



## Analog Input

RS-485 Remote I/O Modules



I-87017W

I-87017RW

8-channel Analog Input Module

### Features

- 8-channel Analog Input
- Voltage or Current Input
- 240 Vrms Overvoltage Protection
- Adjustable Sampling Rate
- 4 kV ESD Protection
- 3000 Vdc Intra-module Isolation
- RoHS Compliant
- Wide Operating Temperature Range: -25 to +75°C



### Introduction

The I-87017RW is an analog input module with an extremely high-quality protection mechanism where the overvoltage protection can be as high as 240 Vrms. The input type can be set to either voltage or current. The I-87017RW is an upgraded version of I-87017W, with the only differences being that the I-87017RW is more suitable for critically harsh environment. The sampling rate for the I-87017RW can be adjusted to either fast mode or normal mode depending on individual requirements. The I-87017RW also provides 4 kV ESD protection as well as 3000 Vdc intra-module isolation.

### Applications

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

I-87KW Series

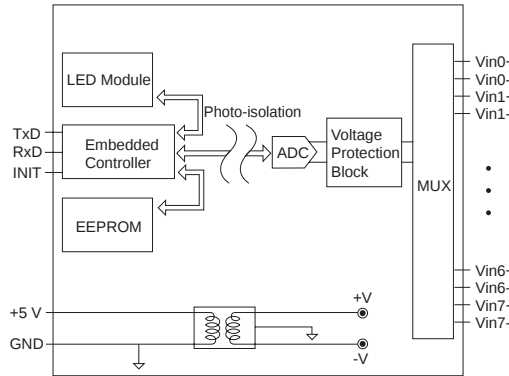
### System Specifications

| Model                                  | I-87017W                                                | I-87017RW |
|----------------------------------------|---------------------------------------------------------|-----------|
| 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                   | 1 LED as Power/Communication Indicator                  |           |
| I/O LED Indicator                      | 16 LEDs as High/Low Alarm Signals                       |           |
| Isolation                              |                                                         |           |
| Intra-module Isolation, Field-to-Logic | 3000 Vdc                                                |           |
| EMS Protection                         |                                                         |           |
| ESD (IEC 61000-4-2)                    | ±4 kV Contact for each Terminal                         |           |
|                                        | ±8 kV Air for Random Point                              |           |
| Power                                  |                                                         |           |
| Power Consumption                      | 1.3 W Max.                                              |           |
| Mechanical                             |                                                         |           |
| Dimensions (W x L x H)                 | 30 mm x 102 mm x 115 mm                                 |           |
| Environment                            |                                                         |           |
| Operating Temperature                  | -25 to +75°C                                            |           |
| Storage Temperature                    | -40 to +85°C                                            |           |
| Humidity                               | 10 to 95% RH, Non-condensing                            |           |

