

### Features

- 16-channel Digital Input
- Dry Contact Digital Input Channels
- All Channels can be used as 16-bit Counters
- All Channels Non-isolated
- ±4 kV ESD Protection
- RoHS Compliant
- Wide Operating Temperature Range: -25 to +75°C



### Introduction

The I-87051W is a 16-channel Digital Input module for dry contact wire connections with an effective distance of up to 100 meters. All channels can be used as 16-bit counters and 4 kV ESD protection is provided. The I-87051W also includes 16 LED indicators that can be used to monitor the status of the Digital Input channels.

### Applications

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

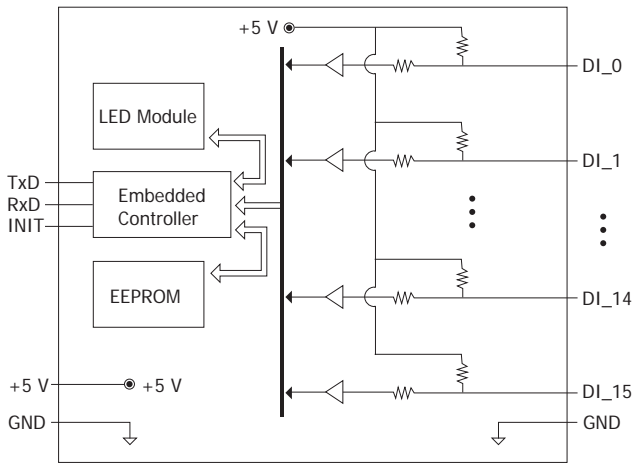
### System Specifications

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 Indicator	Yes, 1 as Power/Communication Indicator
I/O LED Indicators	16 as High/Low Alarm Signals
Isolation	
Intra-module Isolation, Field-to-Logic	-
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal
	±8 kV Air for Random Point
Power	
Power Consumption	0.5 W Max.
Mechanical	
Dimensions (L x W x H)	115 mm x 30 mm x 102 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-40 to +85°C
Humidity	10 to 95% RH, Non-condensing

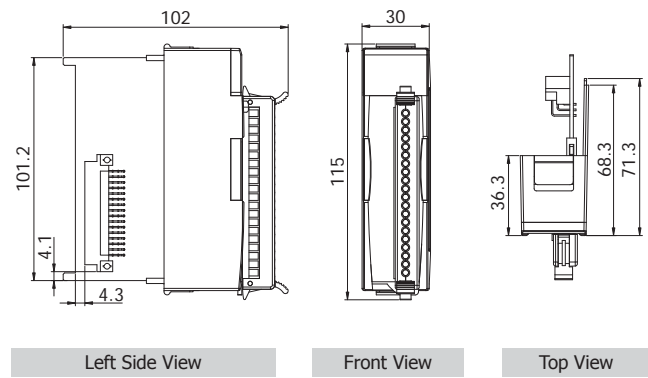
### I/O Specifications

Digital Input		
Channels	16	
Type	Dry Contact	
Sink/Source (NPN/PNP)	Source	
Dry Contact	ON Voltage Level	Close to GND
	OFF Voltage Level	Open
Wet Contact	ON Voltage Level	1 VDC Max.
	OFF Voltage Level	+3.5 VDC ~ +30 VDC
Counters	Channels	16
	Max. Count	16-bit (65535)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Channel-to-Channel Isolation	-	
Low Pass Filter	Yes	
Effective Distance for Dry Contact	100 m Max.	

### Internal I/O Structure



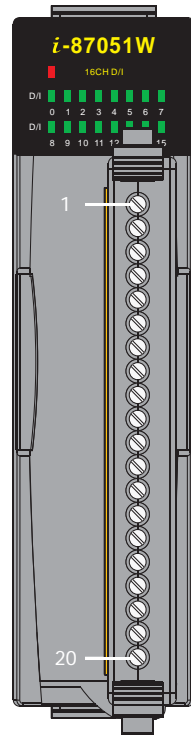
### Dimensions (Units: mm)



### Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
	Close to GND (+1 V <sub>DC</sub> Max.)	OPEN (+4 V <sub>DC</sub> ~ +30 V <sub>DC</sub> )
Dry Contact		

### Pin Assignments



Terminal No.	Pin Assignment
01	DI0
02	DI1
03	DI2
04	DI3
05	DI4
06	DI5
07	DI6
08	DI7
09	DI8
10	DI9
11	DI10
12	DI11
13	DI12
14	DI13
15	DI14
16	DI15
17	GND
18	GND
19	GND
20	GND

### Ordering Information

I-87051W-G CR	16-channel Non-isolated Digital Input Module using the DCON Protocol (Gray Cover) (RoHS)
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### Accessories

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