



**I-7060(D)**

**M-7060(D)**

**M-7060P**

**M-7060PD**

4-ch Isolated (Wet) DI and 4-ch Signal Relay Module

### Features

- 4 Sink- or Source-type Digital Inputs
- I-7060(D)/M-7060(D)
  - 2 Form A and 2 Form C Signal Relay Outputs
- M-7060P(D)
  - 2 Form A and 2 Form C Power Relay Output
- Digital Input Channels Can be Used as 16-bit Counters
- Configurable Power-on Value and Safe Value Settings
- Built-in Dual Watchdog



### Introduction

The 7060 series provides 4 digital input channels, 2 Form A and 2 Form C signal relay output channels, while the M-7060P provides 4 digital input channels, 2 Form A and 2 Form C power relay output channels. All digital input channels can be used as 16-bit counters. In addition, the digital input channels can be selected either as sink- or source-type via wire connections. The "D" versions of the 7060 series provide eight LED indicators that can be used to monitor the status of the digital input and relay output. The "M" versions of the 7060 series support both the Modbus RTU and DCON protocols, which can be configured via software. There are also options for configuring power-on and safe values. 4 kV ESD protection and 3750 V<sub>DC</sub> intra-module isolation are also provided to enhance noise protection capabilities in industrial environments. The 7060 series is the ideal solution for small signal switching applications, while the M-7060P is the perfect solution for high power applications.

### System Specifications

Model	I-7060/M-7060	M-7060P
	I-7060D/M-7060D	M-7060PD
<b>CPU Module</b>		
Watchdog Timer	Module, Communication (Programmable)	
<b>Display</b>		
Type	7060D/60PD: I/O LED Indicator	
<b>Isolation</b>		
Intra-module Isolation	3750 VDC	
<b>EMS Protection</b>		
EFT (IEC 61000-4-4)	±2 kV	±4 kV
	for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point	
Surge (IEC 61000-4-5)	±3 kV for Power Line	
<b>LED Indicators</b>		
Status	1 x Power and Communication 7060D/60PD: 8 x Relay 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	I-7000: DCON M-7000: Modbus RTU, DCON	
<b>Power</b>		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	1.0 W	1.4 W
	1.4 W	1.8 W

### I/O Specifications

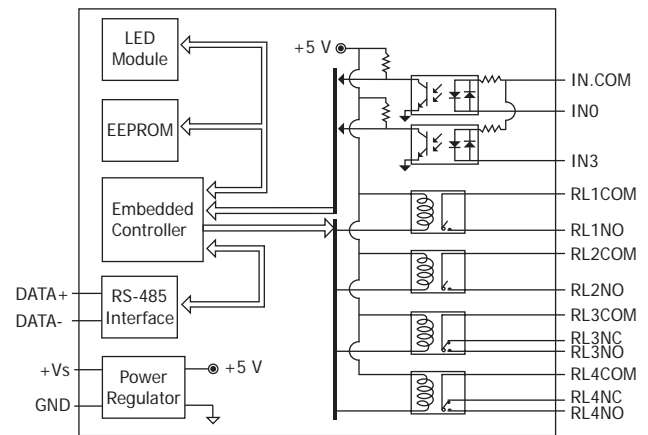
Model	I-7060(D) M-7060(D)	M-7060P(D)
	<b>Relay Output</b>	
Channels	4 (2 x Form A, 2 x Form C)	
Type	Signal Relay	Power Relay
Contact Material	Gold-plated silver	Silver Tin Alloy
Contact Rating	Form A / Form C: 0.6 A @ 125 VAC 2 A @ 30 VDC	Form A: 16 A @ 250 VAC 10 A @ 30 VDC  Form C: NO: 10 A @ 250 VAC NC: 6 A @ 250 VAC
Operate Time	3 ms	10 ms
Release Time	2 ms	5 ms
Electrical Endurance	5 x 10 <sup>5</sup> ops.	1 x 10 <sup>7</sup> ops.
Mechanical Endurance	1 x 10 <sup>8</sup> ops.	1 x 10 <sup>5</sup> ops.
Power on Value	Programmable	
Safe Value	Programmable	

