

# PCIE-1812

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

NEW



FCC CE RoHS

### 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

### 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** 8
- **Mode** Differential input
- **Resolution** 16 bits
- **Sample Rate** 250 kS/s max.
- **Input Impedance** 100GΩ/350pF
- **Sampling Mode** Software and external clock
- **Input Range** Software programmable

Gain	0.5	1	2	4	8
<b>Bipolar</b>	±10V	±5	±2.5	±1.25	±0.625
<b>Unipolar</b>	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
<b>Absolute Accuracy ( % of FSR)*</b>	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
<b>External Reference</b>	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** 2
- **Resolution** 16 bits
- **Input Range** -10 ~ 10 V
- **Hysteresis** Yes. Hysteresis range is configurable
- **Trigger Edge** Rising edge or falling edge, selected by software

#### Digital Trigger

- **Channels** 2
- **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** 32 (shared)
- **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
- **I/O Connector** 100-pin SCSI female ribbon-type connector
- **Dimensions (L x W)** 167 x 100 mm (6.6" x 3.9")
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F) (refer to IEC 68-2-1, 2)
- **Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 68-2-3)
- **Board ID** TM switch

### Ordering Information

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

#### Accessories

- **PCL-101100R-1E** 100-pin SCSI shielded cable, female to male, 1 m
- **PCL-101100R-2E** 100-pin SCSI shielded cable, female to male, 2 m
- **ADAM-39100-BE** 100-pin DIN rail SCSI wiring board
- **PCLD-8813-AE** 6Advanced Signal Conditioning Board for PCIE-1812/PCIE-1813
- **PCLD-8811-AE** Low-Pass Active Filter Board