

PXIe-9529

8-CH 24-Bit High-Resolution Dynamic Signal Acquisition Module

PXIExpress™



Introduction

The ADLINK PXIe-9529 is a high-performance, high density, 8-CH analog input dynamic signal acquisition module. The PXIe-9529 features eight 24-bit simultaneously sampling analog input channels. The 24-bit sigma-delta ADC provides a sampling rate of 192 kS/s at high resolution, making it ideal for higher dynamic range signal measurement. All channels are sampled simultaneously and accept input range up to $\pm 10V$, and the analog inputs support software-selectable AC or DC coupling and 4 mA bias current for integrated electronic piezoelectric (IEPE) sensors. The module is especially designed to meet the requirements of vibration analysis and audio testing.

Specifications

Analog Input

- Number of simultaneously sampled channels: 8
- Input configuration: Differential or pseudo-differential
- Input impedance:

Input Impedance	Differential Configuration	Pseudodifferential Configuration
Between positive input and system ground	1 M Ω	1 M Ω
Between negative input and system ground	1 M Ω	50 Ω

- Input coupling: AC or DC, software selectable
- AC coupling cutoff frequency: 0.5 Hz
- ADC resolution: 24-bit
- ADC type: Delta-sigma
- FIFO buffer size: 1,024 samples dedicated for per channel
- Sampling rate: 192 kS/s maximum, 8 kS/s to 54 kS/s in 192 μ S/s increments, 54 kS/s to 108 kS/s in 576 μ S/s increments, 108 kS/s to 192 kS/s in 768 μ S/s increments
- Input signal range: $\pm 10V$, or $\pm 1V$
- Integrated Electronic Piezoelectric (IEPE):
 - Current: 4 mA for each channel
 - IEPE compliance: 24 V
- Overvoltage protection
 - Differential : $\pm 42.4V$
 - Pseudo-differential :
 - Positive terminal : $\pm 42.4V$
 - Negative terminal : Not protected, rated at $\pm 2.5V$
- Offset error: ± 2 mV max
- Gain error: $\pm 0.5\%$ of FSR
- Crosstalk: < -100 dB
- THD: < -104 dB

Trigger

- Trigger Sources
 - Software trigger
 - Analog trigger
 - External digital trigger

- PXI STAR trigger
- PXI trigger bus [0..7]
- Trigger Modes
 - Post-trigger
 - Delay trigger
- External Digital Trigger Input:
 - 5 V TTL compatibility
 - Trigger polarity: rising or falling edge
 - Pulse width: 20 ns minimum

Timebase

- Onboard oscillator sample clock source
- 80 MHz timebase frequency

Data Storage and Transfer

- 512 MB onboard memory, shared among the eight analog inputs
- Scatter-Gather DMA data transfer

Onboard Reference

- +5,000 V onboard reference voltage
- < 5.0 ppm/ $^{\circ}C$ reference temperature drift
- 15 minutes recommended warmup

General Specifications

- I/O Connector:
 - SMB x 8 for analog inputs
 - SMB x 1 for external digital input
- Dimensions (not including connectors)
 - 160 (W) x 100 (H) mm (6.24" x 3.9")
- Bus Interface:
 - PCI Express Gen 1 x4
- Ambient Temperature (Operational):
 - 0 $^{\circ}C$ to 55 $^{\circ}C$ (32 $^{\circ}F$ to 131 $^{\circ}F$)
- Ambient Temperature (Storage):
 - 20 $^{\circ}C$ to 80 $^{\circ}C$ (-4 $^{\circ}F$ to 176 $^{\circ}F$)
- Relative Humidity:
 - 10% to 90%, non-condensing

Certifications

- EMC/EMI: CE, FCC Class A

Features

- PXI Express specification Rev. 1.0 compliant
- 24-Bit Sigma-Delta ADC
- 8 simultaneous sampling analog input
- 192 kS/s maximum sampling rate
- AC or DC input coupling, software selectable
- One external digital trigger input
- Support IEPE output on each analog input, software configurable
- Full auto-calibration

OS Information

- Windows XP/7/8, x64/x86

Software Compatibility

- LabVIEW, MATLAB, Visual Studio, Visual Studio.NET

Software Recommendations

- DSA Utility

Ordering Information

PXIe-9529

8-CH 24-Bit High-Resolution Dynamic Signal Acquisition Module for PXIe bus

PCIe-9529 (call for availability)

8-CH 24-Bit High-Resolution Dynamic Signal Acquisition Module for PCIe bus

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