

**Features**

- M-7017
  - 8-channel Differential Analog Input
- I-7017 and I-7017F
  - 8-channel Differential or 6-channel Differential and 2-channel Single-ended Analog Input
- Voltage and Current Input
- +/-35 Vdc Overvoltage Protection
- High Resolution: 16-bit
- Open Wire Detection for 4 ~ 20 mA
- 3000 Vdc Intra-module Isolation
- Dual Watchdog
- RoHS Compliant
- Wide Operating Temperature Range: -25 ~ +75°C



**Introduction**

The I-7017 and I-7017F are analog input modules that provide either 8 differential input channels, or 6 differential input channels and 2 single-ended input channels selectable via a jumper. The input type includes both voltage and current, and all channels are available for the same input range. An optional external 125 Ω resistor is required for current input. The modules also feature 3000 VDC intra-module isolation as well as +/-35 VDC overvoltage protection. The sampling rate of the I-7017F is adjustable, meaning that either fast mode or normal mode can be selected. The M-7017 supports both the Modbus RTU and DCON protocols, which can be configured via software, and provides 8 differential analog input channels. Other hardware specifications are the same as the I-7017.

**Applications**

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

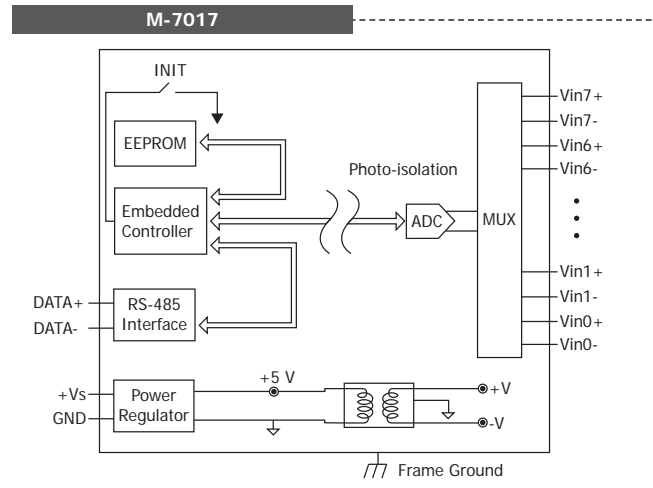
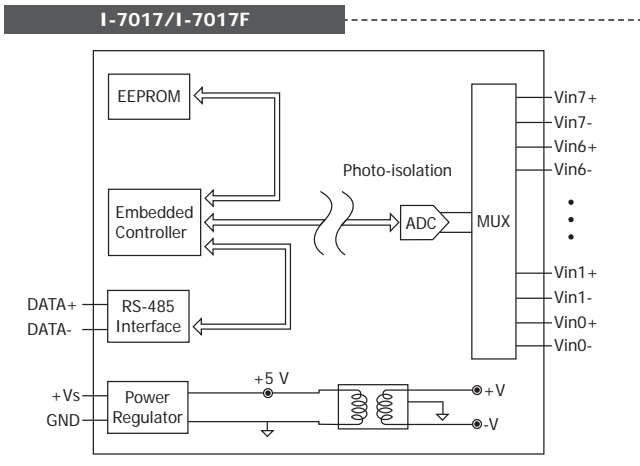
**System Specifications**

Model	I-7017	I-7017F	M-7017
<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 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)	+/- 2 kV Contact for each Terminal	+/- 4 kV Contact for each Terminal	
EFT (IEC 61000-4-4)	+/- 4 kV for Power		
<b>Power</b>			
Reverse Polarity Protection	Yes		
Input Range	10 ~ 30 VDC		
Consumption	1.3 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		

