PCI-9846H

4-ch 16-bit 40 MS/s PCI Digitizer

Features

- Up to 40 MS/s sampling
- 4 simultaneous analog inputs
- High resolution 16-bit ADC
- Up to 20 MHz bandwidth for analog input
- 512 MB onboard storage memory
- Programmable input voltage range of ±1V or ±5V
- Scatter-Gather DMA data transfer for high speed data streaming
- Provide SSI (System Synchronization Interface) for multiple module synchronization
- Full auto-calibration



Introduction

The ADLINK PCI-9846H is a 40 MS/s sampling, 16-bit, 4-ch digitizer designed for digitizing high frequency and wide dynamic range signals with an input frequency up to 20 MHz. The analog input range can be programmed via software to ±5 V / ±1 V. With a deep onboard acquisition memory up to 512 MB, the PCI-9846H is not limited by the data transfer rate of the PCI bus to enable the recording of waveforms for extended periods of time.

The PCI-9846H is equipped with four high linearity 16-bit A/D converters ideal for demanding applications with a high dynamic range such as radar, ultrasound, and software-defined radio.

Ordering Information

PN	Description
PCI-9846H	4-ch 16-bit 40 MS/s PCI Digitizer

Cable Accessories

PN	Description
ACL-SSI-2	SSI Bus cable for 2 devices

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Supported Operating Systems

- Windows 10/11, Linux

Driver and SDK

- C/C++, C#, LabVIEW

Specifications

Model Name	PCI-9846H
Analog Input	
Number of Channels	4 single-ended channels
Input Impedance	50 Ω or 1 MΩ, software selectable
Input Coupling	DC
Input Range	±1 V, ±5 V
ADC Resolution	16 bits
System Noise	±1 V: 8 LSBrms ±5 V: 5 LSBrms
Offset Error	±0.3 mV
Gain Error	±1 V: ±0.1% of reading ±5 V: ±0.06% of reading
Bandwidth	20 MHz with 50 Ω input impedance 90 kHz with 1 MΩ input impedance
Timebase	
Sample Clock Sources	Internal clock (onboard oscillator) External clock (front panel CLK IN, SSI Bus)
Timebase Frequency Range	1 MHz - 40 MHz
Dedicated External Clock Input From Panel	
Connector Type	SMB
Clock Type	Sine wave or square wave
Input Impedance	50 Ω
Input Coupling	AC
Input Range	1 Vpp to 2 Vpp
Overvoltage Protection	2.5 Vpp
Triggering	
Trigger Sources	Software TRG IO (front panel SMB connector) Analog trigger from CH0 - CH3 SSI
Trigger Modes	Pre-trigger, post-trigger, middle-trigger, delay-trigger
General Specifications	
I/O Connector	BNC x4 for analog inputs SMB x2 for external digital trigger and external timebase input
Dimensions (not including connectors)	167.6 mm (W) x 107 mm (H) (6.53" x 4.17")
Ambient Temperature (Operational)	0˚C to 50˚C (32˚F to 122˚F)

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Specifications

General Specifications	
Ambient Temperature (Storage)	-20˚C to 80˚C (-4˚F to 176˚F)
Relative Humidity	10% to 90% non-condensing
Power Requirement	3.3 V: 0.8 A 5 V: 2.0 A 12 V: 0.3 A
Certifications	
EMC/EMI	CE, FCC Class A
Multi-Module Synchronization	
	SSI (System Synchronized Interface)

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