

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 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 \pm 1 LSB
2, 4	0.02% of FSR \pm 1 LSB
8	0.04% of FSR \pm 1 LSB

- Input coupling: DC
- Overvoltage protection: continuous ± 35 V
- Input impedance: 1 G Ω
- 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 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 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)