



**I-7055(D)**

**M-7055(D)**



**I-7055(D)-NPN**

**M-7055(D)-NPN**

8-ch Isolated (Dry, Wet) DI and  
8-ch Isolated DO Module

### Features

- I-7055(D)/M-7055(D)
  - Source-type Digital Output with Overload Protection
- I-7055(D)-NPN/M-7055(D)-NPN
  - Sink-type Digital Output with Overload Protection
- Digital Input Channels Can be Used as 16-bit Counters
- Short Circuit Protection
- Configurable Power-on Value and Safe Value Settings



### Introduction

The I-7055 offers 8 isolated channels for digital input and 8 isolated channels for digital output. Either sink-type or source-type digital input can be selected via wire connections. All digital input channels are also able to be used as 16-bit counters. The I-7055 supports source-type output with short circuit protection. There are options to enable both power-on and safe values. The I-7055D has 16 LED indicators that can be used to monitor the status of the digital input and digital output channels. 4 kV ESD protection and 3750 VDC intra-module isolation are standard. The M-7055 has the same hardware specifications as the I-7055, but provides additional support for the Modbus RTU protocol as well as the DCON protocol.

### System Specifications

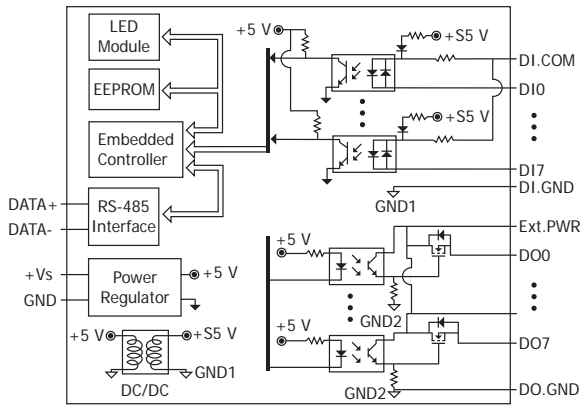
Model	I-7000 M-7000	7055	7055- NPN	7055D	7055D- NPN
<b>CPU Module</b>					
Watchdog Timer	Module, Communication (Programmable)				
<b>Display</b>					
Type	-		I/O LED Indicator		
<b>Isolation</b>					
Intra-module Isolation	3750 VDC				
<b>EMS Protection</b>					
EFT (IEC 61000-4-4)	±4 kV for Power Line				
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		-		
	-		8 x DI, 8 x DO		
<b>COM Ports</b>					
Ports	1 x RS-485				
Baud Rate	1200 ~ 115200 bps				
Data Format	(N, 8, 1)				
Protocol	I-7000	DCON			
	M-7000	Modbus RTU, DCON			
<b>Power</b>					
Reverse Polarity Protection	Yes				
Input Range	+10 ~ +30 VDC				
Consumption	0.8 W	1.2 W	1.6 W	2.2 W	
<b>Mechanical</b>					
Dimensions (mm)	72 x 123 x 35 (W x L x H)				
Installation	DIN-Rail Mounting				

