I-7050(D)   M-7050(D)

I-7050A   I-7050AD

7-channel Non-isolated DI and 8-channel Non-isolated DO Module

Features

- 8 Digital Outputs and 7 Digital Inputs
- Open Collector Output
- Non-isolated for all Channels
- Digital Input Channels Can Be Used As 16-bit Counters
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- Cost-effective
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ +75°C

Introduction

The I-7050 offers 7 channels for digital input and 8 channels for digital output, each of which are non-isolated. The I-7050 supports sink-type output using an NPN open collector and source-type input. All input channels are able to be used as 16-bit counters. There are options to enable both power-on and safe values. The I-7050D has 15 LED indicators for channel status monitoring. The hardware specifications for the M-7050 are the same as the I-7050 and both support the Modbus RTU and DCON protocols which can be configured via software.

Applications

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

System Specifications

Models	I-7050	I-7050D	M-7050	M-7050D
	I-7050A	I-7050AD		
Communication				
Interface	RS-485			
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)			
Baud Rate	1200 ~ 115200 bps			
Protocol	DCON		Modbus RTU, DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)			
LED Indicator/Display				
System LED Indicator	Yes, 1 LED as Power/Communication Indicator			
I/O LED Indicator	-	Yes	-	Yes
7-Segment LED Display	-			
Isolation				
Intra-Module Isolation, Field-to-Logic	-			
EMS Protection				
ESD (IEC 61000-4-2)	-			
EFT (IEC 61000-4-4)	-			
Power				
Reverse Polarity Protection	Yes			
Input Range	10 ~ 30 V$_{DC}$			
Consumption	0.4 W	1.1 W	0.4 W	1.1 W
	0.5 W (A)		1.2 W (AD)	
Mechanical				
Dimensions (W x L x H)	72 mm x 123 mm x 35 mm			
Installation	DIN-Rail or Wall Mounting			
Environment				
Operating Temperature	-25 ~ +75°C			
Storage Temperature	-40 ~ +85°C			
Humidity	10 ~ 95% RH, Non-condensing			

I/O Specifications

Models		I-7050	I-7050D	I-7050A	I-7050AD
		M-7050	M-7050D		
Digital Input/Counter					
Channels		7			
Contact		Dry			
Sink/Source (NPN/PNP)		Source		Sink	
Wet Contact	On Voltage Level	-		+4 ~ 30 V$_{DC}$	
	Off Voltage Level	-		+1 V$_{DC}$ Max.	
Dry Contact	On Voltage Level	Open		-	
	Off Voltage Level	Close to GND		-	
Counters	Max. Count	65535 (16-bit)			
	Max. Input Frequency	100 Hz			
	Min. Pulse Width	5 ms			
Input Impedance		100 KΩ			
Overvoltage Protection		-			
Digital Output					
Channels		8			
Type		Open Collector			
Sink/Source (NPN/PNP)		Sink			
Load Voltage		+3.5 ~ 30 V$_{DC}$			
Max. Load Current		30 mA/Channel			
Overvoltage Protection		-			
Overload Protection		-			
Power-on Value		Yes			
Safe Value		Yes			

Internal I/O Structure
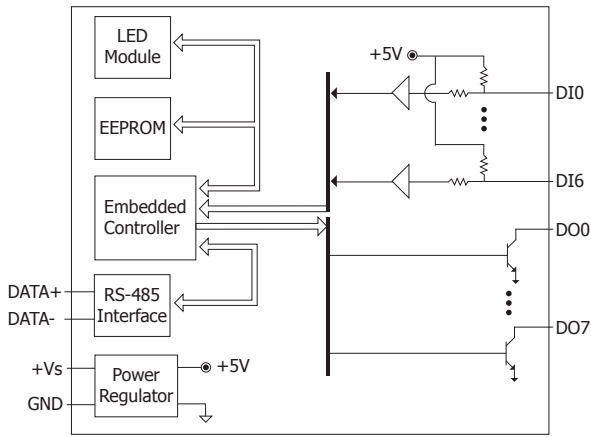
Pin Assignments
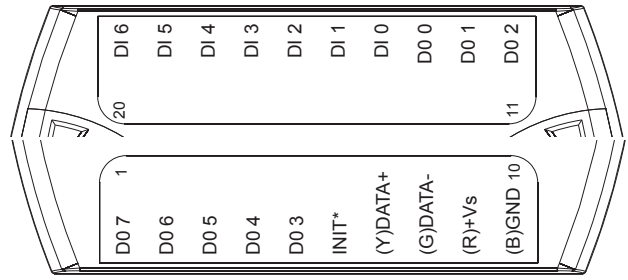
Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
	Close to GND (+1 V_{DC} Max.)	OPEN (+4 VDC ~ +30 V_{DC})
Dry Contact	DIx (B)GND	DIx (B)GND

Output Type	ON State Readback as 1	OFF State Readback as 0
Resistance Load	DOx (B)GND	DOx (B)GND
Inductance Load	DOx (B)GND	DOx (B)GND

Ordering Information

I-7050 CR	7-channel Non-isolated DI and 8-channel Non-isolated DO Module with DCON Protocol (Blue Cover) (RoHS)
I-7050-G CR	7-channel Non-isolated DI and 8-channel Non-isolated DO Module with DCON Protocol (Gray Cover) (RoHS)
I-7050D CR	I-7050 with LED Display (Blue Cover) (RoHS)
I-7050D-G CR	I-7050 with LED Display (Gray Cover) (RoHS)
I-7050A CR	7-channel Non-isolated DI and 8-channel Non-isolated DO Module with DCON Protocol (Current Sink) (Blue Cover) (RoHS)
I-7050AD CR	I-7050A with LED Display (Blue Cover) (RoHS)
I-7050AD-G CR	I-7050A with LED Display (Gray Cover) (RoHS)
M-7050-G CR	7-channel Non-isolated DI and 8-channel Non-isolated DO Module with DCON and Modbus Protocol (Gray Cover) (RoHS)
M-7050D-G CR	M-7050 with LED Display (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 Pull-high/Pull-low 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 Inputs

RS-485 Remote I/O Modules

I-7000 and M-7000 Modules

I-7050(D)/I-7050A(D)/M-7050(D)