



I-8017HCW | I-8017HW | I-8017DW

14-bit, 90 kS/s Sampling Rate Analog Input Module

Features

- 8 Differential/16 Single-ended Analog Input
- Voltage or Current Input
- 14-bit 100 KHz AD Converter
- Internal Trigger
- Individual Channel Confi guration
- 4 kV ESD Protection
- 2500 VDC Intra-module Isolatio
- Wide Operating Temperature Range: -25 ~ +75 °C

Introduction

The I-8017HCW, I-8017HW, and I-8017DW is a high performance Analog Input Module. Up to 16 single-ended or 8 differential input channels are provided with 14-bit of resolution and 90 kS/s sampling rate. Each channel can be confi gured to an individual input range of ±10 VDC, ±5 VDC, ±2.5 VDC, ±1.25 VDC or ±20 mA. The modules also provide ±4 kV ESD protection as well as 2500 VDC intra-module isolation. All the three modules can be used to measure voltage and current source.

On the I-8017HW, an external 125 Ω resistor is needed to measure current source.

On the I-8017HCW and I-8017DW, an internal resistor is jumper-selectable for differential current input. The jumper is factory default setting for voltage measurement on the I-8017HCW and I-8017DW.

Applications

- High speed data acquisition system
- Process monitor and control
- Vibration analysis
- Digital pattern generator from digital I/O port

System Specifications

Model	I-8017HCW	I-8017HW	I-8017DW
LED Display			
System LED Indicator	1 LED as Power Indicator		
I/O LED Indicator	16 LEDs as I/O Status Indicator		
Isolation			
Intra-module Isolation, Field-to-Logic	2500 VDC		
EMS Protection			
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal		
Power			
Consumption	2 W Max.		
Mechanical			
Dimensions (W x L x H, Unit:mm)	30 x 115 x 102		30 x 114 x 85
I/O Connector	20 Pin Terminal Block		D-Sub 37 Pin
Environment			
Operating Temperature	-25 ~ +75 °C		
Storage Temperature	-40 ~ +85 °C		
Humidity	10 ~ 90 % RH, Non-condensing		

I/O Specifications

Model		I-8017HCW	I-8017HW	I-8017DW
Analog Input				
Channels		16, Single-ended/ 8, Differential		
Range	Voltage	±10 VDC, ±5 VDC, ±2.5 VDC, ±1.25 VDC		
	Current	-20 mA ~ +20 mA, Jumper Selectable	-20 mA ~ +20 mA (Requires Optional External 125 Ω Resistor)	-20 mA ~ +20 mA, Jumper Selectable
Resolution		14-bit		
Sample Rate		Single Channel Polling Mode: 90 kS/s, Single Channel Interrupt Mode: 50 kS/s, 8 channel Scan Mode: 16 kS/s		
Accuracy		0.1 % of FSR		
Bandwidth		100 kHz		
Zero Drift		± 0.1 uV/°C		
Span Drift		± 10 ppm/°C		
Input Impedance		20 K, 200 K, 20 M (Jumper Selectable)		

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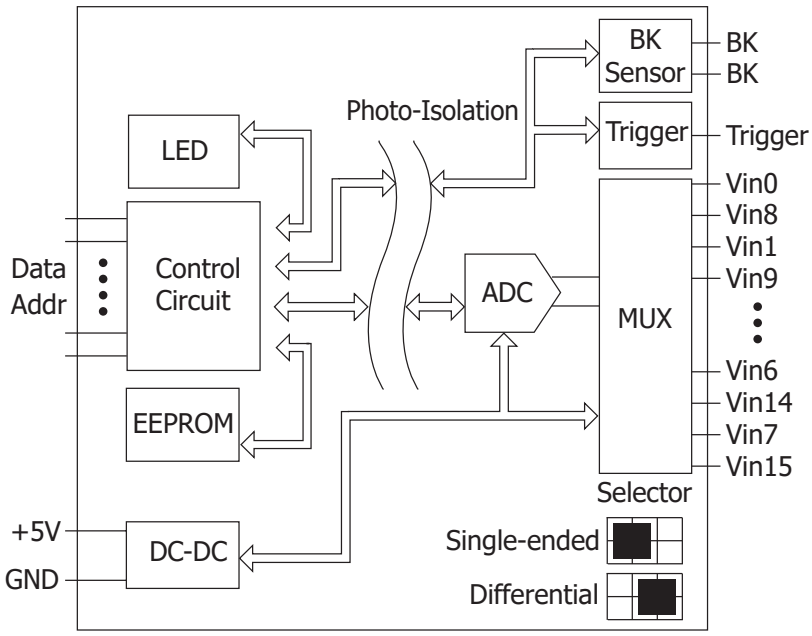
Pin Assignments

I-8017HCW/I-8017HW

Terminal No.	Pin Assignment	
	Differential	Single-ended
01	Trig (*)	Trig (*)
02	AGND	AGND
03	Vin0+	Vin0
04	Vin0-	Vin8
05	Vin1+	Vin1
06	Vin1-	Vin9
07	Vin2+	Vin2
08	Vin2-	Vin10
09	Vin3+	Vin3
10	Vin3-	Vin11
11	Vin4+	Vin4
12	Vin4-	Vin12
13	Vin5+	Vin5
14	Vin5-	Vin13
15	Vin6+	Vin6
16	Vin6-	Vin14
17	Vin7+	Vin7
18	Vin7-	Vin15
19	AGND	AGND
20	AGND	AGND

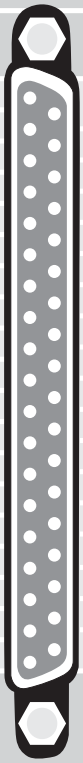
(*)Trig :: Reserve, no actually use yet."

