NEW

PCI-6202

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

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

Recommended Software
- 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

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, 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.

Specifications

Analog Output
- Resolution: 16-bits
- Number of channels: Four (simultaneous update)
- Maximum update rate: 1 MS/s
- FIFO buffer size: 512 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 µs
- Slew Rate: 20 V/µs
- Rise Time: 0.67 µs
- Falling Time: 0.705 µs
- 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 V_{RMS}

Isolated Digital Output
- Number of channels: 16
- Source current limitation: 500 mA for one channel @ 100% duty
- Supply voltage: 5-35 V_{DC}
- Isolation voltage: 2500 V_{RMS}

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
- AFI0/AFI1: 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)

Termination Boards

- **DIN-68S-01**
  Termination board with one 68-pin SCSI-II connector and DIN-Rail Mounting (Cables are not included. For more information on mating cables, refer to Section 12.)

SSI Bus Cables (for multiple card 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

Pin Assignment

CN1

DO_0	1	35	GPTC_OUT0
DO_1	2	36	GPTC_GATE0
DO_2	3	37	GPTC_UD0
DO_3	4	38	GPTC_AUX0
DO_4	5	39	GPTC_CLK0
DO_5	6	40	GPTC_OUT1
DO_6	7	41	GPTC_GATE1
DO_7	8	42	GPTC_UD1
DGND	9	43	GPTC_AUX1
DGND	10	44	GPTC_CLK1
DI_0	11	45	DGND
DI_1	12	46	DGND
DI_2	13	47	DGND
DI_3	14	48	DGND
DI_4	15	49	DGND
DI_5	16	50	DGND
DI_6	17	51	DGND
DI_7	18	52	DGND
DGND	19	53	PWM_0
DGND	20	54	PWM_1
DGND	21	55	PWM_2
DGND	22	56	PWM_3
DGND	23	57	AFI0
AGND	24	58	AFI1
AGND	25	59	NC
AGND	26	60	AGND
AGND	27	61	AGND
AGND	28	62	AGND
AGND	29	63	AGND
AGND	30	64	AGND
AO_CH0	31	65	AGND
AO_CH1	32	66	AGND
AO_CH2	33	67	AGND
AO_CH3	34	68	AGND

CN2

IDI_0	1	35	IDI_8
IDI_1	2	36	IDI_9
IDI_2	3	37	IDI_10
IDI_3	4	38	IDI_11
IDI_4	5	39	IDI_12
IDI_5	6	40	IDI_13
IDI_6	7	41	IDI_14
IDI_7	8	42	IDI_15
COM	9	43	COM
COM	10	44	COM
EA0+	11	45	EA1+
EA0-	12	46	EA1-
EB0+	13	47	EB1+
EB0-	14	48	EB1-
EZ0+	15	49	EZ1+
EZ0-	16	50	EZ1-
EORG0	17	51	EORG1
EA2+	18	52	EZ2+
EA2-	19	53	EZ2-
EB2+	20	54	EORG2
EB2-	21	55	Ext. 24V
Ext. GND	22	56	Ext. 24V
IGND	23	57	Ext. GND
IGND	24	58	IGND
VDD	25	59	IGND
VDD	26	60	ISO5V
IDO_0	27	61	IDO_8
IDO_1	28	62	IDO_9
IDO_2	29	63	IDO_10
IDO_3	30	64	IDO_11
IDO_4	31	65	IDO_12
IDO_5	32	66	IDO_13
IDO_6	33	67	IDO_14
IDO_7	34	68	IDO_15

Ordering Information

- **PCI-6202**
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