



## I-7017Z

## M-7017Z

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

### Features

- 10-channel Differential or 20-channel Single-ended inputs
- Jumper Selectable Voltage or Current Input
- 240 V<sub>rms</sub> Overvoltage Protection
- Supports Fast and Normal Mode Sampling
- 4 kV ESD and EFT Protection
- 3000 Vdc Intra-module Isolation
- Overcurrent Protection
- Individual Channel Configuration
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



### 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 overvoltage protection of 240 V<sub>rms</sub> 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
<b>Communication</b>		
Interface	RS-485	
Bias Resistor	No (Usually supplied by the RS-485 Master. Alternatively, add a tM-SG4 or SG-785.)	
Format	N, 8, 1	
Baud Rate	1200 to 115200 bps	
Protocol	DCON	Modbus RTU, DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
<b>LED Indicators/Display</b>		
System LED Indicator	Yes, 1 as Power/Communication Indicator	
I/O LED Indicators	-	
7-segment LED Display	-	
<b>Isolation</b>		
Intra-module Isolation, Field-to-Logic	3000 Vdc	
<b>EMS Protection</b>		
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal	
EFT (IEC 61000-4-4)	±4 kV for Power Line	
Surge (IEC 61000-4-5)	±0.5 kV for Power Line	
<b>Power</b>		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 Vdc	
Consumption	2.0 W	
<b>Mechanical</b>		
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm	
Installation	DIN-Rail or Wall Mounting	
<b>Environment</b>		
Operating Temperature	-25 to +75°C	
Storage Temperature	-40 to +85°C	
Humidity	10 to 95% RH, Non-condensing	

### Applications

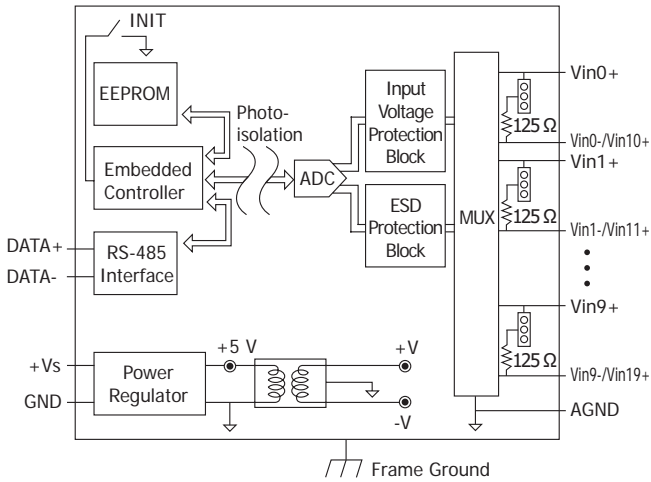
- Building Automation
- Machine Automation
- Remote Diagnosis
- Factory Automation
- Remote Maintenance
- Testing Equipment

### I/O Specifications

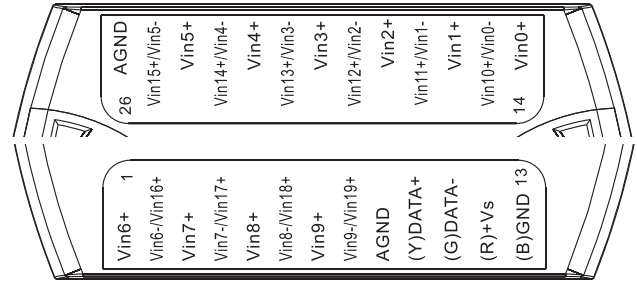
Model	I-7017Z	M-7017Z
<b>Analog Input</b>		
Channels	10/20	
Wiring	10 Differential or 20 Single-ended (Software Selectable - see Note 1)	
Input Range	Voltage	±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V
	Current	±20 mA, 0 ~ +20 mA, +4 ~ +20 mA (Jumper Selectable)
Resolution	16-bit	
Accuracy	Normal Mode	±0.1% of FSR
	Fast Mode	±0.5% of FSR
Sampling Rate	Normal Mode	10 Hz
	Fast Mode	60 Hz
Input Impedance	Voltage	2 MΩ (Differential) 1 MΩ (Single-ended)
	Current	125 Ω (Differential)
Common Voltage Protection	±200 Vdc	
Individual Channel Configuration	Yes	
Overvoltage Protection	240 V <sub>rms</sub>	
Overcurrent Protection	Yes, 50 mA at 110 Vdc	
Virtual Channel-to-Channel Isolation	Yes, 400 Vdc	
Open Wire Detection for +4 ~ +20 mA	Yes	

