ICP DAS

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

I-7050A   I-7050AD

7-channel Non-isolated Digital Input and 8-channel Non-isolated Digital Output Module

Features

- 7 Digital Input and 8 Digital Output channels
- Open Collector Output
- Non-isolated input for all channels
- Digital Input Channels can be used as 16-bit Counters
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C

CE FC RoHS

Introduction

The I-7050 series of modules offers 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 also options to enable both power-on and safe values. The I-7050D has 15 LED indicators that can be used to monitor channel status. The M-7050 has the same hardware specifications as the I-7050 , but provides additional support for the Modbus RTU protocol as well as the DCON protocol.

System Specifications

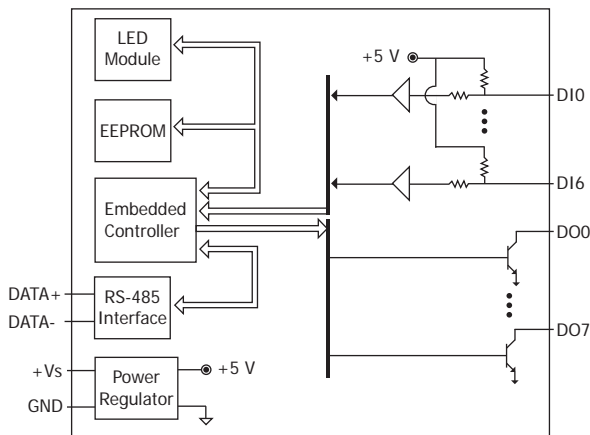| Model	I-7050	I-7050D	I-7050A	I-7050AD
	M-7050	M-7050D		
Communication				
Interface	RS-485			
Bias Resistor	No (Usually supplied by the RS-485 Master. Alternatively, add a tM-SG4 or SG-785.)			
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)			
Baud Rate	1200 to 115200 bps			
Protocol	DCON (For I-7050 series)			
	Modbus RTU, DCON (For M-7050 series)			
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)			
LED Indicators/Display				
System LED Indicator	Yes, 1 as Power/Communication Indicator			
I/O LED Indicators	-	Yes, 7 LEDs as Digital Input and 8 LEDs as Digital Output Indicators	-	Yes, 7 LEDs as Digital Input and 8 LEDs as Digital Output Indicators
7-segment LED Display	-			
Isolation				
Intra-module Isolation, Field-to-Logic	-			
EMS Protection				
ESD (IEC 61000-4-2)	-			
EFT (IEC 61000-4-4)	-			
Surge (IEC 61000-4-5)	-			
Power				
Reverse Polarity Protection	Yes			
Input Range	+10 ~ +30 V_{DC}			
Consumption	0.4 W	1.1 W	0.5 W	1.2 W
	0.4 W	1.1 W		
Mechanical				
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm			
Installation	DIN-Rail or Wall Mounting			
Environment				
Operating Temperature	-25 to +75°C			
Storage Temperature	-40 to +85°C			
Humidity	10 to 95% RH, Non-condensing			

Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.
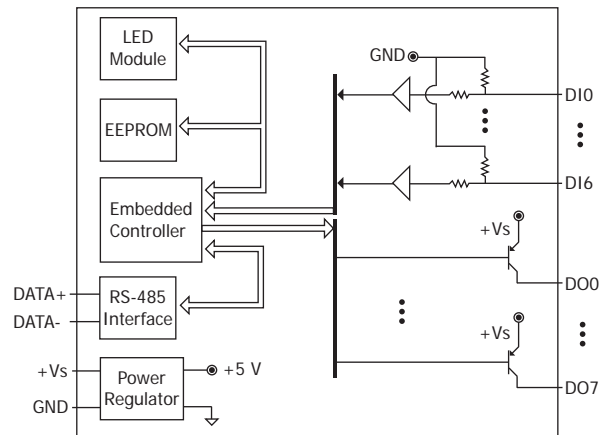
I/O Specifications

Model		I-7050	I-7050D	I-7050A	I-7050AD
		M-7050	M-7050D		
Digital Input/Counter					
Channels		7			
Type	Dry Contact	Sink			
	Wet Contact	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		-	
	Effective Distance for Dry Contact	500 m Max.		-	
Counters	Max. Count	65535 (16-bit)			
	Max. Input Frequency	100 Hz			
	Min. Pulse Width	5 ms			
Input Impedance		100 kΩ			
Channel-to-Channel Isolation		-			
Overvoltage Protection		-			
Digital Output					
Channels		8			
Type		Open Collector			
Sink/Source (NPN/PNP)		Sink		Source	
Load Voltage		+3.5 ~ 30 V_{DC}			
Max. Load Current		30 mA/Channel		50 mA/Channel	
Overvoltage Protection		-			
Overload Protection		-			
Power-on Value		Yes			
Safe Value		Yes			

KOLBINGER - PCQT   -   +43 2239 3160
AT-2384 Breitenfurt/Vienna, Hauptstrasse 93, office@kolbinger.at , www.pcqt.at

Internal I/O Structure

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

LED Module · EEPROM · Embedded Controller · RS-485 Interface · Power Regulator
DATA+ · DATA- · +Vs · GND · +5 V · DI0 · DI6 · DO0 · DO7

I-7050A/I-7050AD

LED Module · EEPROM · Embedded Controller · RS-485 Interface · Power Regulator
DATA+ · DATA- · +Vs · GND · GND · +5 V · DI0 · DI6 · +Vs · DO0 · +Vs · DO7

Wire Connections

I-7050(D)/M-7050(D)		
Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact	Close to GND (+1 V_{DC} Max.)	OPEN (+4 V_{DC} ~ +30 V_{DC})
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

I-7050A/M-7050AD
Digital Intput
DIx (B)GND
Digital Output
Load DOx (B)GND   DOx (B)GND

Pin Assignments

DI 6 · DI 5 · DI 4 · DI 3 · DI 2 · DI 1 · DI 0 · DO 0 · DO 1 · DO 2 (20 ... 11)
DO 7 · DO 6 · DO 5 · DO 4 · DO 3 · INIT* · (Y)DATA+ · (G)DATA- · (R)+Vs · (B)GND 10 (1)
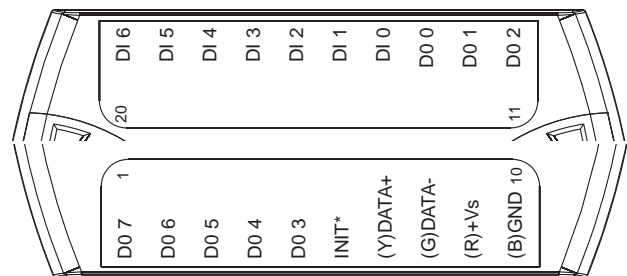
Ordering Information

I-7050 CR	7-channel Non-isolated Digital Input and 8-channel Non-isolated Digital Output Module using the DCON Protocol (Blue Cover) (RoHS)
I-7050-G CR	7-channel Non-isolated Digital Input and 8-channel Non-isolated Digital Output Module using the 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 Digital Input and 8-channel Non-isolated Digital Output Module using the 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 Digital Input and 8-channel Non-isolated Digital Output Module using the 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 Bias 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 Input Transformers

KOLBINGER - PCQT   -   +43 2239 3160
AT-2384 Breitenfurt/Vienna, Hauptstrasse 93, office@kolbinger.at , www.pcqt.at