## **PCIE-1812**

# 250 kS/s, 16-Bit, 8-Ch, Simultaneous Sampling Multifunction PCI Express DAQ Card



#### **Features**

- 8 differential simultaneous sampling analog inputs, up to 250 kS/s, 16-bit resolution
- 2 analog outputs, up to 3 MS/s, 16-bit resolution
- Full automatic calibration
- 2 analog triggers and 2 digital triggers for analog I/O
- 32 programmable DI/Os with interrupt functions
- Four 32-bit programmable counters/ timers/ encoders
- Board ID switch

FCC CE

#### Introduction

PCIE-1812 is a simultaneous-sampling multifunction DAQ card designed to meet a wide range of application requirements. PCIE-1812 supports simultaneous sampling of 8 analog input channels with differential input configuration for maximum noise elimination. In addition to providing 2-ch, 16-bit analog outputs with waveform generation capabilities, PCIE-1812 supports simultaneous waveform generation and analog input functions.

### **Specifications**

#### **Analog Input**

Channels

Mode Differential input
 Resolution 16 bits
 Sample Rate 250 kS/s max.
 Input Impedance 100GΩ/350pF

Sampling Mode
 Input Range
 Software and external clock
 Software programmable

Gain	0.5	1	2	4	8
Bipolar	±10V	±5	±2.5	±1.25	±0.625
Unipolar	N/A	0 ~ 10	0~5	0 ~ 2.5	0 ~ 1.25
Absolute Accuracy ( % of FSR)*	0.01	0.01	0.01	0.01	0.01

#### **Analog Output**

Channels 2
Resolution 16 bits
Output Rate 3 M max.

Output Range Software programmable

Internal Reference	Unipolar	0 ~ 5 V, 0 ~ 10 V	
	Bipolar	-5 V ~ 5 V, -10 V ~ 10 V	
External Reference		0 ~ +x V @ -x V (-10 < x < 10)	

Slew Rate 20 V/µs Driving Capability 5 mA

Operation Mode Static update, waveform generation

Accuracy 0.01%

#### **Analog Trigger**

Channels
 Resolution
 Input Range
 2
 16 bits
 -10 ~ 10 V

**Hysteresis** Yes. Hysteresis range is configurable

Trigger Edge Rising edge or falling edge, selected by software

#### **Digital Trigger**

Channels

Input Voltage
 Logic 0: 1.5 V max.
 Logic 1: 3.5 V min.

• **Trigger Edge** Rising edge or falling edge, selected by software

#### Digital I/O

Channels
 Input Voltage
 Logic 0: 1.5 V max.
 Logic 1: 3.5 V min.

Output Voltage
 Low 0.5 V max.@ +20 mA (sink)
 High 4.5 V min.@ -20 mA (source)

#### **Counter/ Timer/ Encoder**

Channels 4
 Resolution 32 bits
 Compatibility 5 V/TTL
 Max. Input Frequency 10 MHz

Counter/Timer Functions Frequency measurement, pulse width measurement, pulse output, PWM output

 Encoder Functions
 Quadrature (X1, X2, X4), dual pulse (CW/CCW), signed pulse (OUT/DIR)

#### General

Form Factor PCI Express x1
1/0 Connector 100-pin SCSI, female
Dimensions (L x W) 167 x 100 mm (6.6" x 3.9")

**Operating Temperature**  $0 \sim 60 \,^{\circ}\text{C} \, (32 \sim 140 \,^{\circ}\text{F}) \, (\text{refer to IEC } 68\text{-}2\text{-}1, 2)$ 

**Storage Temperature**  $-40 \sim 70 \, ^{\circ}\text{C} \, (-40 \sim 158 \, ^{\circ}\text{F})$ 

**Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 68-2-3)

Board ID TM swite

## **Ordering Information**

PCIE-1812-AE
 250 kS/s, 16-bit, 8-ch simultaneous sampling multifunction card

#### **Accessories**

PCL-101100R-1E
 PCL-101100R-2E
 100-pin SCSI shielded cable, female to male, 1 m
 100-pin SCSI shielded cable, female to male, 2 m

ADAM-39100-BE 100-pin DIN rail SCSI wiring board

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