PCI-9112

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



PCI-9112

Features

- **Supports a 3.3 V or 5 V PCI bus (PCI-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**

Supported Operating System

• Windows 7/8 x64/x86, Linux

Driver and SDK

• LabVIEW, MATLAB, C/C++, Visual Basic, Visual Studio.NET

Software Utility

• AD-Logger

Specifications

Analog Input

- Number of channels: 16 single-ended or 8 differential
- Resolution: 12 Bit
- Conversion time: 8 μs
- 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 GΩ
- Trigger modes: software
- Data transfers: programmed I/O, interrupt, bus-mastering DMA

Analog Output

- Number of channels: 2 voltage outputs
- Resolution: 12 Bit
- 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 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
- Data transfers: programmed I/O

General-Purpose Timer/Counter

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

Calibration

- PCI-9112 : Calibrate Analog Output on 5V
- PCI-9112A : Calibrate Analog Output on 10V

General Specifications

- I/O connector: 37-pin D-sub female
- Operating temperature: 0°C to 60°C (32°F to 140°F)
- Storage temperature: -20°C to 80°C (-4°F to 176°F)
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

	+5 V	+12 V
PCI-9112A	460 mA typical	110 mA typical

- Dimensions (not including connectors)
  • 175 mm x 107 mm (6.82" x 4.17")

Terminal Boards & Cables

For PCI-9112:

- DIN-37D-01
  Terminal Board with One 37-pin D-sub Connector and DIN-Rail Mounting
- DIN-20P-01
  Terminal Board with One 20-pin Ribbon Connector and DIN-Rail Mounting
- ACLD-9137-01
  General-Purpose Terminal Board with One 37-pin D-sub Male Connector
- ACLD-9138-01
  General-Purpose Terminal Board with One 37-pin D-sub Connector
- ACLD-9182A-01
  Terminal Board with 16-CH Isolated Digital Inputs
- ACLD-9185-01
  Terminal Board with 16-CH Isolated Digital Inputs
- ACL-10137-1MM
  37-pin D-sub male/male cable, 1 M
- ACL-10137-1MF
  37-pin D-sub male/female cable, 1 M
- ACL-10120-1
  20-pin flat cable, 1 M
- ACL-10237-1
  37-pin D-sub male/male flat cable, 1 M

*** For more information on mating cables, please refer to P3-48/49.**

Ordering Information

- **PCI-9112**
  16-CH 12-Bit 110 kS/s Multi-Function DAQ Card (AO Calibrated on 5V)
- **PCI-9112A**
  16-CH 12-Bit 110kS/s Multi Function DAQ Card (AO Calibrated on 10V)

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