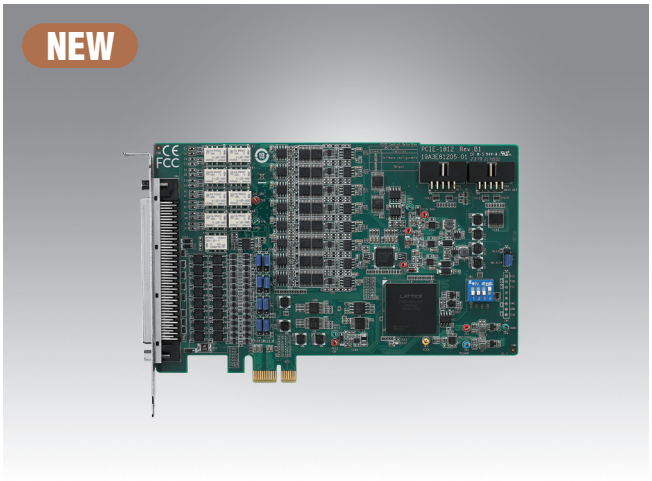
PCIE-1812

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
- 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** 1 GΩ
- **Sampling Mode** Software and external clock
- **Input Range** Software programmable
- **Accuracy**

Range	±10 V	±5 V	±2.5 V	±1.25 V	±0.625 V
Accuracy	±0.01%	±0.01%	±0.01%	±0.01%	±0.01%
Range		0 ~ 10 V	0 ~ 5 V	0 ~ 2.5 V	0 ~ 1.25 V
Accuracy		±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** ±20 mA max
- **Operation Mode** Static update, Buffered (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: 3.5V 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/5.2 V max.

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)** 175 x 100 x 18 mm^3 (6.9 x 3.9 x 0.7 in.^{3})
- **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-B** 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 Boar
- **1700030423-01** 10-pin flat cable for MDSI synchronization, 10 cm

Last updated: 16-Jan-2025