Internal I/O Structure



I-8017DW

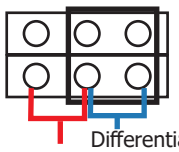
Pin Assignment		Terminal No.		Pin Assignment	
Differential	Single-ended			Differential	Single-ended
AGND	AGND	19	37	BK Sensor*	BK Sensor*
Trig	Trig	18	36	-	-
AI7-	AI15	17	35	-	-
AI7+	AI17	16	34	-	-
AI6-	AI14	15	33	-	-
AI6+	AI6	14	32	-	-
AI5-	AI13	13	31	-	-
AI5+	AI5	12	30	-	-
AI4-	AI12	11	29	-	-
AI4+	AI4	10	28	-	-
AI3-	AI11	09	27	-	-
AI3+	AI3	08	26	-	-
AI2-	AI10	07	25	-	-
AI2+	AI2	06	24	-	-
AI1-	AI9	05	23	-	-
AI1+	AI1	04	22	-	-
AI0-	AI8	03	21	AGND	AGND
AI0+	AI0	02	20	AGND	AGND
BK Sensor*	BK Sensor*	01			



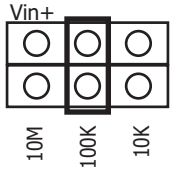
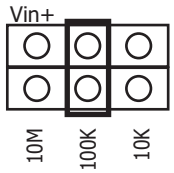
BK Sensor*:
Check the cable
is disconnected or not.

Jumper Selection

Input Type Selection

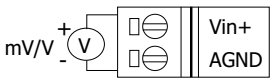
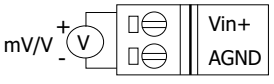
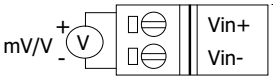
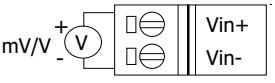
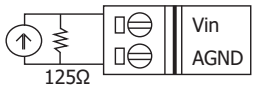
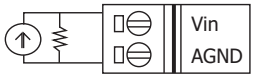
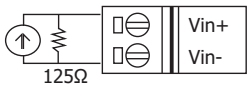
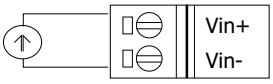
I-8017HW	JP2	
I-8017HCW	JP1	
I-8017DW		

Input Impedance Selection

I-8017HW	JP3	
I-8017HCW		
I-8017DW		
I-8017HW	JP4	
I-8017HCW	JP2	
I-8017DW		

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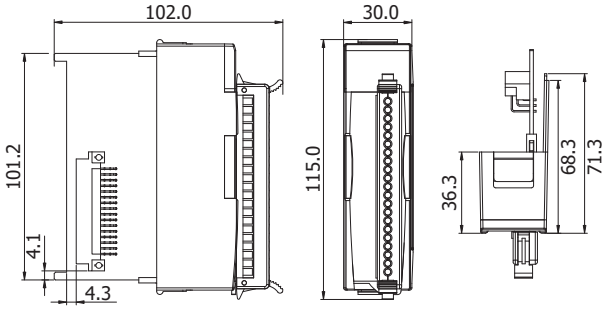
Wire Connections

Input Type	Single-ended		Differential	
	I-8017HCW/I-8017HW	I-8017DW	I-8017HCW/I-8017DW	I-8017HW
Voltage				
Current				

Differential Input Type: Current Input Wiring need to jumper at current input.
Single-ended Input Type: Current Input Wiring need to jumper at voltage input, an options external 125 Ω resistor is required

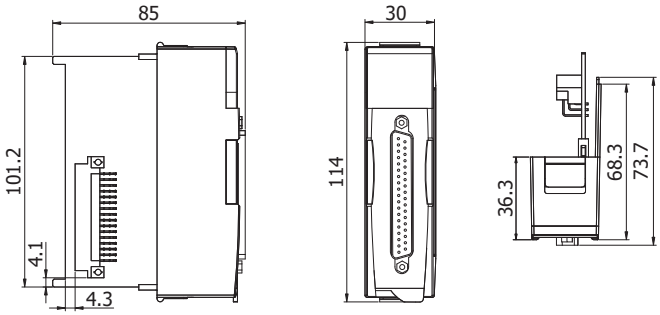
Dimensions (unit: mm)

I-8017HCW/I-8017HW



Left View | Front View | Top View

I-8017DW



Left View | Front View | Top View

Accessories

I-8017DW	
DN-37-A CR	
	Female DB37 to Screw Terminal Board (Pitch = 5.08 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male to Female Cable, 90º, 1 M)
DN-37-381-A CR	
	Female DB37 to Screw Terminal Board (Pitch = 3.81 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male to Female Cable, 90º, 1 M)
CA-3705A CR/CA-3710A/CA-3715A CR	
	DB37 Male to Female Cable, 90º, 0.5 M/1 M/1.5 M (RoHS)
CA-3710AM/CA-3720AM/CA-3730AM/ CA-3750AM/CA-37100AM CR	
	Female DB37 to Screw Terminal Board (Pitch = 5.08 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male to Female Cable, 90º, 1 M)

I-8017DW	
2AB125R	
	125 Ω, 0.1% DIP Resistor used for Current Type Input Modules

Ordering Information

I-8017HW-G CR	16/8-Channel Analog Input Module, 14-bit, 90 kS/s, Non-resistor (RoHS)
I-8017HCW-G CR	16/8-Channel Analog Input Module, 14-bit, 90 kS/s (RoHS)
I-8017DW-G CR	16/8-Channel Analog Input Module, 14-bit, 90 kS/s, DB37 (Famle) (RoHS)

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