

PCIE-1816

PCIE-1816H

500 KS/s, 16-Bit, 16-Ch PCI Express Multifunction DAQ Card

1 MS/s, 16-Bit, 16-Ch PCI Express Multifunction DAQ Card



Features

PCIE-1816

- 16 analog inputs, up to 1 MS/s, 16-bit resolution

PCIE-1816H

- 16 analog inputs, up to 5 MS/s, 16-bit resolution

PCIE-1816/1816H

- 2 analog outputs, up to 3 MS/s, 16-bit resolution
- Supports analog and digital triggers for analog I/O
- Supports waveform generation for analog output
- 24 programmable digital I/O lines
- Two 32-bit programmable counter/timers
- Onboard FIFO memory (8,192 samples)

Introduction

PCIE-1816/1816H is a 16-ch (up to 5 MS/s) multifunction DAQ card with integrated digital I/O, analog I/O, and counter functions. PCIE-1816/1816H also features analog and digital triggering support, 2-ch 16-bit analog outputs with waveform generation capability, 24-ch programmable digital I/O lines, and two 32-bit general purpose timer/counters.

Specifications

Analog Input

Channels	Single end	16
	Differential	8
Resolution	16 bits	
Sample Rate	PCIE-1816	Single channel 1 MS/s max. Multiple channels 500 kS/s max.
	PCIE-1816H	Single channel 5 MS/s max. Multiple channels 1 MS/s max.

Note: The sampling rate of each channel is influenced by the number of used channels.
For example, if 4 channels are used, the sampling rate will be $1M/4 = 250$ kS/s per channel.

- Trigger Reference: Digital and analog triggers
- FIFO Size: 8,192 samples
- Overvoltage Protection: ± 15 V
- Input Impedance: 1 G Ω
- Sampling Mode: Software and external clock
- Input Range: Software programmable

Accuracy (New)					
Range	± 10 V	± 5 V	± 2.5 V	± 1.25 V	± 0.625 V
Accuracy	± 0.01 %	± 0.01 %	± 0.01 %	± 0.02 %	± 0.025 %
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 MS/s 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 ($-10 \leq x \leq 10$)	

- Slew Rate: 20 V/ μ s
- Driving Capability: 20 mA
- Operation Mode: Static update, waveform generation
- Accuracy: INLE: ± 1 LSB, DNLE: ± 1 LSB

Digital I/O

- Channels: 24
- Compatibility: 5 V/TTL
- Input Voltage: Logic 0: 0.8 V max.
Logic 1: 2.0 V min.
- Output Voltage: Logic 0: 0.4 V max.
Logic 1: 4.0 V min.
- Output Capability: Sink: 2 mA @ 0.4 V
Source: 2 mA @ 4.0 V

Counter

- Channels: 2
- Resolution: 32 bits
- Compatibility: 5 V/TTL
- Max. Input Frequency: 10 MHz
- Pulse Generation: Yes
- Timebase Stability: 50 ppm

General

- Form Factor: PCI Express x1
- Triggering: 2 x Analog/2 x digital (16 bits)
- I/O Connector: 68-pin SCSI, female
- Dimensions (L x W): 175 x 100 mm (6.9 x 3.9)
- Power Consumption: Max.: 3.3 V @ 350 mA
12 V @ 250 mA
- Operating Temperature: 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature: -20 °C to 70 °C (-4 °F to 158 °F)
- Storage Humidity: 5 ~ 95% RH non-condensing

Ordering Information

- PCIE-1816-B: 1 MS/s, 16-bit multifunction card
- PCIE-1816H-B: 5 MS/s, 16-bit multifunction card

Accessories

- PCL-10168H-1E: 68-pin SCSI shielded cable with noise rejection, 1 m
- PCL-10168H-2E: 68-pin SCSI shielded cable with noise rejection, 2 m
- PCL-10168-1E: 68-pin SCSI shielded cable, 1 m
- PCL-10168-2E: 68-pin SCSI shielded cable, 2 m
- ADAM-3968-AE: 68-pin DIN rail SCSI wiring board