



## I-87019RW

8-channel Universal Analog Input Module with High Overvoltage Protection

### 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 +/- 15 mV ~ +/- 10 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.

### System Specifications

Communication	
Interface	RS-485
Format	N, 8, 1
Baud Rate	1200 ~ 115200 bps
Protocol	DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
LED Indicators/Display	
System LED Indicator	1 LED as Power/Communication Indicator
I/O LED Indicator	16 LEDs as High/Low Alarm Signals
Isolation	
Intra-module Isolation, Field-to-Logic	3000 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	4 kV Contact for each Terminal
	8 kV Air for Random Point
Power	
Power Consumption	1.1 W Max.
Mechanical	
Dimensions (W x L x H)	30 mm x 102 mm x 115 mm
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-40 ~ +85°C
Humidity	10 ~ 95% RH, Non-condensing

### Features

- Current Input, Voltage Input and Thermocouple Input
- Wider Input Range for Voltage
- 240 Vrms Overvoltage Protection
- Individual Channel Configuration
- Jumper Setting for Current or Voltage Measuring
- Open Thermocouple Detection
- 4 kV ESD Protection
- 3000 Vdc Intra-module Isolation
- RoHS Compliant
- Wide Operating Temperature Range: -25 ~ +75°C



### Applications

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

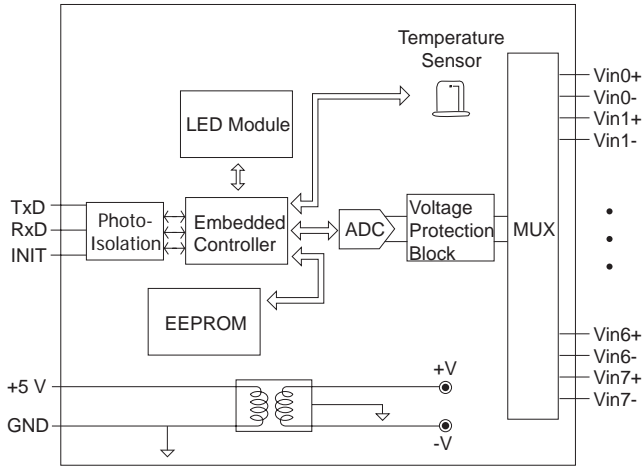
### I/O Specifications

Analog Input	
Channels	8
Wiring	Differential
Sensor Type	+/- 15 mV, +/- 50 mV, +/- 100 mV, +/- 150 mV, +/- 500 mV, +/- 1 Vdc, +/- 2.5 Vdc, +/- 5 Vdc, +/- 10 Vdc
	-20 mA ~ +20 mA (Jumper Selectable)
	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, L <sub>DIN43710</sub> )
Resolution	16-bit
Accuracy	+/- 0.1% of FSR
Sampling Rate	8 Hz (Total)
Zero Drift	+/- 20 μV/°C
Span Drift	+/- 25 ppm/°C
Common Mode Rejection	113 dB
Normal Mode Rejection	100 dB
Input Impedance	Voltage Input: >2 MΩ, Current Input: 125 Ω
Individual Channel Configurable	Yes
Open Wire Detection	Yes
Overvoltage Protection	240 Vrms

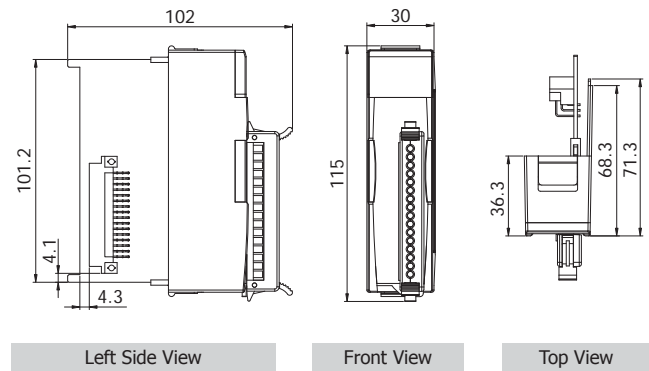
### Thermocouple type

Type Code	Type	Temperature Range°C
0E	J	-210 ~ +760
0F	K	-270 ~ +1372
10	T	-270 ~ +400
11	E	-270 ~ +1000
12	R	0 ~ +1768
13	S	0 ~ +1768
14	B	0 ~ +1820
15	N	-270 ~ +1300
16	C	0 ~ +2320
17	L	-200 ~ +800
18	M	-200 ~ +100
19	L <sub>DIN43710</sub>	-200 ~ +900

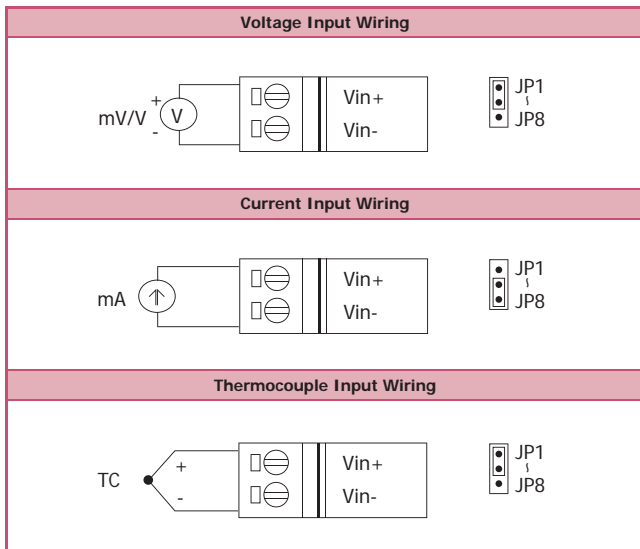
### Internal I/O Structure



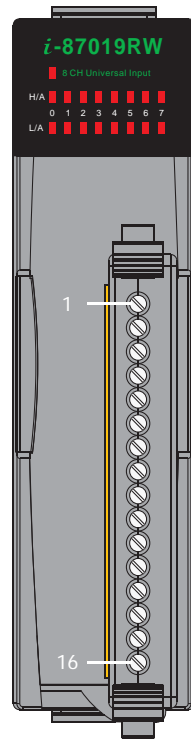
### Dimensions (Units: mm)



### 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-

### Ordering Information

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