



## I-87017ZW

10/20-channel Analog Input Module with High Voltage Protection

### Features

- 10/20-channel Differential/Single-ended Inputs
- Jumper Selectable Voltage or Current Input
- 240 Vrms Overvoltage Protection
- Supports Fast Mode and Normal Mode
- Individual Channel Configuration
- 4 kV ESD and EFT Protection
- 3000 VDC Intra-module Isolation



### Introduction

The I-87017ZW is an analog input module that includes 10 differential or 20 single-ended analog input channels. It provides a programmable input range on all analog inputs. ( $\pm 150 \text{ mV}$ ,  $\pm 500 \text{ mV}$ ,  $\pm 1 \text{ V}$ ,  $\pm 5 \text{ V}$ ,  $\pm 10 \text{ V}$ ,  $\pm 20 \text{ mA}$  or  $0 \sim +20 \text{ mA}$ ) Each analog input can be configured for an individual range that provides 240 Vrms high overvoltage protection and 50 mA overcurrent protection at 110 VDC/VAC. Voltage and current inputs are jumper selectable. The sampling rate of the I-87017ZW is adjustable and is available in either fast or normal mode. The module also features per-channel open wire detection for  $+4 \sim +20 \text{ mA}$  inputs that provides 4 kV ESD protection as well as 3000 VDC intra-module isolation.

### Applications

- Building Automation
- Remote Maintenance
- Factory Automation
- Remote Diagnosis
- Machine Automation
- 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 LED as Power Indicator
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	$\pm 4 \text{ kV}$ Contact for Each port, $\pm 8 \text{ kV}$ Air for Random Poin
EFT (IEC 61000-4-4)	$\pm 4 \text{ kV}$ for Power
Power	
Consumption	2.0 W Max.
Mechanical	
Dimensions (W x L x H)	30 mm x 115 mm x 102 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95 % RH, Non-condensing

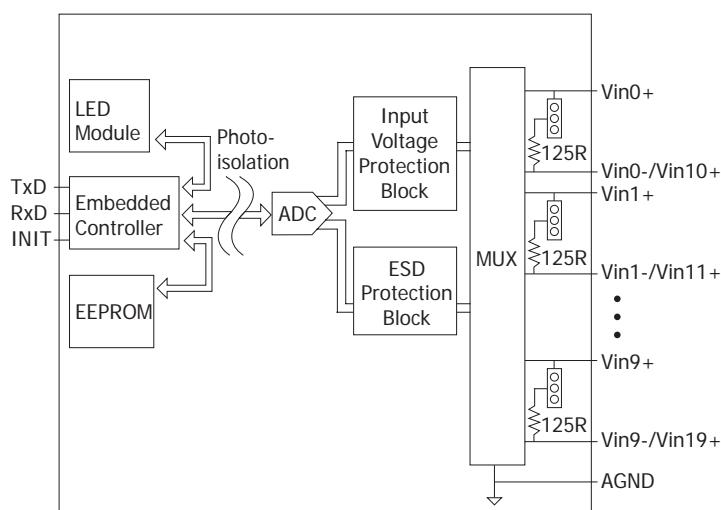
### I/O Specifications

Analog Input			
Channels (Jumper Selectable)		10 Differential or 20 Single-ended (See Note)	
Range (Jumper Selectable)		$\pm 150 \text{ mV}$ , $\pm 500 \text{ mV}$ , $\pm 1 \text{ V}$ , $\pm 5 \text{ V}$ , $\pm 10 \text{ V}$ , $\pm 20 \text{ mA}$ , $0 \sim +20 \text{ mA}$	
Resolution		16-bit	
Accuracy	Normal Mode	$\pm 0.1 \%$ of FSR	
	Fast Mode	$\pm 0.5 \%$ of FSR	
Sampling Rate	Normal Mode	10 Hz (Total)	
	Fast Mode	50 Hz (Total)	
Bandwidth	Normal Mode	15.7 Hz	
	Fast Mode	78.7 Hz	
Zero Drift		$\pm 20 \mu\text{V}/^\circ\text{C}$	
Span Drift		$\pm 25 \text{ ppm}/^\circ\text{C}$	
Common Mode Rejection		86 dB	
Normal Mode Rejection		100 dB	
Input Impedance	Voltage	Differential	2 MΩ
		Single-ended	1 MΩ
	Current	125 Ω	
Overvoltage Protection	Differential	240 Vrms	
	Single-ended	150 Vrms	
Individual Channel Configuration		Yes	
Overcurrent Protection		50 mA Max. at 110 VDC/VAC Max.	

