

I-9014 | I-9014C

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

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

Features

- Input Type
  I-9014: 16 single-ended/8 differential input channels
  I-9014C: 8 differential input channels
- Input Range
  I-9014: ±1.25 V, ±2.5 V, ±5 V, ±10 V, ±20 mA
  I-9014C: ±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

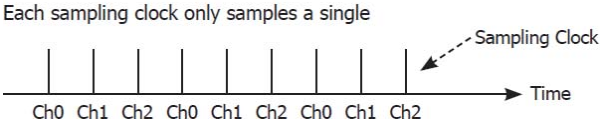
The I-9014/I-9014C is a high performance Analog Input module. The I-9014 provides up to 16 single-ended or 8 differential input channels, while the I-9014C provides up to 8 differential input channels. Both modules feature 16-bit resolution, 250 kS/s sampling rate, and a 4 k sample FIFO buffer, as well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

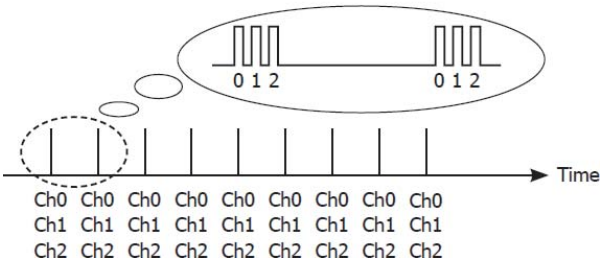
The Magic Scan function on the I-9014/I-9014C module can be operated in two ways. The first is a standard scan and the other is a Virtual Sample and Hold function. The cost of almost all AI Cards is high if it includes a Sample and Hold function, but ICP DAS can now offer a low-cost alternative.

Standard Mode

Each sampling clock only samples a single

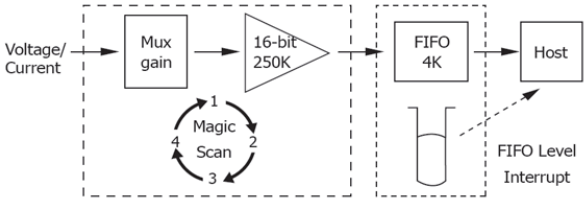


Virtual Sample and Hold Mode



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	
Isolation		
Intra-module Isolation, Field-to-Logic	2500 VDC	
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	

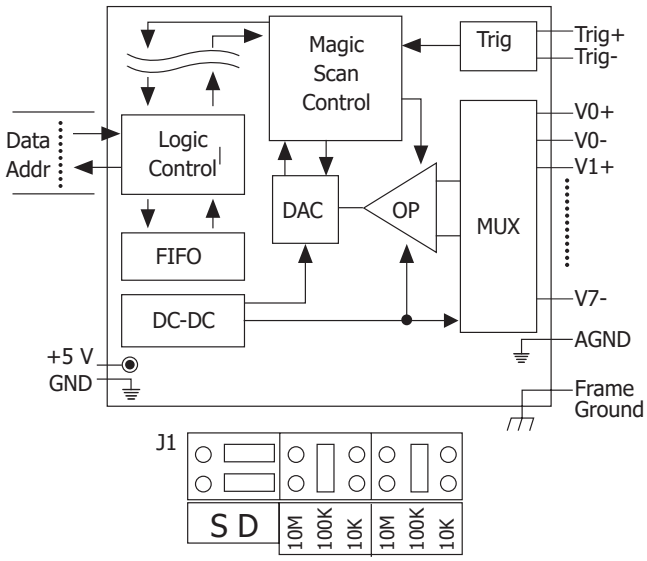
I/O Specifications

Model		I-9014	I-9014C
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-9014 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

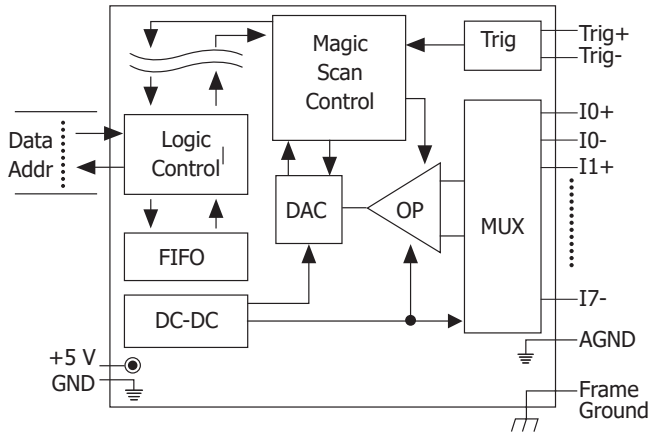
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Internal I/O Structure

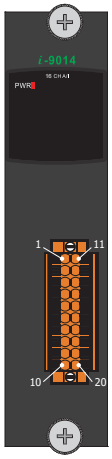
I-9014



I-9014C

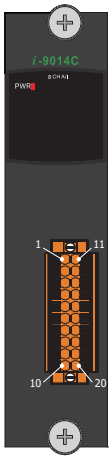


Pin Assignments



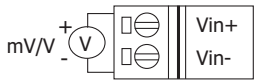
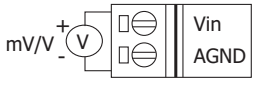
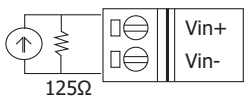
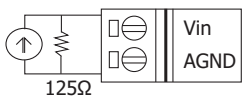
I-9014	Differential		
Pin Assignment	Terminal No.		Pin Assignment
Trig+	01	11	Trig-
V0+	02	12	V0-
V1+	03	13	V1-
V2+	04	14	V2-
V3+	05	15	V3-
V4+	06	16	V4-
V5+	07	17	V5-
V6+	08	18	V6-
V7+	09	19	V7-
AGND	10	20	F.G.

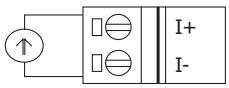
I-9014	Single-ended		
Pin Assignment	Terminal No.		Pin Assignment
Trig+	01	11	Trig-
V0	02	12	V8
V1	03	13	V9
V2	04	14	V10
V3	05	15	V11
V4	06	16	V12
V5	07	17	V13
V6	08	18	V14
V7	09	19	V15
AGND	10	20	F.G.



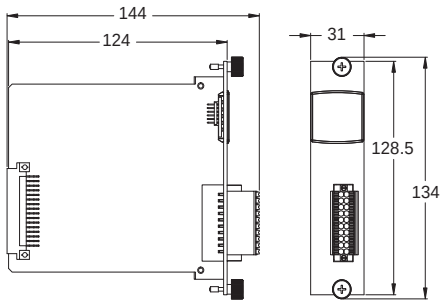
I-9014C	Differential		
Pin Assignment	Terminal No.		Pin Assignment
Trig+	01	11	Trig-
I0+	02	12	I0-
I1+	03	13	I1-
I2+	04	14	I2-
I3+	05	15	I3-
I4+	06	16	I4-
I5+	07	17	I5-
V6+	08	18	I6-
I7+	09	19	I7-
AGND	10	20	F.G.

Wire Connections

I-9014		
Input Type	Differential	Singled-ended
Voltage		
Current		

I-9014C	
Input Type	Differential
Current	

Dimensions (Units: mm)



Ordering Information

I-9014 CR	16-bit, 250 K sampling rate, 16/8-channel Analog Input Module (RoHS)
I-9014C CR	R 16-bit, 250 K sampling rate, 8-channel Analog Input Module (RoHS)

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