



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 diff erential input channels
I-8014CW: 8 diff erential input channels
- Input Range
I-8014W: $\pm 1.25\text{ V}$, $\pm 2.5\text{ V}$, $\pm 5\text{ V}$, $\pm 10\text{ V}$, $\pm 20\text{ mA}$
I-8014CW: $\pm 20\text{ mA}$
- 16-bit 250 kHz ADC converter
- 4 K-samples FIFO buffer
- External trigger mode: post-trigger
- Internal/external trigger start
- Magic Scan

Introduction

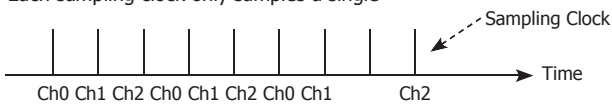
The I-8014W/I-8014CW is a high performance Analog Input module. The I-8014W provides up to 16 single-ended or 8 diff erential input channels, while the I-8014CW provides up to 8 diff erential input channels. Both modules feature 16-bit resolution, 250 kS/s sampling rate, and a 4 k sample FIFO buffer, 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 diff erent input range and when performing single channel scan, the sampling rate can be maintained at 250 kS/s.

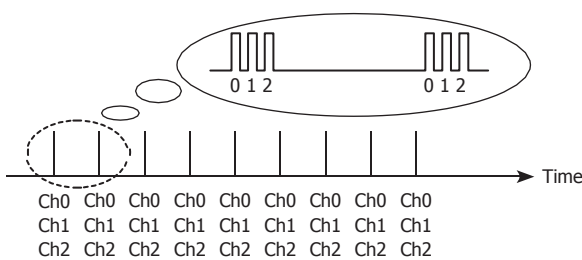
The Magic Scan function on the I-8014W/I-8014CW module can be operated in two ways. The first is a standard scan and the other is a Virtual Sample and Hold function. The cost of almost all AI Cards is high if it includes a Sample and Hold function, but ICP DAS can now offer a low-cost alternative.

Standard Mode

Each sampling clock only samples a single

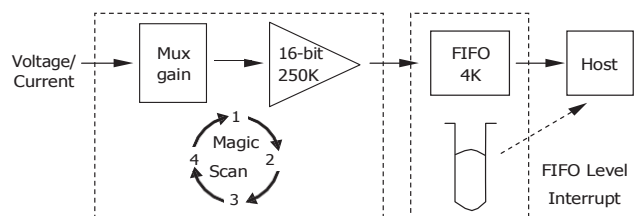


Virtual Sample and Hold Mode



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

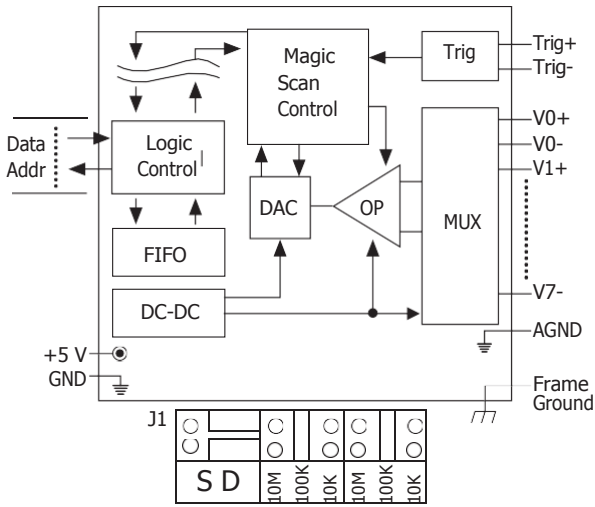
Model	I-8014W	I-8014CW
LED Display		
System LED Indicator	Yes	
Isolation		
Intra-module Isolation, Field-to-Logic	2500 VDC	
EMS Protection		
ESD (IEC 61000-4-2)	$\pm 4\text{ kV}$ Contact for each terminal	
Power		
Power Consumption	2.5 W Max.	
Mechanical		
Dimensions (W x L x H)	31 mm x 134 mm x 144 mm	
Environment		
Operating Temperature	$-25 \sim +75\text{ }^{\circ}\text{C}$	
Storage Temperature	$-30 \sim +80\text{ }^{\circ}\text{C}$	
Humidity	10 ~ 90% RH, Non-condensing	

