**PCI-9112/LPCI-9112**

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

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**Features**
- Supports a 32-bit 5 V PCI bus (PCI-9112)
- Supports a 3.3 V or 5 V 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 0x0.5, 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**
- Linux
- Windows CE (call for availability)

**Recommended Software**
- VBS.NET/V Slave/VC++/CD2000/Dephi
- DAQBench

**Driver Support**
- DAQ-Plot for Windows
- DAQ-LVIEW PRO for LabVIEW™
- DAQ-MTLB for MATLAB®
- PCIS-DASK for Windows
- PCIS-DASXX for Linux

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**Introduction**

ADLINK PCI-9112/LPCI-9112 is a 16-CH, 12-bit, 110 kS/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 110 kS/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. PCI-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 support general cards. Based on the technology of PCI-9112, PCI-9112 enhances the supporting of PCI bus from 5 V only to 3.3 V or 5 V universal PCI bus.

**Specifications**

**Analog Input**
- Number of channels: 16 single-ended or 8 differential
- Resolution: 12 bits
- Conversion time: 8 µs
- Maximum sampling rate: 110 kS/s
- Input signal ranges:
  - Bipolar: ±10 V
  - Unipolar: 0 to 10 V
  - 0.1 µV to 10 V
  - 0.1 mV to 10 V

**Accuracy**
- Gain 0.1: 0.01 % of FSR ± 1 LSB
- Gain 1: 0.001 % of FSR ± 1 LSB
- Gain 10: 0.001 % of FSR ± 1 LSB
- Gain 100: 0.001 % of FSR ± 1 LSB

**Thresholding**
- Input coupling: DC
- Overvoltage protection: continuous ±35 V
- Input impedance: 1 GΩ
- 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):
  - Bipolar: ±10 V
  - Unipolar: 0 to 10 V, 5 V to 0 V, 0 to 10 V
- Output driving capacity: ±5 mA max
- Settling time: 30 µs to 0.5 LSB
- Data transfers: programmed I/O

**Digital I/O**
- Number of channels: 16 inputs and 16 outputs
- Compatibility: 5 V TTL
- Resolution: 16 bits
- Base clock available: 2 MHz, external clock to 10 MHz

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**Operational Specifications**
- VO connector: 37-pin D-sub female
- Operating temperature: 0 to 60 °C
- Storage temperature: -20 to 80 °C
- Relative humidity: 5 to 95 %, non-condensing
- Power requirements:
  - ±12 V: 500 mA typical
  - +5 V: 175 mA typical

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**Ordering Information**

- **PCI-9112**
  - 16-CH 12-Bit 110 kS/s Multi-Function DAQ Card

- **LPCI-9112**
  - 16-CH, 12-Bit 110 kS/s Multi-Function Low-Profile DAQ Card

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**Pin Assignment**

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**Ordering Information**

**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 %, non-condensing
- Power requirements:
  - ±12 V: 500 mA typical
  - +5 V: 175 mA typical

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

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**Relative humidity**: 5 to 95 %, non-condensing

**Operating temperature**: 0 to 60 °C

**I/O connector**: 37-pin D-sub female

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**Contact Information**

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