



I-8014W-G

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



I-8014CW-G

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

Introduction

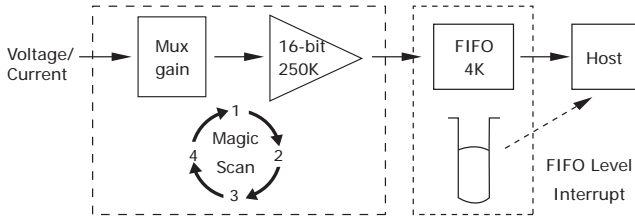
The I-8014W/I-8014CW is a high performance Analog Input module. The I-8014W provides up to 16 single-ended or 8 differential input channels, while the I-8014CW provides up to 8 differential input channels. Both modules feature 16-bit resolution, 250 kS/s sampling rate, and a 4 k sample FIFO buffer, as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

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	1 LED as Power Indicator	
I/O LED Indicator	-	
Isolation		
Intra-module Isolation, Field-to-Logic	2500 Vrms	
EMS Protection		
ESD (IEC 61000-4-2)	±4 kV Contact for each	
Power		
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	

Features

- I-8014W
 - 16 single-ended/8 differential input channels (jumper selectable)
 - Input Range: ±1.25 V, ±2.5 V, ±5 V, ±10 V, ±20 mA

- I-8014CW
 - 8 differential input channels
 - Input Range: ±20mA

- 16-bit 250 kHz ADC converter

- 4 K-samples FIFO buffer

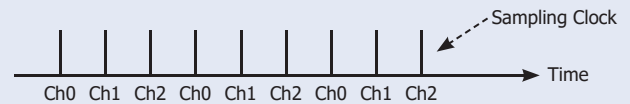
- External trigger mode : post-trigge

- Internal/external trigger start

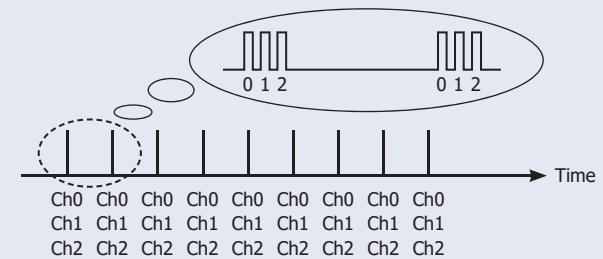
- Magic Scan

- Mode 1: Standard

- Each sampling clock only samples a single.



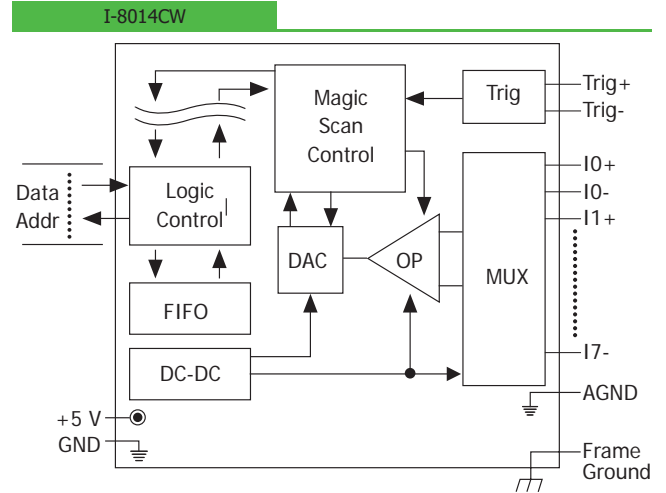
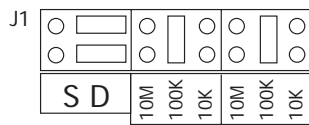
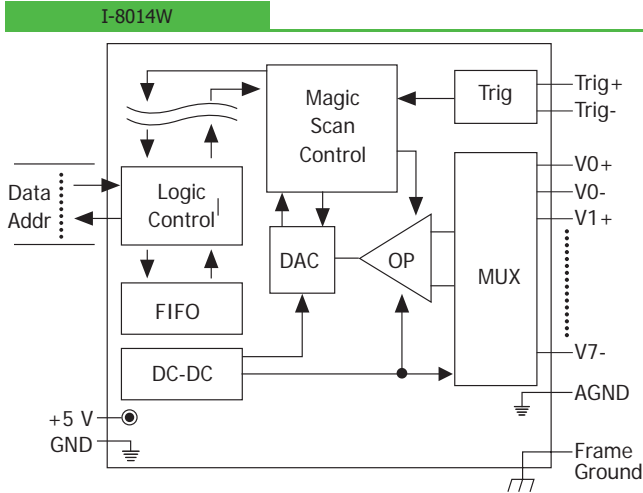
- Mode 2: Virtual Sample and Hold



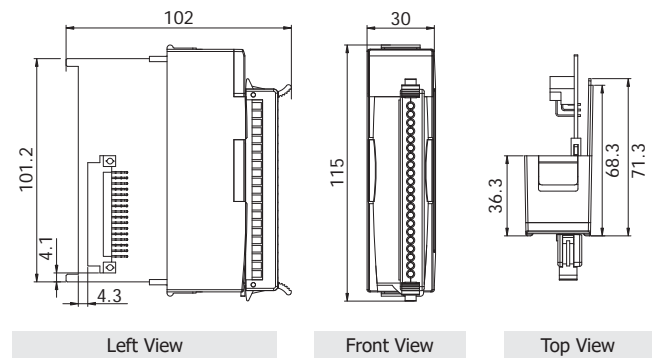
I/O Specifications

Model	I-8014W	I-8014CW
Analog Input		
Channels	16-ch Single-ended/8-ch Differential	8-ch Differential
Voltage Input Range	±10 VDC, ±5 VDC, ±2.5 VDC, ±1.25 VDC	-
Current Input Range	-20 mA ~ +20 mA (Requires Optional External 125 Ω Resistor)	-20 mA ~ +20 mA
Resolution	16-bit	
Sample Rate	Single Channel Polling Mode: 250 kS/s	
FIFO	4 K Words	
Accuracy	0.05% of FSR	
Input Mode	Polling , Pacer (Magic Scan)	
Magic Scan Mode	Mode1: standard mode Mode2: virtual sample and hold	
Overvoltage protection	-45 ~ +60 VDC	
Input Impedance	20 K, 200 K, 20 M (Jumper Select)	125 Ω

Internal I/O Structure



Dimensions (Units: mm)



Wire Connections

I-8014W	
Input Type	Differential
Voltage Input Wiring	
Current Input Wiring	
Input Type	Single-ended
Voltage Input Wiring	
Current Input Wiring	

I-8014CW	
Input Type	Differential
Current Input Wiring	

Pin Assignments

Terminal No.	Pin Assignment	
	I-8014W	I-8014CW
01	Trig+	Trig+
02	Trig-	Trig-
03	V0+	10+
04	V0-	10-
05	V1+	11+
06	V1-	11-
07	V2+	12+
08	V2-	12-
09	V3+	13+
10	V3-	13-
11	V4+	14+
12	V4-	14-
13	V5+	15+
14	V5-	15-
15	V6+	16+
16	V6-	16-
17	V7+	17+
18	V7-	17-
19	AGND	AGND
20	F.G.	F.G.

Ordering Information

I-8014W-G CR	16-bit, 250 k sampling rate, 16/8-channel voltage/current input module (Gray Cover) (RoHS)
I-8014CW-G CR	16-bit, 250 k sampling rate, 8-channel current input module (Gray Cover) (RoHS)