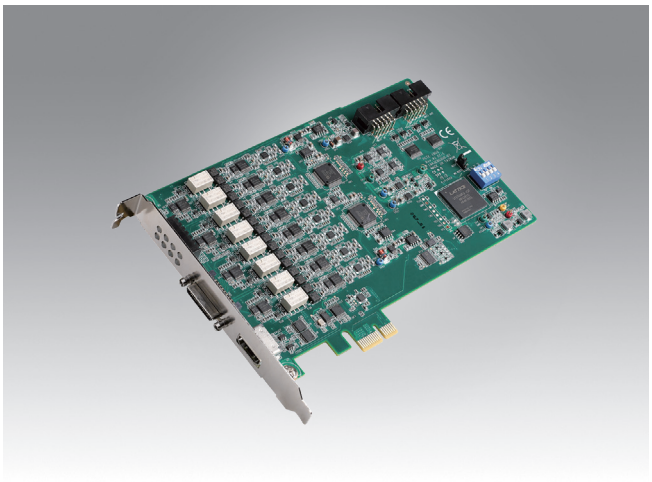
# PCIE-1803

## 8-ch, 24-bit, 128 kS/s Dynamic Signal Acquisition PCI Express Card



## Features

- 8 simultaneously sampled analog inputs, up to 128 kS/s
- 24-bit resolution ADCs with -102 dB total harmonic distortion plus noise (THD+N)
- Wide input range of ±1 ~ 10 V
- Built-in anti-aliasing filter
- Low power consumption
- Software-selectable AC/DC coupling
- Full automatic calibration
- Multiple card synchronization
- Built-in software readable open-short indicator

## Introduction

PCIE-1803 is a 24-bit, high-accuracy data acquisition PCI Express module specifically designed for sound and vibration-related applications. This module features built-in 2 mA excitation currents for IEPE sensors, such as accelerometers and microphones.

## Specifications

### Analog Input

| | |
|---|---|
| **Channels** | 8 (simultaneous sampling differential or 50 Ω pseudo-differential) |
| **Resolution** | 24 bits (delta sigma) |
| **Max. Sampling Rate** | 1kS/s to 128 kS/s (with resolution ≤ 1.09 mS/s) |
| **Input Coupling** | AC/DC, selectable per channel |
| **AC Cut-Off Frequency** | 0.796 Hz (-3 dB) |
| **Trigger Modes** | Start, Delayed Start, Stop, Delayed Stop |
| **Input Range** | ±1, ±2, ±5, ±10 V |
| **Offset Error** | < ±1 mV |
| **Gain Error** | < ±0.02 % |
| **Total Harmonic Distortion (THD)** | -113dB |
| **Total Harmonic Distortion Plus Noise (THD+N)** | -102dB |
| **Dynamic Range** | 102dB |
| **IEPE Excitation** | 2mA |
| **Data Transfer** | Direct memory access (DMA) |
| **Multi-Card Support** | For synchronizing more than 8 analog input channels |
| **Sensor fault detection** | Open/short/normal LED indicator for each channel, SW readable |

### Digital Input/Output

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

### General

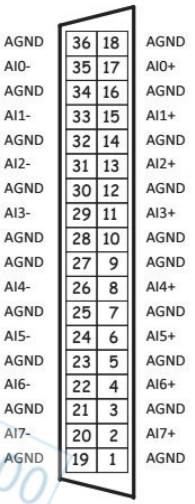
| | |
|---|---|
| **Bus Type** | PCI Express x1 |
| **I/O Connectors** | 36-pin mini SCSI (for analog input)<br>HDMI (for clock, trigger, and DI/Os) |
| **Dimensions (L x H)** | 168 x 100 mm (6.6" x 3.9") |
| **Operating Temperature** | 0 ~ 70 °C (32 ~ 158 °F) |
| **Storage Temperature** | -40 ~ 80 °C (-40 ~ 176 °F) |
| **Storage Humidity** | 5 ~ 95 % RH, non-condensing |
| **Power Consumption** | +3.3 V @ 300 mA typ./350 mA max.<br>+12 V @ 200 mA typ./230 mA max. |

## Ordering Information

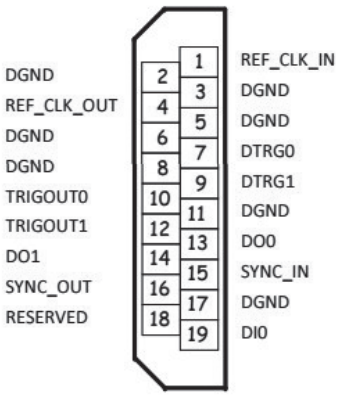
| | |
|---|---|
| **PCIE-1803-AE** | 8-ch, 24-bit, 128 kS/s Dynamic Signal Acquisition PCI Express Card |
| **PCLD-8840-AE** | 20-pin DIN rail HDMI cable wiring board for PCIE-1802 and PCIE-1840 |
| **PCL-108BNC-50E** | Mini SCSI to 8-BNC cable |
| **PCL-10119-1E** | HDMI cable |
| **1700030423-01** | IDC-10 flat cable |

## Pin Assignments

### Mini SCSI




### HDMI

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All product specifications are subject to change without notice.