<b>Mechanical</b>	
Dimensions (mm)	72 x 123 x 35 (W x L x H)
Installation	DIN-Rail 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-7060(D)	M-7060P(D)
		M-7060(D)
<b>Digital Input/Counter</b>		
Channels	4	
Type	Wet Contact	
Sink/Source (NPN/PNP)	Sink/Source	
ON Voltage Level	+1 VDC Max.	+4 VDC Max.
OFF Voltage Level	+4 ~ +30 VDC	+10 ~ +50 VDC
Max. Counts	65535 (16-bit)	
Frequency	100 Hz	
Min. Pulse Width	5 ms	
Input Impedance	3 kΩ	10 kΩ
Overshoot Protection	±35 VDC	±70 VDC

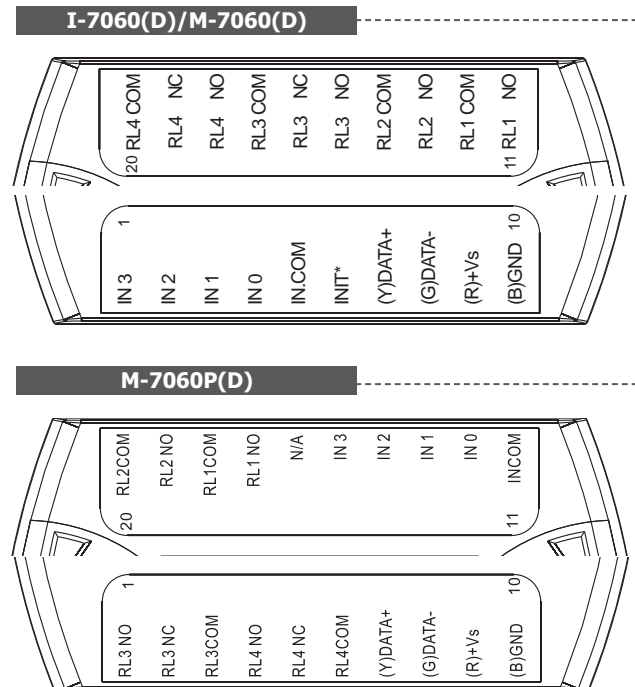
## Internal I/O Structure



## Wire Connections

DI/Counter	ON State Readback as 1	OFF State Readback as 0
7060(D)	OPEN or <1 VDC	+4 ~ +30 VDC
M-7060P(D)	OPEN or <4 VDC	+10 ~ +50 VDC
Sink		
Source		

## Pin Assignments



Relay Output	ON State Readback as 1	OFF State Readback as 0
RL1 and RL2		
RL3 and RL4		

## Ordering Information

<b>I-7060 CR</b>		using DCON Protocol (Blue Cover) (RoHS)	<b>I-7060D CR</b>	I-7060 with LED Display (Blue Cover) (RoHS)
<b>I-7060-G CR</b>	4-ch Isolated (Wet, 4~30 VDC) DI and 4-ch Signal Relay Module	using DCON Protocol (Gray Cover) (RoHS)	<b>I-7060D-G CR</b>	I-7060-G with LED Display (Gray Cover) (RoHS)
<b>M-7060-G CR</b>		using DCON and Modbus Protocols (Gray Cover) (RoHS)	<b>M-7060D-G CR</b>	M-7060-G with LED Display (Gray Cover) (RoHS)
<b>M-7060P-G CR</b>	4-ch Isolated (Wet, 10~50 VDC) DI and 4-ch Power Relay Module	using DCON and Modbus Protocols (Gray Cover) (RoHS)	<b>M-7060PD-G CR</b>	M-7060P-G with LED Display (Gray Cover) (RoHS)

## Accessories

<b>tM-7520U CR</b>	<b>tM-7561 CR</b>	<b>tM-SG4 CR</b>	<b>I-7514U CR</b>	<b>SG-770 CR</b>	<b>SG-3000 Series</b>
RS-232 to RS-485 Converter (RoHS)	USB to RS-485 Converter (RoHS)	RS-485 Bias and Termination Resistor Module (RoHS)	4-channel RS-485 Hub (RoHS)	7/14 channel Surge Protector (RoHS)	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers