



I-87017RCW-G

4-port Digital Temperature Sensor Module with Daisy-Chain Wiring

Introduction

The I-87017RCW is an 8-channel current input module that is specifically designed to measure current only. Its user-friendly design saves both time and effort when measuring a current thanks to a built-in resistor, meaning that current can now be measured directly. The I-87017RCW is much more suitable for critically harsh environments since it also has 4 kV ESD protection and +/-200 VDC common voltage as current input protection, and also features 3000 VDC intra-module isolation together with open wire detection for +4 to +20 mA input. The sampling rate for the I-87017RCW is adjustable, meaning that either fast mode or normal mode can be selected.

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	16 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 (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

- 8 Current Input Channels
- ±200 VDC Common Voltage Protection
- Supports both Fast and Normal Mode Sampling Rates
- Overcurrent Protection
- Built-in Resistor to simplify Current Measurement
- Open Wire Detection for +4 to +20 mA input
- 3000 VDC Intra-module Isolation
- 4 kV ESD Protection
- RoHS Compliant
- Wide Operating Temperature Range: -25 to +75°C



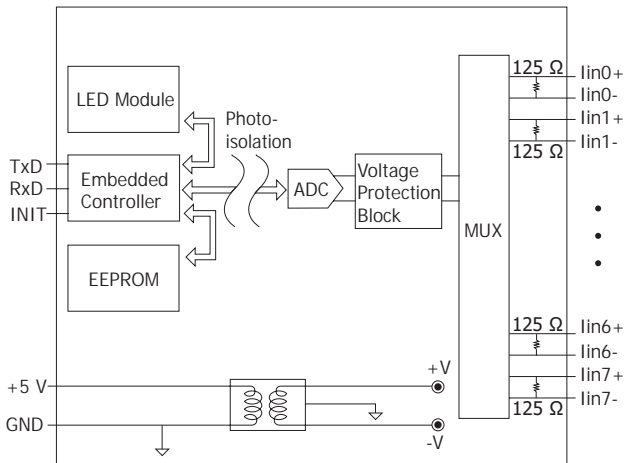
Applications

- Current Measurement
- Voltage Measurement
- Environment Monitoring
- Tunnel Monitoring
- Building Monitoring

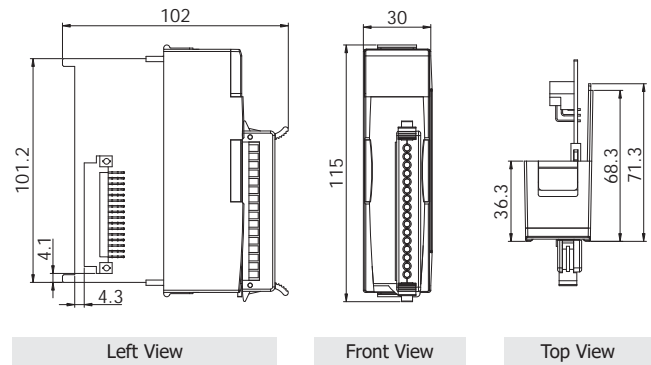
I/O Specifications

Analog Input		
Channels	8	
Wiring	Differential	
Range	0 ~ +20 mA, +4 ~ +20 mA, -20 mA ~ +20 mA (No External Resistor Required)	
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	60 Hz (Total)
-3dB Bandwidth	15.7 Hz	
Zero Drift	±20 µV/°C	
Span Drift	±25 ppm/°C	
Common Mode Rejection	86 dB	
Normal Mode Rejection	100 dB	
Input Impedance	125 Ω	
Common Voltage Protection	-200 VDC ~ +200 VDC	
Open Wire Detection	Yes, for +4 ~ +20 mA	
Overvoltage Protection	-	
Overcurrent Protection	Yes, 50 mA at 110 VDC	

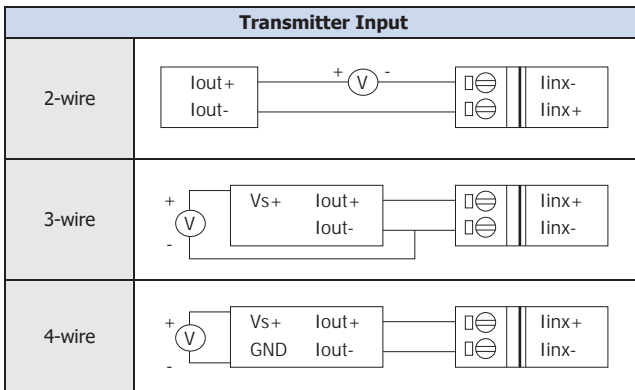
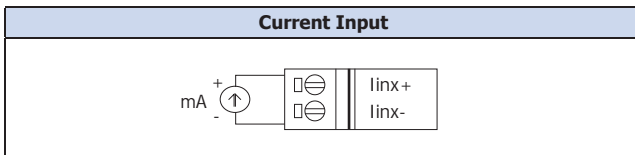
Internal I/O Structure



Dimensions (Units: mm)

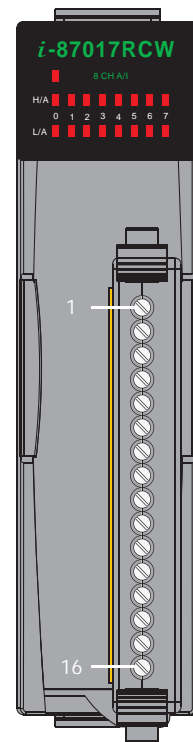


Wire Connections



Type	0D	07	1A
Signal	±20 mA	+4 ~ +20 mA	0 ~ +20 mA

Pin Assignments



Terminal No.	Pin Assignment
01	In0+
02	In0-
03	In1+
04	In1-
05	In2+
06	In2-
07	In3+
08	In3-
09	In4+
10	In4-
11	In5+
12	In5-
13	In6+
14	In6-
15	In7+
16	In7-

Ordering Information

I-87017RCW-G CR	8-channel Current Input Module with Overcurrent Protection using the DCON Protocol (Gray Cover) (RoHS)
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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)
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 Transformers