

PEX-1002L

PCI Express, 110 kS/s, 32-ch, 12-bit Multi-function Board

PEX-1002H

PCI Express, 44 kS/s, 32-ch, 12-bit Multi-function Board

Features

- PCI Express x1 Interface
- Supports Card ID (SMD Switch)
- 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

Introduction

The PEX-1002L/H supports PCI Express bus. These cards are a family of A/D board and features low-gain 110 kS/s AI. It provides 12-bit 32 single-ended or 16 differential AIs, 16 DI and 16 DO channels.

The PEX-1002L/H also adds a Card ID switch on-board. Users can set Card ID on a board and recognize the board by the ID via software when using two or more PEX-1002L cards in one computer. The PEX-1002L/H provide The pull-high/ pull-low resisters allow the DI status to be specified when the DI channels are unconnected; the DI status will remain in high or low status other than floating.

The cards support various OS versions, such as Linux, DOS, Windows. DLL and Active X control together with various language sample program based on Turbo C++, Borland C++, Microsoft C++, Visual C++, Borland Delphi, Borland C++ Builder, Visual Basic, C#.NET, Visual Basic.NET and LabVIEW are provided in order to help users to quickly and easily develop their own applications.

Software

Drivers

- ☑ 32/64-bit Windows 10/11
- ☑ Linux

Sample Programs

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

Applications

- Laboratory automation
- Production test
- Sensor interface

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
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	11	12	DO 11
DO 12	13	14	DO 13
DO 14	15	16	DO 15
GND	17	18	GND
+5 V	19	20	+12 V

CON1

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	11	12	DO 11
DO 12	13	14	DO 13
DO 14	15	16	DO 15
GND	17	18	GND
+5 V	19	20	+12 V

CON2

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Hardware Specifications

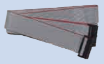
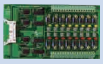
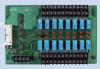
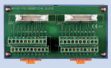
Model	PEX-1002L	PEX-1002H
Hardware		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1 , 20-pin box header x 2	
Analog Input		
Channels	32 single-ended/16 differential	
Range	Gain: 1, 2, 4, 8 Bipolar Range: ±10 V, ±5 V, ±2.5 V, ±1.25 V	Gain: 1, 10, 100, 1000 Bipolar Range: ±10 V, ±1 V, ±0.1 V, ±0.01 V
Resolution	12-bit	
Accuracy	0.01% of FSR ±1 LSB @ 25 °C, ±10 V	
Sampling Rate	110 kS/s. Max.	44 kS/s. Max.
Input Impedance	10 MΩ/6 Pf	
Overvoltage Protection	Continuous ±35 Vp-p	
Zero Drift	±4 ppm/°C of FSR	
Trigger Mode	Software, Internal programmable pacer, External (5 V/TTL)	
Data Transfer	Polling, Interrupt	
Digital Input		
Channels	16	
Type	5 V/TTL	
ON Voltage Level	2.0 V Min.	
ON Voltage Level	0.8 V Max.	
Response Speed	500 KHz (Typical)	
Trigger Mode	Static Update	
Digital Output		
Channels	16	
Type	5 V/TTL	
Operation Mode	Static Update	
Load Voltage	Logic 0: 0.4 V Max. Logic 1: 2.4 V Min.	
Load Current	Sink: 2.4 mA Source: 0.8 mA	
Response Speed	500 KHz (Typical)	
Timer/Counter/Frequency		
Channels	3 (Independent x 1/Internal pacer x 1/External pacer x 1)	
Type	5 V/TTL	
Resolution	16-bit	
Input Frequency	10 MHz Max.	
Reference Clock	Internal: 4 MHz	
PC Bus		
Type	PCI Express x 1	
Data Bus	16-bit	
Power		
Consumption	900 mA @ +3.3 V , 350 mA @ +12 V	
Mechanical		
Dimensions (mm)	110 x 167 x 22 (W x L x D)	
Environment		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

