



I-87017W-RMS

8-channel High Voltage Analog Input Module

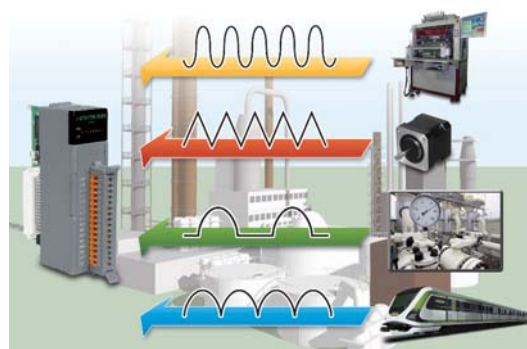
Features

- 8-channel True RMS Input
- $\pm 0.15\%$ Factory Calibrated Accuracy
- The RMS input range can be from $+150\text{ mVrms} \sim +10\text{ Vrms}$
- Standard Operation with Frequencies of $45\text{ Hz} \sim 10\text{ KHz}$
- 0.15% Additional Error to Crest Factor of 3
- 4 kV ESD and EFT Protection
- $\pm 35\text{ VDC}$ Overvoltage Protection



Introduction

The I-87017W-RMS is an 8-channel differential AC input module that is used to convert the AC input signals to the true RMS DC values. The RMS input range can be from $+150\text{ mV} \sim +10\text{ V}$, and each channel can be configured individually. The I-87017W-RMS is a complete, high-accuracy, RMS-to-DC converter that computes the true RMS DC value of any complex waveform. It also features 4 kV ESD protection, 3000 VDC intra-module isolation and $\pm 35\text{ VDC}$ overvoltage protection.



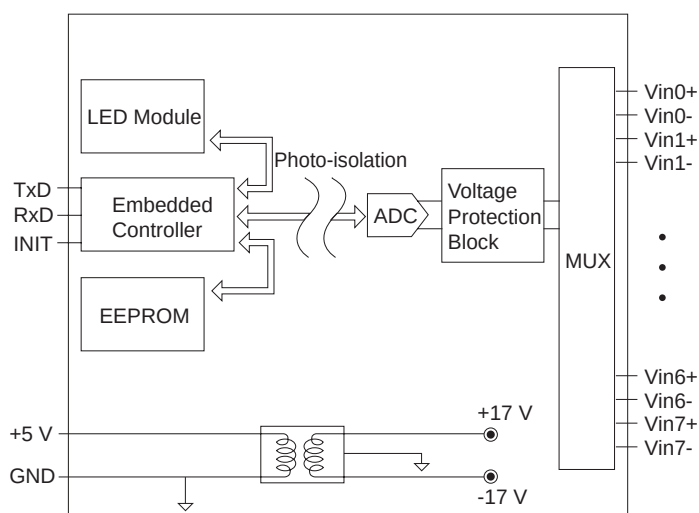
System Specifications

COM Port	
Ports	RS-485
Data Format	N, 8, 1
Baud Rate	1200 ~ 115200 bps
Protocol	DCON
CPU Module	
Dual Watchdog Timer	Module (1.6 Seconds), Communication (Programmable)
LED Indicators	
System LED Indicator	1 LED as Power Indicator
I/O LED Indicator	16 as High/Low Alarm Signals
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	$\pm 4\text{ kV}$ Contact for Each port, $\pm 8\text{ kV}$ Air for Random Poin
Power	
Consumption	1.0 W Max.
Mechanical	
Dimensions (W x L x H)	30 mm x 115 mm x 102 mm
Environment	
Operating Temperature	$-25 \sim +75\text{ }^{\circ}\text{C}$
Storage Temperature	$-40 \sim +85\text{ }^{\circ}\text{C}$
Humidity	10 ~ 95 % RH, Non-condensing

