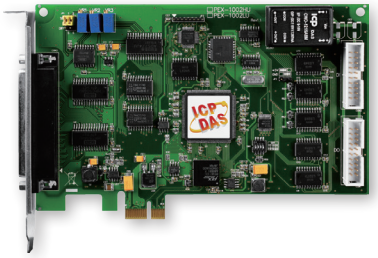
2-3 Analog Input/Output Boards

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_Trg	19		

CON3

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

CON2

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

CON1

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 µs Conversion Time	
Accuracy	0.01% of FSR ±2 LSB @ 25°C, ±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.