### I/O Specifications

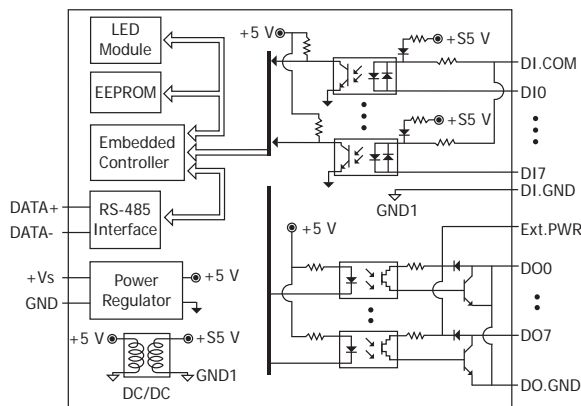
Model	I-7000 M-7000	7055 7055D	7055-NPN 7055D-NPN
<b>Digital Input/Counter</b>			
Channels	8		
Type	Dry Contact, Wet Contact		
Sink/Source (NPN/PNP)	Sink/Source		
ON Voltage Level	Dry: Close to GND Wet: +10 ~ +50 VDC		
OFF Voltage Level	Dry: Open Wet: +4 VDC Max.		
Max. Counts	65535 (16-bit)		
Frequency	100 Hz		
Min. Pulse Width	5 ms		
Effective Distance	500 m Max.		
Input Impedance	10 kΩ		
Overvoltage Protection	±70 VDC		
<b>Digital Output</b>			
Channels	8		
Type	Open Source	Open Collector	
Sink/Source (NPN/PNP)	Source	Sink	
Load Voltage	+10 ~ +40 VDC	+3.5 ~ +50 VDC	
Load Current	650 mA/channel	700 mA/Channel	
Overvoltage Protection	47 VDC	60 VDC	
Overload Protection	1.4 A		
Short-circuit Protection	Yes		
Power on Value	Programmable		
Safe Value	Programmable		
<b>Environment</b>			
Operating Temperature	-25 ~ +75°C		
Storage Temperature	-40 ~ +85°C		
Humidity	10 ~ 95% RH, Non-condensing		

## Internal I/O Structure

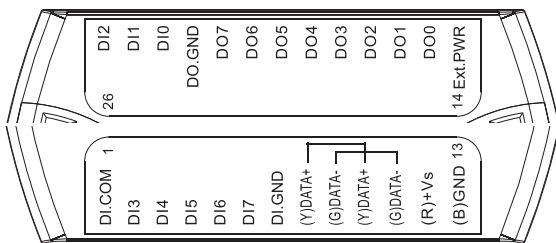
### I-7055(D)/M-7055(D)



### I-7055(D)-NPN/M-7055(D)-NPN



## Pin Assignments



## Ordering Information

<b>I-7055 CR</b>	8-ch Isolated (Dry, Wet) DI and 8-ch Isolated DO Module	using DCON Protocol (Blue Cover) (RoHS)	<b>I-7055D CR</b>	I-7055 with LED Display (Blue Cover) (RoHS)
<b>I-7055-G CR</b>	DI and 8-ch Isolated (Source, PNP, 10~40 VDC) DO Module	using DCON Protocol (Gray Cover) (RoHS)	<b>I-7055D-G CR</b>	I-7055 with LED Display (Gray Cover) (RoHS)
<b>M-7055-G CR</b>		using DCON and Modbus Protocols (Gray Cover) (RoHS)	<b>M-7055D-G CR</b>	M-7055 with LED Display (Gray Cover) (RoHS)
<b>I-7055-NPN-G CR</b>	8-ch Isolated (Dry, Wet) DI and 8-ch Isolated (Sink, NPN, 3.5~50 VDC) DO Module	using DCON Protocol (Gray Cover) (RoHS)	<b>I-7055D-NPN-G CR</b>	I-7055-NPN with LED Display (Gray Cover) (RoHS)
<b>M-7055-NPN-G CR</b>		using DCON and Modbus Protocols (Gray Cover) (RoHS)	<b>M-7055D-NPN-G CR</b>	M-7055-NPN 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>
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)
<b>SG-3000 Series</b>	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers			

## Wire Connections

7055(D)/7055(D)-NPN		
Input Type	ON State Readback as 1	OFF State Readback as 0
Dry Contact	Close to GND	Open
Wet Contact (Sink)	+10 ~ +50 VDC	+4 VDC Max.
Wet Contact (Source)		

7055(D)		
Output Type	ON State Readback as 1	OFF State Readback as 0
Resistance Load		
Inductive Load		

7055(D)-NPN		
Output Type	ON State Readback as 1	OFF State Readback as 0
Resistance Load		
Inductive Load		