

## Introduction

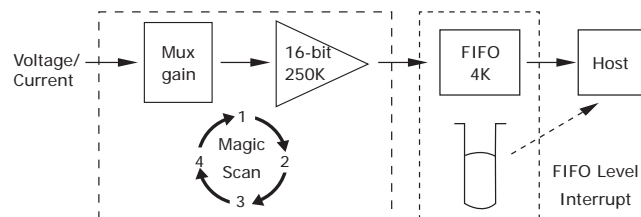
The I-9014/I-9014C is a high performance Analog Input module. The I-9014 provides up to 16 single-ended or 8 differential input channels, while the I-9014C provides up to 8 differential input channels. Both modules feature 16-bit resolution, 250kS/s sampling rate, and a 4 k sample FIFO buffer, as well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

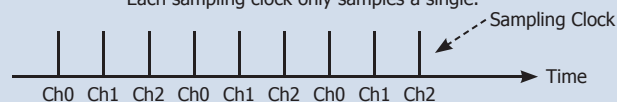
Model	I-9014	I-9014C
LED Indicators		
Power LED Indicator	Yes	
I/O LED Indicator	-	
Isolation		
Intra-module Isolation, Field-to-Logic	2500 Vrms	
Power		
Power Consumption	2.5 W Max.	
Mechanical		
Dimensions (L x W x H)	144 mm x 31 mm x 134 mm	
Environment		
Operating Temperature	-25 ~ +75°C	
Storage Temperature	-40 ~ +85°C	
Humidity	10 ~ 90% RH, Non-condensing	

## Features

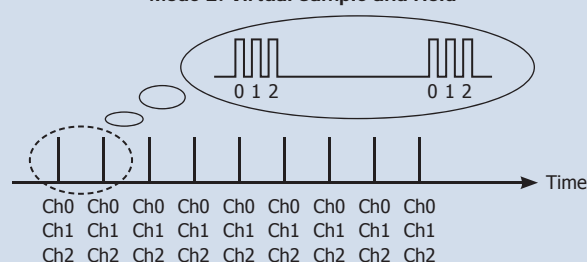
- I-9014
  - 16 single-ended/8 differential input channels (jumper selectable)
  - Input Range :  $\pm 1.25$  V,  $\pm 2.5$  V,  $\pm 5$  V,  $\pm 10$  V,  $\pm 20$  mA
- I-9014C
  - 8 differential input channels
  - Input Range :  $\pm 20$  mA
- 16-bit 250 KHz ADC converter
- 4 K-samples FIFO buffer
- 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

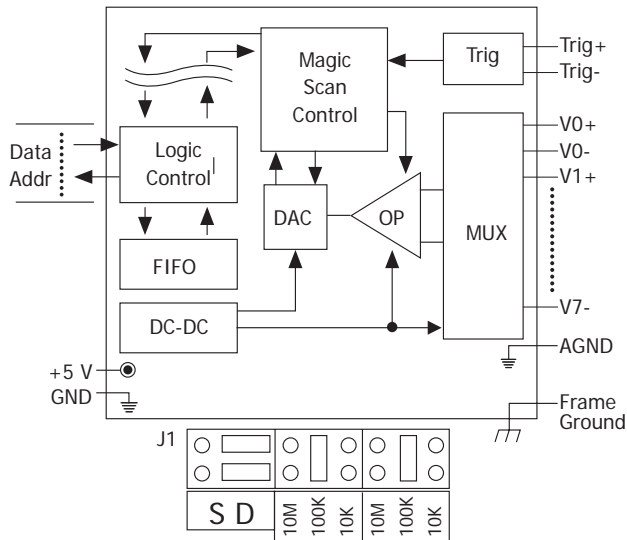
- High speed data acquisition systems
- Vibration analysis

## I/O Specifications

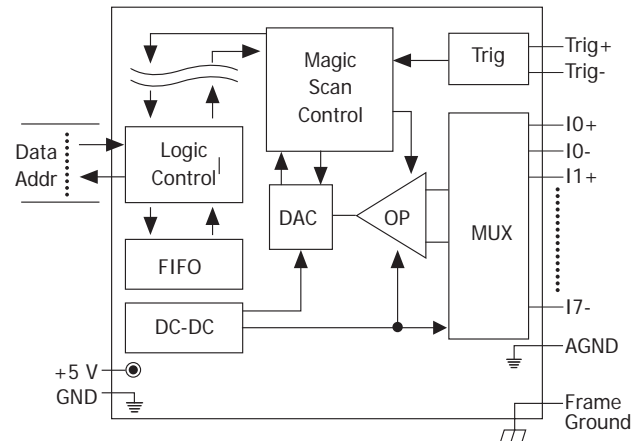
Model	I-9014	I-9014C
<b>Analog Input</b>		
Channels	16-ch Single-ended/ 8-ch Differential	8-ch Differential
Voltage Input Range	$\pm 1.25$ , $\pm 2.5$ , $\pm 5$ V, $\pm 10$ V	-
Current Input Range	-20 mA ~ +20 mA (Requires Optional External 125 $\Omega$ Resistor)	-20 mA ~ +20 mA
Resolution	16-bit	
Sample Rate	Single Channel Polling Mode :250K S/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 V ~ +60 V	
Input Impedance	20 K, 200 K, 20 M (Jumper Select)	125 $\Omega$

## Internal I/O Structure

I-9014



I-9014C

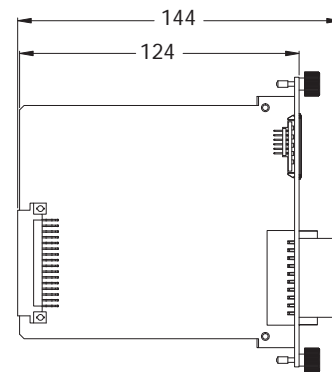


## Wire Connections

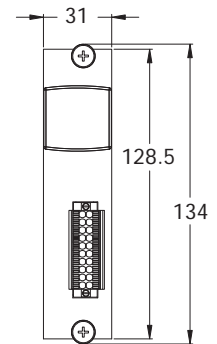
I-9014

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

## Dimensions (Units: mm)



Left Side View



Front View

I-9014C

Input Type	Differential
Current Input Wiring	

## Pin Assignments

I-9014

Pin Assignment	Terminal No.	Pin Assignment
Trig+	01	Trig-
V0+	03	V0-
V1+	05	V1-
V2+	07	V2-
V3+	09	V3-
V4+	11	V4-
V5+	13	V5-
V6+	15	V6-
V7+	17	V7-
AGND	19	F.G.

I-9014C

Pin Assignment	Terminal No.	Pin Assignment
Trig+	01	Trig-
IO+	03	IO-
I1+	05	I1-
I2+	07	I2-
I3+	09	I3-
I4+	11	I4-
I5+	13	I5-
I6+	15	I6-
I7+	17	I7-
AGND	19	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)