

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

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 Ω pseudo-differential)
 - 24 bits (delta sigma)
 - 100 S/s to 216 kS/s (with resolution ≤ 363.80 μ S/s)
 - AC/DC, selectable per channel
 - 0.727 Hz (-3 dB)
- **Resolution**
- **Max. Sampling Rate**
- **Input Coupling**
- **AG Cut-Off Frequency**
- **Trigger Modes**
 - Start, Delayed Start, Stop, Delayed Stop
- **Input Range** $\pm 0.2, \pm 0.5, \pm 1, \pm 2, \pm 5, \pm 10$ V
- **Offset Error** $< \pm 1$ mV
- **Gain Error** $< \pm 0.2$ %
- **Total Harmonic Distortion (THD)** -100 dB
- **Total Harmonic Distortion Plus Noise (THD+N)** -98 dB
- **Dynamic Range** 115 dB
- **IEPE Excitation** 0, 4, or 10 mA, selectable per channel
- **Data Transfer** Direct memory access (DMA)
- **Multi-Card Support** For synchronizing more than 8 analog input channels

Digital Input/Output

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

General

- **Bus Type** PCI Express x1
- **I/O Connectors**
 - CN600 36-pin mini SCSII (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 $^{\circ}$ C (32 ~ 140 $^{\circ}$ F)
- **Storage Temperature** -40 ~ 70 $^{\circ}$ C (-40 ~ 158 $^{\circ}$ 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 SCSII to 8-BNC cable
- **PCL-104BNC-50E** Mini SCSII to 4-BNC cable
- **PCL-101119-1E** HDMI cable

Pin Assignments

Mini SCSII

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	2	1	REF_CLK_IN
REF_CLK_OUT	4	3	DGND
DGND	6	5	DGND
DGND	8	7	DTRG0
TRIGOUT0	10	9	DTRG1
TRIGOUT1	12	11	DGND
DO1	14	13	DO0
SYNC_OUT	16	15	SYNC_IN
RESERVED	18	17	DGND
		19	DIO