



**I-7019R**

**M-7019R**

8-channel Universal Analog Input Module

### Features

- 8-channel Universal Analog Inputs
- 240 V<sub>rms</sub> Overvoltage Protection
- Individual Channel Configuration
- Jumper Selectable Voltage, Current or Thermocouple Input
- Open Thermocouple Detection
- 4 kV ESD Protection
- 3000 V<sub>dc</sub> Intra-Module Isolation
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ +75°C



### Introduction

I-7019R is an analog input module that includes 8 differential analog input channels. All channels are jumper selectable for voltage, current or thermocouple and each analog input can be configured for an individual range. The voltage input range can be form +/-15 mV to +/-10 V, the current input range can be either 4 ~ 20 mA, 0 ~ 20 mA, or +/- 20 mA and the thermocouple input range can be J, K, T, E, R, S, B, N, C, L, M, L<sub>DIN43710</sub>. Up to 8 analog inputs of different types can be connected to a single module. Overvoltage protection of up to 240 V<sub>rms</sub> is provided. The module also features per-channel open wire detection for thermocouple and 4 ~ 20 mA inputs that provides 4 kV ESD protection as well as 3000 V<sub>dc</sub> intra-module isolation. M-7019R supports Modbus RTU and DCON protocols which can be configured via software and all hardware specifications are the same as I-7019R.

### Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.

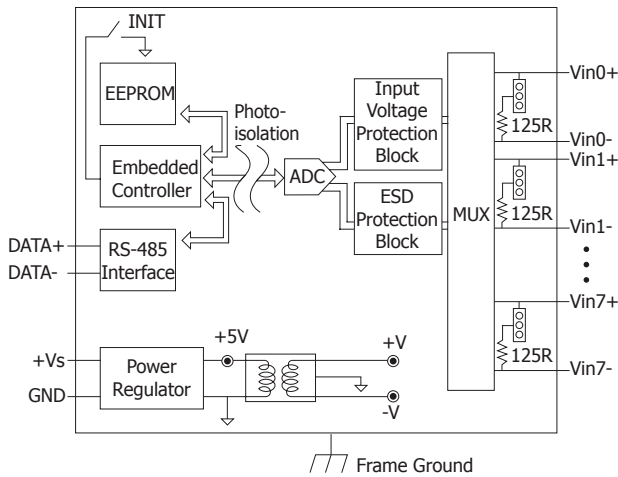
### System Specifications

Models	I-7019R	M-7019R
<b>Communication</b>		
Interface	RS-485	
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)	
Baud Rate	1200 ~ 115200 bps	
Protocol	DCON	Modbus RTU, DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
<b>LED Indicator/Display</b>		
System LED Indicator	Yes, 1 LED as Power/Communication Indicator	
I/O LED Indicator	-	
7-Segment LED Display	-	
<b>Isolation</b>		
Intra-Module Isolation, Field-to-Logic	3000 V <sub>dc</sub>	
<b>EMS Protection</b>		
ESD (IEC 61000-4-2)	+/-4 kV	
EFT (IEC 61000-4-4)	+/-4 kV	
<b>Power</b>		
Reverse Polarity Protection	Yes	
Input Range	10 ~ 30 V <sub>dc</sub>	
Consumption	1.2 W	
<b>Mechanical</b>		
Dimensions (W x L x H)	72 mm x 123 mm x 35 mm	
Installation	DIN-Rail or Wall Mounting	
<b>Environment</b>		
Operating Temperature	-25 ~ +75°C	
Storage Temperature	-40 ~ +85°C	
Humidity	10 ~ 95% RH, Non-condensing	

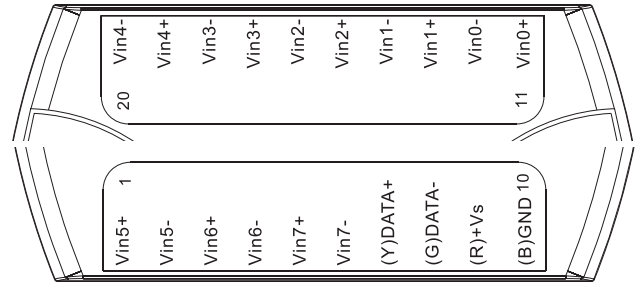
### I/O Specifications

Models	I-7019R	M-7019R
<b>Analog Input</b>		
Channels	8	
Wiring	Differential	
Sensor Type	Thermocouple	J, K, T, E, R, S, B, N, C, L, M, L <sub>DIN43710</sub>
	Voltage	+/-15 mV, +/-50 mV, +/-100 mV, +/-150 mV, +/-500 mV, +/-1 V, +/-2.5 V, +/-5 V, +/-10 V
	Current	+/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA (Jumper selectable)
Resolution	16-bit	
Accuracy	0.1%	
Sampling Rate	8 Hz	
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
	Thermocouple	> 400 kΩ
Common Voltage Protection	+/-200 V <sub>dc</sub>	
Individual Channel Configuration	Yes	
Overvoltage Protection	240 V <sub>rms</sub>	
Open Wire Detection (for thermocouple only)	Yes	
Temperature Outputs Consistency	-	
Stable Temperature Output in the Field	-	

Internal I/O Structure



Pin Assignments



Wire Connections

Voltage Input Wire Connection	
Current Input Wire Connection	
Thermocouple Input Wire Connection	

Ordering Information

<b>I-7019R CR</b>	8-channel Universal Analog Input Module with DCON Protocol (Blue Cover) (RoHS)
<b>I-7019R-G CR</b>	8-channel Universal Analog Input Module with DCON Protocol (Gray Cover) (RoHS)
<b>M-7019R-G CR</b>	8-channel Universal Analog Input Module with DCON and Modbus Protocol (Gray Cover)

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 Pull-high/Pull-low 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 Inputs