

# ACL-8113A

## 32-CH 12-Bit 30 kS/s Isolated Analog Input Card

### Features

- 12-bit A/D resolution
  - Up to 30 kS/s sampling rate
  - 32-CH single-ended inputs
  - Bipolar or unipolar analog input ranges
  - Programmable gain of x1, x2, x4, x8, x16
  - 2500 VRMS optical isolation
  - Compact, half-size PCB
  - Register structure compatible with PCL-813
- **Operating Systems**
    - Windows 2000/NT/XP/9x
    - DOS
  - **Recommended Software**
    - VB/VC++/BCB/Delphi
    - Turbo C/Borland C
  - **Drivers Support**
    - ACLS-LVIEW
    - ACLS-DLL1/DLL2
    - DOS library



### Introduction

ADLINK ACL-8113A is a 12-bit 32-CH isolated analog input card with ISA interface. The ACL-8113A is designed to meet high voltage isolation on each analog channel. Isolated input signal design protects the PC and peripherals from damage due to high voltages on the input channels. The on-board signal conditioning circuits help user to attenuate the analog input or provide the holes for I-to-V conversion. In addition, two DC-to-DC converters and software programmable gain on each channel are provided for stability and flexibility. The ACL-8113A is a cost-effective solution for applications in industrial measurement and monitoring.

### Specifications

#### Analog Input

- Number of input channels: 32 single-ended
- Resolution: 12 bits
- Maximum sampling rate: 30 kS/s
- Input signal ranges (software programmable)

Gain	Input Range	
	Bipolar	Unipolar
1	± 10 V	0 to 10 V
2	± 5 V	0 to 5 V
4	± 2.5 V	0 to 2.5 V
8	± 1.25 V	0 to 1.25 V
16	± 0.625 V	0 to 0.625 V

- Accuracy: 0.015% of reading ±1 bit
- DNL: ±1 LSB
- Input coupling: DC
- Overvoltage protection: continuous ±35 V
- Input impedance: 10 MΩ
- Trigger mode: software trigger
- Isolation voltage: 2500 VRMS
- Data transfers: polling

#### 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 maximum
- Dimensions (not including connectors)  
160 mm x 122 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-8125**  
Termination Board with a 37-pin D-sub Connector and One Cold Junction Temperature Sensor (Including One 1-meter ACL-10137 Cable)
- **ACLD-9137**  
General-Purpose Termination Board with a 37-pin D-sub Male Connector
- **ACLD-9138**  
General-Purpose Termination Board with a 37-pin D-sub Connector (Including One 1-meter ACL-10237 Cable)
- **ACLD-9881**  
Termination Board for 32-CH signal conditioning with One 37-pin D-sub Female Connector (Including one 1-meter ACL-10137 Cable)

### Pin Assignment

#### CN1: Isolated Analog Inputs

AI0	1	20	AI1
AI2	2	21	AI3
AI4	3	22	AI5
AI6	4	23	AI7
AI8	5	24	AI9
AI10	6	25	AI11
AI12	7	26	AI13
AI14	8	27	AI15
AGND	9	28	AGND
AGND	10	29	AGND
AI16	11	30	AI17
AI18	12	31	AI19
AI20	13	32	AI21
AI22	14	33	AI23
AI24	15	34	AI25
AI26	16	35	AI27
AI28	17	36	AI29
AI30	18	37	AI31
AGND	19		

### Ordering Information

- **ACL-8113A**  
32-CH 12-Bit 30 kS/s Isolated Analog Input Card

- 1 Software Solutions
- 2 PXI/ CompactPCI Platforms
- 3 PXI-Based Instruments
- 4 PXI/ CompactPCI Modules
- 5 PCI DAQ Cards
- 6 PCI DIO Cards
- 7 PC/ 104-Plus Products
- 8 ISA DAS/ DIO Cards
- 9 Wiring Termination Boards
- 10 Motion Control Cards
- 11 Machine Vision Products
- 12 Remote I/O Modules