

PCI-6308V/6308A

8-CH 12-Bit Isolated Analog Output Cards



Introduction

The PCI-6308V is a high-performance 12-bit analog output board with PCI interface. It provides 8 identical voltage output channels, with each channel capable of bipolar voltage outputs, unipolar voltage output and unipolar 0 to user defined voltage output. The PCI-6308V provides good monotonicity, low distortion, and low differential linearity error over long periods of time. The output ranges of the PCI-6308V are bipolar -10 to +10 V, unipolar 0 to 10 V and as well as user-defined ranges with external reference input, which are jumper selectable. The PCI-6308A device is the combination of the PCI-6308V with an 8-CH current output extended board, EXP-8A. The EXP-8A board includes 8 precision voltage-to-current converters.

ADLINK PCI-6308 series devices provide flexible and isolated analog output functionalities and are suitable for ATE, signal generation, industrial process control, servo control and other industrial control applications.

Features

- Supports a 32-bit 5 V PCI bus
- 12-bit D/A resolution (PCI-6308V & PCI-6308A)
- Isolated 8-CH 12-bit voltage output (PCI-6308V & PCI-6308A)
- Isolated 8-CH 12-bit current output (PCI-6308A)
- Bipolar or unipolar output ranges
- External reference input for user-defined ranges
- 4-CH isolated digital outputs and 4-CH isolated digital inputs
- 2500 V_{RMS} optical isolation
- Compact, half-size PCB
- Operating Systems
 - Windows Vista/XP/2000/2003
 - Linux
 - Windows CE (call for availability)
- Recommended Software
 - AD-Logger
 - VB.NET/VC.NET/VB/VC++/BCB/Delphi
 - DAQBench
- Driver Support
 - DAQPilot for Windows
 - DAQ-LVIEW PnP for LabVIEW™
 - DAQ-MTLB for MATLAB®
 - PCIS-DASK for Windows
 - PCIS-DASK/X for Linux

Specifications

Isolated Analog Output

- Number of channels: 8 voltage outputs (PCI-6308V & PCI-6308A)
- Resolution: 12 bits
- Output ranges (jumper selectable)

| | Input Range |
|----------|------------------------|
| Bipolar | ±10 V |
| Unipolar | 0 to 10 V, 0 to EXTREF |

- Settling time: 16 μs (20 V step)
- Maximum update interval:
 - 90 μs for four channels simultaneously
- Gain error: ±0.2 % max.

- DNL: ±1 LSB
- Output driving capacity: ±5 mA
- Isolation voltage: 2500 V_{RMS}
- Output initial status:
 - 0 V (after RESET or POWER-ON)
- Data transfers: programmed I/O

Current Output (PCI-6308A)

- Number of channels: 8
- Resolution: 12 bits
- Output ranges (software programmable):
 - 0-20 mA, 4-20 mA, and 5-25 mA
- Gain error: 0.3 %
- Settling time: 17 μs (0-20 mA)
- Slew rate: 1.3 mA/μs
- DNL: ±1 LSB maximum
- Output resistance: 10 GΩ typical
- Current load resistance: 0 - 500 Ω
- Output initial status:
 - 4 mA (after RESET or POWER-ON)
- Data transfer: programmed I/O

Isolated Digital Input

- Number of channels: 4
- Maximum input range: 24 V, non-polarity
- Digital logic levels
 - Input high voltage: 5 - 24 V
 - Input low voltage: 0 - 1.5 V
- Input resistance: 2.4 kΩ @ 0.5 V
- Isolation voltage: 2,500 V_{RMS}
- Data transfers: programmed I/O

Isolated Digital Output

- Number of channels: 4 (PCI-6308V & PCI-6308A)
- Output type: photo-coupler transistors
- Supply voltage: 5 to 35 V
- Isolation voltage: 2,500 V_{RMS}
- Data transfers: programmed I/O

General Specifications

- I/O connector: 37-pin D-sub female
- Operating temperature: 0 °C to 55 °C
- Storage temperature: -20 °C to 80 °C
- Relative humidity: 5% to 95 %, non-condensing
- Power requirements

| Device | +5 V | +12 V |
|-----------|----------------|----------------------------------|
| PCI-6308V | 220 mA typical | 175 mA typical |
| PCI-6308A | 220 mA typical | 250 mA typical 530 mA maximum |

- Dimensions (not including connectors)
175 mm x 107 mm

Terminal Boards

DIN-37D-01

Terminal Board with One 37-pin D-sub Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 12, Accessories.)

ACLD-9137-01

General-Purpose Terminal Board with One 37-pin D-sub Male Connector

Ordering Information

PCI-6308V

8-CH 12-Bit Isolated Voltage Output Card

PCI-6308A

8-CH 12-Bit Isolated Voltage & Current Output Card

Pin Assignment

| | | | |
|---------|----|----|---------|
| DI3 | 1 | 20 | DO3 |
| DI2 | 2 | 21 | DO2 |
| DI1 | 3 | 22 | DO1 |
| DI0 | 4 | 23 | DO0 |
| DIGND | 5 | 24 | DOGND |
| ExtVref | 6 | 25 | -15Vout |
| +15Vout | 7 | 26 | AGND |
| AGND | 8 | 27 | A7 |
| A6 | 9 | 28 | V7 |
| V6 | 10 | 29 | AGND |
| AGND | 11 | 30 | A5 |
| A4 | 12 | 31 | V5 |
| V4 | 13 | 32 | A.GND |
| AGND | 14 | 33 | A3 |
| A2 | 15 | 34 | V3 |
| V2 | 16 | 35 | AGND |
| AGND | 17 | 36 | A1 |
| A0 | 18 | 37 | V1 |
| V0 | 19 | | |