



I-9014

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



I-9014C

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

Introduction

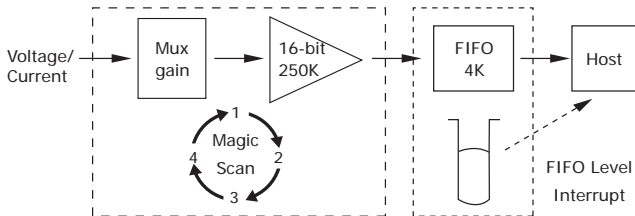
The I-9014/I-9014C is a high performance Analog Input module. The I-9014 provides up to 16 single-ended or 8 differential input channels, while the I-9014C provides up to 8 differential input channels. Both modules feature 16-bit resolution, 250KS/s sampling rate, and a 4 k sample FIFO buffer, as well as providing 2500 VDC isolation protection.

The I-9014/I-9014C 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 250KS/s.

The Magic Scan function on the I-9014/I-9014C 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 lowcost alternative.

The I-9014/I-9014C 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-9014/I-9014C can easily implement high-accuracy, high-speed and time-critical data acquisition applications.



System Specifications

Model	I-9014	I-9014C
LED Display		
System LED Indicator	Yes	
I/O LED Indicator	-	
Isolation		
Intra-module Isolation, Field-to-Logic	2500 Vdc	
EMS Protection		
ESD (IEC 61000-4-2)	-	
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 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 90% RH, Non-condensing	

Features

- I-9014
 - 16 single-ended/8 differential input channels (jumper selectable)
 - Input Range: ± 1.25 V, ± 2.5 V, ± 5 V, ± 10 V, ± 20 mA

- I-9014C
 - 8 differential input channels
 - Input Range: ± 20 mA

- 16-bit 250 kHz ADC converter

- 4 K-samples FIFO buffer

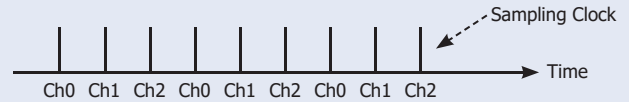
- External trigger mode: post-trigge

- Internal/external trigger start

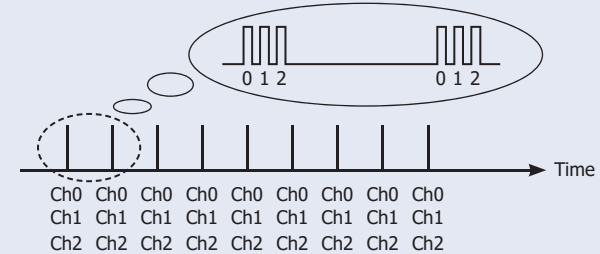
- Magic Scan

- Mode 1: Standard

Each sampling clock only samples a single.



- Mode 2: Virtual Sample and Hold



Applications

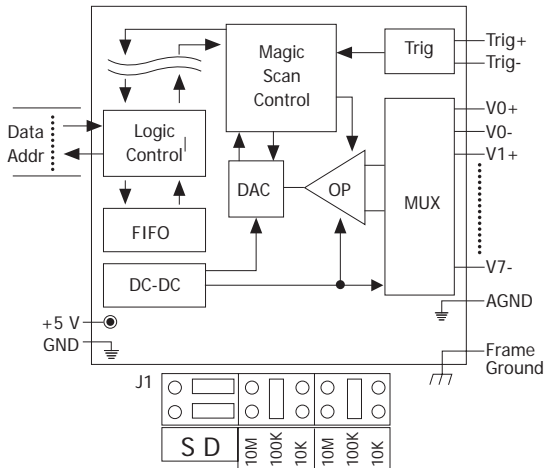
- High speed data acquisition systems
- Vibration analysis

I/O Specifications

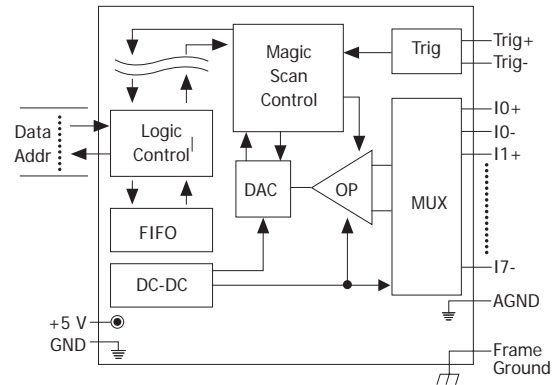
Model	I-9014	I-9014C
Analog Output		
Channels	16-ch Single-ended/ 8-ch Differential	8-ch Differential
Voltage Input Range	± 1.25 , ± 2.5 , ± 5 V, ± 10 V	-
Current Input Range	-20 mA ~ +20 mA (Requires Optional External 125 Ω Resistor)	-20 mA ~ +20 mA
Resolution	16-bit	
Sample Rate	Single Channel Polling 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

I-9014



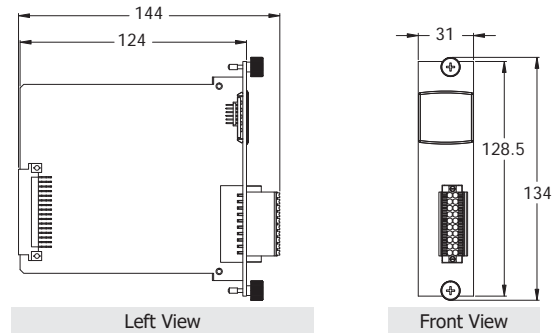
I-9014C



Wire Connections

I-9014	
Input Type	Differential
Voltage Input Wiring	
Current Input Wiring	
Input Type	Single-ended
Voltage Input Wiring	
Current Input Wiring	

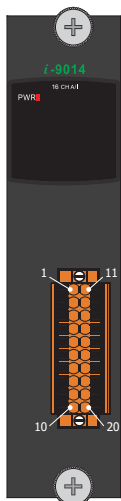
Dimensions (Units: mm)



I-9014C	
Input Type	Differential
Current Input Wiring	

Pin Assignments

I-9014



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

I-9014C



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

Ordering Information

I-9014 CR	16-bit, 250 K sampling rate, 16/8-channel analog input module (RoHS)
I-9014C CR	16-bit, 250 K sampling rate, 8-channel analog input module (RoHS)