



**I-87040**      **I-87040-G**  
 32-ch Isolated DI (3.5 ~ 30 Vdc) Module

### Features

- Sink- or Source-type Digital Inputs
- Photocouple Isolation
- All Channels can be used as 16-bit Counters
- Optional Daughter board connectivity
- 3750 Vdc Intra-module Isolation
- D-sub DB37 Wiring
- Dual Watchdog



### Introduction

The I-87040 offer 32 channels for digital input, each of which features photocouple isolation. Either sink- or source-type input can be selected via wire connections. All channels are able to be used as 16-bit counters and 32 LED indicators that can be used for monitoring DI channel status are also provided, together with 3750 V<sub>DC</sub> intra-module isolation. Paired with a daughter board such as the DN-37-381-A, wiring is easier than ever.



I-8040, I-8041, I-8042, I-87040, I-87041 with  
 DN-37-381-A & DB37 Male to Female Cable  
 (Optional)

I-8040, I-8041, I-8042, I-87040, I-87041 with  
 DN-37-A & DB37 Male to Female Cable  
 (Optional)

### System Specifications

CPU Module	
Watchdog Timer	Yes, Module (1.6 Seconds), Communication (Programmable)
Isolation	
Intra-module Isolation	3750 V <sub>rms</sub>
LED Indicators	
Status	1 x Power and Communication 32 x I/O
COM Ports	
Baud Rate	115200 bps
Data Format	N, 8, 1
Protocol	DCON
Power	
Power Consumption	1.5 W Max.
Mechanical	
Dimensions (W x L x H)	31 mm x 114 mm x 66 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +75 °C
Humidity	5 ~ 95% RH, Non-condensing

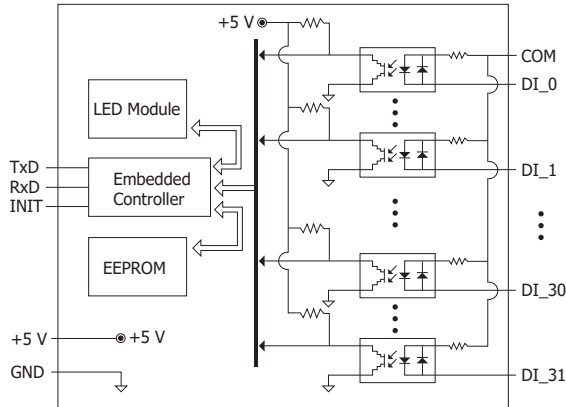
### Applications

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

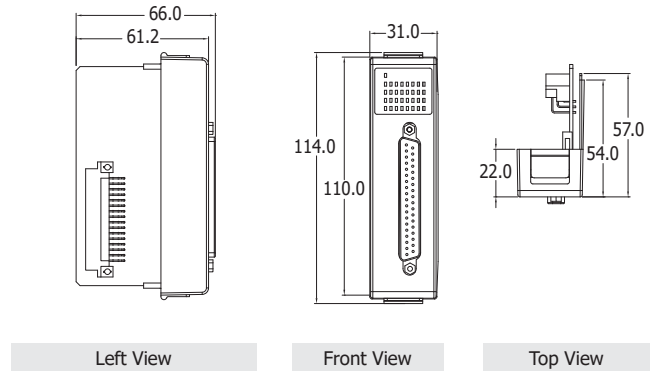
### I/O Specifications

Digital Input	
Low Pass Filter	Yes
Digital Input/Counter	
Channels	32
Type	Wet Contact
Sink/Source (NPN/PNP)	Sink, Source
Wet Contact, ON Voltage Level	+3.5 V <sub>dc</sub> ~ +30 V <sub>dc</sub>
Wet Contact, OFF Voltage Level	+1 V <sub>dc</sub> Max.
Max. Counts	16-bit (65535)
Frequency	100 Hz
Min. Pulse Width	5 ms
Input Impedance	4.7 kΩ, 0.25 W
Overvoltage Protection	35 V <sub>dc</sub>

## Internal I/O Structure



## Dimensions (Units: mm)



## Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Sink	+4 ~ +30 VDC	OPEN or < +1 VDC
Source	+4 ~ +30 VDC	OPEN or < +1 VDC

## Pin Assignments

Pin Assignment	Terminal	No.	Pin Assignment
COM	19	37	COM
NC	18	36	NC
NC	17	35	DI_31
DI_15	16	34	DI_30
DI_14	15	33	DI_29
DI_13	14	32	DI_28
DI_12	13	31	DI_27
DI_11	12	30	DI_26
DI_10	11	29	DI_25
DI_9	10	28	DI_24
DI_8	09	27	DI_23
DI_7	08	26	DI_22
DI_6	07	25	DI_21
DI_5	06	24	DI_20
DI_4	05	23	DI_19
DI_3	04	22	DI_18
DI_2	03	21	DI_17
DI_1	02	20	DI_16
DI_0	01		

37-pin Male D-Sub Connector

## Ordering Information

<b>I-87040 CR</b>	32-ch Isolated DI (Wet, 3.5 ~ 30 V <sub>DC</sub> ) Module (Blue Cover) (RoHS) Includes CA-4002F (DB37 connector Female with plastic cover)
<b>I-87040-G CR</b>	32-ch Isolated DI (Wet, 3.5 ~ 30 V <sub>DC</sub> ) Module (Gray Cover) (RoHS) Includes CA-4002F (DB37 connector Female with plastic cover)

## Accessories

DN-8K32R CR	32-channel Relay Output Board (RoHS) Include: CA-3705A (DB37 Male to Female Cable, 90°, 0.5 M)
DN-37-A CR	Female DB37 to Screw Terminal Board (Pitch= 5.08 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male to Female Cable, 90°, 1 M)
DN-37-381-A CR	Female DB37 to Screw Terminal Board (Pitch=3.81 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male to Female Cable, 90°, 1 M)
CA-3705A CR CA-3710A CR CA-3715A CR	DB37 Male to Female Cable, 90°, 0.5 M/1 M/1.5 M (RoHS)
CA-3710AM CR CA-3720AM CR CA-3730AM CR CA-3750AM CR CA-37100AM CR	DB37 Male to Female, with Molded Cable, 45°, 1 M/2 M/3 M/5 M/10 M (RoHS)