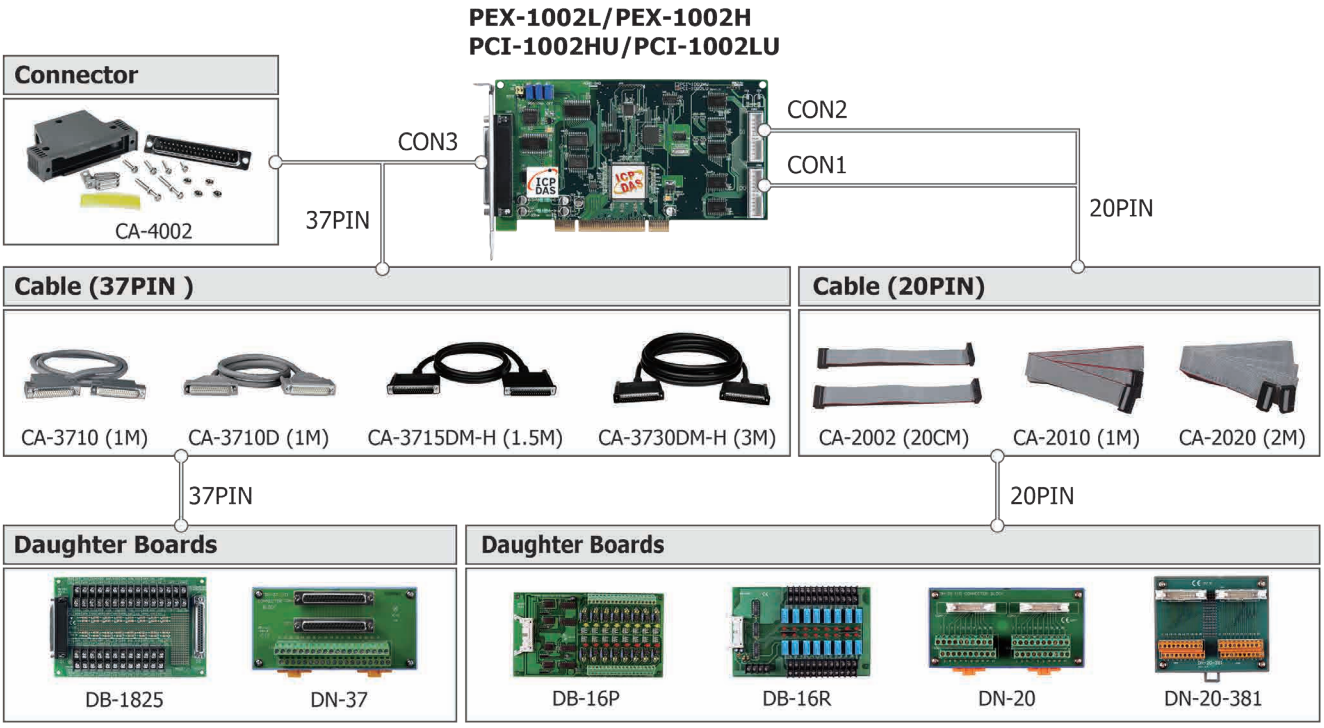
Ordering Information

PEX-1002L CR	PCI Express, 110 kS/s, 32-ch, 12-bit Multi-function Board (RoHS) Includes one CA-4002 D-Sub connector
PEX-1002H CR	PCI Express, 44 kS/s, 32-ch, 12-bit Multi-function Board (RoHS) Includes one CA-4002 D-Sub connector

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Accessories

 CA-2002 CR	20-pin flat cable, 20 cm x 2 (RoHS)
 CA-2010 CR	20-pin flat cable, 1 M (RoHS)
 CA-2020 CR	20-pin flat cable, 2 M (RoHS)
 CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
 CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
 CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180° (RoHS)
 CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180° (RoHS)
 DB-1825 CR	Analog Input Screw terminal Board (RoHS)
 DB-16P CR	Isolated Digital Input Daughter Board (RoHS)
 DB-16R CR	Relay Output Daughter Board (RoHS)
 DN-20/DN-20-381 CR	20-pin DIN-RAIL mounting I/O connector board (RoHS)
 DN-37/DN-37-381 CR	I/O Connector Block with DIN-Rail Mounting and 37-Pin D-Sub Connector (RoHS)
 2AB125R CR	Resistor DIP 125R 0.1% 1/4W MF 50PPM (1PCS) (RoHS)



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