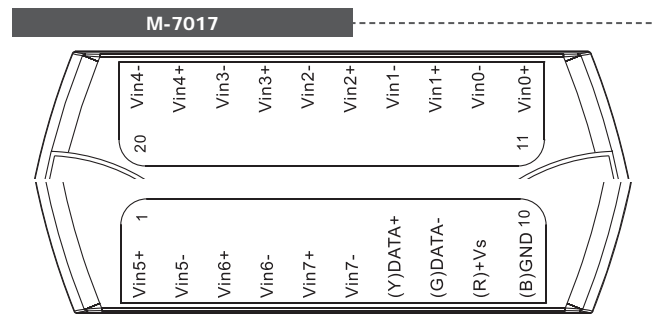
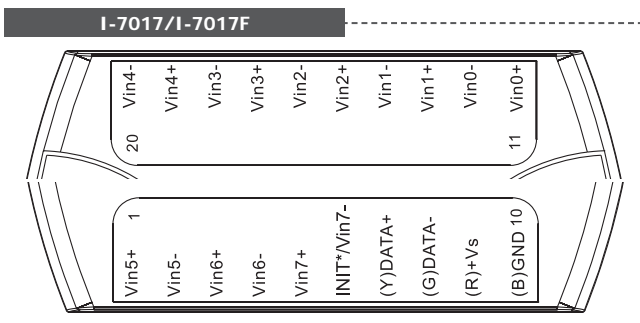
**I/O Specifications**

Model	I-7017	I-7017F	M-7017
<b>Analog Input</b>			
Channels	8		
Wiring	6-channel Differential and 2-channel Single-ended, or 8-channel Differential.		8-channel Differential.
Input Range	+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA 0 ~ 20 mA, 4 ~ 20 mA (requires optional external 125 Ω resistor)		
Resolution	16-bit	12/16-bit	16-bit
Accuracy	Normal Mode	0.1%	
	Fast Mode	0.5 %	-
Sampling Rate	Normal Mode	10 Hz	
	Fast Mode	60 Hz	-
Input Impedance	20 MΩ		
Common Voltage Protection	+/-15 Vdc		
Individual Channel Configuration	-		
Overvoltage Protection	+/-35 Vdc		

Internal I/O Structure



Pin Assignments



Wire Connections

**I-7017/I-7017F**

**Analog Input for Wire Connection Channels 0 to 5**

mV/V  $\frac{+}{-}$  Vinx+ / Vinx-      mA  $\frac{+}{-}$  Vinx+ / Vinx- (Requires Optional External 125  $\Omega$  Resistor)

**2-wire Transmitter Wire Connection**

2-wire Transmitter      Vinx+ / Vinx- (Requires Optional External 125  $\Omega$  Resistor)

**Analog Input for Digital Wire Connection Channels 6 and 7**

8-channel Mode	INIT* Mode
JP1 $\bullet$ $\bullet$ $\bullet$ $\bullet$	JP1 $\bullet$ $\bullet$ $\bullet$ $\bullet$
mV/V $\frac{+}{-}$ Vin6+ / Vin6-      mV/V $\frac{+}{-}$ Vin6+ / Vin6- mV/V $\frac{+}{-}$ Vin7+ / INIT/Vin7-	mV/V $\frac{+}{-}$ Vin6+ / Vin6-      mV/V $\frac{+}{-}$ Vin7+ / INIT/Vin7-
mA $\frac{+}{-}$ Vin6+ / Vin6- (125 $\Omega$ )      mA $\frac{+}{-}$ Vin6+ / Vin6- (125 $\Omega$ ) mA $\frac{+}{-}$ Vin7+ / INIT/Vin7- (125 $\Omega$ )	mA $\frac{+}{-}$ Vin6+ / Vin6- (125 $\Omega$ )      mA $\frac{+}{-}$ Vin7+ / INIT/Vin7- (125 $\Omega$ )

(Requires Optional External 125  $\Omega$  Resistor)

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**M-7017**

**Analog Input Wire Connection**

mV/V  $\frac{+}{-}$  Vinx+ / Vinx-      mA  $\frac{+}{-}$  Vinx+ / Vinx- (Requires Optional External 125  $\Omega$  Resistor)

Ordering Information

<b>I-7017 CR</b>	8-channel Analog Input Module with DCON Protocol (Blue Cover) (RoHS)
<b>I-7017-G CR</b>	8-channel Analog Input Module with DCON Protocol (Gray Cover) (RoHS)
<b>M-7017-G CR</b>	8-channel Analog Input Module with DCON and Modbus RTU Protocols (Gray Cover) (RoHS)
<b>I-7017F CR</b>	8-channel Analog Input Module with DCON Protocol (Fast Sampling Version) (Blue Cover) (RoHS)
<b>I-7017F-G CR</b>	8-channel Analog Input Module with DCON Protocol (Fast Sampling Version) (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)
	125 $\Omega$ , 0.1% DIP Resistors	Use for current type of I-7011/I-7012/I-7017/I-7018 series

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3  
RS-485 Remote I/O Modules

I-7017/I-7017F/M-7017