



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. (± 150 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V, ± 20 mA or $0 \sim +20$ mA) Each analog input can be configured for an individual range that provides 240 V_{rms} high overvoltage protection and 50 mA overcurrent protection at 110 V_{DC}/V_{AC}. 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_{DC} 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 _{DC}
EMS Protection	
ESD (IEC 61000-4-2)	± 4 kV Contact for each Terminal ± 8 kV Air for Random Point
EFT (IEC 61000-4-4)	± 4 kV for Power
Power	
Power Consumption	2.0 W
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

- 10-channel Differential or 20-channel Single-ended Inputs
- Jumper Selectable Voltage or Current Input
- 240 V_{rms} Overvoltage Protection
- High Resolution: 16-bits
- Supports Fast Mode and Normal Mode
- 4 kV ESD Protection
- 3000 V_{DC} 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

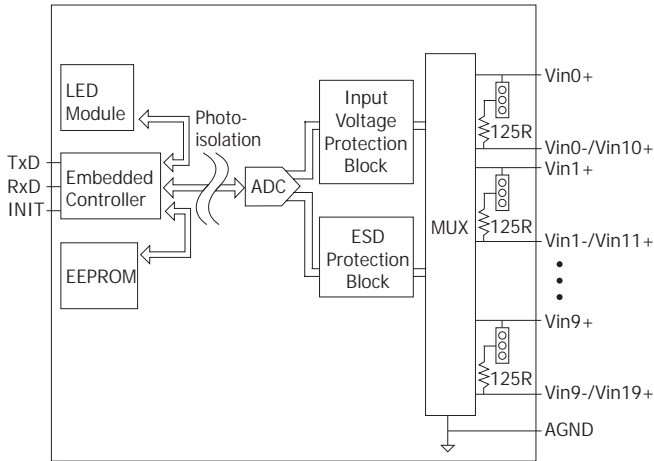
I/O Specifications

Analog Input			
Channels	10 Differential or 20 Single-ended (See Note 1), Jumper selectable		
Range	± 150 mV, ± 500 mV, ± 1 V _{DC} , ± 5 V _{DC} , ± 10 V _{DC} , ± 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	± 20 μ V/°C		
Span Drift	± 25 ppm/°C		
Common Mode Rejection	86 dB		
Normal Mode Rejection	100 dB		
Input Impedance	Voltage	Differential	2 M Ω
		Single-ended	1 M Ω
Overvoltage Protection	Current	125 Ω	
		Differential	240 V _{rms}
Individual Channel Configuration	Single-ended	150 V _{rms}	
	Yes		
Overcurrent Protection	50 mA Max. at 110 V _{DC} /V _{AC} Max.		

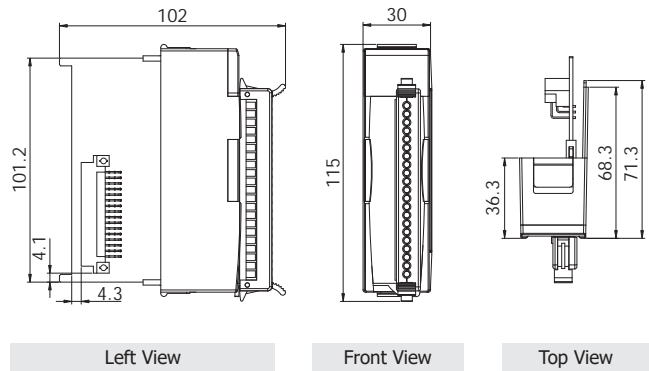
Note 1:

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

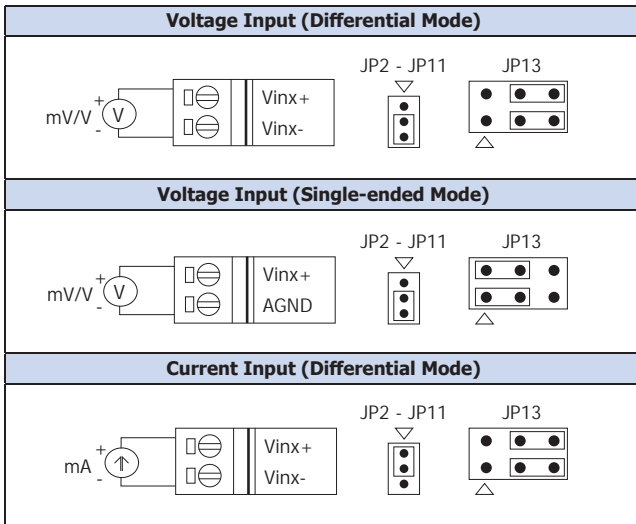
Internal I/O Structure



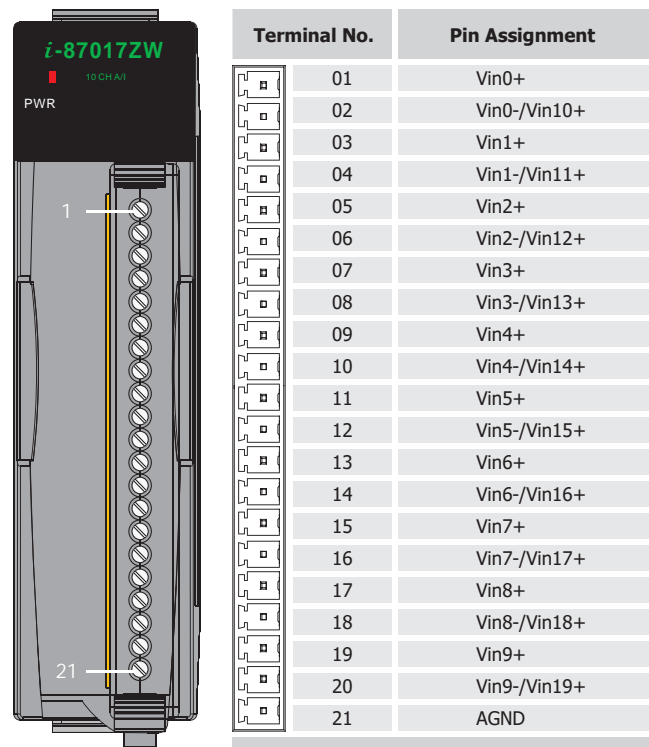
Dimensions (Units: mm)



Wire Connections



Pin Assignments



Ordering Information

I-87017ZW-G CR	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-843I-CT-50 CR	3-channel 50 A Current Transformer (RoHS)
DN-848VI-80V CR	8-channel 80 V Voltage Attenuator (RoHS)	SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
DN-848VI-150V CR	8-channel 150 V Voltage Attenuator (RoHS)	SG-3000 series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input
DN-843I-CT-1 CR	3-channel 1 A Current Transformer (RoHS)		