



**I-87053W-G    I-87053PW-G    I-87053W-A2-G**

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

### Introduction

The I-87053W, I-87053PW and I-87053W-A2 offer 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 feature photocouple isolation, and can also be used as 16-bit counters. The I-87053W series provides 16 LED indicators that can be used to monitor the DI channel status. 4 kV ESD protection and 3750 Vdc intra-module isolation are also provided to enhance noise immunity capabilities in industrial environments. ICP DAS recommends selecting either the "P" or "A2" version of the digital input module for industrial use.

### System Specifications

Model	I-87053W	I-87053PW	I-87053W-A2
<b>Communication</b>			
Interface	RS-485		
Format	N, 8, 1		
Baud Rate	1200 to 115200 bps		
Protocol	DCON		
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)		
<b>LED Indicators/Display</b>			
System LED Indicators	Yes, 1 as Power/Communication Indicator		
I/O LED Indicators	16 as High/Low Alarm Signals		
<b>Isolation</b>			
Intra-module Isolation, Field-to-Logic	3750 Vdc		
<b>EMS Protection</b>			
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal		
	±8 kV Air for Random Point		
<b>Power</b>			
Power Consumption	0.8 W Max.		
<b>Mechanical</b>			
Dimensions (L × W × H)	115 mm × 30 mm × 102 mm		
<b>Environment</b>			
Operating Temperature	-25 to +75°C		
Storage Temperature	-40 to +85°C		
Humidity	10 to 95% RH, Non-condensing		

### Features

- 16-channel Digital Inputs
- Dry and Wet Contact, Selectable via Wire Connections
- Photocouple Isolation
- Long Distance Measurement
- 4 kV ESD Protection
- All Channels can be used as 16-bit Counters
- 3750 Vdc Intra-module Isolation
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



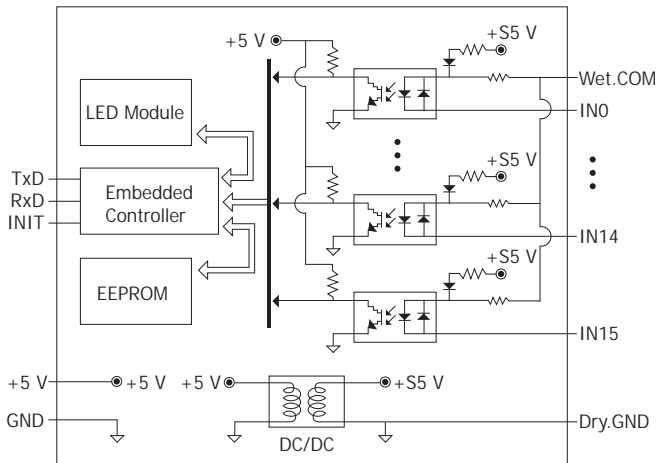
### Applications

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

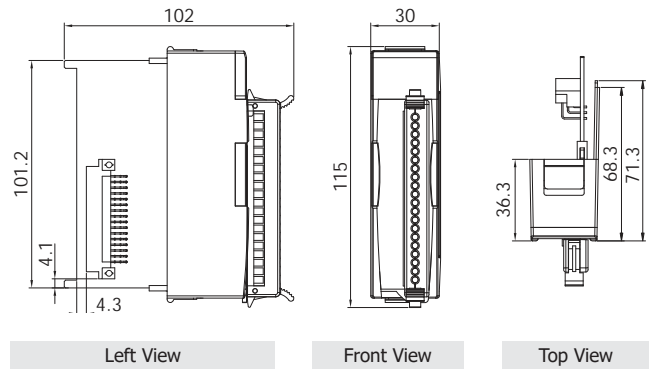
### I/O Specifications

Model	I-87053W	I-87053PW	I-87053W-A2	
<b>Digital Input</b>				
Channels	16			
Type	Dry, Wet			
Sink/Source (NPN/PNP)	Sink, Source			
Dry Contact	ON Voltage Level	Close to GND		
	OFF Voltage Level	Open		
Wet Contact	ON Voltage Level	+3.5 VDC ~ +30 VDC	+19 VDC ~ +30 VDC	+19 VDC ~ +60 VDC
	OFF Voltage Level	+1 VDC Max.	+11 VDC Max.	+11 VDC Max.
Input Impedance	3 kΩ, 1 W	3 kΩ, 1 W	10 kΩ, 1 W	
Counters	Channels	16		
	Max. Count	16-bit (65535)		
	Max. Input Frequency	100 Hz		
	Min. Pulse Width	5 ms		
Channel-to-Channel Isolation	-			
Overvoltage Protection	50 VDC	50 VDC	100 VDC	
Low Pass Filter	Yes			
Effective Distance for Dry Contact	500 m Max.			

## Internal I/O Structure



## Dimensions (Units: mm)

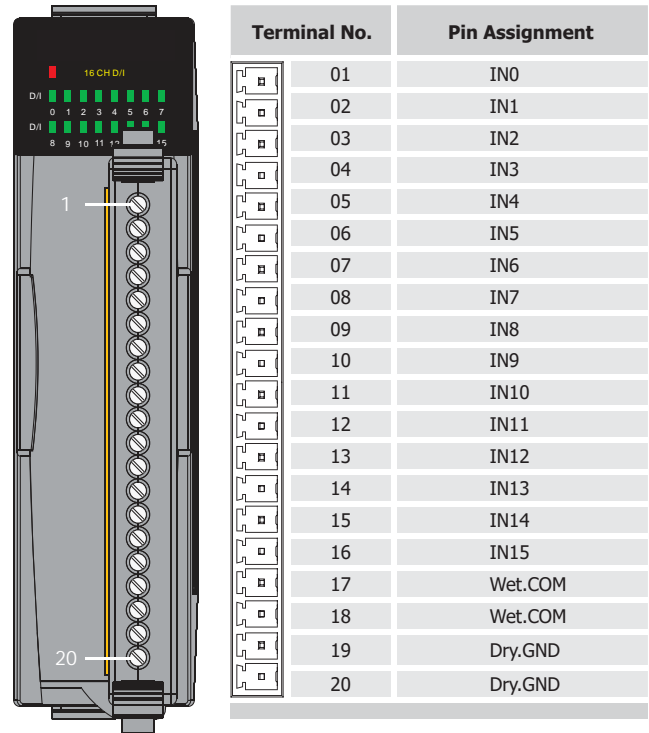


## Wire Connections

Input Type	ON State Readback as 1	OFF State Readback as 0
	Close to GND	
		Open
Dry Contact		

Input Type	ON State Readback as 1	OFF State Readback as 0
I-87053W	+3.5 VDC ~ +30 VDC	+1 VDC Max.
I-87053PW	+19 VDC ~ +30 VDC	+11 VDC Max.
I-87053W-A2	+19 VDC ~ +60 VDC	+11 VDC Max.
Wet Contact (Sink)		
Wet Contact (Source)		

## Pin Assignments



## Ordering Information

<b>I-87053W-G CR</b>	16-channel Isolated Digital Input Module with 16-bit Counters (Gray Cover) (RoHS)
<b>I-87053PW-G CR</b>	16-channel Isolated Digital Input Module with 16-bit Counters (Gray Cover) (RoHS)
<b>I-87053W-A2-G CR</b>	16-channel Isolated Digital Input Module with 16-bit Counters (Gray Cover) (RoHS)

## Accessories

SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
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