I-8014W

250 kS/s,16-bit,16/8-channel
Voltage/Current Input Module

I-8014CW

250 kS/s,16-bit,8-channel
Current Input Module

Features

- Input Type
  I-8014W: 16 single-ended/8 differential input channels
  I-8014CW: 8 differential input channels
- Input Range
  I-8014W: ±1.25 V, ±2.5 V, ±5 V, ±10 V, ±20 mA
  I-8014CW: ±20 mA
- 16-bit, 250 kHz ADC converter
- 4 K-samples FIFO buffer
- External trigger mode: post-trigger
- Internal/external trigger start
- Magic Scan

Introduction

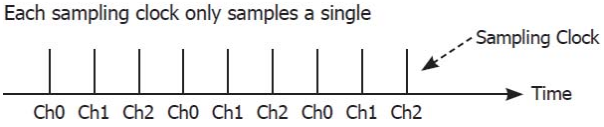
The I-8014W/I-8014CW is a high performance Analog Input module. The I-8014W provides up to 16 single-ended or 8differential input channels, while the I-8014CW provides up to 8 differential input channels. Both modules feature 16-bit resolution, 250 kS/s sampling rate, and a 4 k sample FIFO buffer, as well as providing 2500 VDC isolation protection.

The I-8014W/I-8014CW module contains an impressive scan function called Magic Scan, which is able to improve many of the functions and meet the demands of high-end users. Magic Scan function can scan the individual input channels at different input range and when performing single channel scan, the sampling rate can be maintained at 250 kS/s.

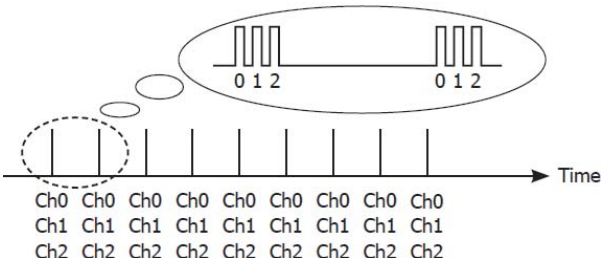
The Magic Scan function on the I-8014W/I-8014CW module can be operated in two ways. The first is a standard scan and the other is a Virtual Sample and Hold function. The cost of almost all AI Cards is high if it includes a Sample and Hold function, but ICP DAS can now offer a low-cost alternative.

Standard Mode

Each sampling clock only samples a single

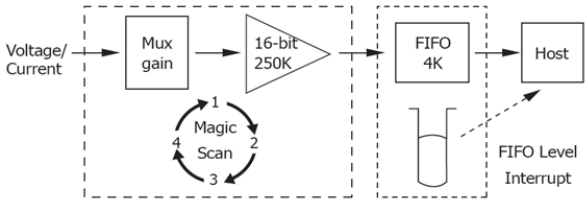


Virtual Sample and Hold Mode



The I-8014W/I-8014CW module includes a 4 k sample onboard FIFO buffer for A/D conversion. The new FIFO technology uses a trigger interrupt signal, meaning that if the sampled count is higher than the pre-defined FIFO level, an interrupt signal will notify the host.

With the Magic Scan function and 4 k FIFO buffer, the I-8014W/I-8014CW can easily implement high-accuracy, high-speed and time-critical data acquisition applications.



System Specifications

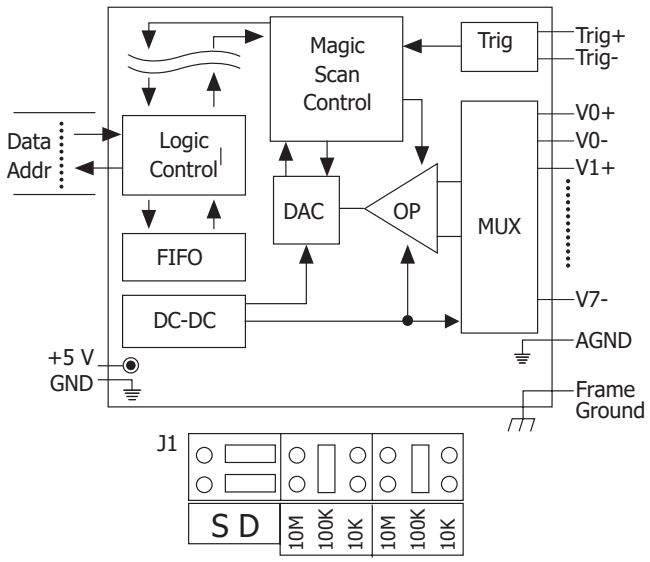
Model	I-8014W	I-8014CW
LED Display		
System LED Indicator	Yes	
Isolation		
Intra-module Isolation, Field-to-Logic	2500 VDC	
EMS Protection		
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal	
Power		
Consumption	2.5 W Max.	
Mechanical		
Dimensions (W x L x H)	30 mm x 102 mm x 115 mm	
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-30 ~ +80 °C	
Humidity	10 ~ 90 % RH, Non-condensing	

