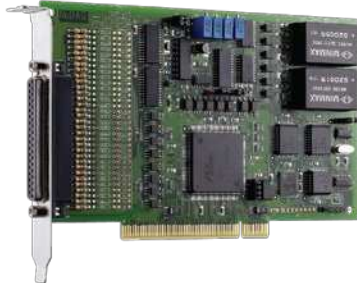# PCI-9113A

32-CH 12-Bit 100 kS/s Isolated Analog Input Card

Introduction

ADLINK's PCI-9113A is a 32-CH, 12-bit, 100 kS/s isolated analog input card. The PCI-9113A provides analog inputs with 3 programmable input ranges for both bipolar and unipolar inputs. The 32-CH single-ended analog inputs can be converted to 16-CH differential analog inputs, which improves the noise rejection in harsh industrial environments.

The analog inputs are isolated from the PC's system ground. This feature not only protects the PC from being damaged from surges on the signal lines, but also eliminates ground loops and common-mode problems commonly seen in industrial measurement applications.

The PCI-9113A provides custom circuit area for input signal conditioning. Either signal attenuation or filtering can be applied on per channel basis. With all the features, ADLINK PCI-9113A delivers cost-effective and reliable data acquisition capabilities for ATE, sensor monitoring, data logging, power transmission, and a broad variety of industrial measurement applications.

Features

- Supports a 32-bit 5 V PCI bus
- 12-bit A/D resolution
- Up to 100 kS/s sampling rate
- 32-CH single-ended or 16-CH differential inputs
- Onboard 1 k-sample A/D FIFO
- Bipolar or unipolar analog input ranges
- Programmable gains of x1, x10, x100
- Automatic analog inputs scanning
- Onboard low-pass filtering capability for analog inputs
- 2500 VRMS optical isolation
- Compact, half-size PCB
- **Operating Systems**
  - Windows 7/Vista/XP/2000/2003 Server
  - Linux
- **Recommended Software**
  - AD-Logger
  - VB.NET/VC.NET/VB/VC++/BCB/Delphi
  - DAQBench
- **Driver Support**
  - DAQPilot for LabVIEW™
  - DAQ-MTLB for MATLAB®
  - PCIS-DASK for Windows
  - PCIS-DASK/X for Linux

Specifications

Analog Input

- Number of channels: 32 single-ended or 16 differential
- Resolution: 12 bits
- Conversion time: 8 μs
- Maximum sampling rate: 100 kS/s
- Input signal ranges

Gain	Input Range		
	Bipolar		Unipolar
1	±10 V	±5 V	0 to 10 V
10	±1 V	±0.5 V	0 to 1 V
100	±0.1 V	±0.05 V	0 to 0.1 V

- Accuracy: 0.01% of FSR ± 1 LSB
- Input coupling: DC
- Overvoltage protection: continuous ±35 V
- Input impedance: 1 GΩ
- Trigger modes: software, pacer
- FIFO buffer size: 1 k samples
- Data transfers: polling, interrupt
- Isolation Voltage: 2500 VRMS

General Specifications

- I/O connector: 37-pin D-sub female
- Operating temperature: 0˚C to 55˚C
- Storage temperature: -20˚C to 80˚C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

+5 V
960 mA typical

- Dimensions (not including connectors)
  173 mm x 107 mm

Terminal Boards & Cables

- **DIN-37D-01**
  Terminal Board with One 37-pin D-sub Connector and DIN-Rail Mounting (Cables are not included.)
- **ACLD-9137-01**
  General-Purpose Terminal Board with One 37-pin D-sub Male Connector
- **ACL-10137-1MM**
  37-pin D-sub male/male cable, 1 M
- **ACL-10137-1MF**
  37-pin D-sub male/female cable, 1 M

* For more information on mating cables, please refer to P2-61/62.

Ordering Information

- **PCI-9113A**
  32-CH 12-Bit 100 kS/s Isolated Analog Input Card

Pin Assignment

AI0 (AIH0)	1	20	(AIH1) AI1
AI2 (AIH2)	2	21	(AIH3) AI3
AI4 (AIH4)	3	22	(AIH5) AI5
AI6 (AIH6)	4	23	(AIH7) AI7
AI8 (AIH8)	5	24	(AIH9) AI9
AI10 (AIH10)	6	25	(AIH11) AI11
AI12 (AIH12)	7	26	(AIH13) AI13
AI14 (AIH14)	8	27	(AIH15) AI15
IGND	9	28	IGND
IGND	10	29	IGND
AI16 (AIL0)	11	30	(AIL1) AI17
AI18 (AIL2)	12	31	(AIL3) AI19
AI20 (AIL4)	13	32	(AIL5) AI21
AI22 (AIL6)	14	33	(AIL7) AI23
AI24 (AIL8)	15	34	(AIL9) AI25
AI26 (AIL10)	16	35	(AIL11) AI27
AI28 (AIL12)	17	36	(AIL13) AI29
AI30 (AIL14)	18	37	(AIL15) AI31
IGND	19		