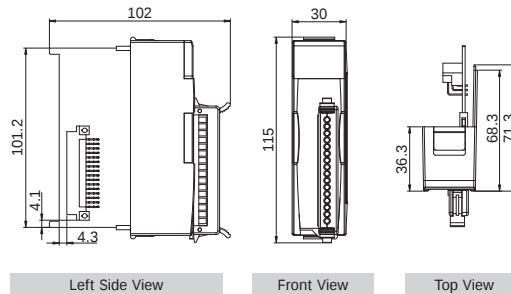
### I/O Specifications

| Model                  | I-87017W                                                                                                                               | I-87017RW     |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Analog Input</b>    |                                                                                                                                        |               |
| Channels               | 8                                                                                                                                      |               |
| Wiring                 | Differential                                                                                                                           |               |
| Range                  | ±10 Vdc, ±5 Vdc, ±1 Vdc<br>±500 mV, ±150 mV<br>0 ~ +20 mA, +4 ~ +20 mA, -20 mA ~ +20 mA<br>(Requires Optional External 125 Ω Resistor) |               |
| Resolution             | 16-bit                                                                                                                                 |               |
| Accuracy               | Normal Mode                                                                                                                            | ±0.1% of FSR  |
|                        | Fast Mode                                                                                                                              | ±0.5% of FSR  |
| Sampling Rate          | Normal Mode                                                                                                                            | 10 Hz (Total) |
|                        | Fast Mode                                                                                                                              | 50 Hz (Total) |
| -3dB Bandwidth         | Normal Mode                                                                                                                            | 15.7 Hz       |
|                        | Fast Mode                                                                                                                              | 78.7 Hz       |
| Zero Drift             | ±20 µV/°C                                                                                                                              |               |
| Span Drift             | ±25 ppm/°C                                                                                                                             |               |
| Common Mode Rejection  | 86 dB                                                                                                                                  |               |
| Normal Mode Rejection  | 100 dB                                                                                                                                 |               |
| Input Impedance        | 20 MΩ                                                                                                                                  | >2 MΩ         |
| Overvoltage Protection | -35 Vdc ~ +35 Vdc                                                                                                                      | 240 Vrms      |

## Internal I/O Structure

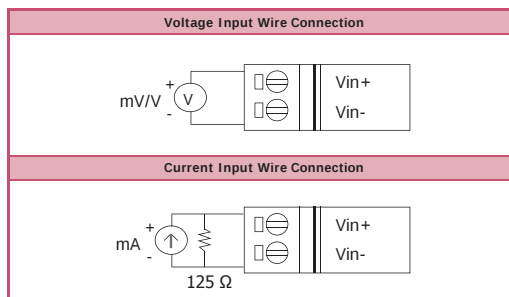


## Dimensions (Units: mm)



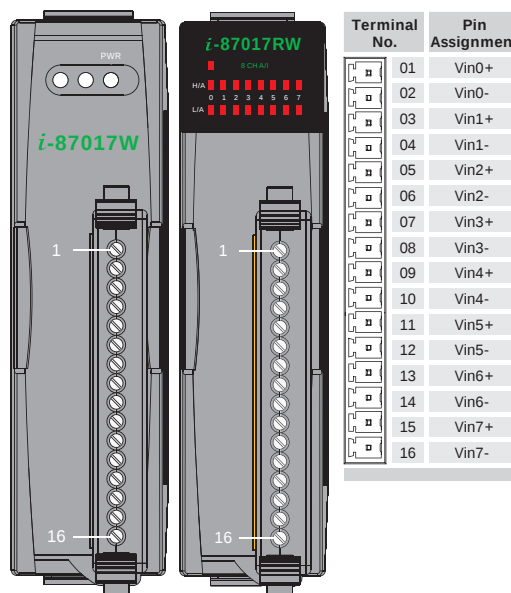
RS-485 Remote I/O Modules

## Wire Connections



Note: When connecting to a current source, an optional external 125 Ω resistor is required.

## Pin Assignments



I-87KW Series

## Ordering Information

|                |                                                                                    |
|----------------|------------------------------------------------------------------------------------|
| I-87017W-G CR  | 8-channel Analog Input Module (Gray Cover) (RoHS)                                  |
| I-87017RW-G CR | 8-channel Analog Input Module with High Overvoltage Protection (Gray Cover) (RoHS) |

## Accessories

|                          |                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------|
| DN-843V-600V CR          | 3-channel 600 V Voltage Attenuator (RoHS)                                                 |
| DN-848VI-80V CR          | 8-channel 80 V Voltage Attenuator (RoHS)                                                  |
| DN-848VI-150V CR         | 8-channel 150 V Voltage Attenuator (RoHS)                                                 |
| DN-843I-CT-1 CR          | 3-channel 1 A Current Transformer (RoHS)                                                  |
| DN-843I-CT-50 CR         | 3-channel 50 A Current Transformer (RoHS)                                                 |
| 125Ω, 0.1% DIP Resistors | Resistor used for Current Type I-87017/I-87018 Series Modules                             |
| SG-770 CR                | 7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)                  |
| SG-3000 series           | Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input |

I-87017W/I-87017RW