



## I-7017Z

## M-7017Z

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

### 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 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
<b>CPU Module</b>		
Watchdog Timer	Yes, Module (1.6 Seconds), Communication (Programmable)	
<b>Isolation</b>		
Intra-module Isolation	3000 VDC	
<b>EMS Protection</b>		
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	
<b>LED Indicators</b>		
Status	1 x Power and Communication	
<b>COM Ports</b>		
Ports	1 x RS-485	
Baud Rate	1200 ~ 115200 bps	
Data Format	N, 8, 1	
Protocol	DCON	
<b>Power</b>		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	2.0 W	
<b>Mechanical</b>		
Dimensions (mm)	123 x 72 x 35 (W x L x H)	
Installation	DIN-Rail	
<b>Environment</b>		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95% RH, Non-condensing	

### Features

- 10-channel Differential or 20-channel Single-ended inputs
- Jumper Selectable Voltage or Current Input
- Supports Fast and Normal Mode Sampling
- Overcurrent Protection
- Individual Channel Configuration
- Dual Watchdog



### Applications

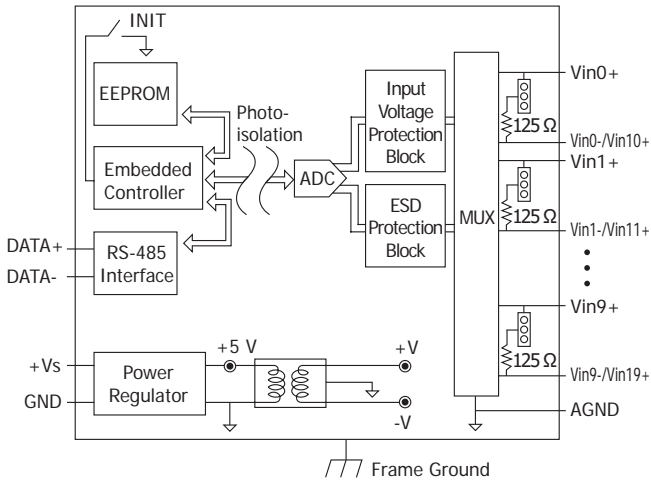
- Building Automation
- Machine Automation
- Remote Diagnosis
- Factory Automation
- Remote Maintenance
- Testing Equipment

### I/O Specifications

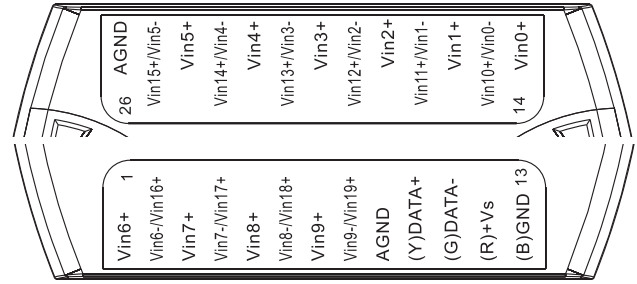
Model	I-7017Z	M-7017Z
<b>Analog Input</b>		
Channels	10 Differential or 20 Single-ended (Software Selectable - see Note 1)	
Type	Voltage Current	
Range	Voltage	±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V
	Current	±20 mA, 0 ~ +20 mA, +4 ~ +20 mA (Jumper Selectable)
Resolution	16-bit	
Accuracy	Normal Mode	±0.1% 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	Yes, 50 mA at 110 VDC	
Individual Channel Configuration	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

Voltage Input (Differential Mode)	
Voltage Input (Single-ended Mode)	
Current Input (Differential Mode)	

## Ordering Information

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

## Accessories

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