



M-7026

6-channel Analog Input, 2-channel Analog Output,
3-channel Digital Input and 3-channel Digital Output Module

Features

- Multifunction (6 AI, 2 AO, 3 DI and 3 DO)
- Supports Fast Mode and Normal Mode
- Individual Channel Configuration
- Open Wire Detection for Current Output
- Overload and Short Circuit Protection for Digital Output
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- 240 Vrms Overvoltage Protection for Voltage Input
- Jumper Selectable Voltage or Current Input/Output
- Dual Watchdog
- ±4 kV Contact ESD Protection
- Wide Operating Temperature Range: -25 ~ +75°C



Introduction

The M-7026 is a multifunction module that includes 6 analog input channels, 2 analog output channels, 3 digital input channels, 3 digital output channels. It provides a programmable input range on all analog input (+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, +/-20 mA or 0 ~ +20 mA), analog outputs are 12-bit at +/-5 V, +/-10 V, 0 ~ +20 mA or +4 ~ +20 mA and all digital outputs can be set as alarm output. Each analog input can be configured for an individual range and provides a high overvoltage protection of 240 Vrms. Voltage and current inputs/outputs are jumper selectable.

Applications

- Industrial Automation
- Food and Beverage Systems
- Control Systems
- Building Automation
- Semiconductor Fabrication
- Industrial Machinery

System Specifications

Model	M-7026
Communication	
Interface	RS-485
RS-485 Bias Resistor	No (An RS-485 master is required to provide the bias.)
Format	N, 8, 1
Baud Rate	1200 ~ 115200 bps
Protocol	Modbus RTU, DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
LED Indicators/Display	
System LED Indicator	Yes, 1 LED as Power/Communication Indicator
I/O LED Indicators	-
7-Segment LED Display	-
Isolation	
Intra-module Isolation, Field-to-Logic	2500 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal
	±8 kV Air for random point
EFT (IEC 61000-4-4)	±4 kV for Power Line
Surge (IEC 61000-4-5)	±3 kV for Power Line
Power	
Reverse Polarity Protection	Yes
Input Range	10 ~ 30 Vdc
Consumption	1.8 W
Mechanical	
Dimensions (W x L x H)	72 mm x 123 mm x 35 mm
Installation	DIN-Rail or Wall Mounting
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-40 ~ +85°C
Humidity	10 ~ 95% RH, Non-condensing

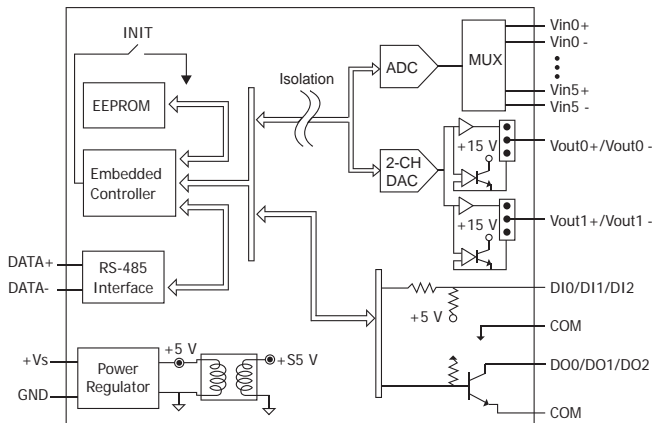
I/O Specifications

Model	M-7026	
Analog Input		
Channels	6	
Wiring	Differential	
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% or better
Sampling Rate	Normal Mode	10 Samples/Sec.
	Fast Mode	60 Samples/Sec. (Total)
Bandwidth	Normal Mode	15.7 Hz
	Fast Mode	78.7 Hz
Input Impedance	Voltage	2 MΩ
	Current	140 Ω
Common Voltage Protection	±200 V	
Individual Channel Configuration	Yes	
Overvoltage Protection	240 Vrms	
Overcurrent Protection	Yes, 50 mA at 110 Vdc	
Virtual Channel to Channel Isolation	Yes, 400 Vdc	
Open Wire Detection for 4 ~ 20 mA	Yes	
Analog Output		
Channels	2	
Range	+0 ~ +5 Vdc, +0 ~ +10 Vdc, ±5 Vdc, ±10 Vdc, +0 ~ +20 mA, +4 ~ +20 mA (Jumper Selectable)	
Resolution	12-bit	
Accuracy	±0.1% of FSR	
Output Capacity	10 V @ 20 mA	
Voltage Output Capability		
Open Wire Detection	Yes, for 4 ~ 20 mA only	
Power-on Value	Yes, Programmable	
Safe Value	Yes, Programmable	

