



I-7041(D)

M-7041(D)



I-7041P(D)

M-7041P(D)

14-channel Isolated Digital Input Module

Features

- Sink- or Source-type Digital Input
- Photocouple Isolation
- All Channels can be used as 16-bit Counters
- ± 4 kV ESD Protection
- 3750 Vdc Isolation Voltage
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



Introduction

The I-7041 and I-7041P provide 14 channels for digital input, each of which features photocouple isolation. In addition, either sink- or source-type digital input can be selected via wire connections, and all channels are able to be used as 16-bit counters. The I-7041D and I-7041PD include 14 LED indicators that can be

System Specifications

Model	I-7041	M-7041	I-7041P	M-7041P
	I-7041D	M-7041D	I-7041PD	M-7041PD
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			
Baud Rate	1200 to 115200 bps			
Protocol	DCON		Modbus RTU, DCON	
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, 14 LEDs as Digital Input Indicators	Yes, 14 LEDs as Digital Input Indicators	Yes, 14 LEDs as Digital Input Indicators	Yes, 14 LEDs as Digital Input Indicators
7-segment LED Display	-			
Isolation				
Intra-module Isolation, Field-to-Logic	3750 Vdc			
EMS Protection				
ESD (IEC 61000-4-2)	± 4 kV Contact for each Terminal			
	± 8 kV Air for Random Point			
EFT (IEC 61000-4-4)	± 2 kV for Power Line			
Surge (IEC 61000-4-5)	-			
Power				
Reverse Polarity Protection	Yes			
Input Range	+10 ~ +30 Vdc			
Consumption	0.2 W	0.2 W	0.2 W	0.2 W
	1.0 W	1.0 W	1.0 W	1.0 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			

used for DI channel status monitoring. 4 kV ESD protection and 3750 Vdc intra-module isolation are standard. The hardware specifications for the M-7041 and M-7041P are the same as for the I-7041 and I-7041P, and support both the Modbus RTU and DCON protocols, which can be configured via software. ICPDAS recommends selecting the "P" version of the digital input module for industrial use.

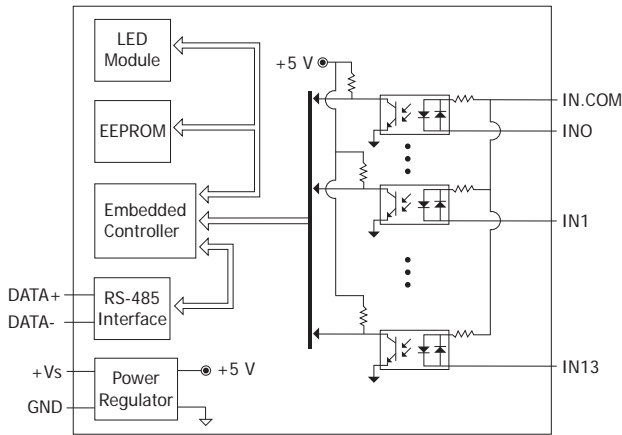
Applications

- All Types of On/Off Control
- Industrial Automation
- Industrial Machinery
- Building Automation
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

I/O Specifications

Model	I-7041	M-7041	I-7041P	M-7041P	
	I-7041D	M-7041D	I-7041PD	M-7041PD	
Digital Input/Counter					
Channels	14				
Type	Dry Contact	-			
	Wet Contact	Sink/Source			
Wet Contact	ON Voltage Level	+1 Vdc Max.	+4 ~ 30 Vdc	+11 Vdc Max.	+19 ~ 30 Vdc
	OFF Voltage Level	+4 ~ 30 Vdc	+1 Vdc Max.	+19 ~ 30 Vdc	+11 Vdc Max.
Dry Contact	ON Voltage Level	-			
	OFF Voltage Level	-			
	Effective Distance for Dry Contact	-			
Counters	Max. Count	65535 (16-bit)			
	Max. Input Frequency	100 Hz			
	Min. Pulse Width	5 ms			
Input Impedance	3 k Ω				
Channel-to-Channel Isolation	-				
Overvoltage Protection	± 35 Vdc				

Internal I/O Structure



Pin Assignments



Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
I-7041(D)	OPEN or <1 Vdc	+4 ~ 30 Vdc
I-7041P(D)	OPEN or <11 Vdc	+19 ~ +30 Vdc
Sink		
I-7041(D)	OPEN or <1 Vdc	+4 ~ 30 Vdc
I-7041P(D)	OPEN or <11 Vdc	+19 ~ +30 Vdc
Source		

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
M-7041(D)	+4 ~ 30 Vdc	OPEN or <1 Vdc
M-7041P(D)	+19 ~ +30 Vdc	OPEN or <11 Vdc
Sink		
M-7041(D)	+4 ~ 30 Vdc	OPEN or <1 Vdc
M-7041P(D)	+19 ~ +30 Vdc	OPEN or <11 Vdc
Source		

Ordering Information

I-7041 CR	14-channel Isolated Digital Input Module using the DCON Protocol (Blue Cover) (RoHS)
I-7041-G CR	14-channel Isolated Digital Input Module using the DCON Protocol (Gray Cover) (RoHS)
I-7041D CR	I-7041 with LED Display (Blue Cover) (RoHS)
I-7041P-G CR	14-channel Isolated Digital Input Module using the DCON Protocol (Gray Cover) (RoHS)
I-7041PD-G CR	I-7041P with LED Display (Gray Cover) (RoHS)
M-7041-G CR	14-channel Isolated Digital Input Module using the DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7041P-G CR	14-channel Isolated Digital Input Module using the DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7041D-G CR	M-7041 with LED Display (Gray Cover) (RoHS)
M-7041PD-G CR	M-7041P with LED Display (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 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