I/O Specifications

Analog Input		
Channels	8	
Wiring	Differential	
Range	$0 \sim +10\text{ Vrms}$, $0 \sim +5\text{ Vrms}$, $0 \sim +1\text{ Vrms}$, $0 \sim +500\text{ mVrms}$, $0 \sim +150\text{ mVrms}$	
Resolution	16-bit	
Accuracy	Sinusoid	
	50/60 Hz	$\pm 0.15\%$ of FSR
	45 Hz ~ 10 kHz	$\pm 0.5\%$ of FSR
	Non-Sinusoid	
	Crest Factor = 1 ~ 2	$\pm 0.2\%$ of FSR
	Crest Factor = 2 ~ 3	$\pm 0.35\%$ of FSR
	DC	
	$0 \sim +10/0 \sim +5/0 \sim +1\text{ Vrms}$	$\pm 0.3\%$ of FSR
	Other	$\pm 0.7\%$ of FSR
Sampling Rate	10 Hz (Total)	
-3dB Bandwidth	15.7 Hz	
Zero Drift	$\pm 20\text{ }\mu\text{V}/^{\circ}\text{C}$	
Span Drift	$\pm 25\text{ ppm}/^{\circ}\text{C}$	
Common Mode Rejection	86 dB	
Normal Mode Rejection	100 dB	
Input Impedance	$> 2\text{ M}\Omega$	
Individual Channel Configuration	Yes	
Overvoltage Protection	$\pm 35\text{ VDC}$	

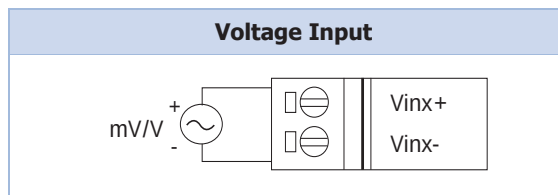
Internal I/O Structure



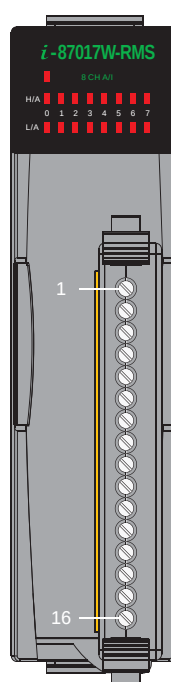
Applications

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

Wire Connections

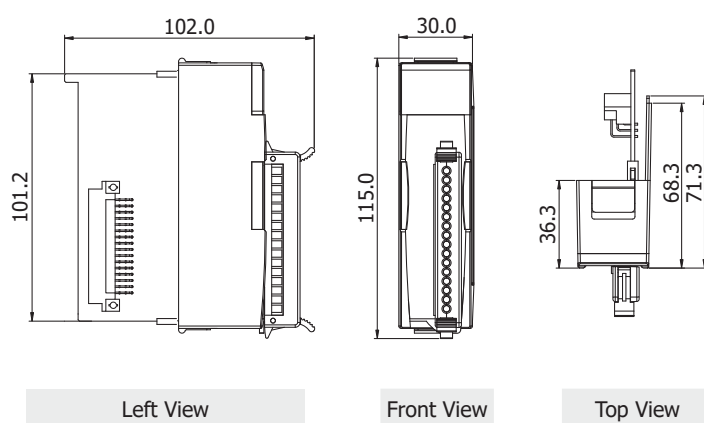


Pin Assignments



Terminal No.	Pin Assignment
01	Vin0+
02	Vin0-
03	Vin1+
04	Vin1-
05	Vin2+
06	Vin2-
07	Vin3+
08	Vin3-
09	Vin4+
10	Vin4-
11	Vin5+
12	Vin5-
13	Vin6+
14	Vin6-
15	Vin7+
16	Vin7-

Dimensions (Unit: mm)



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	7/14-channel Differential/Single-ended Surge Protector (RoHS)
	SG-3000 Series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers

Ordering Information

I-87017W-RMS-G CR	8-channel True RMS Input Module (RoHS)
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