



## I-87053W-A5-G I-87053W-E5-G

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

### Introduction

The I-87053W-A5 and I-87053W-E5 provide 16 channels for high voltage digital input, each of which features photocouple isolation. The input voltage level can be as high as 150 VDC. 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 effective distance for dry contact is up to 500 meters. The I-87053W-A5 and I-87053W-E5 also provide 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.

### System Specifications

Model	I-87053W-A5	I-87053W-E5
<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.	0.3 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
- 150 VDC High-voltage Digital Inputs
- Photocouple Isolation
- Long Distance Measurement
- All Channels can be used as 16-bit Counters
- 4 kV ESD Protection
- 3750 VDC Intra-module Isolation
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



### Applications

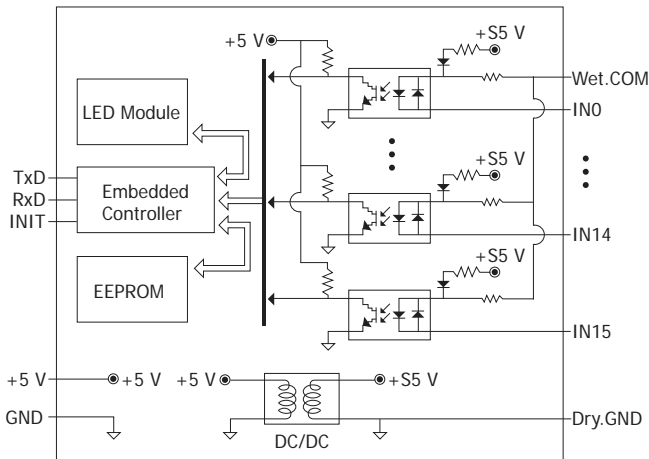
- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

### I/O Specifications

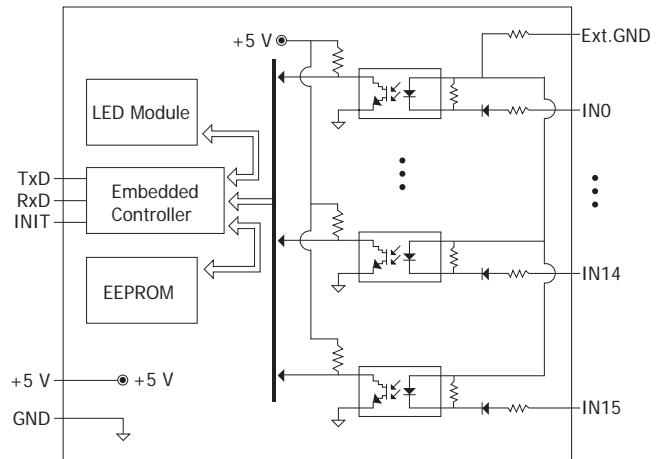
Model	I-87053W-A5	I-87053W-E5	
<b>Digital Input</b>			
Channels	16		
Type	Dry, Wet	Wet	
Sink/Source (NPN/PNP)	Sink, Source	Sink	
Dry Contact	ON Voltage Level	Close to GND	-
	OFF Voltage Level	Open	-
Wet Contact	ON Voltage Level	+68 VDC ~ +150 VDC	
	OFF Voltage Level	+48 VDC Max.	
Input Impedance	50 kΩ, 1 W	50 kΩ, 0.5 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	220 Vdc	150 Vdc	
Low Pass Filter	Yes		
Effective Distance for Dry Contact	500 m Max.	-	
Fuse Protection	-	Yes	

## Internal I/O Structure

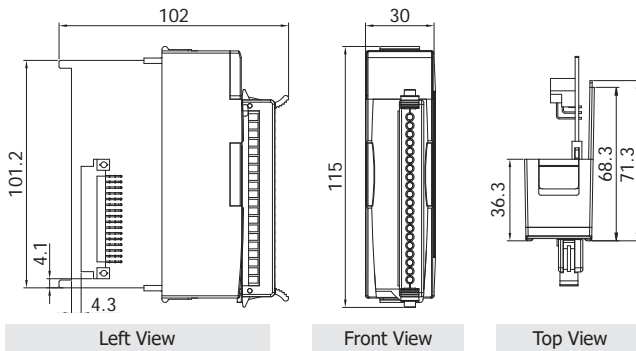
I-87053W-A5



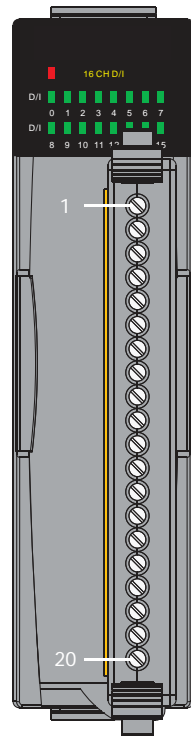
I-87053PW-E5



## Dimensions (Units: mm)



## Pin Assignments



Terminal No.	I-87053W-A5	I-87053PW-E5
	Pin Assignment	
01	IN0	IN0
02	IN1	IN1
03	IN2	IN2
04	IN3	IN3
05	IN4	IN4
06	IN5	IN5
07	IN6	IN6
08	IN7	IN7
09	IN8	IN8
10	IN9	IN9
11	IN10	IN10
12	IN11	IN11
13	IN12	IN12
14	IN13	IN13
15	IN14	IN14
16	IN15	IN15
17	Wet.COM	N.C.
18	Wet.COM	N.C.
19	Dry.GND	Ext.GND
20	Dry.GND	Ext.GND

## Wire Connections

I-87053W-A5		
Input Type	ON State Readback as 1	OFF State Readback as 0
Dry Contact	Close to GND 	Open 
Wet Contact (Sink)	+68 VDC ~ +150 VDC 	+48 VDC Max. 
Wet Contact (Source)	+68 VDC ~ +150 VDC 	+48 VDC Max. 

I-87053PW-E5		
Input Type	ON State Readback as 1	OFF State Readback as 0
Wet Contact (Sink)	+68 VDC ~ +150 VDC 	+48 VDC Max. 

## Ordering Information

<b>I-87053W-A5-G</b>	16-channel 68-150 VDC Isolated Digital Input Module with 16-bit Counters (Gray Cover) (RoHS)
<b>I-87053W-E5-G CR</b>	16-channel 68-150 VDC 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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