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

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
- On-board 1 k-sample A/D FIFO
- Bipolar or unipolar analog input ranges
- Programmable gains of x1, x10, x100
- Automatic analog inputs scanning
- On-board low-pass filtering capability for analog inputs
- 2500 V$_{RMS}$ optical isolation
- Compact, half-size PCB

- **Operating Systems**
  - Windows 98/NT/2000/XP/2003
  - Linux
  - DOS

- **Recommended Software**
  - VB/VC++/BCB/Delphi
  - DAQBench
  - DAQCreator

- **Driver Support**
  - DAQ-LVIEW PnP for LabVIEW
  - DAQ-MTLB for MATLAB
  - DAQBOY for Windows
  - PCIS-DASK for Windows
  - PCIS-DASK/X for Linux

Introduction

ADLINK 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 improve 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.

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 V$_{RMS}$

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

+5 V
960 mA typical

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

Termination Boards

- **DIN-37D**
  Termination Board with a 37-pin D-sub Connector and DIN-Rail Mounting (Including One 1-meter ACL-10137 Cable)

- **ACLD-9137**
  General-Purpose Termination Board with a 37-pin D-sub Male Connector

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		

Ordering Information

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