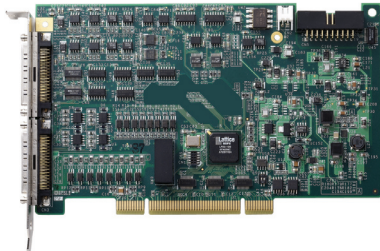


PCI-6202

4-CH 16-Bit 1 MS/s Analog Output & 32-CH Isolation DIO Card



Introduction

The ADLINK PCI-6202 is a 4-CH, 16-bit high resolution voltage output card with hardware timed waveform generation. Four analog output channels can update simultaneously and support up to 1 MS/s update rate per channel. PCI-6202 features excellent linearity (DNL < 1 LSB), which is suitable for dynamic signal simulation and control applications requiring high accuracy through voltage output. Furthermore, the PCI-6202 provides additional I/O control lines for system integration, such as 16-CH isolated digital input and 16-CH isolated output, 8-CH TTL DI and 8-CH TTL DO, 3-CH encoder inputs, and 4-CH PWM outputs. Combined, these I/O functionalities, solid voltage output linearity, and high accuracy, make PCI-6202 the best single-board solution for both equipment manufacturers and laboratory research applications.

Features

- Supports a 32-bit 3.3 V or 5 V PCI bus
- Hardware-based waveform generation
- DNL Linearity less than 1 LSB
- Digital triggering for waveform generation
- 16-CH isolation digital inputs & 16-CH isolation digital outputs
- 8-CH TTL DI and 8-CH TTL DO
- 2-CH timer/counter, base clock: 40 MHz
- 4-CH PWM output
- 3-CH encoder inputs, supporting AB phase and CW/CCW
- Multiple card synchronization through SSI (System Synchronization Interface) bus
- 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

Analog Output

- Resolution: 16 bits
- Number of channels: Four (simultaneous update)
- Maximum update rate: 1 MS/s
- FIFO buffer size: 8k Samples (4-CH Sharing)
- Output range: ± 10 V
- DNL: Less than ± 1 LSB
- Offset Error: 0.3 mV
- Positive Gain Error: 0.3 mV
- Negative Gain Error: 0.3 mV
- Settling Time: 3 μ s
- Slew Rate: 20 V/ μ s
- Rise Time: 0.67 μ s
- Falling Time: 0.705 μ s
- Output Current Capacity: 5 mA
- Trigger source: Software, External digital, SSI bus
- Data Transfer: Software polling, DMA

Isolated Digital Input

- Number of channels: 16
- Maximum input range: 24 V, non-polarity
- Digital logic level
 - Input high voltage: 10-24 V
 - Input low voltage: 0-1.5 V
- Isolation voltage: 2500 VRMS

Isolated Digital Output

- Number of channels: 16
- Sink current limitation: 250 mA for one channel @ 100% duty
- Supply voltage: 5-35 Vdc
- Isolation voltage: 2500 VRMS

Encoder Input

- Number of channels: Three Encoder type
 - CW/CCW encoder
 - x1 AB phase encoder
 - x2 AB phase encoder
 - x4 AB phase encoder

Function I/O

- Digital I/O: Eight DO (3.3 V TTL Level)/Eight DI (3.3 V or 5 V TTL Level)
- General Timer/Counter: Two 32-bit, Base clock: 80 MHz, external to 10 MHz
- Pulse Generation: Four PWM Outputs
 - Single pulse generation
 - Pulse train generation
- AF10/AF11: D/A Convert Clock or Start Trigger

General Specifications

- PCI Bus: 5 V and 3.3 V universal PCI bus
- I/O Connector: Two 68-pin SCSI-VHDCI female
- Operation temperature: 0°C to 55°C
- Storage temperature: -20°C to 70°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements:

| +5 V | +12 V |
|----------------|----------------|
| 500 mA typical | 110 mA typical |

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

SSI Bus Cables (for multiple cards synchronization)

- **ACL-SSI-2**
SSI Bus cable for two devices
- **ACL-SSI-3**
SSI Bus cable for three devices
- **ACL-SSI-4**
SSI Bus cable for four devices

Terminal Boards

- **DIN-68S-01**
Terminal Board with One 68-pin SCSI-II connector and DIN-Rail Mounting (cables are not included; for information on mating cables, refer to Section 14, Accessories.)