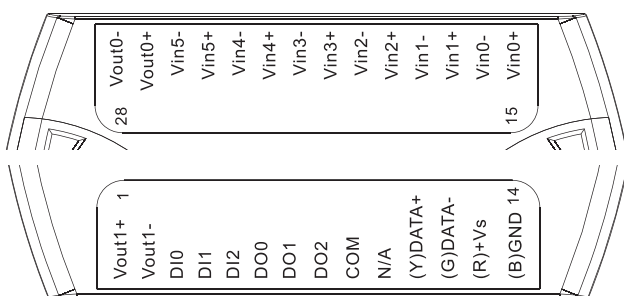
I/O Specifications

Model		M-7026
Digital Input/Counter		
Channels		3
Type	Dry Contact	Source
	Wet Contact	-
Wet Contact	On Voltage Level	-
	Off Voltage Level	-
Dry Contact	On Voltage Level	Close to GND
	Off Voltage Level	Open
Counters	Max. Count	65535 (16-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Input Impedance		-
Channel-to-Channel Isolation		-
Overvoltage Protection		-
Digital Output		
Output Channels		3
Type		Open Collector
Sink/Source (NPN/PNP)		Sink
Load Voltage		+ 3.5 Vdc ~ + 30 Vdc
Max. Load Current		700 mA/Channel
Overvoltage Protection		60 Vdc
Overload Protection		DC
Short-circuit Protection		Yes
Power-on Value		Yes, Programmable
Safe Value		Yes, Programmable

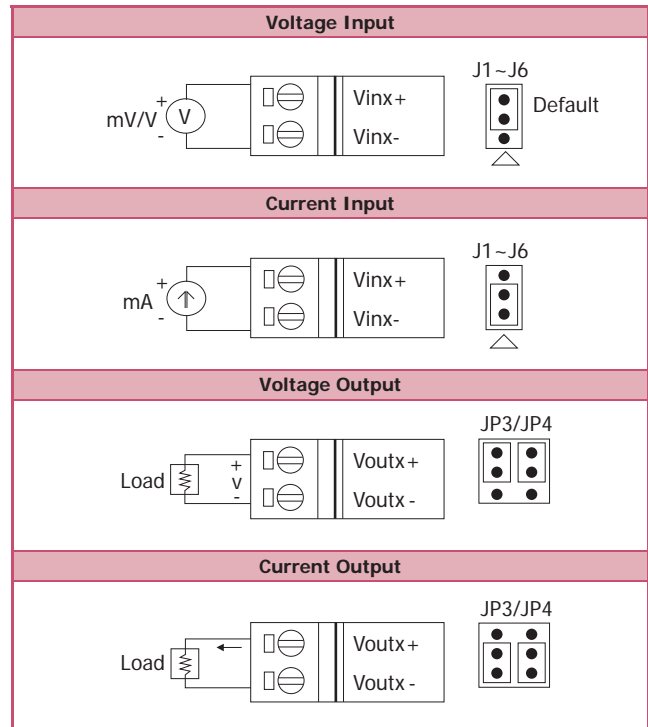
Internal I/O Structure



Pin Assignments



Wire Connections



Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact (Source)		
Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		

Ordering Information

M-7026 CR	6-channel Analog Input, 2-channel Analog Output, 3-channel Digital Input and 3-channel Digital Output Module Using the DCON and Modbus Protocol (Gray Cover) (RoHS)
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Accessories

	tM-7520U CR	RS-232 to RS-485 Converter (RoHS)
	tM-7561 CR	USB to RS-485 Converter (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