I/O Specifications

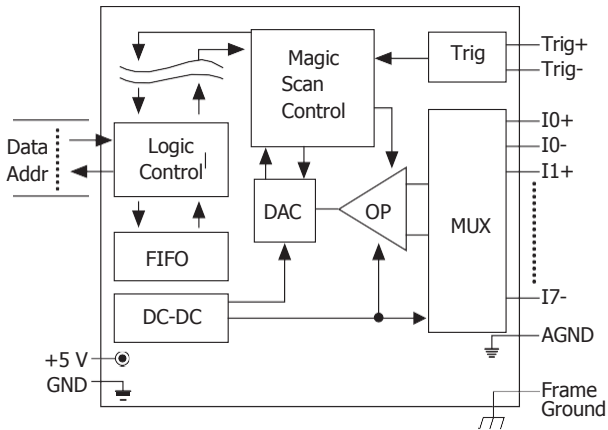
Model	I-8014W	I-8014CW
Analog Input		
Channels	16-ch Single-ended/ 8-ch Diff erential	8-ch Diff erential
Input Range	Voltage	$\pm 1.25\text{ V}$, $\pm 2.5\text{ V}$, $\pm 5\text{ V}$, $\pm 10\text{ V}$ -
	Current	$-20\text{ mA} \sim +20\text{ mA}$ (Requires Optional External 125 Ω Resistor)
Resolution	16-bit	
Sampling Rate	Single Channel Pacer Mode: 250 kS/s	
FIFO Size	4 K Words	
Accuracy	0.05 % of FSR	
Trigger Mode	Polling, Pacer (Magic Scan)	
Overvoltage protection	$-45 \sim +60\text{ VDC}$	
Input Impedance	20 K, 200 K, 20 M (Jumper Select)	125 Ω

Internal I/O Structure

I-8014W



I-8014CW



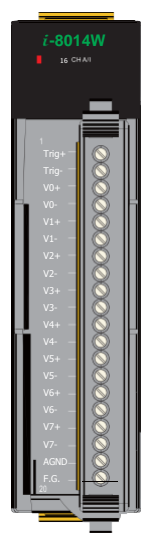
Wire Connections

I-8014W	
Input Type	Diff erential
Voltage Input Wiring	
Current Input Wiring	
Input Type	Single-ended
Voltage Input Wiring	
Current Input Wiring	

I-8014CW	
Input Type	Diff erential
Current Input Wiring	

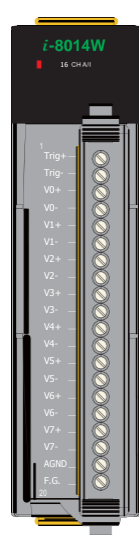
Pin Assignments

I-8014W



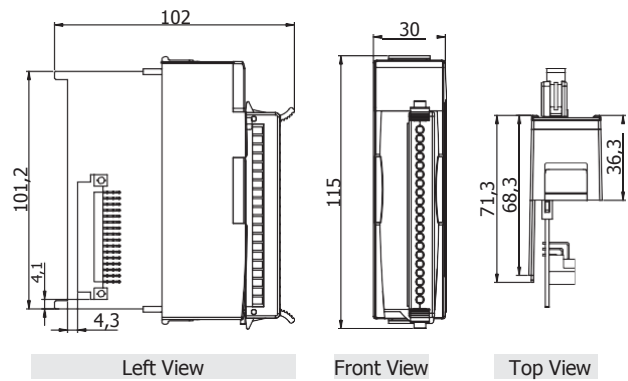
Terminal No.	Pin Assignment	
	Diff erential	Single-ended
01	Irig+	Irig+
02	Irig-	Irig-
03	V0+	V0
04	V0-	V8
05	V1+	V1
06	V1-	V9
07	V2+	V2
08	V2-	V10
09	V3+	V3
10	V3-	V11
11	V4+	V4
12	V4-	V12
13	V5+	V5
14	V5-	V13
15	V6+	V6
16	V6-	V14
17	V7+	V7
18	V7-	V15
19	AGND	AGND
20	F.G.	F.G.

I-8014CW



Terminal No.	Pin Assignment
01	Irig+
02	Irig-
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.

Dimensions (Units: mm)



Ordering Information

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