I/O Specifications

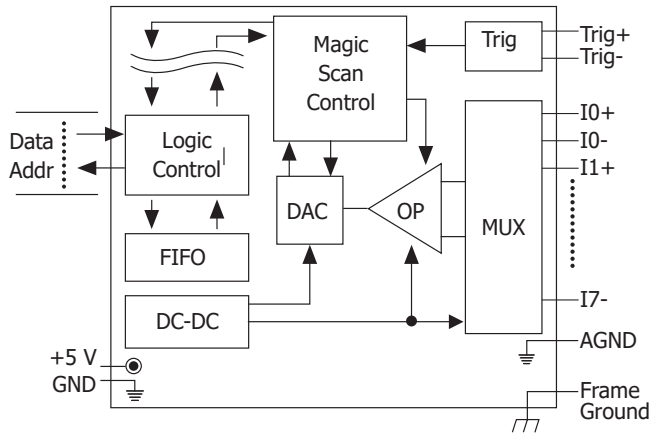
Model		I-8014W	I-8014CW
Analog Input			
Channel	Single-ended	16	-
	Differential	8	
Input Range	Voltage	±1.25 V, ±2.5 V, ±5 V, ±10 V	-
	Current	-20 ~ +20 mA (I-8014W requires Optional External 125 Ω Resistor)	
Resolution		16-bit	
Sample Rate		Single Channel Pacer Mode: 250 kS/s Single Channel Polling Mode: 45 kS/s 8 Channels Polling Mode: 25 kS/s	
FIFO Size		4 k words	
Accuracy		0.05 % of FSR	
Trigger Mode		Polling, Pacer (Magic Scan)	
Overvoltage protection		-45 ~ +60 VDC	
Input Impedance		20 K, 200 K, 20 M (Jumper Selectable)	125 Ω

Internal I/O Structure

I-8014W

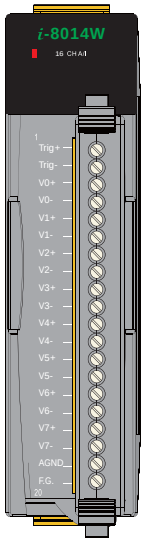


I-8014CW



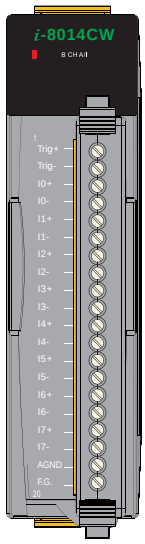
Pin Assignments

I-8014W



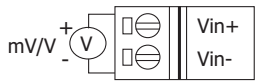
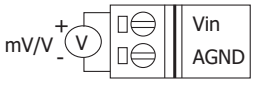
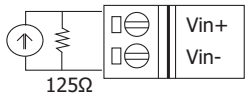
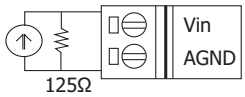
Terminal No.		Pin Assignment	
		Differential	Single-ended
	01	Trig+	Trig+
	02	Trig-	Trig-
	03	V0+	V0
	04	V0-	V8
	05	V1+	V1
	06	V1-	V9
	07	V2+	V2
	08	V2-	V10
	09	V3+	V3
	10	V3-	V11
	11	V4+	V4
	12	V4-	V12
	13	V5+	V5
	14	V5-	V13
	15	V6+	V6
	16	V6-	V14
	17	V7+	V7
	18	V7-	V15
	19	AGND	AGND
	20	F.G.	F.G.

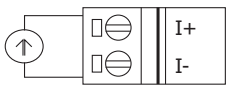
I-8014CW



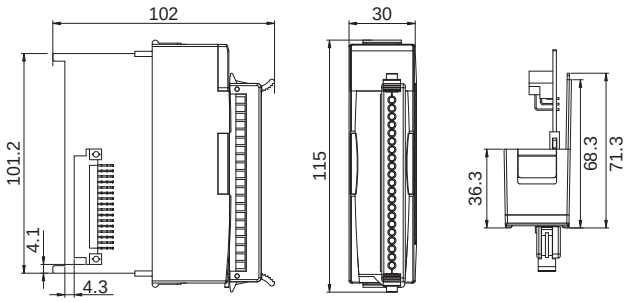
Terminal No.		Pin Assignment
	01	Trig+
	02	Trig-
	03	I0+
	04	I0-
	05	I1+
	06	I1-
	07	I2+
	08	I2-
	09	I3+
	10	I3-
	11	I4+
	12	I4-
	13	I5+
	14	I5-
	15	I6+
	16	I6-
	17	I7+
	18	I7-
	19	AGND
	20	F.G.

Wire Connections

I-8014W		
Input Type	**Differential**	**Singled-ended**
Voltage		
Current		

I-8014CW	
Input Type	**Differential**
Current	

Dimensions (Units: mm)



Left View | Front View | Top View

Ordering Information

I-8014W-G CR	16-bit, 250 K sampling rate, 16/8-channel Analog Input Module (RoHS)
I-8014CW-G CR	R 16-bit, 250 K sampling rate, 8-channel Analog Input Module (RoHS)