



PCI-822LU

Universal PCI, 250 kS/s, 32-ch, 12-bit Analog Input
Multifunction Board (8 K WORD FIFO)

PCI-826LU

Universal PCI, 250 kS/s, 32-ch, 16-bit Analog Input
Multifunction Board (8 K WORD FIFO)

Introduction

The PCI-822LU/826LU is a series of multifunction boards that provides high-speed Analog and Digital I/O functions, and features a continuous 250 kS/s, 12- or 16-bit resolution AD converter, an 8-kSample hardware FIFO, a 2-channel, 16-bit DA converter, and 32 programmable Digital I/O channels with DO readback. The PCI-822LU/826LU series provides either 32 single-ended or 16 differential Analog Input channels that are jumper selectable, and is equipped with a high-speed PGA featuring programmable gain (1, 2, 4 or 8).

The PCI-822LU/826LU series also includes an onboard Card ID switch that enables the board to be easily recognized via software if two or more boards 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 interrupted.

The PCI-822LU/826LU series includes an AD channel scan function called MagicScan, which eliminates the majority of the effort required to acquire AD values, such as selecting the channel, setting the gain values and the settling time, triggering the ADC, and acquiring the data. Using the built-in MagicScan and the interrupt features, these complex tasks are effectively offloaded from the CPU. Even in MagicScan mode, a different gain code can be used for each channel, and the sampling rate can still reach a total of 250 kS/s, making the PCI-822LU/826LU series especially suitable for high-end applications.

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
AI_0	01	20 AI_16	PB 0	01	02 PB 1
AI_1	02	21 AI_17	PB 2	03	04 PB 3
AI_2	03	22 AI_18	PB 4	05	06 PB 5
AI_3	04	23 AI_19	PB 6	07	08 PB 7
AI_4	05	24 AI_20	PB 8	09	10 PB 9
AI_5	06	25 AI_21	PB 10	11	12 PB 11
AI_6	07	26 AI_22	PB 12	13	14 PB 13
AI_7	08	27 AI_23	PB 14	15	16 PB 15
AI_8	09	28 AI_24	GND	17	18 GND
AI_9	10	29 AI_25	+5 V	19	20 +12 V
AI_10	11	30 AI_26	CON1		
AI_11	12	31 AI_27	Pin Assignment	Terminal No.	Pin Assignment
AI_12	13	32 AI_28	PA 0	01	02 PA 1
AI_13	14	33 AI_29	PA 2	03	04 PA 3
AI_14	15	34 AI_30	PA 4	05	06 PA 5
AI_15	16	35 AI_31	PA 6	07	08 PA 7
A.GND	17	36 Da2 out	PA 8	09	10 PA 9
Da1 out	18	37 D.GND	PA 10	10	12 PA 11
Ext_Trg	19		PA 12	12	14 PA 13
			PA 14	14	16 PA 15
			GND	16	18 GND
			+5 V	18	20 +12 V
			CON2		

Features

- Universal PCI (3.3 V/5 V) Interface
- Supports Card ID (SMD Switch)
- 32 Single-ended/16 Differential Analog Input Channels
 - 12-bit 250 kS/s High-speed AD for PCI-822LU
 - 16-bit 250 kS/s High-speed AD for PCI-826LU
 - Built-in MagicScan Controller
 - Supports Software-trigger and Pacer-trigger
 - 8 K-sample Hardware FIFO
- 2-channel, 16-bit Analog Output
- 32-channel programmable DI/O
 - Pull-high and Pull-low Resistors for DI Channels
 - Supports Digital Output Status Readback (Register Level)



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	PCI-822LU	PCI-826LU
Analog Input		
Channels	32 Single-ended/16 Differential	
Resolution	12-bit	16-bit
Sampling Rate	250 kS/s Max.	
FIFO Size	8192 Samples	
Accuracy	0.1% of FSR ± 1 LSB @ 25°C, ± 10 V	
Analog Output		
Channels	2	
Resolution	16-bit	
Accuracy	± 6 LSB	
Output Driving	± 5 mA	
Output Range	± 5 V, ± 10 V, 0 ~ +10 V, 0 ~ +5 V	
Slew Rate	0.7 V/ μ s	
Programmable Digital I/O		
Channels	32	
Compatibility	5 V/TTL	
Output Capability	Sink: 2.4 mA @ 0.8 V; Source: 0.8 mA @ 2.0 V	
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	800 mA @ +5 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	

Ordering Information

PCI-822LU CR	Universal PCI, 250 kS/s, 32-ch, 12-bit Analog Input Multifunction Board (8 K WORD FIFO) (8 K WORD FIFO) (RoHS) Includes one CA-4002 D-Sub connector
PCI-826LU CR	Universal PCI, 250 kS/s, 32-ch, 16-bit Analog Input Multifunction Board (8 K WORD FIFO) (8 K WORD FIFO) (RoHS) Includes one CA-4002 D-Sub connector

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)
	CA-4002 CR	37-pin Male D-sub connector with plastic cover (RoHS)
	DB-1825 CR	Analog Input Screw terminal Board (RoHS)
	DB-16P CR	16-channel Isolated Digital Input Daughter Board (RoHS)
	DB-16R CR	16-channel 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)