**Note 1: Differential wiring can be used for both voltage input and current input. Single-ended wiring can only be used for voltage input**

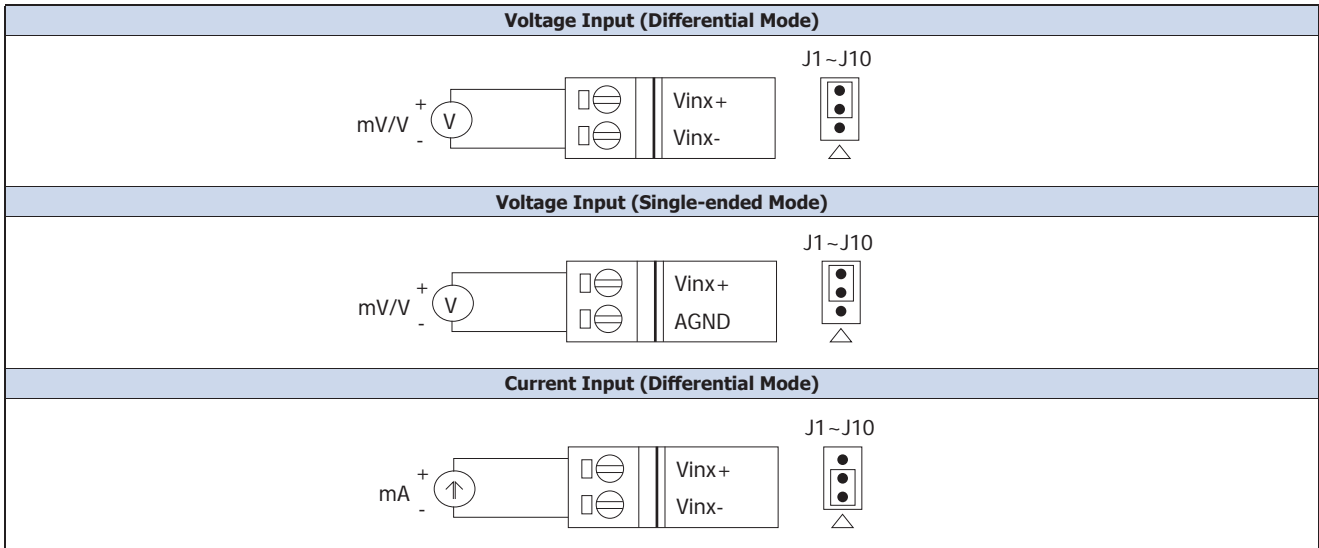
## Internal I/O Structure



## Pin Assignments



## Wire Connections



## Ordering Information

<b>I-7017Z-G CR</b>	10/20-channel Analog Input Module with High Voltage Protection using the DCON Protocol (Gray Cover) (RoHS)
<b>M-7017Z-G CR</b>	10/20-channel Analog Input Module with High Voltage Protection using the DCON and Modbus Protocols (Gray Cover) (RoHS)

## Accessories

	tM-7520U CR	RS-232 to RS-485 Converter (RoHS)
	tM-7561 CR	USB to RS-485 Converter (RoHS)
	tM-SG4 CR	RS-485 Bias and Termination Resistor Module (RoHS)
	I-7514U CR	4-channel RS-485 Hub (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 Transformers