



I-87040W | I-87040PW

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

Features

- 32-channel Open Collector Output
- Photocouple Isolation
- Sink- or Source-type Digital Inputs
- All Channels can be used as 16-bit Counters
- 4 kV ESD Protection
- 3750 VDC Intra-module Isolation, Field-to-Logic
- Dual Watchdog
- Open Daughter Board Detection

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 Indictors	1 as Power/Communication Indicator	
I/O LED Indicators	32 as Digital Output 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 (W × L × H)	30 mm × 115 mm × 85 mm	
Environment		
Operating Temperature	-25 ~ +75°C	
Storage Temperature	-40 ~ +85°C	
Humidity	10 ~ 95% RH, Non-condensing	



I-87040W, I-87040PW with DN-37-381-A and DB37 Male to Female Cable (Optional)

Applications

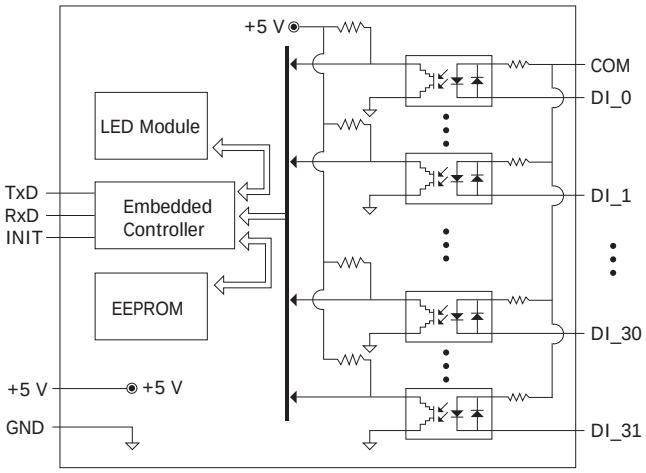
- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

I/O Specifications

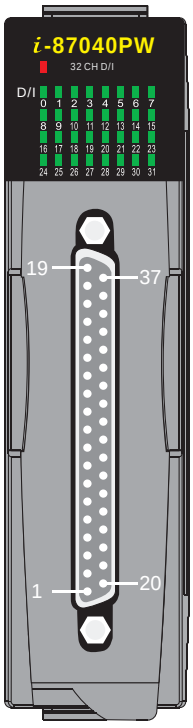
Model	I-87040W	I-87040PW
Digital Input/Counter		
Channels	32	
Type	Wet Contact	
Sink/Source (NPN/PNP)	Sink, Source	
ON Voltage Level	+3.5 ~ +30 VDC	+19 ~ +30 VDC
OFF Voltage Level	+1 VDC Max	+11 VDC Max
Max. Counts	16-bit (65535)	
Frequency	100 Hz	
Min. Pulse Width	5 ms	
Input Impedance	4.7 kΩ, 0.25 W	
Overvoltage Protection	35 VDC	

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Internal I/O Structure



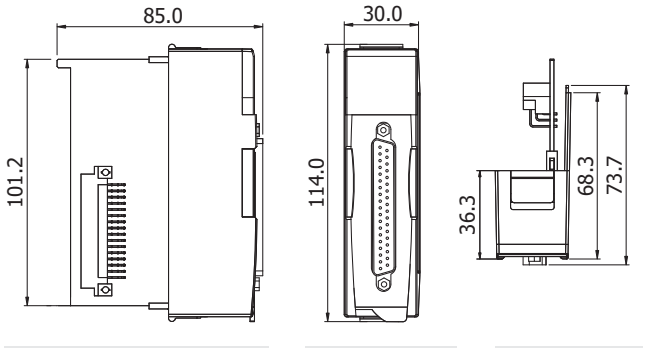
Pin Assignments



Pin Assignment	Terminal No.		Pin Assignment
COM	19	37	COM
NC	18	36	NC
NC	17	35	DI_31
DI_15	16	34	DI_30
DI_14	15	33	DI_29
DI_13	14	32	DI_28
DI_12	13	31	DI_27
DI_11	12	30	DI_26
DI_10	11	29	DI_25
DI_9	10	28	DI_24
DI_8	09	27	DI_23
DI_7	08	26	DI_22
DI_6	07	25	DI_21
DI_5	06	24	DI_20
DI_4	05	23	DI_19
DI_3	04	22	DI_18
DI_2	03	21	DI_17
DI_1	02	20	DI_16
DI_0	01		

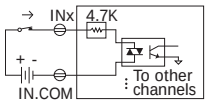
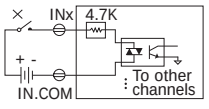
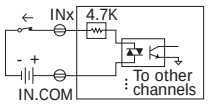
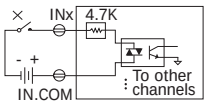
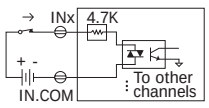
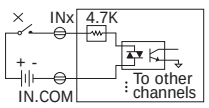
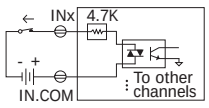
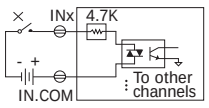
37-pin Male D-Sub Connector

Dimensions (Units: mm)



Left View | Front View | Top View

Wire Connections

Digital Input/ Counter	ON State Readback as 1	OFF State Readback as 0
I-87040W		
Sink		
Source		
I-87040PW		
Sink		
Source		

Accessories

 DN-37-A CR	Female DB37 to Screw Terminal Board (Pitch = 5.08 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male-Female, 90º, 1M)
 DN-37-381-A CR	Female DB37 to Screw Terminal Board (Pitch = 3.81 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male-Female, 90º, 1M)
 CA-3705A CR CA-3710 CR CA-37015A CR	DB37 Male-Female Cable, 90º, 0.5/1.0/1.5 m (RoHS)
 CA-3710AM CR CA-3720AM CR CA-3730AM CR CA-3750AM CR CA-37100AM CR	DB37 Male to Female, with Molded Cable, 45º, 1 M/2 M/3 M/5 M/10 M (RoHS)

Ordering Information

I-87040W-G CR	32-channel Isolated DI (Wet, 3.5 ~ 30 VDC) Module (Gray Cover) (RoHS)
I-87040PW-G CR	32-channel Isolated DI (Wet, 19 ~ 30 VDC) Module (Gray Cover) (RoHS)

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