



Introduction

The I-87017ZW is an analog input module that includes 10 differential analog input channels or 20 single-ended analog input channels and provides a programmable input range on all analog inputs (+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA or 0 ~ 20 mA). Each analog input can be configured for an individual range and provides a high overvoltage protection of 240 V_{rms}. Voltage and current inputs are jumper selectable. The I-87017ZW is more suitable for critically harsh environments. The sampling rate of the I-87017ZW is adjustable and is available in either fast or normal mode. The I-87017ZW also provides 4 kV ESD protection as well as 3000 V_{dc} intra-module isolation.

Analog Input

Features

- 10-channel Differential or 20-channel Single-ended Inputs
- Voltage and Current Inputs
- 240 V_{rms} Overvoltage Protection
- High Resolution: 16 bits
- Adjustable Sampling Rate
- 4 kV ESD Protection
- 3000 V_{dc} Intra-module Isolation
- Dual Watchdog
- RoHS Compliance
- Wide Operating Temperature Range: -25 °C ~ +75 °C



Applications

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

I/O Specifications

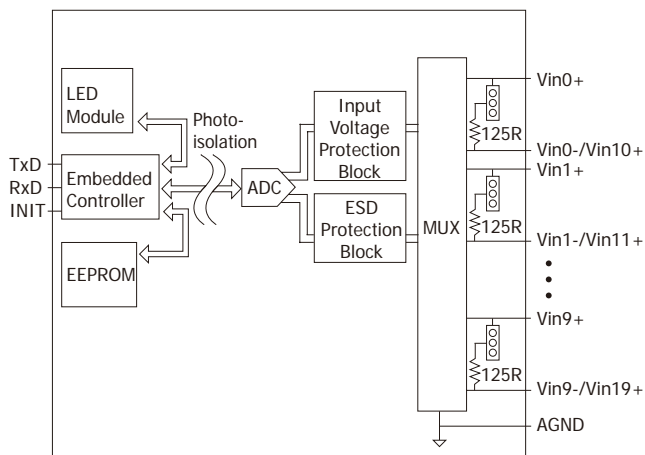
Analog Input			
Input Channels	10 differential or 20 single-ended (See Note 1), Jumper selectable		
Input Type	+/-150mV, +/-500mV, +/-1V, +/-5V, +/-10V, +/-20mA, 0~20mA, 4~20mA (jumper selectable)		
Resolution	Normal Mode	16-bit	
	Fast Mode	12-bit	
Sampling Rate	Normal Mode	10 Samples/Second total	
	Fast Mode	50 Samples/Second total	
Accuracy	Normal Mode	+/- 0.1%	
	Fast Mode	+/- 0.5%	
Band Width	Normal Mode	15.7Hz	
	Fast Mode	78.7Hz	
Zero Drift	+/- 20 μV/°C		
Span Drift	+/- 25 ppm/°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 V _{rms}	
	Single-ended	150 V _{rms}	

Note 1: Differential mode can be used for either voltage input or current input.
Single-Ended mode can only be used for voltage input.

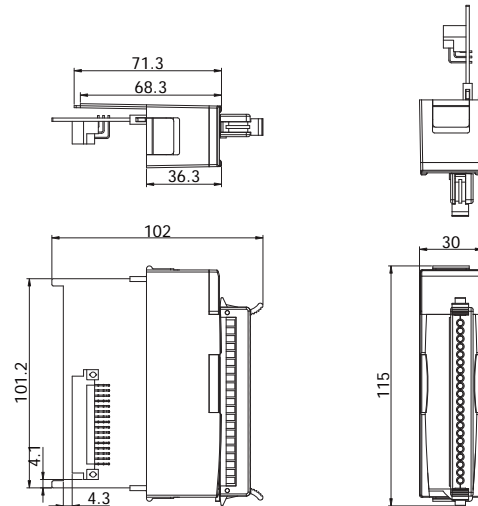
System Specifications

Interface	
Interface	RS-485
Format	N, 8, 1
Baud Rate	1200 ~ 115200 bps
Watchdog	
Dual Watchdog	Yes, Module (1.6 seconds) Communication (Programmable)
LED Display	1 LED as Power/Communication indicator
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
Environment	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-40 °C ~ +85 °C
Humidity	5 ~ 95% RH, Non-condensing
Dimensions	30 mm x 102 mm x 115 mm (W x L x H)

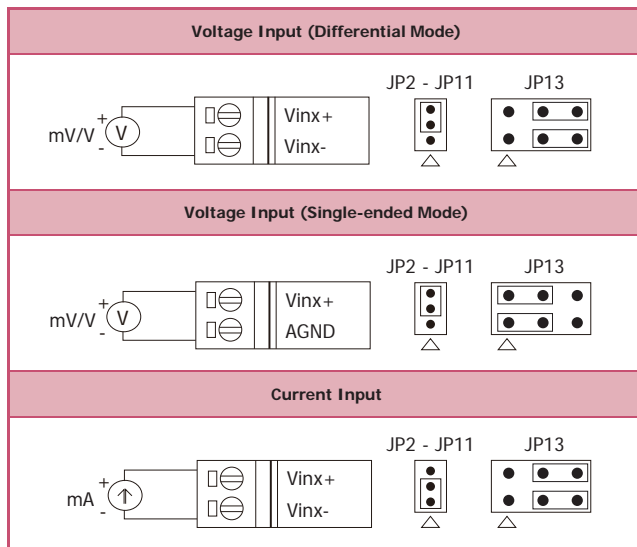
Internal I/O Structure



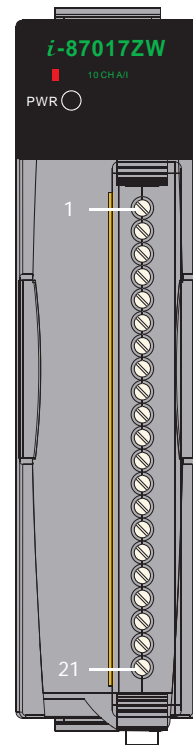
Dimensions (Units: mm)



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-
17	Vin8+
18	Vin8-
19	Vin9+
20	Vin9-
21	AGND

Ordering Information

I-87017ZW-G CR	10/20-channel Analog Input Module with High Voltage Protection (RoHS)
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Related Products

Converters	USB, RS-232, Fiber Optical to RS-485 Converters and Repeaters
Learning Kit	Beginner Learning Kit
Application Books	Application Books Designed for Our Products
Data Logger Software	User Friendly Data Logger Software (free)