

M-7017RMS

8-ch True RMS Input Module

Features

- 8 True RMS Inputs
- ±0.15% Factory Calibrated Accuracy
- The RMS Input Range Can be from +150 mVrms to +10 Vrms
- Designed for Standard Operating Frequencies of 45 Hz to 10 KHz
- Individual Channel Configurable

Introduction

The M-7017RMS is an 8-channel differential AC input module that is used to convert the AC input signals to their True RMS DC values. The RMS input range can be from +150 mVrms to +10 Vrms, and each channel can be configured individually. The M-7017RMS 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, 2500 VDC intra-module isolation and ±35 VDC overvoltage protection.

System Specifications

CPU Module	
Watchdog Timer	Module, Communication (Programmable)
Isolation	
Intra-module Isolation	2500 VDC
EMS Protection	
EFT (IEC 61000-4-4)	±4 kV for Power Line
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point
Surge (IEC 61000-4-5)	±0.5 kV for Power Line
LED Indicators	
Status	1 x Power and Communication
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	(N, 8, 1), (N, 8, 2), (E, 8, 1), or (O, 8, 1)
Protocol	Modbus RTU, DCON
Power	
Reverse Polarity Protection	Yes
Input Range	+10 ~ +30 VDC
Consumption	0.9 W
Mechanical	
Dimensions (mm)	72 x 123 x 35 (W x L x H)
Installation	DIN-Rail Mounting
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95% RH, Non-condensing

Applications

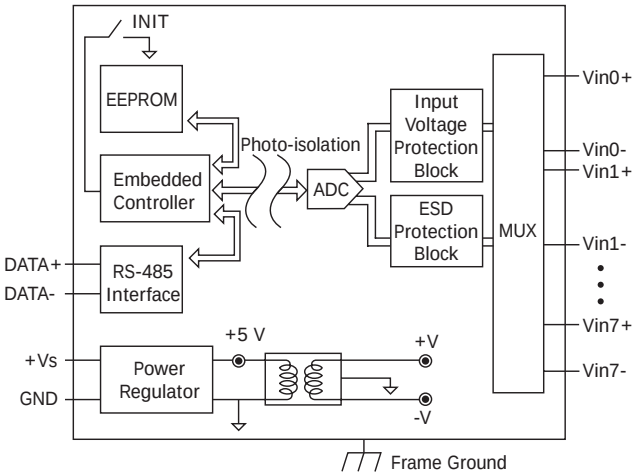
- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

I/O Specifications

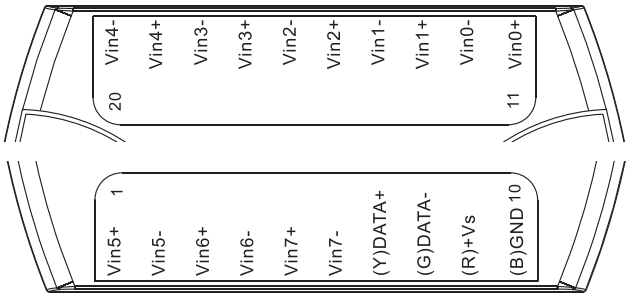
Analog Input		
Channels		8 Differential
Type		True RMS
Range		0 ~ +10 Vrms, 0 ~ +5 Vrms, 0 ~ +1 Vrms, 0 ~ +500 mVrms, 0 ~ +150 mVrms
Resolution		16-bit
Accuracy	**Sinusoid**	
	50/60 Hz	±0.15% of FSR
	45 Hz to 10 kHz	±0.5% of FSR
	Non-Sinusoid	
	Crest Factor = 1 to 2	±0.2% of FSR
	Crest Factor = 2 to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

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Internal I/O Structure

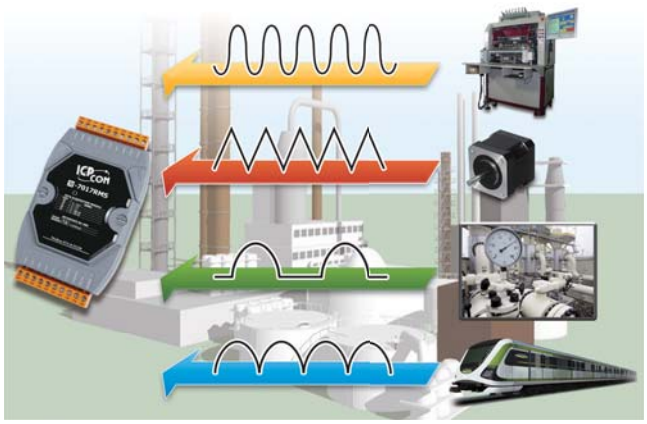


Pin Assignments



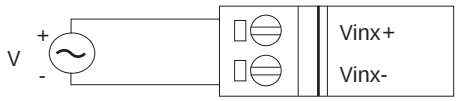
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- Remote Maintenance
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Wire Connections

Voltage Input



Ordering Information

M-7017RMS-G CR
8-ch True RMS Input Module using DCON and Modbus Protocols (Gray Cover) (RoHS)

Accessories

DN-843V-600V 	3-channel 600 VDC Voltage Attenuator with non-isolation
DN-848VI-80V CR 	8-channel 80 VDC Voltage Attenuator with channel to channel isolation (RoHS)
DN-848VI-150V CR 	8-channel 150 VDC Voltage Attenuator with channel to channel isolation (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 Surge Protector (RoHS)
SG-3000 series 	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers

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