltage
- Individual Channel Configuration
- 240 Vrms Overvoltage Protection
- 4 kV ESD Protection
- 3000 VDC Intra-module Isolation, Field-to-Logic



Introduction

I-87019RW features an extremely excellent protection mechanism where Overvoltage Protection is up to 240 Vrms. It has wider input range for voltage compared to I-87018R. I-87019RW measures voltage from $\pm 15 \text{ mV} \sim \pm 10 \text{ V}$. Its input type also includes current and thermocouple. An intuitive design is kept in this model; choosing to measure current or voltage is simply by a jumper. An external resistor is no longer needed. Eight of its input channels can individually be configured with different kinds of analog input. What's more, I-87019RW also got open thermocouple detection and many protection mechanisms.

Applications

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

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
I/O LED Indicator	16
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	$\pm 4 \text{ kV}$ Contact for Each port; $\pm 8 \text{ kV}$ Contact for Random Point
Power	
Consumption	1.1 W Max.
Mechanical	
Dimensions (W x L x H)	115 mm x 30 mm x 102 mm
Environment	
Operating Temperature	$-25 \sim +75 \text{ }^\circ\text{C}$
Storage Temperature	$-40 \sim +85 \text{ }^\circ\text{C}$
Humidity	10 ~ 95 % RH, Non-condensing

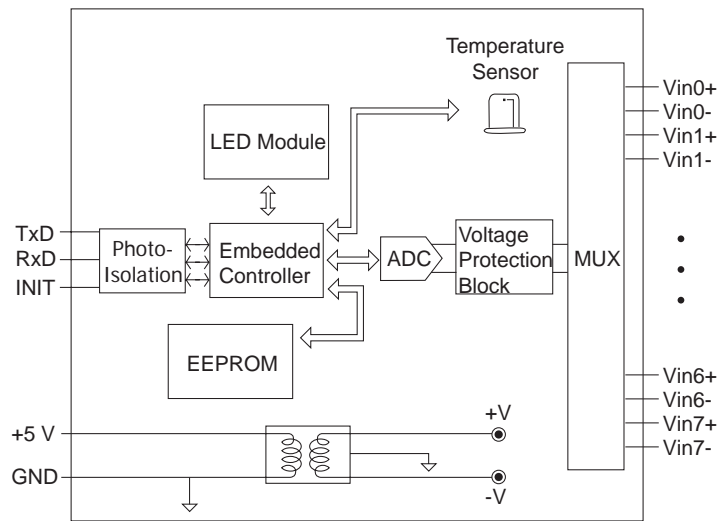
I/O Specifications

Analog Input		
Channels	8	
Wiring	Differential	
Sensor Type	Voltage	$\pm 15, \pm 50, \pm 100, \pm 150, \pm 500 \text{ mV}, \pm 1, \pm 2.5, \pm 5, \pm 10 \text{ V}$
	Current	$-20 \sim +20 \text{ mA}, 0 \sim 20 \text{ mA}, 4 \sim 20 \text{ mA}$ (Jumper Selectable)
	Thermocouple	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)
Resolution	16-bit	
Accuracy	$\pm 0.1 \%$ of FSR	
Sampling Rate	8 Hz (Total)	
-3dB Bandwidth	15.7 Hz	
Zero Drift	$\pm 20 \mu\text{V}/^\circ\text{C}$	
Span Drift	$\pm 25 \text{ ppm}/^\circ\text{C}$	
Common Mode Rejection	113 dB	
Normal Mode Rejection	100 dB	
Input Impedance	Voltage: $> 2 \text{ M}\Omega$, Current: 125Ω	
Individual Channel Configuration	Yes	
Open Thermocouple Detection	Yes	
Overvoltage Protection	240 Vrms	

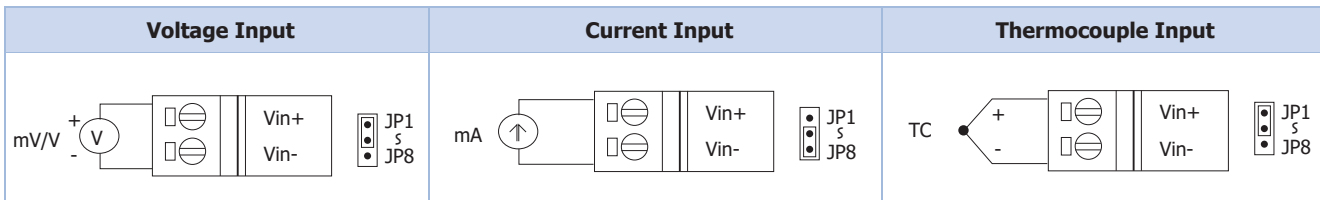
Thermocouple Type

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

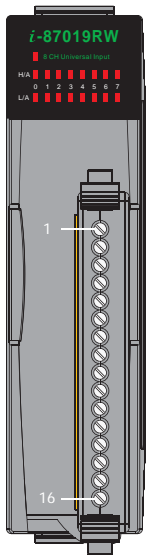
Internal I/O Structure



Wire Connections

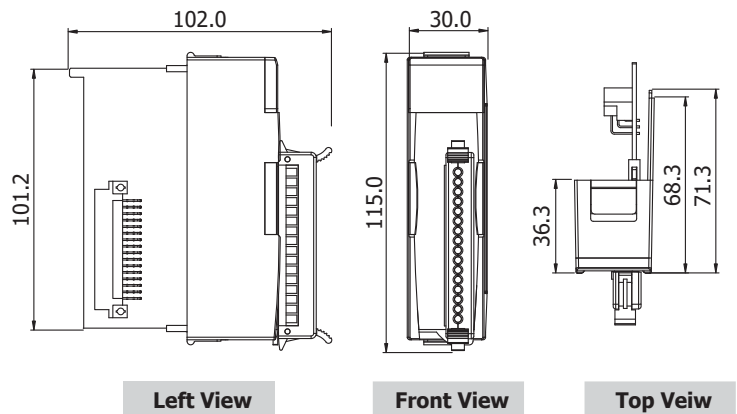


Pin Assignments





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 (Unit: mm)



Accessories

SG-770 CR
 7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)

SG-3000 Series
 Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input

Ordering Information

I-87019RW-G CR	8-channel Universal Analog Input Module with High Voltage Protection (RoHS)
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