

PEX-1202L

PCI Express, 110 kS/s, 32-ch, 12-bit Multi-function Board (1 K word FIFO)

PEX-1202H

PCI Express, 44 kS/s, 32-ch, 12-bit Multi-function Board (1 K word FIFO)

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
- Three External Triggers: Pre-trigger, Middle-trigger, Post-trigger
- 110 or 44 kS/s AD Sampling Rate
- Supports Card ID (SMD Switch)

Introduction

The PEX-1202L/H series utilizes the PCI Express bus and is designed as an easy replacement for the PCI-1202 series without requiring any modification to either the software or the driver.

The PEX-1202L/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. Data acquisition under DOS is gap-free and continuous, at 110 kHz for low gain and 44 kHz for high gain. The PEX-1202L/H also features "Magic Scan" and Continuous Capture functions.

The PEX-1202L/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.

Software

Drivers

- [x] 32/64-bit Windows 10/11
- [x] Linux

Sample Programs

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

Applications

- High speed data acquisition system.
- Process monitor and control.
- Vibration analysis.
- Digital pattern generator from digital I/O port.

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	Da2 out
Da1 out	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	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

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

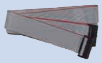
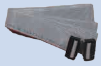
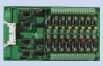
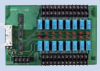
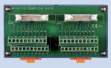
Model	PEX-1202L	PEX-1202H
Hardware		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1 , 20-pin Box header x 2	
Analog Input		
Channels	32 single-ended/16 differential	
Range	Gain: 0.5, 1, 2, 4, 8 Bipolar Range: ±10 V, ±5 V, ±2.5 V, ±1.25 V, ±0.625 V Unipolar Range: 0 ~ 10 V, 0 ~ 5 V, 0 ~ 2.5 V, 0 ~ 1.25 V	Gain: 0.5, 1, 5, 10, 50, 100, 500 ,1000 Bipolar Range: ±10 V, ±5 V, ±1 V, ±0.5 V, ±0.1 V, ±0.05 V, ±0.01 V, ±0.005 V Unipolar Range: 0 ~ 10 V, 0 ~ 1 V, 0 ~ 0.1 V, 0 ~ 0.01 V
Resolution	12-bit	
Accuracy	0.1% 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	
FIFO Size	1024 samples	
Trigger Mode	Software, Internal programmable pacer, External (5 V/TTL compatible)	
Data Transfer	Polling	
Analog Output		
Channels	2	
Range	±5 V, ±10 V	
Resolution	12-bit	
Accuracy	0.06% of FSR ±1 LSB @ 25 °C, ±10 V	
Voltage Output Capability	±5 mA	
Slew Rate	8.33 V/μs	
Operation Mode	Software	
Digital Input		
Channels	16	
Type	5 V/TTL	
ON Voltage Level	2.0 V Min.	
OFF Voltage Level	0.8 V Max.	
Response Speed	500 KHz (Typical)	
Trigger Mode	Static Update	
Digital Output		
Channels	16	
Type	5 V/CMOS	
Operation Mode	Static Update	
Load Voltage	Logic 0: 0.1 V Max. Logic 1: 4.4 V Min.	
Load Current	Sink: 6 mA @ 0.33 V Source: 6 mA @ 4.77 V	
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: 8 MHz	
PC Bus		
Type	PCI Express x 1	
Data Bus	16-bit	
Power		
Consumption	1300 mA @ +3.3 V , 0 mA @ +12 V	
Mechanical		
Dimensions (mm)	100 x 162 x 22 (W x L x D)	
Environment		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

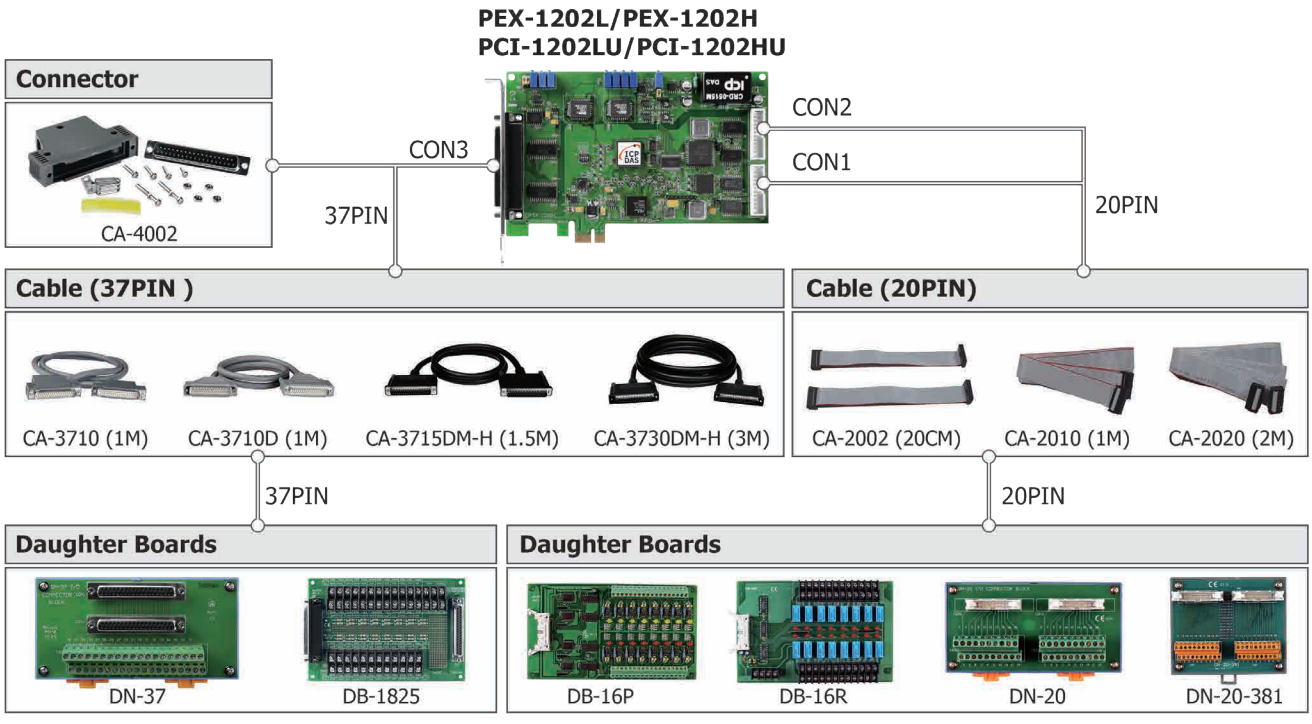
Ordering Information

PEX-1202L CR	PCI Express, 110 kS/s, 32-ch, 12-bit Multi-function Board (1 K word FIFO) (RoHS) Includes one CA-4002 D-Sub connector
PEX-1202H CR	PCI Express, 44 kS/s, 32-ch, 12-bit Multi-function Board (1 K word FIFO) (RoHS) Includes one CA-4002 D-Sub connector

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Accessories

 ADP-20/PCI CR	Extender, Extended dual 20-pin flat-cable connector to PC slot window (RoHS)
 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 CR	DIN Rail Mounting 37-pin Connector (RoHS)
 2AB125R CR	Resistor DIP 125R 0.1% 1/4W MF 50PPM (1PCS) (RoHS)



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