



## I-87017ZW-G

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

### 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. ( $\pm 150$  mV,  $\pm 500$  mV,  $\pm 1$  V,  $\pm 5$  V,  $\pm 10$  V,  $\pm 20$  mA or  $0 \sim +20$  mA) Each analog input can be configured for an individual range that provides 240 V<sub>rms</sub> high overvoltage protection and 50 mA overcurrent protection at 110 V<sub>DC</sub>/V<sub>AC</sub>. 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  $+4 \sim +20$  mA inputs that provides 4 kV ESD protection as well as 3000 V<sub>DC</sub> intra-module isolation.

### 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	-
Isolation	
Intra-module Isolation, Field-to-Logic	3000 V <sub>DC</sub>
EMS Protection	
ESD (IEC 61000-4-2)	$\pm 4$ kV Contact for each Terminal $\pm 8$ kV Air for Random Point
EFT (IEC 61000-4-4)	$\pm 4$ kV for Power
Power	
Power Consumption	2.0 W
Mechanical	
Dimensions (L × W × H)	115 mm × 30 mm × 102 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-40 to +85°C
Humidity	10 to 95% RH, Non-condensing

### Features

- 10-channel Differential or 20-channel Single-ended Inputs
- Jumper Selectable Voltage or Current Input
- 240 V<sub>rms</sub> Overvoltage Protection
- High Resolution: 16-bits
- Supports Fast Mode and Normal Mode
- 4 kV ESD Protection
- 3000 V<sub>DC</sub> Intra-module Isolation
- Individual Channel Configuration
- Dual Watchdog
- RoHS Compliance
- Wide Operating Temperature Range: -25 to +75°C



### Applications

- Industrial Automation
- Industrial Machinery
- Building Automation
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

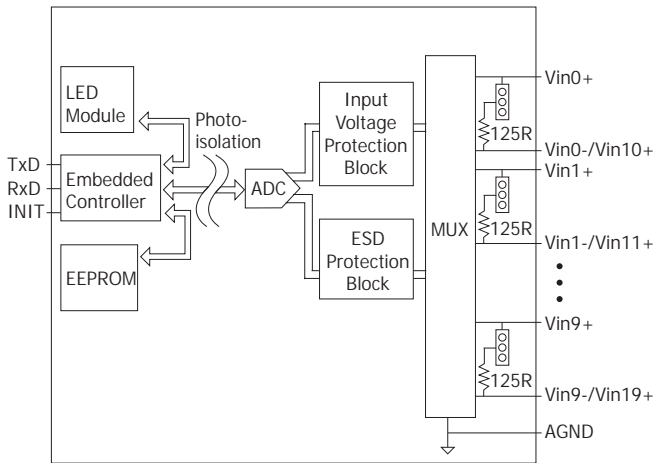
### I/O Specifications

Analog Input			
Channels	10 Differential or 20 Single-ended (See Note 1), Jumper selectable		
Range	$\pm 150$ mV, $\pm 500$ mV, $\pm 1$ V <sub>DC</sub> , $\pm 5$ V <sub>DC</sub> , $\pm 10$ V <sub>DC</sub> , $\pm 20$ mA, $0 \sim +20$ mA, $+4 \sim +20$ mA (jumper selectable)		
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)	
Band Width	Normal Mode	15.7 Hz	
	Fast Mode	78.7 Hz	
Zero Drift	$\pm 20$ $\mu$ V/°C		
Span Drift	$\pm 25$ ppm/°C		
Common Mode Rejection	86 dB		
Normal Mode Rejection	100 dB		
Input Impedance	Voltage	Differential	2 M $\Omega$
		Single-ended	1 M $\Omega$
Overvoltage Protection	Current	125 $\Omega$	
		Differential	240 V <sub>rms</sub>
Individual Channel Configuration	Single-ended	150 V <sub>rms</sub>	
	Yes		
Overcurrent Protection	50 mA Max. at 110 V <sub>DC</sub> /V <sub>AC</sub> Max.		

