



## I-87082W

2-channel Counter/Frequency Input Module

### Introduction

The I-87082W offers 2 high speed counter or frequency input channels and 2 digital output channels. Two types of digital input are provided, one for isolated input, and the other is for non-isolated input. The isolated input provides 3750 Vrms isolation voltage and the non-isolated input provides programmable threshold voltage level. The built-in digital filter is valid for both non-isolated and isolated input and can filter out noise where the high/low pulse width is smaller than the minimum high/low width of the digital filter. The maximum count is up to 32-bit and the maximum frequency is up to 100 kHz. The module also provides programmable alarm output with non-isolated open collectors.

### 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 Indicators	Yes, 1 as Power/Communication Indicator
I/O LED Indicators	8 as Counter/Frequency status Indicators
Isolation	
Intra-module Isolation, Field-to-Logic	3750 Vrms
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 × W × H)	115 mm × 30 mm × 102 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-40 to +85°C
Humidity	10 to 95% RH, Non-condensing

### Features

- 2-channel Counter/Frequency Input
- 32-bit Counter
- Isolated or Non-isolated Input
- Programmable Alarm Output
- Programmable Digital Filter
- Programmable Threshold Voltage Level
- Maximum Frequency of up to 100 kHz
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



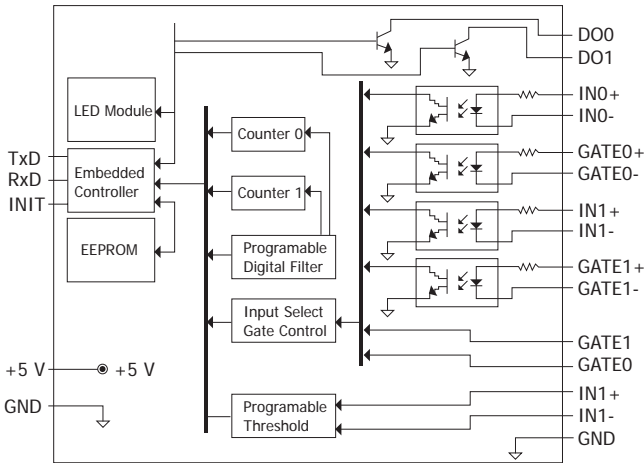
### Applications

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

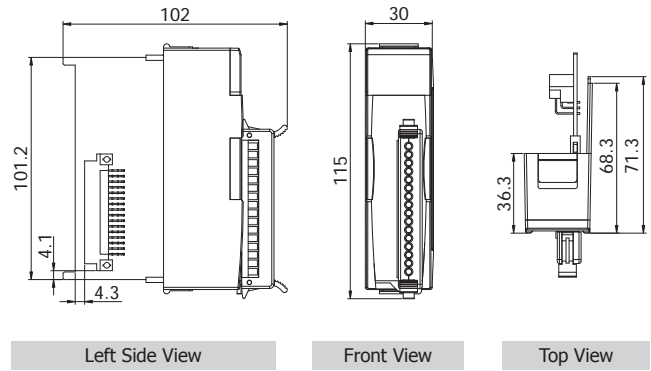
### I/O Specifications

Counter/Frequency Input		
Channels	2	
Type	Counter or Frequency	
Isolated	ON Voltage Level	+3.5 VDC ~ +30 VDC
	OFF Voltage Level	+1 VDC Max.
Non-isolated	ON Voltage Level	0 ~ +5 VDC (Default > 2.4 VDC)
	OFF Voltage Level	0 ~ +5 VDC (Default < 0.8 VDC)
	Threshold Voltage	Programmable
Counter	Up	
Max.Counts	32-bits (4,294,967,295)	
Max. Counter/Frequency	100 kHz	
Digital Filter	2 ~ 65000 μs	
Frequency Accuracy	1 Hz or 10 Hz (software selectable)	
Programmable Alarm Mode	Mode 0	High Alarm Comparator on Counter 0 and Counter 1
	Mode 1	Two Steps High Alarm Comparator on Counter 1
Virtual Battery Backup for Counter Value	-	
Digital Output		
Channels	2	
Type	Sink, Open Collector	
Output Voltage	+5 VDC ~ +30 VDC	
Output Current	30 mA	
Alarm Output	Yes	

### Internal I/O Structure



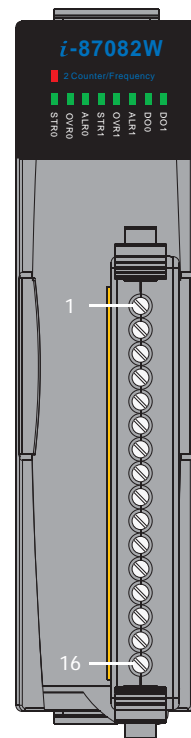
### Dimensions (Units: mm)



### Wire Connections

Counter Type		
Isolation	Non-Isolation	
Counter Input +  INx+ Counter Input -  INx- Gate Control+  GATEx+ Gate Control-  GATEx-	Counter Input +  INx Gate Control  GATEx Ground  D.GND	
Frequency Type		
Isolation	Non-Isolation	
Frequency Input +  INx+ Frequency Input -  INx- Don't be used  GATEx+ GATEx-	Frequency Input +  INx Don't be used  GATEx Frequency Input -  D.GND	
Output Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
	ON State	OFF State
Resistance Load		
Inductance Load		

### Pin Assignments



Terminal No.	Pin Assignment
01	DO0
02	DO1
03	IN0
04	GATE0
05	GND
06	IN1
07	GATE1
08	GND
09	IN0+
10	IN0-
11	GATE0+
12	GATE0-
13	IN1+
14	IN1-
15	GATE1+
16	GATE1-

### Ordering Information

I-87082W-G CR	2-channel Counter/Frequency Input Module (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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