ICP DAS

I-7051(D)   M-7051(D)
16-ch Isolated (Dry, Wet) DI Module

Features

- 16 Digital Inputs
- Dry Contact and Wet Contact Selectable via Wire Connections
- Photocoupler Isolation
- Long Distance Measurement
- All Channels Can be Used as 16-bit Counters
- Built-in Dual Watchdog

Introduction

The I-7051 offers 16 channels for digital input, catering for both dry and wet contact, with an effective distance for dry contact of up to 500 meters. All channels not only feature Photocoupler isolation, but can also be used as 16-bit counters. The I-7051D has 16 LED indicators that can be used to monitor the status of the digital input channels. 4 kV ESD protection and 3750 VDC intra-module isolation are standard. The M-7051 has the same hardware specifications as the I-7051, but provides additional support for the Modbus RTU protocol as well as the DCON protocol.

Applications

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

System Specifications

Model	I-7051	I-7051D
	M-7051	M-7051D
CPU Module		
Watchdog Timer	Module, Communication (Programmable)	
Display		
Type	-	I/O LED Indicator
Isolation		
Intra-module Isolation	3750 VDC	
EMS Protection		
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	
LED Indicators		
Status	1 x Power and Communication	
	-	16 x Digital Input
COM Ports		
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	
Power		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	0.3 W	1.1 W

I/O Specifications

Model	I-7051	I-7051D
	M-7051	M-7051D
Digital Input/Counter		
Channels	16	
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	

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
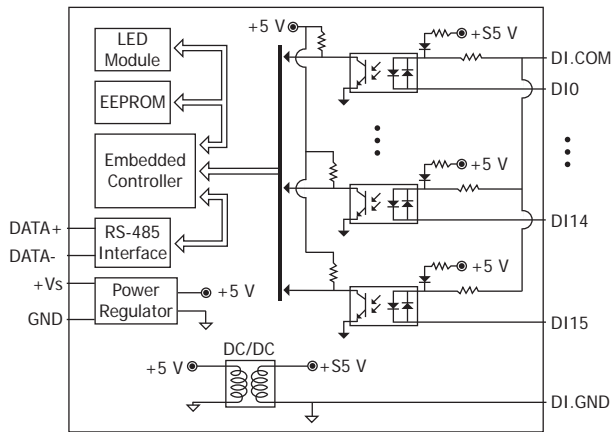
◼ Pin Assignments
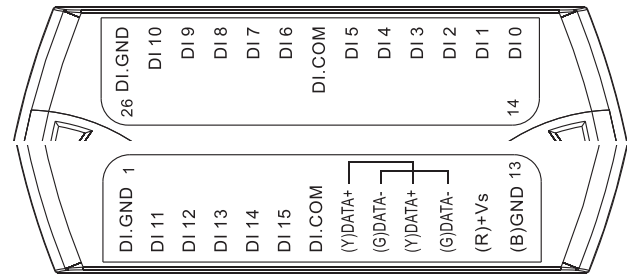
◼ Wire Connections

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)	+10 ~ +50 VDC	+4 VDC Max.

◼ Ordering Information

I-7051 CR	16-ch Isolated (Dry, Wet) DI Module using DCON Protocol (Blue Cover) (RoHS)
I-7051-G CR	16-ch Isolated (Dry, Wet) DI Module using DCON Protocol (Gray Cover) (RoHS)
I-7051D CR	16-ch Isolated (Dry, Wet) DI Module with LED Display using DCON Protocol (Blue Cover) (RoHS)
I-7051D-G CR	16-ch Isolated (Dry, Wet) DI Module with LED Display using DCON Protocol (Gray Cover) (RoHS)
M-7051-G CR	16-ch Isolated (Dry, Wet) DI Module using DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7051D-G CR	16-ch Isolated (Dry, Wet) DI Module with LED Display, using DCON and Modbus Protocols (Gray Cover) (RoHS)

◼ Accessories

tM-7520U CR	Tiny Isolated RS-232 to RS-485 Converter (RoHS)
tM-7561 CR	Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)
tM-SG4 CR	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)

I-7514U-G CR	Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)
SG-770 CR	7/14 channel Surge Protector (RoHS)
SG-3000 Series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers