



M-7024U M-7024UD

4-ch 16-bit AO Module with 4 DI and 4 DO

Features

- Multi-function (4 AO, 4 DI, and 4 DO)
- Source-type Current Output
- 16-bit Analog Output
- Individual Channel Configuration
- Open Wire Detection for Current Output
- Configurable Power-on Value and Safe Value Settings

Introduction

The M-7024U is a multi-function module that includes 4 analog output channels, 4 digital input channels, 4 digital output channels. It provides a programmable output range on all analog outputs channels (0 ~ 5 V, +/-5 V, 0 ~ 10 V, +/-10 V, +4 ~ +20 mA or 0 ~ +20 mA). Each analog output channel can be configured for an individual range and the module also features per-channel open wire detection for +4 ~ +20 mA outputs, together with 8 kV ESD Protection as well as 2500 VDC intra-module isolation. Options for configuring power-on and safe values are also included.

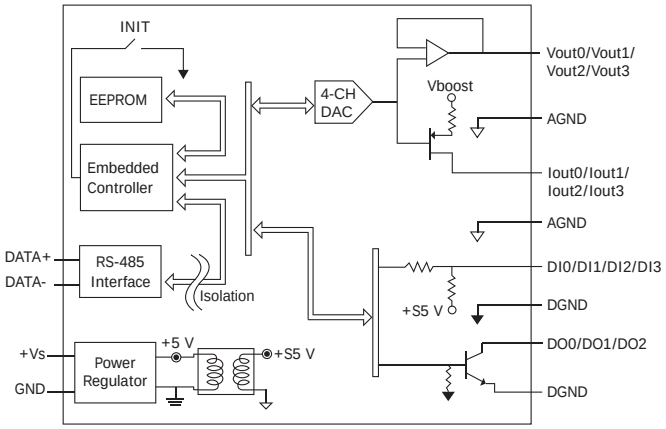
System Specifications

Model		M-7024U	M-7024UD
CPU Module			
Watchdog Timer		Module, Communication (Programmable)	
Display			
Type		-	I/O LED Indicator
Isolation			
Intra-module Isolation		2500 VDC	
EMS Protection			
EFT (IEC 61000-4-4)		±4 kV for Power Line	
ESD (IEC 61000-4-2)		±8 kV Contact for Each Terminal	
LED Indicators			
Status	7024U/UD	1 x Power and Communication	
	7024UD	4 x Analog Output 4 x Digital Input 4 x Digital Output	
Analog Output			
Channels		4	
Type		Voltage, Current	
Range	Voltage	0 ~+5 VDC, ±5 VDC, 0 ~ +10 VDC, ±10 VDC	
	Current	0 ~ +20 mA, +4 ~ +20 mA	
Resolution		16-bit	
Accuracy		±0.02%% of FSR	
Short Circuit Protection		Yes	
DA Output Response Time		10 ms per channel	
Programmable Output Slope	Voltage	0.0625 ~ 512 V/Second	
	Current	0.125 ~ 1024 mA/Second	
Current Output Wiring		Source	
Open Wire Detection		For 4 ~ 20 mA Only	
Current Output Capacity		1000 Ω	
Power-on Value		Programmable	
Safe Value		Programmable	
Environment			
Operating Temperature		-25 ~ +75 °C	
Storage Temperature		-40 ~ +85 °C	
Humidity		10 ~ 95% RH, Non-condensing	

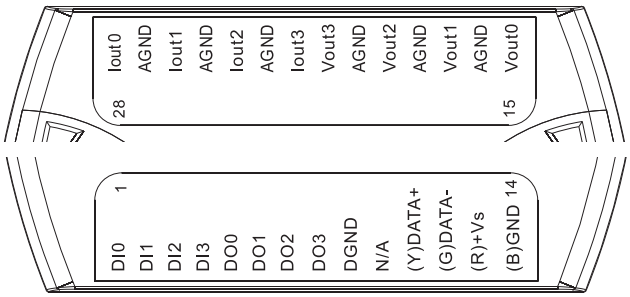
Model	M-7024U	M-7024UD
Digital Input/Counter		
Channels	4	
Type	Dry Contact, Wet Contact	
ON Voltage Level	Dry: Close to GND Wet: +1 VDC Max.	
OFF Voltage Level	Dry: Open Wet: +4 ~ +30 VDC	
Max. Counts	65535 (16-bit)	
Frequency	100 Hz	
Min. Pulse Width	5 ms	
Effective Distance	500 m Max.	
Overvoltage Protection	+60 VDC	
Digital Output		
Channels	4	
Type	Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+3.5 ~ +50 VDC	
Load Current	700 mA/Channel	
Overvoltage Protection	60 VDC	
Overload Protection	1.4 A	
Short-circuit Protection	Yes	
Power on Value	Programmable	
Safe Value	Programmable	
COM Ports		
Ports	1 x RS-485	
Baud Rate	1200 ~ 115200 bps	
Data Format	(N, 8, 1), (N, 8, 2), (E, 8, 1), (O, 8, 1)	
Protocol	Modbus RTU, DCON	
Power		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	4.0 W	4.5 W
Mechanical		
Dimensions (mm)	72 x 123 x 35 (W x L x H)	
Installation	DIN-Rail Mounting	

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Internal I/O Structure



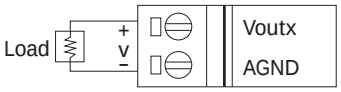
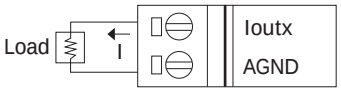
Pin Assignments

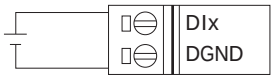
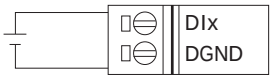
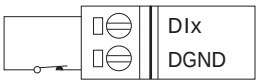
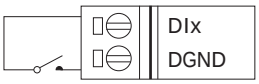
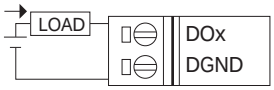
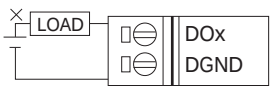


Applications

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

Wire Connections

Voltage Output	Current Output
	

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
	+1 VDC Max.	+4 ~ 30 VDC
Wet Contact (Sink)	 +1 VDC Max.	 +4 ~ 30 VDC
Dry Contact (Source)		
Digital Output	**ON State Readback as 1**	**OFF State Readback as 0**
Open Collector (Sink)	 3.5 ~ 50 VDC	 3.5 ~ 50 VDC

Ordering Information

M-7024U-G CR	4-ch 16-bit AO Module with 4 DI and 4 DO using DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7024UD-G CR	4-ch 16-bit AO Module with 4 DI, 4 DO and LED Display, using DCON and Modbus Protocols (Gray Cover) (RoHS)

Accessories

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

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