



PCI-1802LU

Universal PCI, 330 kS/s, 32-ch, 12-bit Analog Input
Multifunction Board

PCI-1802HU

Universal PCI, 44k S/s, 32-ch, 12-bit Analog Input
Multifunction Board

Introduction

The PCI-1802LU/HU card is designed as an easy replacement for the PCI-1802L/H without requiring any modification to the software or the driver.

The PCI-1802LU/HU is a high-performance multifunction card that provides high-speed Analog and Digital I/O functions. The PCI-1802LU/HU is based on the Universal PCI interface, supporting both the 3.3 V and the 5 V PCI bus, and features a continuous 330 kS/s or 44 kS/s 12-bit resolution AD converter, an 8 K-sample hardware FIFO, a MagicScan controller (for multi-channel scanning), a 2-channel 12-bit DA converter, and 16-channel Digital Input and 16-channel Digital Output.

The PCI-1802LU/HU provides either 32-channel single-ended or 16-channel differential Analog Inputs that are jumper selectable, and a programmable high-speed PGA that is equipped for gain controls (0.5/1/2/4/8 for Low Gain, and 0.5/1/5/10/50/100/500/1000 for High Gain).

The PCI-1802LU/HU also includes an onboard Card ID switch and pull-high/low DI resistors. The Card ID enables the board to be recognized via software if two or more PCI-1802LU/HU cards are installed in the same computer. The pull-high/pull-low resistors allow the DI status to be predefined instead of remaining floating if the DI channels are disconnected or interrupted.

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
AI_0	01	AI_16	DO 0	01	DO 1
AI_1	02	AI_17	DO 2	03	DO 3
AI_2	03	AI_18	DO 4	05	DO 5
AI_3	04	AI_19	DO 6	07	DO 7
AI_4	05	AI_20	DO 8	09	DO 9
AI_5	06	AI_21	DO 10	10	DO 11
AI_6	07	AI_22	DO 12	12	DO 13
AI_7	08	AI_23	DO 14	14	DO 15
AI_8	09	AI_24	GND	16	GND
AI_9	10	AI_25	+5 V	18	+12 V
AI_10	11	AI_26			
AI_11	12	AI_27			
AI_12	13	AI_28	DI 0	01	DI 1
AI_13	14	AI_29	DI 2	03	DI 3
AI_14	15	AI_30	DI 4	05	DI 5
AI_15	16	AI_31	DI 6	07	DI 7
A.GND	17	Da2 out	DI 8	09	DI 9
Da1 out	18	D.GND	DI 10	11	DI 11
Ext_Trg	19		DI 12	13	DI 13
			DI 14	15	DI 15
			GND	17	GND
			+5 V	19	+12 V

Features

- Universal PCI (3.3 V/5 V) Interface
- Supports Card ID (SMD Switch)
- 2-channel, 12-bit Analog Output
- 16-channel 5 V/TTL Digital Output
- 16-channel 5 V/TTL Digital Input
 - Pull-high and Pull-low Resistors for DI Channels
- 32 Single-ended/16 Differential Analog Input Channels
 - 12-bit, 330 kS/s or 44 kS/s AD Converter
 - Built-in MagicScan Controller
 - Internal Trigger: Software-trigger, Pacer-trigger
 - External Trigger: Post-trigger, Pre-trigger, Middle-trigger
- High-speed data transfer rate up to 2.7 M words/sec.



Software

Drivers

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

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	PCI-1802LU	PCI-1802HU
Analog Input		
Channels	32 Single-ended/16 Differential	
AD Conversion	12-bit, 3 μs Conversion Time	
Accuracy	0.01% of FSR ±1 LSB @ 25 °C, ±10 V	
FIFO Size	8192 Samples	
Sampling Rate	330 kS/s	44 kS/s
Analog Output		
Channels	2	
Resolution	12-bit	
Accuracy	0.06% of FSR ±1 LSB @ 25°C, ±10 V	
Output Driving	±5 mA	
Output Range	±5 V, ±10 V	
Digital I/O		
Channels	DI	16, 5 V/TTL
	DO	16, 5 V/TTL
Input Voltage	Logic 0: 0.8 V Max.; Logic 1: 2.0 V Min.	
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	
Timer/Counter		
Channels	3	
Resolution	16-bit	
Input Frequency	10 MHz Max.	
Reference Clock	Internal: 8 MHz	
General		
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Card ID	Yes (4-bit)	
Connectors	Female DB37 x 1, 20-pin Box Header x 2	
Power Consumption	300 mA @ +5 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	

Ordering Information

PCI-1802LU CR	Universal PCI, 330 kS/s, 32-ch, 12-bit Analog Input Multifunction Board (RoHS) Includes one CA-4002 D-Sub connector
PCI-1802HU CR	Universal PCI, 44k S/s, 32-ch, 12-bit Analog Input Multifunction Board (RoHS) Includes one CA-4002 D-Sub connector

Accessories

	CA-2002	20-pin flat cable, 20 cm x 2
	CA-2010	20-pin flat cable, 1 M
	CA-2020	20-pin flat cable, 2 M.
	CA-3710	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°))
	CA-3710D	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°))
	CA-3715DM-H	DB-37 Male-Male Cable, 1.5 M, 180°. (RoHS)
	CA-3730DM-H	DB-37 Male-Male Cable, 3.0 M, 180°. (RoHS)
	CA-4002	37-pin Male D-sub connector with plastic cover.
	DB-1825	Analog Input Screw terminal Board
	DB-8225	Screw terminal board , filter circuitry can be added for 1800HU, 1800LU
	DB-889D	16-channel Analog Multiplexer Board (for PCI-1800LU/HU)
	DB-16P	16-channel Isolated Digital Input Daughter Board
	DB-16R	16-channel Relay Output Daughter Board
	DN-37	DIN Rail Mounting 37-pin Connector
	DN-20/DN-20-381	20-pin DIN-RAIL mounting I/O connector board
	125Ω, 0.1% DIP Resistors	125 Ω External Resistor for use with Current Input

