



I-7017Z **M-7017Z**

10/20-ch AI Module with High Voltage Protection

Features

- 10 Differential or 20 Single-ended Analog Inputs
- Jumper Selectable Voltage or Current Input
- High Over-voltage Input Protection
- High Common Voltage Protection
- Adjustable Sampling Rate (Fast/Normal Mode)
- Provides Overcurrent Protection
- Individual Channel Configuration
- Built-in Dual Watchdog

Introduction

The I-7017Z is an Analog Input module that includes 10 differential or 20 single-ended Analog Input channels. The module provides a programmable input range on all Analog Input channels. Each Analog Input channel can be configured for an individual input range, providing a High Over-voltage Input Protection of 240 Vrms and 50mA overcurrent protection at 110 VDC/VAC. Voltage and current input is jumper selectable. The sampling rate of the I-7017Z is adjustable can be set to either fast or normal mode. The module also features per-channel open wire detection for 4 ~ 20 mA input and provides 4 KV ESD protection as well as 3000 VDC intra-module isolation. The M-7017Z supports both the Modbus RTU and DCON protocols, which can be configured via software, and all hardware specifications are the same as the I-7017Z.

System Specifications

Model	I-7017Z	M-7017Z
CPU Module		
Watchdog Timer	Module, Communication (Programmable)	
Isolation		
Intra-module Isolation	3000 VDC	
EMS Protection		
EFT (IEC 61000-4-4)	±4 kV for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal	
Surge (IEC 61000-4-5)	±0.5 kV for Power Line	
LED Indicators		
Status	1 x Power and Communication	
COM Ports		
Ports	1 x RS-485	
Baud Rate	1200 ~ 115200 bps	
Data Format	N, 8, 1	
Protocol	DCON	
Power		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	2.0 W	
Mechanical		
Dimensions (mm)	72 x 123 x 35 (W x L x H)	
Installation	DIN-Rail Mounting	
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95% RH, Non-condensing	

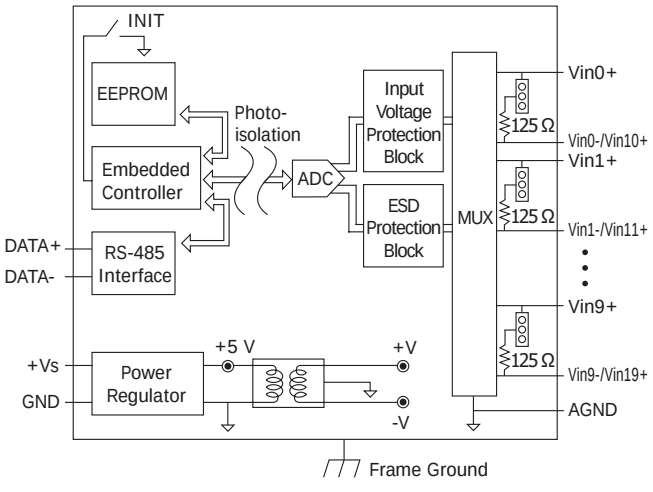
I/O Specifications

Model		I-7017Z	M-7017Z
Analog Input			
Channels		10 Differential or 20 Single-ended (Software Selectable, *Note1)	
Type		Voltage Current	
Range	Voltage	±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V	
	Current	±20 mA, 0 ~ +20 mA, +4 ~ +20 mA (Jumper Selectable)	
Resolution		16-bit	
Accuracy	Normal Mode	±0.1% of FSR	
	Fast Mode	±0.5% of FSR	
Sampling Rate	Normal Mode	10 Hz	
	Fast Mode	60 Hz	
Input Impedance	Voltage	2 MΩ (Differential)	
	Current	125 Ω (Differential)	
Common Voltage Protection		±200 VDC	
Overvoltage Protection		240 Vrms	
Overcurrent Protection		50 mA at 110 VDC	
Individual Channel Configuration		Yes	
Open Wire Detection (For 4 ~ 20 mA Only)		Yes	

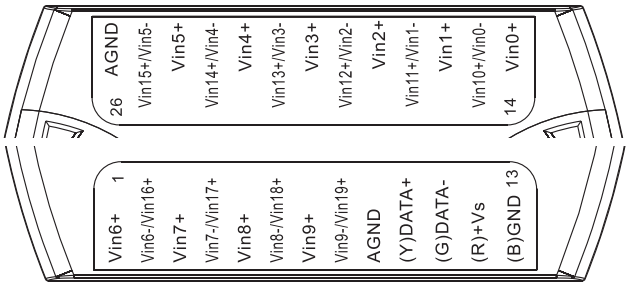
Note1:
Differential wiring can be used for both voltage input and current input. Single-ended wiring can only be used for voltage input.

