



**M-7028**

**M-7028D**

8-ch 12-bit AO Module

### Features

- 8 Analog Outputs
- Source-type Current Output
- 12-bit Analog Output
- Individual Channel Configuration
- Open Wire Detection for Current Output
- RF Immunity
- Configurable Power-on Value and Safe Value Settings



### Introduction

The M-7028 is a 12-bit, 8-channel analog output module. It provides a programmable output range on all analog output 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 the +4 ~ +20 mA output, together with 8 kV ESD Protection as well as 3000 VDC intra-module isolation. Options for configuring power-on and safe values are also included.

### Applications

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

### System Specifications

Model	M-7028	M-7028D
<b>CPU Module</b>		
Watchdog Timer	Module, Communication (Programmable)	
<b>Display</b>		
Type	-	I/O LED Indicator
<b>Isolation</b>		
Intra-module Isolation	3000 VDC	
<b>EMS Protection</b>		
EFT (IEC 61000-4-4)	±4 kV for Power Line	
ESD (IEC 61000-4-2)	±8 kV Contact for Each Terminal	
RS Immunity (IEC 61000-4-3)	3 V/m, 80 MHz ~ 1 GHz	
<b>LED Indicators</b>		
Status	7028/28D	1 x Power and Communication
	7028D	8 x Analog Output
<b>COM Ports</b>		
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	
<b>Power</b>		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	4.3 W	4.8 W

### I/O Specifications

Model	M-7028	M-7028D
<b>Analog Output</b>		
Channels	8	
Type	Voltage, Current	
Current	0 ~ +5 VDC, ±5 VDC 0 ~ +10 VDC, ±10 VDC 0 ~ +20 mA, +4 ~ +20 mA	
Resolution	12-bit	
Accuracy	±0.1% of FSR	
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	
Voltage Output Capability	10 V @ 10 mA	
Current Load Resistance	500 Ω	
Power-on Value	Programmable	
Safe Value	Programmable	

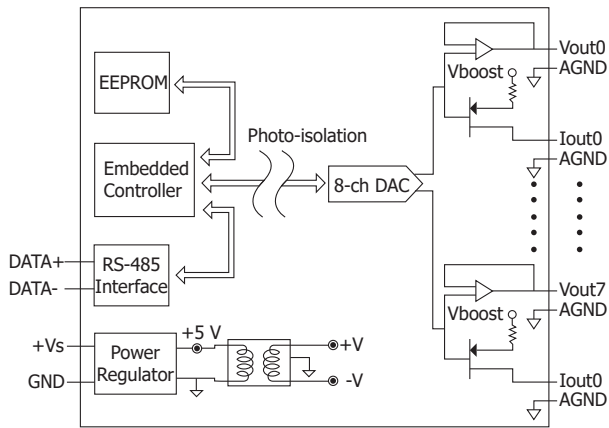
### Mechanical

Dimensions (mm)	72 x 123 x 35 (W x L x H)
Installation	DIN-Rail Mounting

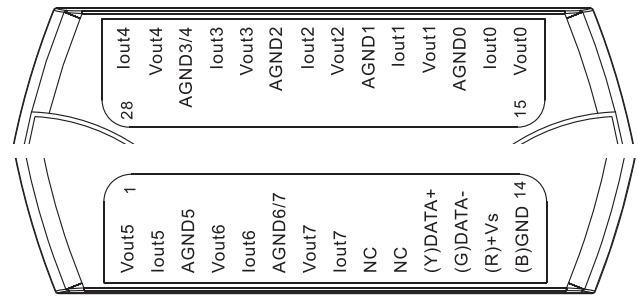
### Environment

Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95% RH, Non-condensing

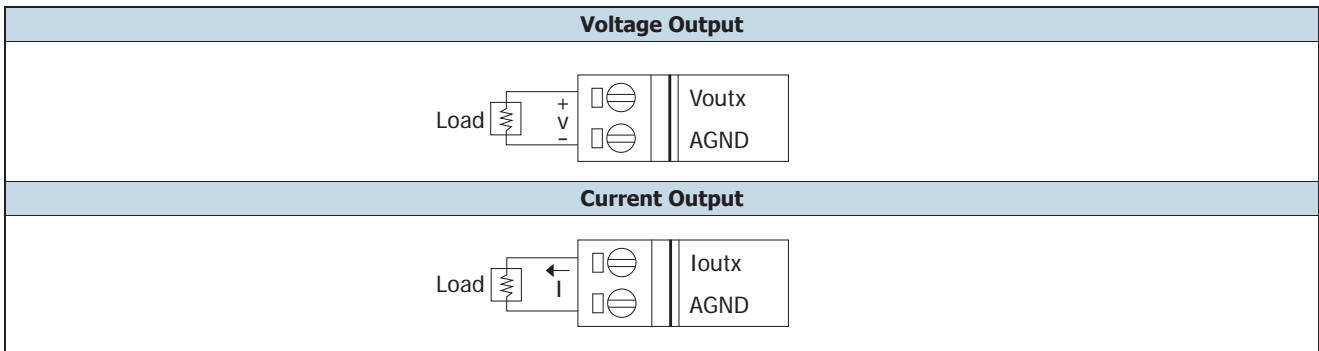
## Internal I/O Structure



## Pin Assignments



## Wire Connections



## Ordering Information

<b>M-7028-G CR</b>	8-ch 12-bit AO Module using DCON and Modbus Protocols (Gray Cover) (RoHS)
<b>M-7028D-G CR</b>	8-ch 12-bit AO Module with LED Display, using DCON and Modbus Protocols (Gray Cover) (RoHS)

## Accessories

<b>tM-7520U CR</b>	Tiny Isolated RS-232 to RS-485 Converter (RoHS)
<b>tM-7561 CR</b>	Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)
<b>tM-SG4 CR</b>	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)
<b>I-7514U CR</b>	Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)
<b>SG-770 CR</b>	7/14 channel Surge Protector (RoHS)