I-87017W-RMS

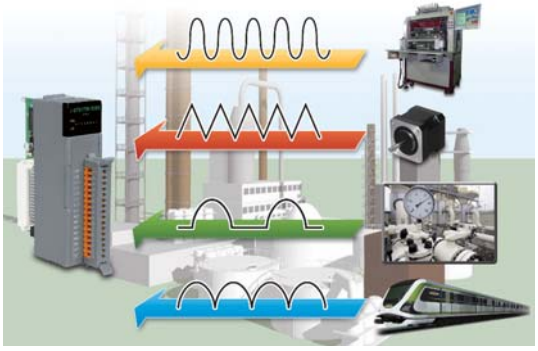
8-channel High Voltage Analog Input Module

Features

- 8-channel True RMS Input
- ±0.15 % Factory Calibrated Accuracy
- The RMS input range can be from +150 mVrms ~ +10 Vrms
- Standard Operation with Frequencies of 45 Hz ~ 10 KHz
- 0.15 % Additional Error to Crest Factor of 3
- 4 kV ESD and EFT Protection
- ±35 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 mV ~ +10 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 ±35 VDC overvoltage protection.



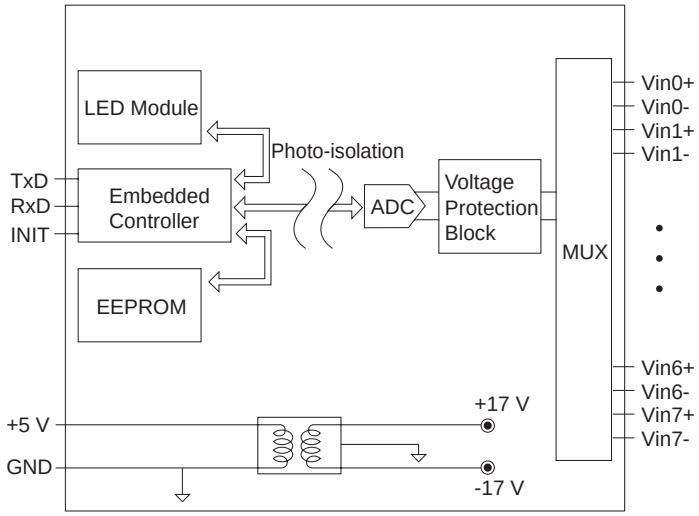
System Specifications

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)	±4 kV Contact for Each port, ±8 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 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95 % RH, Non-condensing

I/O Specifications

Analog Input		
Channels		8
Wiring		Differential
Range		0 ~ +10 Vrms, 0 ~ +5 Vrms, 0 ~ +1 Vrms, 0 ~ +500 mVrms, 0 ~ +150 mVrms
Resolution		16-bit
Accuracy	Sinusoid	
	50/60 Hz	±0.15 % of FSR
	45 Hz ~ 10 kHz	±0.5 % of FSR
	Non-Sinusoid	
	Crest Factor = 1 ~ 2	±0.2 % of FSR
	Crest Factor = 2 ~ 3	±0.35 % of FSR
	DC	
	0 ~ +10/ 0 ~ +5/ 0 ~ +1 Vrms	±0.3 % of FSR
	Other	±0.7 % of FSR
Sampling Rate		10 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		> 2 MΩ
Individual Channel Configuration		Yes
Overvoltage Protection		±35 VDC

Internal I/O Structure

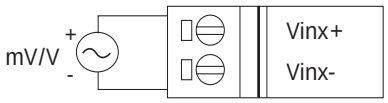


Applications

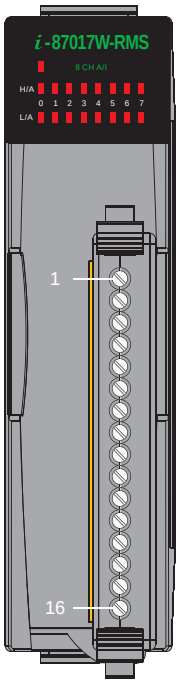
- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

Wire Connections

Voltage Input

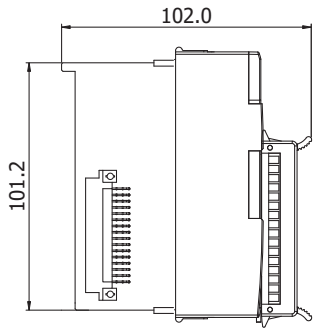


Pin Assignments

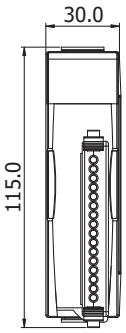


Terminal No.	Pin Assignment
01	Vin0+
02	Vin0-
03	Vin1+
04	Vin1-
05	Vin2+
06	Vin2-
07	Vin3+
08	Vin3-
09	Vin4+
10	Vin4-
11	Vin5+
12	Vin5-
13	Vin6+
14	Vin6-
15	Vin7+
16	Vin7-

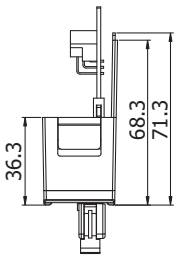
Dimensions (Unit: mm)



Left View



Front View



Top View

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)