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Internal I/O Structure



Pin Assignments

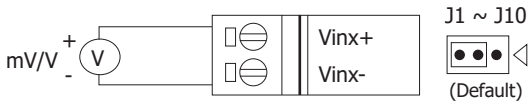


Applications

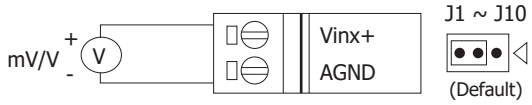
- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

Wire Connections

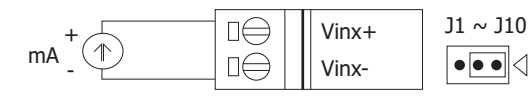
Voltage Input (Differential Mode)



Voltage Input (Single-ended Mode)



Current Input (Differential Mode)



Ordering Information

I-7017Z-G CR	
10/20-ch AI Module with High Voltage Protection using DCON Protocol (Gray Cover) (RoHS)	
M-7017Z-G CR	
10/20-ch AI Module with High Voltage Protection using DCON and Modbus Protocols (Gray Cover) (RoHS)	

Accessories

tM-7520U CR 	Tiny Isolated RS-232 to RS-485 Converter (RoHS)
tM-7561 CR 	Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)
tM-SG4 CR 	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)
I-7514U CR 	Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)
SG-770 CR 	7/14 channel Surge Protector (RoHS)
SG-3000 Series 	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers

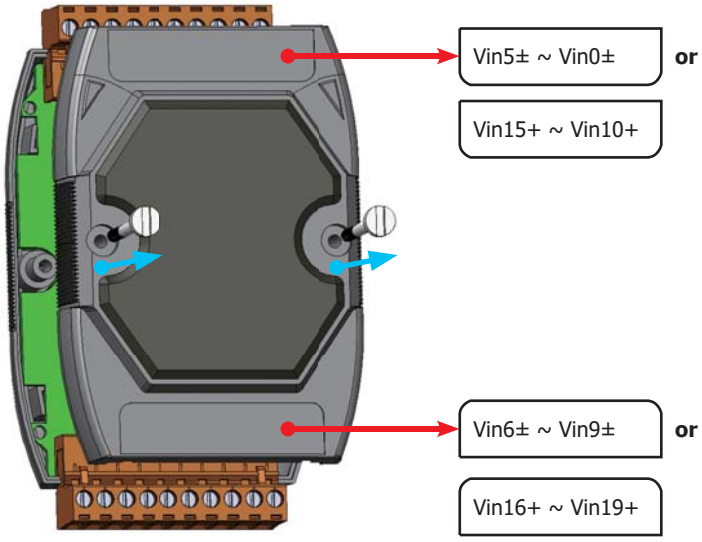
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Jumper

Notice:

1. Remove the top cover of the module before adjusting the jumper. Additionally, some modules may have two screws on the back cover.

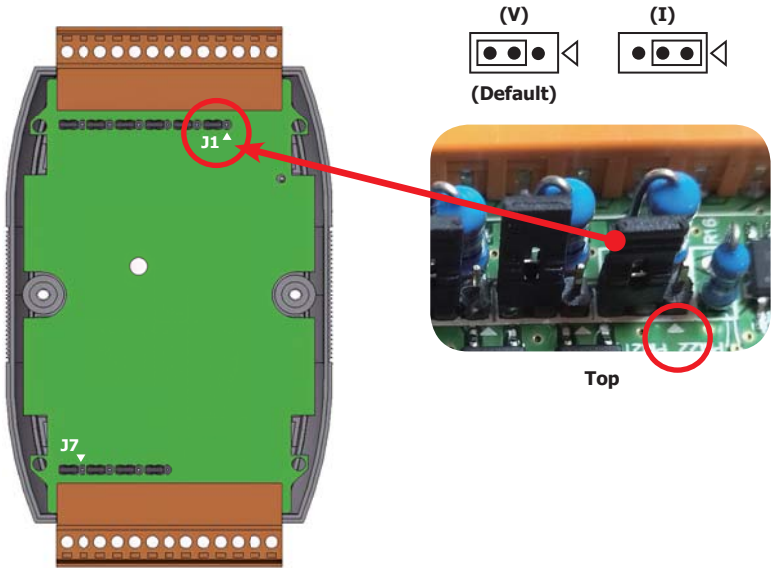
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2. Users can locate the Jx/JPx jumpers on the board by checking the I/O labels on the cover.

Channel	Vin5±	Vin4±	Vin3±	Vin2±	Vin1±	Vin0±
	Vin15+	Vin14+	Vin13+	Vin12+	Vin11+	Vin10+
Jumper	J6	J5	J4	J3	J2	J1

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Channel	Vin6±	Vin7±	Vin8±	Vin9±
	Vin16+	Vin17+	Vin18+	Vin19+
Jumper	J7	J8	J9	J10

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