



# I-7024/I-7024R M-7024/M-7024R/M-7024L

4-channel Analog Output Module

## Features

- I-7024 / M-7024 / M-7024L
  - 4-channel Analog Output
- I-7024R / M-7024R
  - 4-channel Analog Output and 5-channel Digital Input
- Software Selectable Current or Voltage Output
- Power-on Value Setting
- Safe Value Setting
- 3000 Vdc Intra-module Isolation
- Programmable Output Slope
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



## Introduction

The I-7024 is a 14-bit 4-channel analog output module that provides current and voltage outputs. There are options for power-on values and safe values. It features 3000 Vdc intra-module isolation.

The I-7024R is the same as the I-7024 and provides additional 5-channel digital inputs and 4 kV ESD protection on each terminal.

The M-7024/M-7024R support Modbus RTU and DCON protocols and can be configured via software. Their hardware specifications are the same as those of the I-7024/I-7024R.

## System Specifications

Model	I-7024	M-7024	I-7024R	M-7024R	M-7024L
<b>Communication</b>					
Interface	RS-485				
Bias Resistor	No (Usually supplied by the RS-485 Master. Alternatively, add a tM-SG4 or SG-785.)				
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)				
Baud Rate	1200 to 115200 bps				
Protocol	DCON	Modbus RTU, DCON	DCON	Modbus RTU, DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)				
<b>LED Indicators/Display</b>					
System LED Indicator	Yes, 1 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		±8 kV Contact for Each Terminal
EFT (IEC 61000-4-4)	-		±4 kV to Power Line		±4 kV to Power Line
RS (IEC 61000-4-3)	-		5 V/m, 80 MHz ~ 1GHz		
<b>Power</b>					
Reverse Polarity Protection	Yes				
Input Range	+10 ~ +30 Vdc				
Consumption	2.4 W		3.2 W		2.7 W
<b>Mechanical</b>					
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm				
Installation	DIN-Rail or Wall Mounting				
<b>Environment</b>					
Operating Temperature	-25 to +75°C				
Storage Temperature	-40 to +85°C				
Humidity	10 to 95% RH, Non-condensing				

## Applications

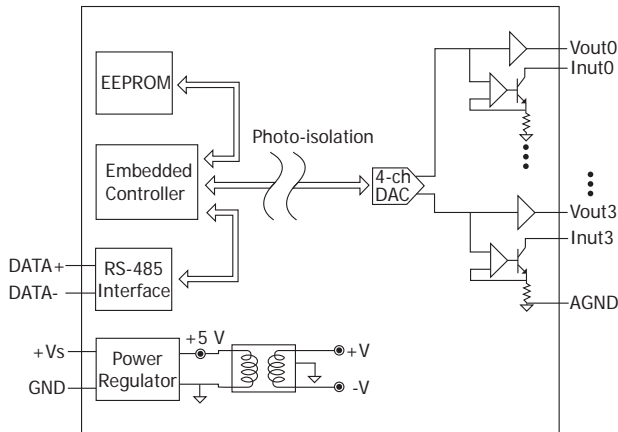
Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.

## I/O Specifications

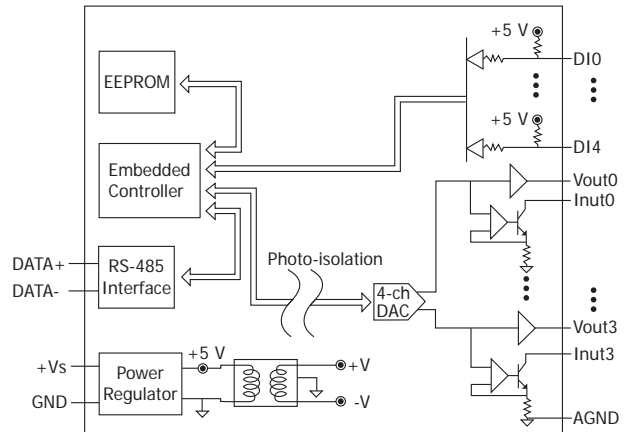
Model	I-7024	M-7024	I-7024R	M-7024R	M-7024L
<b>Analog Output</b>					
Channels	4				
Range	Voltage	0 ~ 5 V, ±5 V, 0 ~ 10 V, ±10 V,			
	Current	0 ~ 20 mA, 4 ~ 20 mA			
Resolution	14-bit			12-bit	
Accuracy	0.1%				
DA Output Response Time	10 ms				
Open Wire Detection (for current only)	-				
Channel-to-Channel Isolation	-				
Power-on Value	Yes				
Safe Value	Yes				
<b>Digital Input</b>					
Channels	-		5		-
Input Type	-		Dry Contact (Source)		-
Contact Level	ON Voltage Level	-		Close to GND	-
	OFF Voltage Level	-		Open	-
Counters	Max. Count	-		65535 (16-bit)	-
	Max. Input Frequency	-		50 Hz	-
	Min. Pulse Width	-		10 ms	-

## Internal I/O Structure

I-7024/M-7024/M-7024L



I-7024R/M-7024R

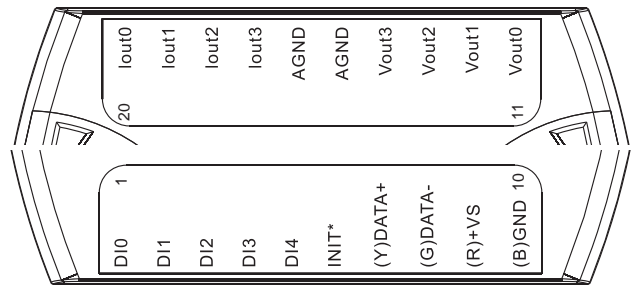


## Pin Assignments

I-7024/M-7024/M-7024L

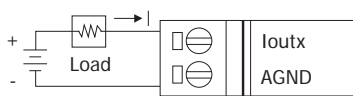
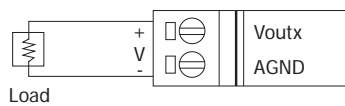


I-7024R/M-7024R

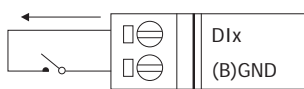


## Wire Connections

### Analog Output Wire Connection



### Dry Contact Wire Connection for I-7024R and M-7024R



## Ordering Information

<b>I-7024 CR</b>	4-channel Analog Output Module using the DCON Protocol (Blue Cover) (RoHS)
<b>I-7024-G CR</b>	4-channel Analog Output Module using the DCON Protocol (Gray Cover) (RoHS)
<b>I-7024R-G CR</b>	4-channel Analog Output and 5-channel DI Module using the DCON Protocol (Gray Cover) (RoHS)
<b>M-7024-G CR</b>	4-channel Analog Output Module using the DCON and Modbus Protocol (Gray Cover) (RoHS)
<b>M-7024R-G CR</b>	4-channel Analog Output and 5-channel DI Module using the DCON and Modbus Protocol (Gray Cover) (RoHS)
<b>M-7024L-G CR</b>	12-bit 4-channel Analog Output Module using the DCON and Modbus Protocol (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)
	SG-3000 Series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers