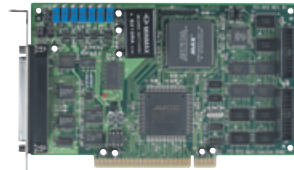


PCI-9112/LPCI-9112

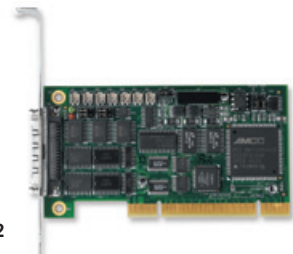
16-CH 12-Bit 110 kS/s Multi-Function DAQ Card / Low-Profile DAQ Card

Features

- Support a 32-bit 5 V PCI bus (PCI-9112)
 - Supports a 3.3V or 5V PCI bus (LPCI-9112)
 - 12-bit A/D resolution
 - Up to 110 kS/s sampling rate
 - 16-CH single-ended or 8-CH differential inputs
 - Bipolar or unipolar analog input ranges
 - Programmable gains of x0.5, x1, x2, x4, x8
 - Automatic analog inputs scanning
 - Bus-mastering DMA for analog inputs
 - 2-CH 12-bit multiplying analog outputs
 - 16-CH TTL digital inputs and 16-CH TTL digital outputs
 - 1-CH 16-bit general purpose timer/counter
 - Compact, half size PCB (PCI-9112)
 - Compact, low-profile PCI size PCB (LPCI-9112)
- **Operating Systems**
 - Windows 98/NT/2000/XP/2003
 - Linux
 - DOS
 - Windows CE (call for availability)
 - **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



PCI-9112



LPCI-9112

Introduction

ADLINK PCI-9112/LPCI-9112 is a 16-CH, 12-bit, 110kS/s multi-function DAQ Card. The PCI-9112/LPCI-9112 device features flexible configurations on analog inputs. It provides analog inputs with 4 programmable input ranges for both bipolar and unipolar inputs. The A/D on the PCI-9112/LPCI-9112 features a sampling rate up to 110kS/s with resolution at 12 bits. The device supports automatic analog input scanning, and offers a differential mode for 8-CH analog inputs and maximum noise elimination, as well as single-ended modes for 16-CH analog inputs.

The PCI-9112/LPCI-9112 also features 2-CH 12-bit analog outputs, 1-CH 16-bit general purpose timer/counter, 16-CH TTL digital inputs and 16-CH TTL digital outputs. LPCI-9112 is the MD1 size, low-profile version of PCI-9112. The low-profile PCI card is especially suitable for the applications which have the space-restriction on the size of peripheral cards. Based on the technology of PCI-9112, LPCI-9112 enhances the supporting of PCI bus from 5V only to 3.3V or 5V universal PCI bus.

Specifications

Analog Input

- Number of channels: 16 single-ended or 8 differential
- Resolution: 12 bits
- Conversion time: 8 μ s
- Maximum sampling rate: 110 kS/s
- Input signal ranges

Gain	Input Range	
	Bipolar	Unipolar
0.5	± 10 V	--
1	± 5 V	0 to 10 V
2	± 2.5 V	0 to 5 V
4	± 1.25 V	0 to 2.5 V
8	± 0.625 V	0 to 1.25 V

Accuracy

Gain	Accuracy
0.5, 1	0.01 % of FSR ± 1 LSB
2, 4	0.02 % of FSR ± 1 LSB
8	0.04 % of FSR ± 1 LSB

- Input coupling: DC
- Overvoltage protection: continuous ± 35 V
- Input impedance: 1 G Ω
- Trigger modes: software, pacer
- Data transfers:
 - programmed I/O, interrupt, bus mastering DMA

Analog Output

- Number of channels: 2 voltage outputs
- Resolution: 12 bits
- Output ranges (software programmable)

Output Range	
Unipolar	0 to 10 V, 0 to 5 V, 0 to EXTREF

- Output driving capacity: ± 5 mA max
- Settling time: 30 μ s to 0.5 LSB
- Data transfers: programmed I/O

Digital I/O

- Number of channels: 16 inputs and 16 outputs
- Compatibility: 5 V/TTL
- Data transfers: programmed I/O

General-Purpose Timer/Counter

- Number of channels: 1
- Resolution: 16 bits
- Compatibility: 5 V/TTL
- Base clock available: 2 MHz, external clock to 10 MHz

General Specifications

- I/O connector: 37-pin D-sub female
- Operating temperature: 0 to 60°C
- Storage temperature: -20 to 80°C
- Relative humidity: 5 to 95 %, noncondensing
- Power requirements

	+5 V	+12 V
PCI-9112	460 mA typical	110 mA typical
LPCI-9112	500 mA typical	110 mA typical

- Dimensions (not including connectors)
 - 175 mm x 107 mm (PCI-9112)
 - 120 mm x 65 mm (LPCI-9112)

Termination Boards

For PCI-9112:

- **DIN-37D**
Termination Board with a 37-pin D-sub Connector and DIN-Rail Mounting (Including One 1-meter ACL-10137 Cable)
- **DIN-20P**
Termination Board with a 20-pin Ribbon Connector and DIN-Rail Mounting (Including One 1-meter ACL-10120 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-8125**
Termination Board with a 37-pin D-sub Connector and One Cold Junction Temperature Sensor (Including One 1-meter ACL-10137 Cable)

- **ACLD-9188**
General-Purpose Termination Board with Two 20-pin Ribbon Connectors and One 37-pin D-sub Connector (Including Two 1-meter ACL-10120 Cables)

- **ACLD-9182A**
Termination Board with 16-CH Isolated Digital Inputs (Including One 1-meter ACL-10120 Cable)

- **ACLD-9185**
Termination Board with 16-CH Relay Outputs (Including One 1-meter ACL-10120 Cable)

For LPCI-9112:

- **DIN-68S/1M**
Termination Board with a 68-pin SCSI-II Connector and DIN-Rail Mounting (Including One 1-meter ACL-10568 Cable)

Pin Assignment

PCI-9112		LPCI-9112	
CN3: Analog Input /Output & Counter/Timer			
A10 (AIH0)	1 20 (AII0) AI8	DOUT0	1 35 DINO
A11 (AIH1)	2 21 (AII1) AI9	DOUT1	2 36 DIN1
A12 (AIH2)	3 22 (AII2) AI10	DOUT2	3 37 DIN2
A13 (AIH3)	4 23 (AII3) AI11	DOUT4	5 39 DIN4
A14 (AIH4)	5 24 (AII4) AI12	DOUT5	6 40 DIN5
A15 (AIH5)	6 25 (AII5) AI13	DOUT6	7 41 DIN6
A16 (AIH6)	7 26 (AII6) AI14	DOUT7	8 42 DIN7
A17 (AIH7)	8 27 (AII7) AI15	DOUT8	9 43 DIN8
AGND	9 28 AGND	DOUT9	10 44 DIN9
AGND	10 29 AGND	DOUT10	11 45 DIN10
V.REF	11 30 AO1	DOUT11	12 46 DIN11
ExtVref2	12 31 ExtVref1	DOUT12	13 47 DIN12
+12Vout	13 32 AO2	DOUT13	14 48 DIN13
AGND	14 33 GATE0	DOUT14	15 49 DIN14
D.GND	15 34 GATE	DOUT15	16 50 DIN15
Count0	16 35 Count1	FCOUNT0	17 51 EXTCLK
ExtTrg	17 36 N/C	EXTTRG	18 52 GATE0
N/C	18 37 EXTCLK	FCOUNT1	19 53 GATE
+5Vout	19	+12V	20 54 SGND
CN1: Digital Input			
DIO	1 2 DIO1	VCC	21 55 SGND
DIO2	3 4 DIO3	AGND	22 56 AGND
DIO4	5 6 DIO5	VREF	23 57 EXTVREF1
DIO6	7 8 DIO7	EXTVREF2	24 58 DAOUT0
DIO8	9 10 DIO9	AGND	25 59 DAOUT1
DIO10	11 12 DIO11	AGND	26 60 AGND
DIO12	13 14 DIO13	AIN0	27 61 AIN8
DIO14	15 16 DIO15	AIN1	28 62 AIN9
GND	17 18 GND	AIN2	29 63 AIN10
+5Vout	19 20 +12Vout	AIN3	30 64 AIN11
CN2: Digital Output			
DO0	1 2 DO1	AIN4	31 65 AIN12
DO2	3 4 DO3	AIN5	32 66 AIN13
DO4	5 6 DO5	AIN6	33 67 AIN14
DO6	7 8 DO7	AIN7	34 68 AIN15
DO8	9 10 DO9		
DO10	11 12 DO11		
DO12	13 14 DO13		
DO14	15 16 DO15		
GND	17 18 GND		
+5Vout	19 20 +12Vout		

Ordering Information

- **PCI-9112**
16-CH 12-Bit 110 kS/s Multi-Function DAQ Card
- **LPCI-9112**
16-CH, 12-Bit 110kS/s Multi-Function Low-Profile DAQ 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 PCI/104-Plus Products
- 8 ISA DAS/ DIO Cards
- 9 Wiring Termination Boards
- 10 Motion Vision & COM
- 11 Remote I/O Modules
- 12 Industrial Computers