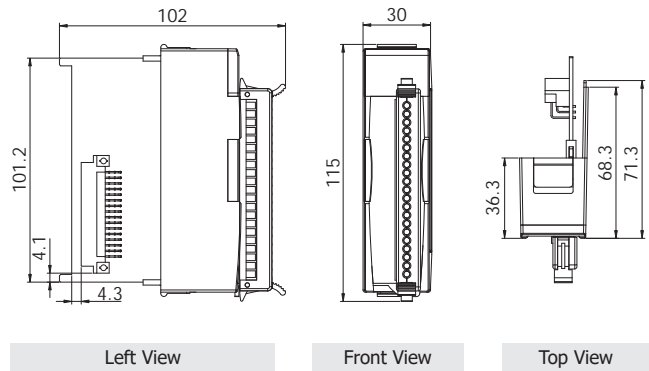
Note 1:

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

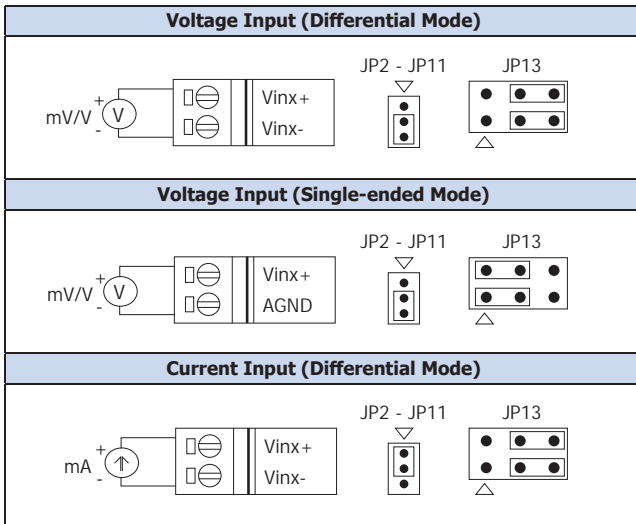
## Internal I/O Structure



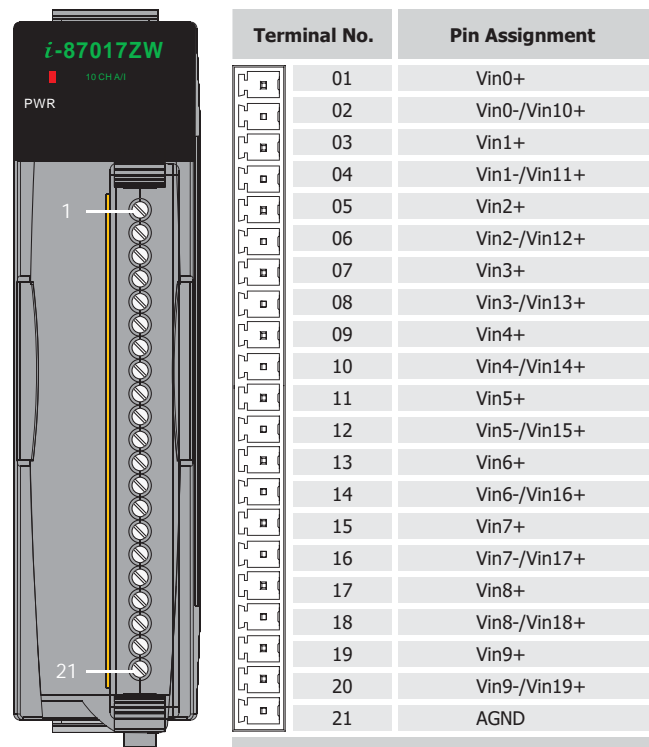
## Dimensions (Units: mm)



## Wire Connections



## Pin Assignments



## Ordering Information

<b>I-87017ZW-G CR</b>	10/20-channel Analog Input Module with High Voltage Protection (Gray Cover) (RoHS)
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## Accessories

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

DN-843I-CT-50 CR	3-channel 50 A Current Transformer (RoHS)
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