

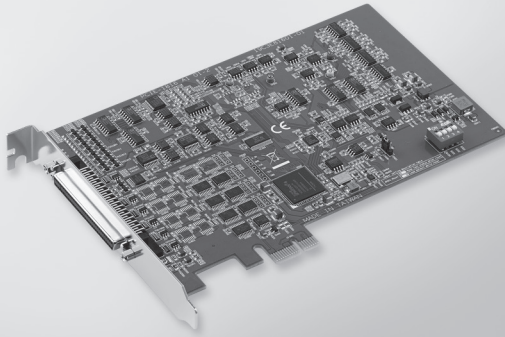
# PCIE-1816

# PCIE-1816H

1 MS/s, 16-bit, 16-ch PCI Express  
Multifunction DAQ Card

5 MS/s, 16-bit, 16-ch PCI Express  
Multifunction DAQ Card

**NEW**



FCC CE RoHS

## 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
- Support Analog and Digital Trigger for AI/O
- Support Waveform generation for AO
- 24 programmable digital I/O lines
- Two 32-bit programmable counter/timers
- Onboard FIFO memory (4k samples)
- Support for Microsoft Windows 8 (desktop mode only)/7/XP

## Introduction

PCIE-1816/1816H is a 16-ch, up to 5 MS/s multi-function DAQ card and integrates digital I/O, analog I/O, and counter functions. The PCIE-1816/1816H also features analog and digital triggering, 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-ended 16-ch
  - Differential 8-ch
- Resolution** 16 bits
- Sample Rate**
  - PCIE-1816
    - Single Channel 1 MS/s max.
    - Multi-Channel 500 kS/s max.
  - PCIE-1816H
    - Single Channel 5 MS/s max.
    - Multi-Channel 1 MS/s max.

Note: The sampling rate for each channels will be affected by used channel number. For example, if 4 channels of PCIE-1816H are used, the sampling rate is  $1M/4 = 250$  kS/s per channel.

- Trigger Reference** Analog Trigger, Digital Trigger
- FIFO Size** 4k samples
- Overvoltage Protection** 30 Vp-p
- Input Impedance** 1 G $\Omega$
- Sampling Mode** Software and external clock
- Input Range** Software programmable

PCIE-1816					
Gain	0.5	1	2	4	8
<b>Bipolar</b>	$\pm 10V$	$\pm 5$	$\pm 2.5$	$\pm 1.25$	$\pm 0.625$
<b>Unipolar</b>	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
<b>Absolute Accuracy (% of FSR)</b>	0.0075	0.0075	0.0075	0.008	0.008

### 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
<b>External Reference</b>	0 ~ +x V @ -x V (-10 $\leq$ x $\leq$ 10)	

- Slew Rate** 20 V/ $\mu$ s
- Driving Capability** 5 mA
- Operation Mode** Static update, Waveform Generation
- Accuracy** INLE:  $\pm 4$  LSB, DNLE:  $\pm 1$  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: 0.8 V max.
  - Logic 1: 2.0 V min.
- Output Capability**
  - Sink: 15 mA @ 0.8 V
  - Source: 15 mA @ 2.0 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 x 1
- Triggering** 16 bits Analog x 2 / Digital x 2
- I/O Connector** 68-pin SCSI female connector
- Dimensions (L x W)** 167 x 100 mm
- Power Consumption**
  - Typical: 3.3 V @ 488 mA
  - 12 V @ 112 mA
  - Max.: 3.3 V @ 2.25 A
  - 12 V @ 390 mA
- Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- Storage Temperature** -40 ~ 70°C (-40 ~ 158°F)
- Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- PCIE-1816** 1 MS/s, 16-bit Multifunction Card
- PCIE-1816H** 5 MS/s, 16-bit Multifunction Card

### Accessories

- PCL-10168H-1E** 68-pin SCSI Shielded Cable with Noise Rejecting, 1 m
- PCL-10168H-2E** 68-pin SCSI Shielded Cable with Noise Rejecting, 2 m
- PCL-10168-1E** 68-pin SCSI Shielded Cable, 1 m
- PCL-10168-2E** 68-pin SCSI Shielded Cable, 2 m
- ADAM-3968** 68-pin DIN-rail SCSI Wiring Board