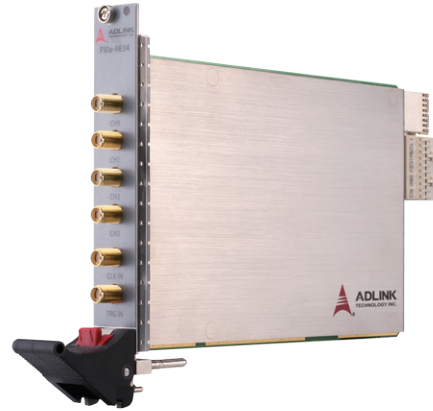


# PXIe-9834

## 4CH 16-Bit 80 MS/s PXI Express Digitizer

### Features

- Up to 80 MS/s sampling
- 4 simultaneous analog inputs
- High resolution 16-bit ADC
- Up to 40 MHz bandwidth for analog input
- 1 GB onboard storage memory
- Programmable input voltage range of  $\pm 0.5V$ ,  $\pm 1V$ ,  $\pm 5V$ , or  $\pm 10V$
- Scatter-Gather DMA data transfer for high speed data streaming
- 10 or 20 MHz digital onboard filter available
- Supports external sampling clock (20MHz to 80MHz) or external reference clock (10MHz)
- Full auto-calibration support



### Introduction

The ADLINK PXIe-9834 PXI Express digitizer provides high speed, high quality data acquisition. Each of four input channels supports up to 80MS/s sampling, with 16-bit resolution A/D converter. This allows simultaneous recording of signals on all channels with no inter-channel phase delay. The extremely large onboard memory enables long recording times even at the highest sampling rates.

The PXIe-9834 features flexible input ranges of  $\pm 10V$  (only for 1M $\Omega$ ),  $\pm 5V$ ,  $\pm 1V$ , and  $\pm 0.5V$  along with software selectable 50 $\Omega$  or 1M $\Omega$  input impedance. Four high resolution 16-bit A/D converters combine with a low-noise/high bandwidth analog front-end to make the PXIe-9834 perfect for applications like radar signal acquisition, fiber optic sensing, and many others.

### Supported Operating System

- Windows 7/10, x64/x86, Linux

### Drivers and SDK

- LabVIEW, Visual Studio, Visual Studio.NET

### Ordering Information

- **PXIe-9834**  
4CH 16-Bit 80 MS/s PXI Express digitizer

### Specification

#### Analog Input

Channels	4 single ended
Input Impedance	50 $\Omega$ or 1M $\Omega$ , software selectable
Input Coupling	DC or AC, software selectable
Input Range	$\pm 0.5V$ , $\pm 1V$ , $\pm 5V$ , $\pm 10V$ ( $\pm 10V$ only support 1M $\Omega$ input impedance)
ADC Resolution	16-bit
Analog Input Bandwidth	40MHz
Digital Filter	10MHz/20MHz, software selectable

- Overvoltage protection:

Impedance	Max. Input Voltage	PXIe-9834
50 $\Omega$	7Vrms	$\pm 0.5V$ , $\pm 1V$ , $\pm 5V$ input range
1M $\Omega$	$\pm 10V$	$\pm 0.5V$ , $\pm 1V$ input range
	$\pm 30V$	$\pm 5V$ , $\pm 10V$ input range

- Accuracy:

Input Range	Offset Error w/ 50 $\Omega$ Input Impedance	Offset Error w/1M $\Omega$ Input Impedance	Gain Error
$\pm 0.5V$	$\pm 0.8mV$	$\pm 0.8mV$	$\pm 0.6\%$
$\pm 1V$	$\pm 0.8mV$	$\pm 1.2mV$	
$\pm 5V$	$\pm 1.5mV$	$\pm 4.0mV$	
$\pm 10V$	N/A	$\pm 8mV$	

- System noise:

Input Range	System Noise PXIe-9834
$\pm 0.5V$	0.1 mVrms
$\pm 1V$	0.15 mVrms
$\pm 5V$	1 mVrms
$\pm 10V$	1.5 mVrms

- Crosstalk:

Input Range	PXIe-9834
±0.5V	<-80dB
±1V, ±5V, ±10V	<-90dB

Note: 1MHz sine wave, 90% of full scale range

- Spectral characteristics:

Index	Specification	Note
SINAD	68dB	±0.5V, ±1V, ±5V
	65dB	±10V
THD	-78dB	For all ranges
SFDR	78dB	For all ranges
SNR	69dB	±0.5V, ±1V, ±5V
	65dB	±10V

Note: sampling rate @ 80MS/s with 10MHz -1dBFS input signal

### Trigger

- Sources:

- Software
- External digital trigger
- Analog trigger from CH0 to CH3
- PXI Trigger Bus [0..7]
- PXI STAR Trigger
- PXIe\_DSTARB

- Trigger Modes:

- Post trigger
- Pre-trigger
- Middle trigger
- Delay trigger
- Re-trigger for post-trigger and delay-trigger modes

- External Digital Trigger

Input voltage compatibility	3.3V TTL, 5V tolerant
Input voltage threshold	VIL<0.8V, VIH>2.0V
Trigger pulse width	20ns, min.

### Timebase

- Sample clock sources

Internal	Onboard clock
External	CLK IN (front panel)

- Sample clock frequency

Internal	1.22KHz to 80MHz (divided by internal frequency counter)
External	20MHz to 80MHz (CLK IN)

- External sample clock input range: 0.45V<sub>pp</sub> to 5V<sub>pp</sub>
- External sample clock input impedance: 50Ω
- External sample clock input coupling: AC
- External reference clock sources:
  - Front panel CLK IN
  - PXI 10MHz from PXI/PXIe chassis
- External reference clock frequency: 10MHz ± 2KHz

### Data Storage and Transfer

- 1 GB onboard memory, shared among four analog inputs
- Scatter-Gather DMA data transfer

### Onboard Reference

- 5.0 ppm/°C reference temperature drift
- 15 minutes recommended warmup time

### I/O

- SMA x 4 for analog input (CH0, CH1, CH2, CH3)
- SMA x 1 for external sampling clock and reference clock (CLK IN)
- SMA x 1 for external trigger input (TRG IN)

### Physical

- Dimensions: 3U, one-slot, PXI Express, 165 (W) x 100 (H) mm
- Bus interface: PCI Express Gen1 x 4
- Operating ambient temperature: 0°C to 50°C (32°F to 122°F)
- Storage ambient temperature: -20°C to 80°C (-4°F to 176°F)
- Relative humidity for operating & storage: 5% to 95%, noncondensing

### Maximum power consumption

Power rail	current draw
+3.3V	70 mA
+12V	753 mA
Total Power	9.28W

### Certifications

- EN 55022:2010/AC: 2011: Class A
- EN 55024: Immunity
- FCC 47 CFR Part 15B: Class A
- ICES-003 Issue 6-2016: Class A
- ANSI C63.4-2014: Class A

### IO connector definition

