

# PCIE-1802 PCIE-1802L

**8-Ch, 24-Bit, 216 kS/s Dynamic Signal Acquisition PCI Express Card**

**4-Ch, 24-Bit, 216 kS/s Dynamic Signal Acquisition PCI Express Card**

**NEW**



## Features

- 8/4 simultaneously sampled analog inputs, up to 216 kS/s
- 24-bit resolution ADCs with 115 dB dynamic range
- Wide input range of  $\pm 0.2 \sim 10$  V
- Built-in anti-aliasing filter
- Software-configurable 4/10 mA integrated electronic piezoelectric (IEPE) excitation currents
- Software-selectable AC/DC coupling
- Full automatic calibration
- Multiple card synchronization

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## Introduction

PCIE-1802/1802L is a 24-bit, high-accuracy data acquisition PCI Express module specifically designed for sound and vibration-related applications. This module features built-in 4/10 mA excitation currents for IEPE sensors, such as accelerometers and microphones.

## Specifications

### Analog Input

- Channels**
  - PCIE-1802: 8
  - PCIE-1802L: 4 (simultaneous sampling differential or 50  $\Omega$  pseudo-differential)
  - 24 bits (delta sigma)
  - 100 S/s to 216 kS/s (with resolution  $\leq 363.80 \mu\text{S/s}$ )
  - AC/DC, selectable per channel
  - 0.727 Hz (-3 dB)
  - Start, Delayed Start
  - Stop, Delayed Stop
  - $\pm 0.2, \pm 0.5, \pm 1, \pm 2, \pm 5, \pm 10$  V
  - $< \pm 1$  mV
  - $< \pm 0.2$  %
  - 100 dB
  - 98 dB
- Resolution**
- Max. Sampling Rate**
- Input Coupling**
- AC Cut-Off Frequency**
- Trigger Modes**
- Input Range**
- Offset Error**
- Gain Error**
- Total Harmonic Distortion (THD)**
- Total Harmonic Distortion Plus Noise (THD+N)**
- Dynamic Range**
- IEPE Excitation**
- Data Transfer**
- Multi-Card Support**

### Digital Input/Output

- DI Channels** 1 (interrupt)
- DO Channels** 2

### General

- Bus Type** PCI Express x1
- I/O Connectors** CN600 36-pin mini SCSi (for analog input)  
CN601 HDMI (for clock, trigger, and DI/Os)
- Dimensions (L x H)** 168 x 100 mm (6.6" x 3.9")
- 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-1802-AE** 8-ch, 24-bit, 216 kS/s dynamic signal acquisition PCI Express card
- PCIE-1802L-AE** 4-ch, 24-bit, 216 kS/s dynamic signal acquisition PCI Express card
- PCLD-8840-AE** 20-pin DIN rail HDMI cable wiring board for PCIE-1802 and PCIE-1840
- PCL-108BNC-50E** Mini SCSi to 8-BNC cable
- PCL-104BNC-50E** Mini SCSi to 4-BNC cable
- PCL-10119-1E** HDMI cable

\*Power consumption PCIE-1802=11.5W, PCIE-1802L=7.5W  
 It may have thermal issue with fanless platform.  
 Please consult our technical support if you want to plug it in fanless platform.

## Pin Assignments

### Mini SCSi

AGND	36	18	AGND
AI0-	35	17	AI0+
AGND	34	16	AGND
AI1-	33	15	AI1+
AGND	32	14	AGND
AI2-	31	13	AI2+
AGND	30	12	AGND
AI3-	29	11	AI3+
AGND	28	10	AGND
AGND	27	9	AGND
AI4-	26	8	AI4+
AGND	25	7	AGND
AI5-	24	6	AI5+
AGND	23	5	AGND
AI6-	22	4	AI6+
AGND	21	3	AGND
AI7-	20	2	AI7+
AGND	19	1	AGND

\* AI4 to AI7 (PCIE-1802 only)

### HDMI

DGND	1	REF_CLK_IN
REF_CLK_OUT	2	DGND
DGND	3	DGND
DGND	4	DTRGO
DGND	5	DTRG1
TRIGOUT0	6	DGND
TRIGOUT1	7	DO0
DO1	8	SYNC_IN
SYNC_OUT	9	DGND
RESERVED	10	DGND
	11	DIO
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	