



## I-87019RW-G

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  $\pm 15$  mV  $\sim$   $\pm 10$  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 to 115200 bps
Protocol	DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
LED Indicators/Display	
System LED Indicators	Yes, 1 as Power/Communication Indicator
I/O LED Indicators	16 as High/Low Alarm Signals
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	$\pm 4$ kV Contact for each Terminal
	$\pm 8$ kV Air for Random Point
Power	
Power Consumption	1.1 W Max.
Mechanical	
Dimensions (L x W x H)	115 mm x 30 mm x 102 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-40 to +85°C
Humidity	10 to 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 to +75°C



### Applications

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

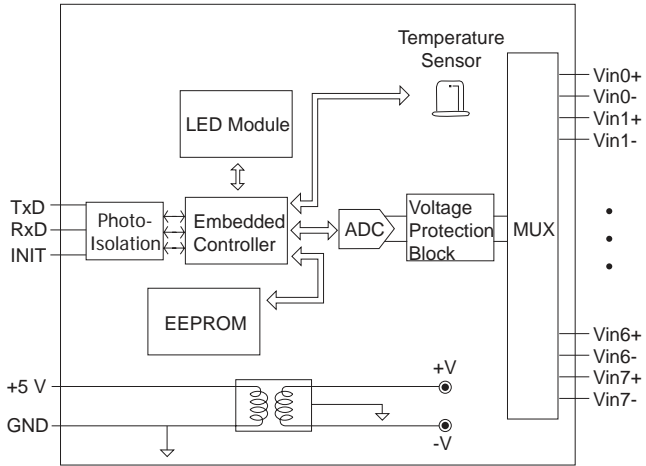
### I/O Specifications

Analog Input	
Channels	8
Wiring	Differential
Sensor Type	$\pm 15$ mV, $\pm 50$ mV, $\pm 100$ mV, $\pm 150$ mV, $\pm 500$ mV, $\pm 1$ VDC, $\pm 2.5$ VDC, $\pm 5$ VDC, $\pm 10$ VDC
	-20 mA $\sim$ +20 mA (Jumper Selectable)
	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)
Zero Drift	$\pm 20$ $\mu$ V/°C
Span Drift	$\pm 25$ ppm/°C
Common Mode Rejection	113 dB
Normal Mode Rejection	100 dB
Input Impedance	Voltage Input: $> 2$ M $\Omega$ , Current Input: 125 $\Omega$
Individual Channel Configurable	Yes
Open Wire Detection	Yes
Overvoltage Protection	240 Vrms

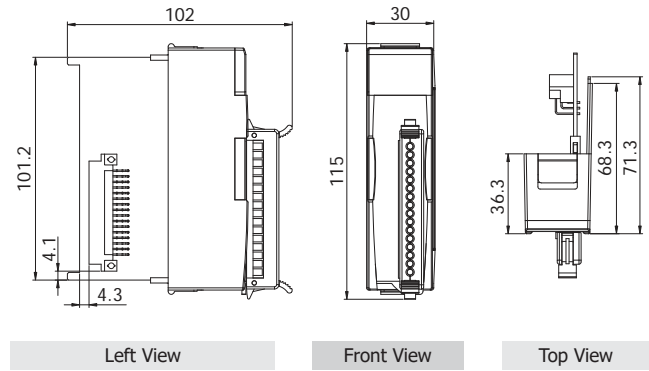
### Thermocouple Type

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

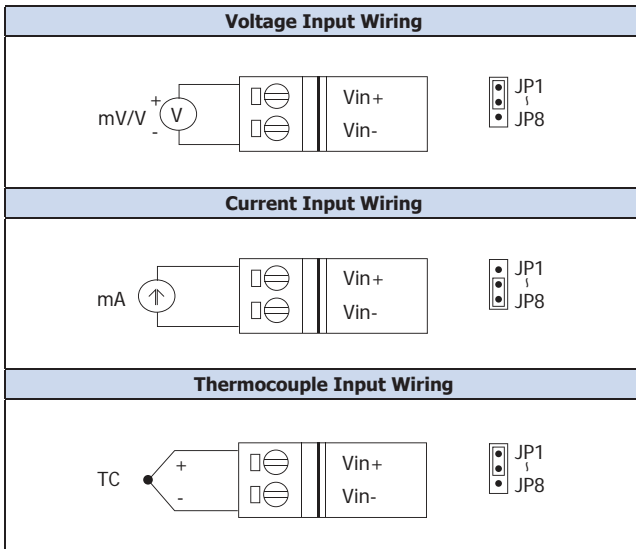
## Internal I/O Structure



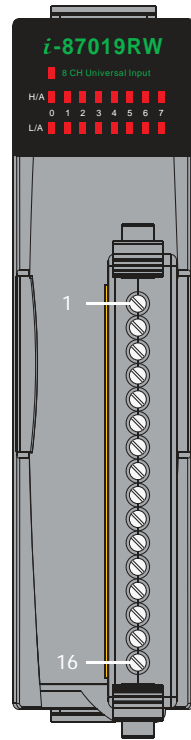
## Dimensions (Units: mm)



## 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

<b>I-87019RW-G CR</b>	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