



## I-87053W I-87053PW I-87053W-A2

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
Communication			
Interface	RS-485		
Format	N, 8, 1		
Baud Rate	1200 ~ 115200 bps		
Protocol	DCON		
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)		
LED Indicators/Display			
System LED Indicator	1 LED as Power/Communication Indicator		
I/O LED Indicator	16 LEDs as High/Low Alarm Signals		
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	0.8 W Max.		
Mechanical			
Dimensions (W x L x H)	30 mm x 102 mm x 115 mm		
Environment			
Operating Temperature	-25 ~ +75°C		
Storage Temperature	-40 ~ +85°C		
Humidity	10 ~ 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 ~ +75°C



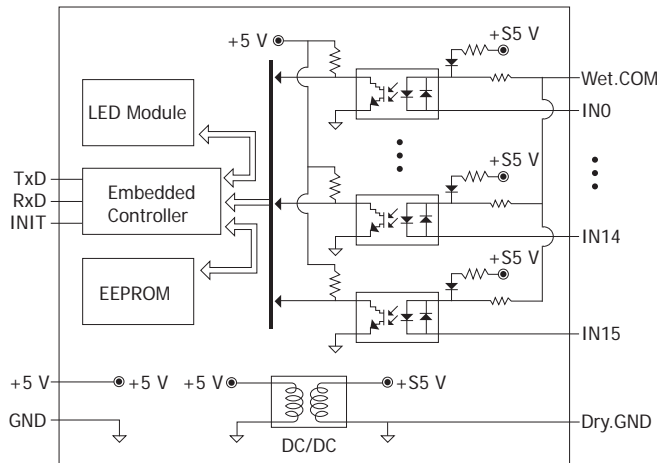
### Applications

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

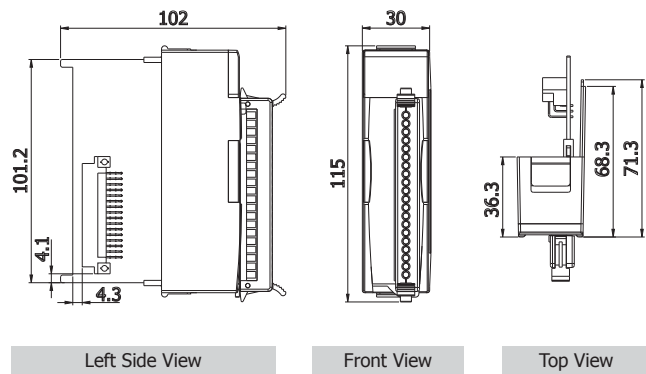
### I/O Specifications

Model		I-87053W	I-87053PW	I-87053W-A2
Digital Input				
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 ~ +50 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.		

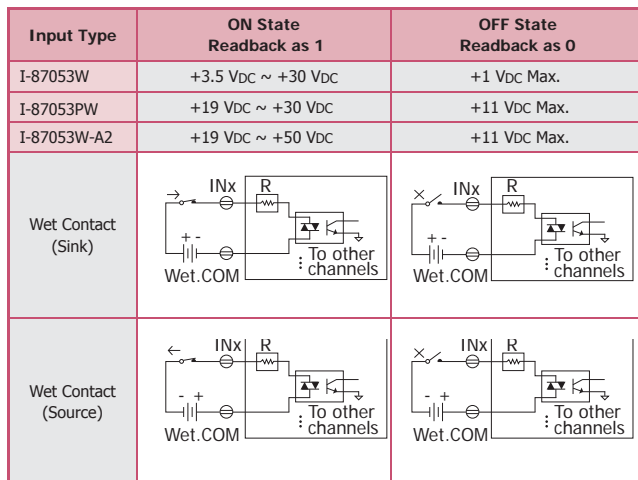
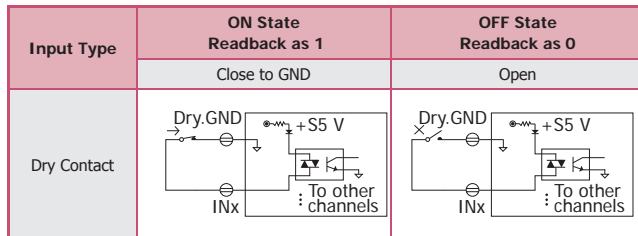
## Internal I/O Structure



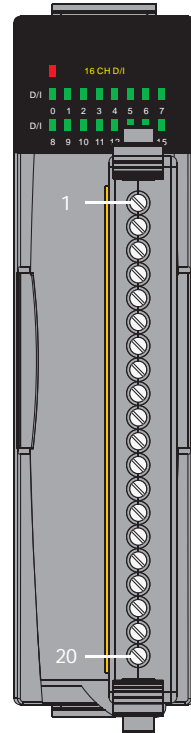
## Dimensions (Units: mm)



## Wire Connections



## Pin Assignments



Terminal No.	Pin Assignment
01	IN0
02	IN1
03	IN2
04	IN3
05	IN4
06	IN5
07	IN6
08	IN7
09	IN8
10	IN9
11	IN10
12	IN11
13	IN12
14	IN13
15	IN14
16	IN15
17	Wet.COM
18	Wet.COM
19	Dry.GND
20	Dry.GND

## Ordering Information

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