**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**

RoHS

**COMPLIANT 2002/95/EC**

**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 (4,000 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

## Digital I/O

* **Channels** 24
* **Compatibility** 5 V/TTL
* **Input Voltage** Logic 0: 0.8 V max.

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.

* **Output Voltage**
* **Output Capability**

## Counter

Logic 1: 2.0 V min.

Logic 0: 0.8 V max.

Logic 1: 2.0 V min.

Sink: 15 mA @ 0.8 V

Source: 15 mA @ 2.0 V

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** 4,000 samples
* **Overvoltage Protection** 30 Vp-p
* **Input Impedance** 1 G
* **Sampling Mode** Software and external clock
* **Input Range** Software programmable

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| **PCIE-1816** |
| **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)\*** | 0.0075 | 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

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| **Internal Reference** | **Unipolar** | 0 ~ 5 V0 ~ 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** INLE: ± 4 LSB, DNLE: ± 1 LSB
* **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)** 167 x 100 mm (6.6" x 3.9")

* **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-AE** 1 MS/s, 16-bit multifunction card
* **PCIE-1816H-AE** 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
* **PCLD-8810E-AE** 68-pin SCSI DIN-rail Wiring Board for PCIE-1800 series
* **PCLD-8811-AE** Low-Pass Active Filter Boar

 **Industrial I/O**

All product specifications are subject to change without notice. Last updated: 27-Jun-2018