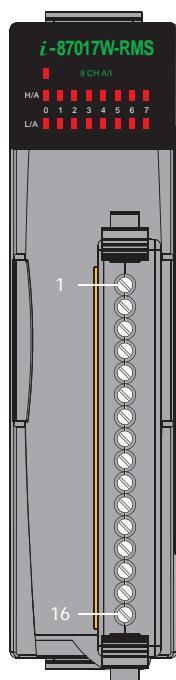
#### Note:

Differential mode can be used for either voltage input or current input. Single-Ended mode can only be used for voltage input.

## Internal I/O Structure

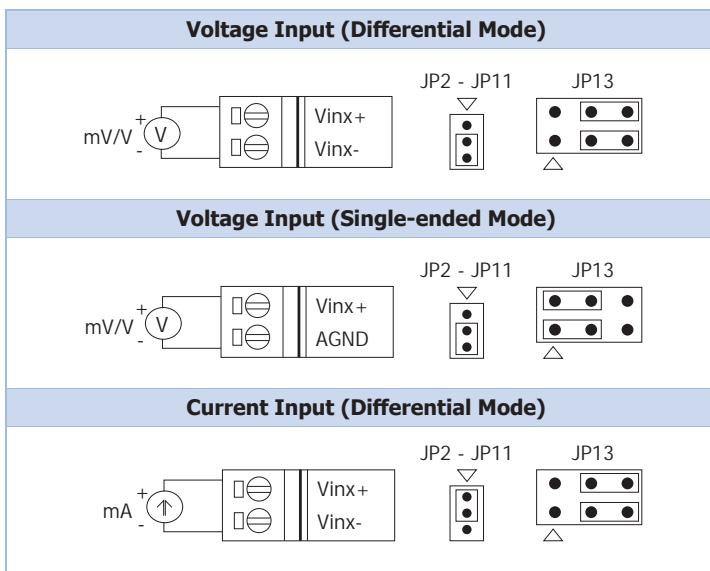


## Pin Assignments

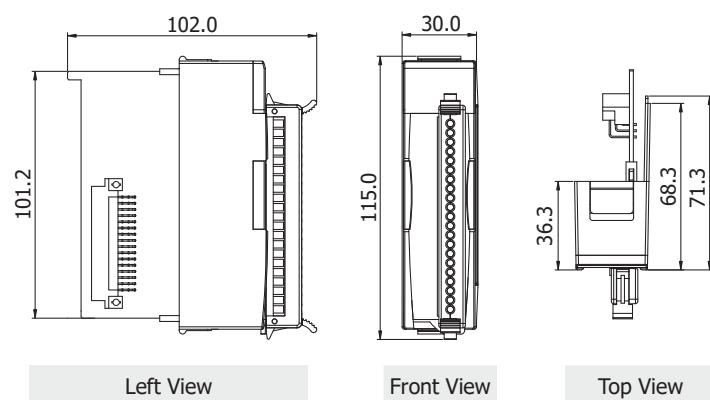


Terminal No.	Pin Assignment
01	Vin0+
02	Vin0-/Vin10+
03	Vin1+
04	Vin1-/Vin11+
05	Vin2+
06	Vin2-/Vin12+
07	Vin3+
08	Vin3-/Vin13+
09	Vin4+
10	Vin4-/Vin14+
11	Vin5+
12	Vin5-/Vin15+
13	Vin6+
14	Vin6-/Vin16+
15	Vin7+
16	Vin7-/Vin17+
17	Vin8+
18	Vin8-/Vin18+
19	Vin9+
20	Vin9-/Vin19+
21	AGND

## Wire Connections



## Dimensions (Unit: mm)



## Accessories

	<b>DN-843V-600V CR</b>	3-channel 600 V Voltage Attenuator (RoHS)
	<b>DN-848VI-80V CR</b>	8-channel 80 V Voltage Attenuator (RoHS)
	<b>DN-848VI-150V CR</b>	8-channel 150 V Voltage Attenuator (RoHS)
	<b>DN-843I-CT-1 CR</b>	3-channel 1 A Current Transformer (RoHS)
	<b>DN-843I-CT-50 CR</b>	3-channel 50 A Current Transformer (RoHS)

<b>SG-770 CR</b>	
	7/14-channel Differential/Single-ended Surge Protector (RoHS)
<b>SG-3000 Series</b>	
	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers

## Ordering Information

**I-87017ZW-G CR**

10/20-channel Analog Input Module with High Voltage Protection (RoHS)