

PCIE-1841

PCIE-1841L

16/8-ch, 18-bit, 1MS/s/ch Simultaneous Analog Input PCI Express DAQ Card



Specifications

Analog Input

- Channels 16/8 differential
- Analog-to-digital converter (ADC) resolution 18 bits
- Input range ± 20 V, ± 12.5 V, ± 10 V, ± 5 V, or ± 20 mA, software configurable per channel
- Maximum input voltage ± 20 V
- Input common-mode voltage range
 - ± 20 V range ± 10 V
 - ± 12.5 V range ± 6.25 V
 - ± 10 V range ± 5 V
 - ± 5 V range ± 2.5 V
- Over-voltage protection ± 30 V
- Input coupling DC
- Input impedance
 - Voltage input 1 M Ω
 - Current input 500 Ω
- Analog low-pass filter
 - 3 dB bandwidth 22.5 kHz or 250 kHz, software configurable per channel
- Acquisition type Instant or buffered, software configurable

Buffered Acquisition

- Enabled channel combination Each channel can be enabled/disabled independently by software
- Sample rate 1 MHz max., for all channels, simultaneous sampling, software configurable
- On-board FIFO Size 8192 Samples

Absolute accuracy

- Voltage input
 - Operating temperature within $\pm 5^\circ\text{C}$ of last Auto-calibration temperature $\pm 0.01\%$ of full-scale range max.
 - Over full operating temperature range $\pm 0.05\%$ of full-scale range max.
- Current input
 - Operating temperature within $\pm 5^\circ\text{C}$ of last Auto-calibration temperature $\pm 0.1\%$ of full-scale range max.
 - Over full operating temperature range $\pm 0.5\%$ of full-scale range max.

DC Performance⁽²⁾

- Idle channel noise 275 μVRMS
- ENOB 17.14 bits

AC Performance⁽²⁾

- SNR 88.36 dB
- THD -103.09 dB
- THD+N -85.29 dB
- SFDR 101.95 dB
- Dynamic Range 94.71 dB
- Crosstalk -104.13 dB

Features

- 16/8-ch simultaneous sampling up to 1 MS/s
- 18-bit resolution
- Software selectable low-pass filter
- Wide input range up to 40 Vpp (± 20 V range)
- Support both voltage and current measurement
- Multiple selectable trigger modes

Trigger

- Number of triggers 2
- Trigger action Start, delay to start, stop, or delay to stop
- Trigger delay range 0 – 16,777,215 samples
- Sample number 0 – 16,777,215 samples

Analog Trigger⁽¹⁾

- Channel 2 (start and stop)
- Source One of the analog input channels, software configurable
- Threshold level Full scale of analog input range, software configurable
- Hysteresis 1/256 of analog input range, software configurable
- Polarity Rising edge or falling edge, software configurable

Digital Trigger⁽¹⁾

- Source 2 external pins
- Input logic level
 - Logic high 2.0 V min.
 - Logic low 0.8 V max.
- Working voltage -0.25 V ~ 5.25 V
- Polarity Rising edge or falling edge, software configurable
- Input protection voltage -0.5 V ~ 6.5V

Mechanical

- Connector Type DB-62 connector
- Dimension 175 x 100mm (6.9" x 3.93")
- Weight 0.12 kg

Environment

- Operating temperature 0 °C to 60 °C (-4 °F to 140 °F)
- Storage temperature -40 °C to 70 °C (-40 °F to 158 °F)
- Operating humidity 10% to 90% RH, non-condensing
- Storage humidity 5% to 95% RH, non-condensing

Certification

- EMC CE, FCC

Ordering Information

- PCIE-1841-A 16-ch, 18-bit, 1MS/s/ch, simultaneous sampling card
- PCIE-1841L-A 8-ch, 18-bit, 1MS/s/ch, simultaneous sampling card

Accessories

- ADAM-3962-AE DB-62 Wiring Terminal, DIN-rail Mount
- PCL-10162-1E DB-62 Shielded Cable, 1m
- PCL-10162-3E DB-62 Shielded Cable, 3m
- 1700030423-01 10 pin Flat Cable for MDSI synchronization, 10cm

(1) Total 2 triggers available, trigger mode and type selectable between analog/digital triggers

(2) For detailed information, please refer to user manual