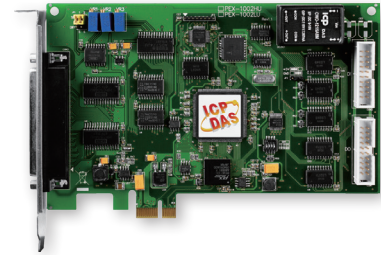


2-3 Analog Input/Output Boards

PEX-1002L/PEX-1002H

PCI Express, 32-channel, 12-bit, 110 kS/s or 44 kS/s
Multi-function Board



Features

- PCI Express x1 Interface
- 16-channel 5 V/TTL Digital Input
- 16-channel 5 V/TTL Digital Output
- Pull-high/Pull-low Jumpers for DI Channels
- 12-bit, 32 Single-ended/16 Differential Analog Input channels
- Internal/External Trigger
- 110 or 44 kS/s AD Sampling Rate
- Supports Card ID (SMD Switch)

Introduction

The PEX-1002L/H series utilizes the PCI Express bus and is designed as an easy replacement for the PCI-1002 series without requiring any modification to either the software or the driver.

The PEX-1002L/H provides 32 single-ended or 16 differential Analog Input channels at 12-bit resolution, together with 16 TTL Digital Input and 16 TTL Digital Output channels.

The PEX-1002L/H includes a Card ID switch that enables the board to be easily recognized via software if two or more cards are installed in the same computer. The pull-high/low jumpers allow the DI status to be predefined instead of remaining floating if the DI channels are disconnected or line broken.

Pin Assignments

| Pin Assignment | Terminal No. | Pin Assignment |
|----------------|--------------|----------------|
| AI_0 | 01 | 20 AI_16 |
| AI_1 | 02 | 21 AI_17 |
| AI_2 | 03 | 22 AI_18 |
| AI_3 | 04 | 23 AI_19 |
| AI_4 | 05 | 24 AI_20 |
| AI_5 | 06 | 25 AI_21 |
| AI_6 | 07 | 26 AI_22 |
| AI_7 | 08 | 27 AI_23 |
| AI_8 | 09 | 28 AI_24 |
| AI_9 | 10 | 29 AI_25 |
| AI_10 | 11 | 30 AI_26 |
| AI_11 | 12 | 31 AI_27 |
| AI_12 | 13 | 32 AI_28 |
| AI_13 | 14 | 33 AI_29 |
| AI_14 | 15 | 34 AI_30 |
| AI_15 | 16 | 35 AI_31 |
| A.GND | 17 | 36 N.C. |
| N.C. | 18 | 37 D.GND |
| Ext_Trigger | 19 | |

| Pin Assignment | Terminal No. | Pin Assignment |
|----------------|--------------|----------------|
| DI 0 | 01 | 02 DI 1 |
| DI 2 | 03 | 04 DI 3 |
| DI 4 | 05 | 06 DI 5 |
| DI 6 | 07 | 08 DI 7 |
| DI 8 | 09 | 10 DI 9 |
| DI 10 | 11 | 12 DI 11 |
| DI 12 | 13 | 14 DI 13 |
| DI 14 | 15 | 16 DI 15 |
| GND | 17 | 18 GND |
| +5 V | 19 | 20 +12 V |

| Pin Assignment | Terminal No. | Pin Assignment |
|----------------|--------------|----------------|
| DO 0 | 01 | 02 DO 1 |
| DO 2 | 03 | 04 DO 3 |
| DO 4 | 05 | 06 DO 5 |
| DO 6 | 07 | 08 DO 7 |
| DO 8 | 09 | 10 DO 9 |
| DO 10 | 10 | 12 DO 11 |
| DO 12 | 12 | 14 DO 13 |
| DO 14 | 14 | 16 DO 15 |
| GND | 16 | 18 GND |
| +5 V | 18 | 20 +12 V |

Software

Drivers

- 32/64-bit Windows XP/2003/2008/7/8/10
- Linux

Sample Programs

- DOS Lib and TC/BC/MSC Demo
- LabVIEW Toolkit
- VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET/MATLAB Demo

Hardware Specifications

| Model | PEX-1002L | PEX-1002H |
|-----------------------|--|-----------|
| Analog Input | | |
| Channels | 32 Single-ended/16 Differential | |
| Resolution | 12-bit, 8 μ s Conversion Time | |
| Accuracy | 0.01% of FSR \pm 2 LSB @ 25°C, \pm 10 V | |
| Sampling Rate | 110 kS/s | 44 kS/s |
| Digital Input | | |
| Channels | 16 | |
| Compatibility | 5 V/TTL | |
| Input Voltage | Logic 0: 0.8 V Max., Logic 1: 2.0 V Min. | |
| Response Speed | 500 kHz (Typical) | |
| Digital Output | | |
| Channels | 16 | |
| Compatibility | 5 V/TTL | |
| Output Voltage | Logic 0: 0.4 V Max., Logic 1: 2.4 V Min. | |
| Output Capability | Sink: 2.4 mA @ 0.8 V, Source: 0.8 mA @ 2.0 V | |
| Response Speed | 500 kHz (Typical) | |
| Timer/Counter | | |
| Channels | 3 | |
| Resolution | 16-bit | |
| Reference Clock | Internal: 4 MHz | |
| General | | |
| Bus Type | PCI Express x1 | |
| Card ID | Yes (4-bit) | |
| Connectors | Female DB37 x 1, 20-pin Box Header x 2 | |
| Power Consumption | 900 mA @ +3.3 V; 350 mA @ +12 V | |
| Operating Temperature | 0°C to +60°C | |
| Humidity | 5 to 85% RH, Non-condensing | |

Ordering Information

| | |
|--------------|---|
| PEX-1002L CR | PCI Express, 32-channel, 12-bit, 110 kS/s. Low Gain Multifunction DAQ Board (RoHS). Includes one CA-4002 D-sub Connector. |
|--------------|---|

| | |
|--------------|---|
| PEX-1002H CR | PCI Express, 32-channel, 12-bit, 44 kS/s. High Gain Multifunction DAQ Board (RoHS). Includes one CA-4002 D-sub Connector. |
|--------------|---|