Ordering Information

- **PCI-6202**
4-CH 16-Bit 1 MS/s Analog Output & 32-CH Isolation DIO Card

Pin Assignment

| CN1 | | | | CN2 | | | |
|--------|----|----|------------|----------|----|----|----------|
| DO_0 | 1 | 35 | GPTC_OUT0 | IDI_0 | 1 | 35 | IDI_8 |
| DO_1 | 2 | 36 | GPTC_GATE0 | IDI_1 | 2 | 36 | IDI_9 |
| DO_2 | 3 | 37 | GPTC_UD0 | IDI_2 | 3 | 37 | IDI_10 |
| DO_3 | 4 | 38 | GPTC_AUX0 | IDI_3 | 4 | 38 | IDI_11 |
| DO_4 | 5 | 39 | GPTC_CLK0 | IDI_4 | 5 | 39 | IDI_12 |
| DO_5 | 6 | 40 | GPTC_OUT1 | IDI_5 | 6 | 40 | IDI_13 |
| DO_6 | 7 | 41 | GPTC_GATE1 | IDI_6 | 7 | 41 | IDI_14 |
| DO_7 | 8 | 42 | GPTC_UD1 | IDI_7 | 8 | 42 | IDI_15 |
| DGND | 9 | 43 | GPTC_AUX1 | COM | 9 | 43 | COM |
| DGND | 10 | 44 | GPTC_CLK1 | COM | 10 | 44 | COM |
| DI_0 | 11 | 45 | DGND | EA0+ | 11 | 45 | EA1+ |
| DI_1 | 12 | 46 | DGND | EA0- | 12 | 46 | EA1- |
| DI_2 | 13 | 47 | DGND | EB0+ | 13 | 47 | EB1+ |
| DI_3 | 14 | 48 | DGND | EB0- | 14 | 48 | EB1- |
| DI_4 | 15 | 49 | DGND | EZ0+ | 15 | 49 | EZ1+ |
| DI_5 | 16 | 50 | DGND | EZ0- | 16 | 50 | EZ1- |
| DI_6 | 17 | 51 | DGND | EORG0 | 17 | 51 | EORG1 |
| DI_7 | 18 | 52 | DGND | EA2+ | 18 | 52 | EZ2+ |
| DGND | 19 | 53 | PWM_0 | EA2- | 19 | 53 | EZ2- |
| DGND | 20 | 54 | PWM_1 | EB2+ | 20 | 54 | EORG2 |
| DGND | 21 | 55 | PWM_2 | EB2- | 21 | 55 | Ext. 24V |
| DGND | 22 | 56 | PWM_3 | Ext. GND | 22 | 56 | Ext. 24V |
| DGND | 23 | 57 | AFI0 | IGND | 23 | 57 | Ext. GND |
| AGND | 24 | 58 | AFI1 | IGND | 24 | 58 | IGND |
| AGND | 25 | 59 | NC | VDD | 25 | 59 | IGND |
| AGND | 26 | 60 | AGND | VDD | 26 | 60 | ISO5V |
| AGND | 27 | 61 | AGND | IDO_0 | 27 | 61 | IDO_8 |
| AGND | 28 | 62 | AGND | IDO_1 | 28 | 62 | IDO_9 |
| AGND | 29 | 63 | AGND | IDO_2 | 29 | 63 | IDO_10 |
| AGND | 30 | 64 | AGND | IDO_3 | 30 | 64 | IDO_11 |
| AO_CH0 | 31 | 65 | AGND | IDO_4 | 31 | 65 | IDO_12 |
| AO_CH1 | 32 | 66 | AGND | IDO_5 | 32 | 66 | IDO_13 |
| AO_CH2 | 33 | 67 | AGND | IDO_6 | 33 | 67 | IDO_14 |
| AO_CH3 | 34 | 68 | AGND | IDO_7 | 34 | 68 | IDO_15 |

PCI-6202 Block Diagram

