

I-97017Z

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

Introduction

The I-97017Z 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 Vrms high overvoltage protection and 50mA overcurrent protection at 110 VDC/VAC. Voltage and current inputs are jumper selectable. The sampling rate of the I-97017Z is adjustable and is available in either fast or normal mode. The module also features perchannel open wire detection for $+4 \sim +20$ mA inputs that provides 4 KV ESD protection as well as 3000 VDC intra-module isolation.

System Specifications

Model	I-97017Z
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 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	± 4 kV Contact for each Terminal
	± 8 kV Air for Random Point
RS Immunity (IEC 61000-4-3)	± 4 kV for Power
Power	
Power Consumption	0.5 W Max.
Mechanical	
Dimensions (L x W x H)	144 mm x 30.3 mm x 134 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-40 to +85°C
Humidity	10 to 90% RH, non-condensing

Features

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



Applications

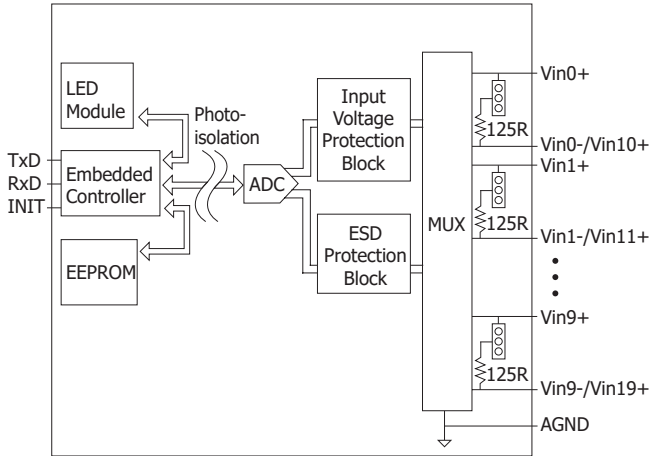
- Industrial Automation
- Industrial Machinery
- Building Automation
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

I/O Specifications

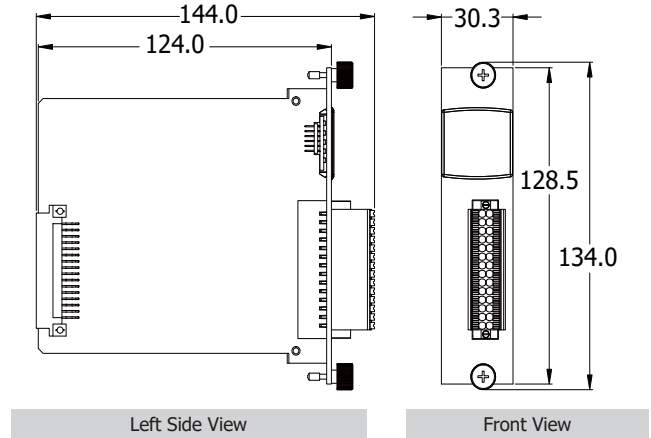
Model	I-97017Z		
Analog Input			
Channels	10 Differential or 20 Single-ended (See Note 1), Jumper selectable		
Range	± 150 mV, ± 500 mV, ± 1 VDC, ± 5 VDC, ± 10 VDC, ± 20 mA, $0 \sim +20$ mA, $+4 \sim +20$ mA (jumper selectable)		
Resolution	16-bit		
Accuracy	Normal Mode	$\pm 0.1\%$ of FSR	
	Fast Mode	$\pm 0.5\%$ 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 Vrms
Individual Channel Configuration	Overcurrent Protection	Single-ended	150 Vrms
		50 mA Max. at 110 VDC/VAC 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)

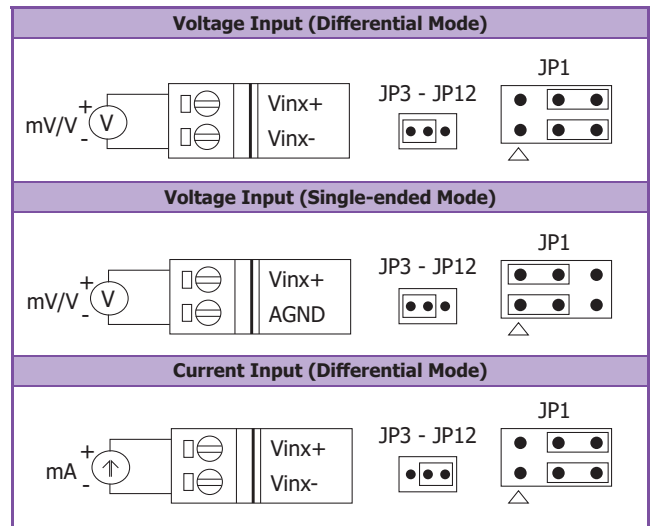


Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment
Vin		Vin
0+	01	15 0-/10+
1+	02	16 1-/11+
2+	03	17 2-/12+
3+	04	18 3-/13+
4+	05	19 4-/14+
5+	06	20 5-/15+
6+	07	21 6-/16+
7+	08	22 7-/17+
8+	09	23 8-/18+
9+	10	24 9-/19+
AGND	11	25 AGND
AGND	12	26 AGND
AGND	13	27 AGND
AGND	14	28 AGND

28-pin Connector


Wire Connections



Ordering Information

I-97017Z CR	10/20-channel Analog Input Module with High Voltage Protection (RoHS)
--------------------	---

Accessories

 SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
--	--