



I-87042W

16-channel Isolated Digital Input & 16-channel Isolated Digital Output Module

Introduction

I-87042W offers 16 channels for digital input and 16 channels for digital output. Each of which features Photo-couple isolation. I-87042W supports sink type output with short-circuits protection. There are options for Power-on value and safe value for your consideration. About Input, you can choose sink type or source type input by wire connection. All channels are able to be used as 16-bit counter. I-87042W also has 32 LED indicators for channel status. 4 kV ESD protection and 3750 VDC intra-module isolation are standard.

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)
Safe Value (When Host Fail or Communication Fail)	Yes
Power-on Preset Value	Yes
LED Indicators/Display	
System LED Indicators	Yes, 1 as Power/Communication Indicator
I/O LED Indicators	32 as Digital Input and 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	1.25 W, ±5% For Hardware
Mechanical	
Dimensions (L × W × H)	114 mm × 30 mm × 85 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-40 to +85°C
Humidity	10 to 95% RH, Non-condensing

Features

- Digital Input for Sink Type or Source Type
- Digital Outputs for Sink Type
- Power-on Value Setting
- Safe Value Setting
- Photocouple Isolation
- 4 kV ESD Protection
- 3750 VDC Intra-module Isolation
- RoHS Compliance
- Wide Operating Temperature Range: -25°C to +75°C



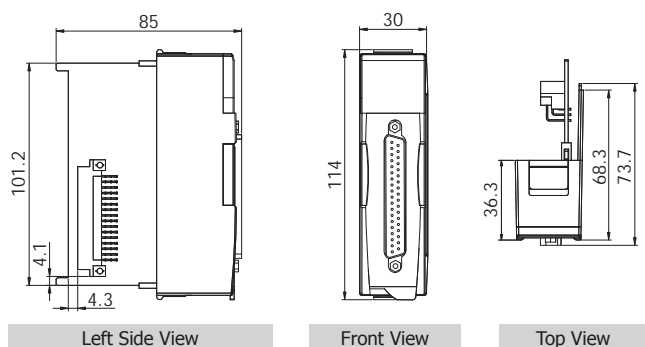
Applications

- Industrial Automation
- Industrial Machinery
- Building Automation
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

I/O Specifications

Digital Input	
Channels	16
Type	One common for all Inputs
Sink/Source (NPN/PNP)	Sink, Source
ON Voltage Level	+3.5 VDC ~ 30 VDC
OFF Voltage Level	+1 VDC Max.
Input Impedance	3 kΩ
Counter (100 Hz, 16-bit)	Yes
Channel-to-Channel Isolation	Yes
Digital Output	
Channels	16
Type	Open Collector
Sink/Source (NPN/PNP)	Sink
Load Voltage	+5 VDC ~ +30 VDC
Max. Load Current	100 mA/Channel
Overload Protection	Yes
Short Circuit Protection	-
Power-on Value	Yes
Safe Value	Yes

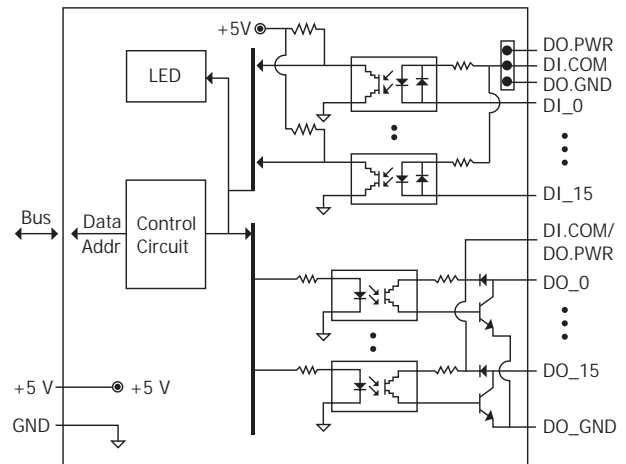
Dimensions (Units: mm)



Wire Connections

Select Type		
Source Type	Sink Type	
Input Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Relay Contact (Sink)		
TTL/CMOS Logic (Sink)		
NPN Output (Sink)		
PNP Output (Sink)		
Input Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Relay Contact (Source)		
TTL/CMOS Logic (Source)		
NPN Output (Source)		
PNP Output (Source)		
Output Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Drive Relay		
Resistance Load		

Internal I/O Structure



Pin Assignments

Pin Assignment	Terminal	No.	Pin Assignment
DI.COM/DO.PWR	19	37	DI.COM/DO.PWR
DO.GND	18	36	DO.GND
DO.GND	17	35	DO_15
DI_15	16	34	DO_14
DI_14	15	33	DO_13
DI_13	14	32	DO_12
DI_12	13	31	DO_11
DI_11	12	30	DO_10
DI_10	11	29	DO_9
DI_9	10	28	DO_8
DI_8	09	27	DO_7
DI_7	08	26	DO_6
DI_6	07	25	DO_5
DI_5	06	24	DO_4
DI_4	05	23	DO_3
DI_3	04	22	DO_2
DI_2	03	21	DO_1
DI_1	02	20	DO_0
DI_0	01		

37-pin Male D-Sub Connector

Ordering Information

I-87042W-G CR	16-channel Isolated Digital Input & 16-channel Isolated Digital Output Module (Gray Cover) (RoHS)
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Accessories

	DN-8K16P16R	16 channel input terminals and 16 channel relay outputs board
	DN-37-A	I/O Connector Block with DIN-Rail Mounting and 37-pin D-sub Connector (pitch: 5.08 mm)
	DN-37-381-A	I/O Connector Block with DIN-Rail Mounting and 37-pin D-sub Connector (pitch: 3.81 mm)
	CA-3705A	Male-Female D-sub Cable 0.5 m
	CA-3710A	Male-Female D-Sub Cable 1 m

	CA-3715A	Male-Female D-Sub Cable 1.5 m
	SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
	I-87042W + DN-8K16P16R	