



I-87040W-G I-87040PW-G

32-channel Isolated Digital Input Module with 16-bit Counters

Introduction

The I-87040W/I-87040PW offer 32 channels for digital input, each of which features photocouple isolation. Either sink- or source-type input can be selected via wire connections. All channels are able to be used as 16-bit counters and 32 LED indicators that can be used for monitoring DI channel status are also provided, together with 4 kV ESD protection and 3750 Vdc intra-module isolation. Paired with a daughter board such as the DN-37-381-A, wiring is easier than ever. The I-87040PW is suitable for +24 Vdc digital input systems and provides noise protection capabilities that enhance noise immunity in industrial environments. ICP DAS recommends selecting the "p" version of the digital input module for industrial use.

System Specifications

Model	I-87040W	I-87040PW
Communication		
Interface	RS-485	
Format	N, 8, 1	
Baud Rate	1200 to 115200 bps	
Protocol	DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
LED Indicators/Display		
System LED Indicators	Yes, 1 as Power/Communication Indicator	
I/O LED Indicators	32 as Digital Input Indicators	
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	
Power		
Power Consumption	1.6 W Max.	
Mechanical		
Dimensions (L × W × H)	114 mm × 30 mm × 85 mm	
Environment		
Operating Temperature	-25 to +75°C	
Storage Temperature	-40 to +85°C	
Humidity	10 to 95% RH, Non-condensing	

Features

- Sink- or Source-type Digital Inputs
- Photocouple Isolation
- All Channels can be used as 16-bit Counters
- Optional Daughter board connectivity
- 4 kV ESD Protection
- 3750 Vdc Intra-module Isolation
- D-sub DB37 Wiring
- Dual Watchdog
- RoHS Compliant
- Wide Operating Temperature Range: -25 to +75°C



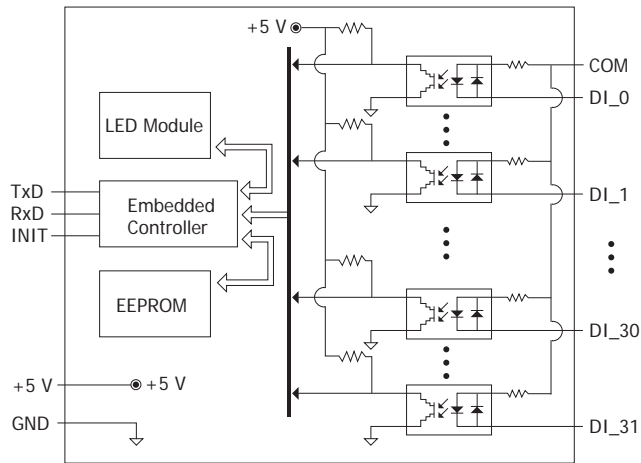
Applications

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

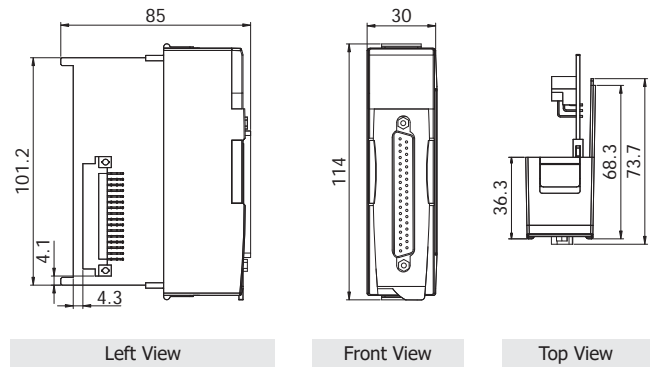
I/O Specifications

Model	I-87040W	I-87040PW
Digital Input		
Channels	32	
Type	Wet	
Sink/Source (NPN/PNP)	Sink, Source	
ON Voltage Level	+3.5 VDC ~ +30 VDC	+19 VDC ~ +30 VDC
OFF Voltage Level	+1 Vdc Max.	+11 VDC Max.
Input Impedance	4.7 kΩ, 0.25 W	
Counters	Channels	32
	Max. Count	16-bit (65535)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Channel-to-Channel Isolation	-	
Overvoltage Protection	35 VDC	
Low Pass Filter	Yes	
Effective Distance for Dry Contact	-	

Internal I/O Structure



Dimensions (Units: mm)



Wire Connections

I-87040W		
Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Sink	+4 ~ +30 VDC 	OPEN or < +1 VDC
	+4 ~ +30 VDC 	OPEN or < +1 VDC
Source	+4 ~ +30 VDC 	OPEN or < +1 VDC
	+4 ~ +30 VDC 	OPEN or < +1 VDC

I-87040PW		
Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Sink	+19 ~ +30 VDC 	OPEN or < +11 VDC
	+19 ~ +30 VDC 	OPEN or < +11 VDC
Source	+19 ~ +30 VDC 	OPEN or < +11 VDC
	+19 ~ +30 VDC 	OPEN or < +11 VDC

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment
COM	19	37
NC	18	36
NC	17	35
DI_15	16	34
DI_14	15	33
DI_13	14	32
DI_12	13	31
DI_11	12	30
DI_10	11	29
DI_9	10	28
DI_8	09	27
DI_7	08	26
DI_6	07	25
DI_5	06	24
DI_4	05	23
DI_3	04	22
DI_2	03	21
DI_1	02	20
DI_0	01	20

37-pin Male D-Sub Connector

Ordering Information

I-87040W-G CR	32-channel Isolated Digital Input Module with 16-bit Counters (Gray Cover) (RoHS)
I-87040PW-G CR	32-channel Isolated Digital Input Module with 16-bit Counters (Gray Cover) (RoHS)

Accessories

	DN-37-A	I/O Connector Block with DIN-Rail Mounting and 37-pin D-sub Connector (pitch: 5.08 mm)
	DN-37-381-A	I/O Connector Block with DIN-Rail Mounting and 37-pin D-sub Connector (pitch: 3.81 mm)
	CA-3705A	Male-Female D-sub Cable 0.5 m
	CA-3710A	Male-Female D-Sub Cable 1 m
	CA-3715A	Male-Female D-Sub Cable 1.5 m
	MD-11	Input Type MagicWire for I-8041W/I-87041W
	MD-12	Output Type MagicWire for I-8040W/I-87040W
	SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
		I-8040W/40PW/41W/41AW/42W and I-87040W/41W with DN-37-381-A