



PCI-1002LU

Universal PCI, 110 kS/s, 32-ch, 12-bit AI
Multifunction Board

PCI-1002HU

Universal PCI, 44 kS/s, 32-ch, 12-bit AI
Multifunction Board

Introduction

The PCI-1002LU/HU card is designed as an easy replacement for the PCI-1002L/H without requiring any modification to the software or the driver.

The PCI-1002LU/PCI-1002HU is an AD board that supports both the 3.3 V and the 5 V PCI bus and features low gain Analog Input at 110 kS/s or high gain at 44 kS/s. The PCI-1002LU/PCI-1002HU provides 32 single-ended or 16 differential 12-bit Analog Input channels, 16 Digital Input channels, and 16 Digital Output channels. The pull-high/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 | 20 AI_16 | DO 0 | 01 | 02 DO 1 |
| AI_1 | 02 | 21 AI_17 | DO 2 | 03 | 04 DO 3 |
| AI_2 | 03 | 22 AI_18 | DO 4 | 05 | 06 DO 5 |
| AI_3 | 04 | 23 AI_19 | DO 6 | 07 | 08 DO 7 |
| AI_4 | 05 | 24 AI_20 | DO 8 | 09 | 10 DO 9 |
| AI_5 | 06 | 25 AI_21 | DO 10 | 10 | 12 DO 11 |
| AI_6 | 07 | 26 AI_22 | DO 12 | 12 | 14 DO 13 |
| AI_7 | 08 | 27 AI_23 | DO 14 | 14 | 16 DO 15 |
| AI_8 | 09 | 28 AI_24 | GND | 16 | 18 GND |
| AI_9 | 10 | 29 AI_25 | +5 V | 18 | 20 +12 V |
| AI_10 | 11 | 30 AI_26 | | | CON1 |
| AI_11 | 12 | 31 AI_27 | | | |
| AI_12 | 13 | 32 AI_28 | DI 0 | 01 | 02 DI 1 |
| AI_13 | 14 | 33 AI_29 | DI 2 | 03 | 04 DI 3 |
| AI_14 | 15 | 34 AI_30 | DI 4 | 05 | 06 DI 5 |
| AI_15 | 16 | 35 AI_31 | DI 6 | 07 | 08 DI 7 |
| A.GND | 17 | 36 N.C. | DI 8 | 09 | 10 DI 9 |
| N.C. | 18 | 37 D.GND | DI 10 | 11 | 12 DI 11 |
| Ext_Trg | 19 | | DI 12 | 13 | 14 DI 13 |
| | | | DI 14 | 15 | 16 DI 15 |
| | | | GND | 17 | 18 GND |
| | | | +5 V | 19 | 20 +12 V |
| | | | | | CON2 |

Features

- Universal PCI (3.3 V/5 V) Interface
- 32 Single-ended/16 Differential Analog Input Channels
 - 12-bit, 110 kS/s or 44 kS/s AD Converter
 - Internal Pacer-trigger
- 16-channel 5 V/TTL Digital Output
- 16-channel 5 V/TTL Digital Input
 - Pull-high and Pull-low Resistors for DI Channels
- Supports Card ID (SMD Switch)



Software

Drivers

- 32/64-bit Windows 10/11
- Linux
- DASyLab

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


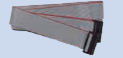
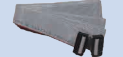







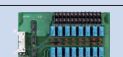



Ordering Information

| | |
|------------------------|--|
| PCI-1002LU CR | Universal PCI, 110 kS/s, 32-ch, 12-bit AI Multifunction Board (RoHS) Includes one CA-4002 D-Sub connector |
| PCI-1002HU CR | Universal PCI, 44 kS/s, 32-ch, 12-bit AI Multifunction Board (RoHS) Includes one CA-4002 D-Sub connector |
| PCI-1002LU/S CR | Universal PCI, 110 kS/s, 32-ch, 12-bit AI Multifunction Board (RoHS) Includes one CA-3710 D-Sub cable |
| PCI-1002HU/S CR | Universal PCI, 44 kS/s, 32-ch, 12-bit AI Multifunction Board (RoHS) Includes one CA-3710 D-Sub cable |

Hardware Specifications

| Model | PCI-1002LU | PCI-1002HU |
|--------------------------------|---|---|
| Hardware | | |
| 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 M Ω /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. | |
| OFF Voltage Level | 0.8 V Max. | |
| Response Speed | 1.0 MHz (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 | 1.0 MHz (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 | 3.3 V/5 V Universal PCI, 32-bit, 33 MHz | |
| Data Bus | 16-bit | |
| Power | | |
| Consumption | 960 mA @ +5 V | |
| Mechanical | | |
| Dimensions (mm) | 105 x 188 x 22 (W x L x D) | |
| Environment | | |
| Operating Temperature | 0 ~ +60°C | |
| Storage Temperature | -20 ~ +70°C | |
| Humidity | 5 ~ 85% RH, Non-condensing | |

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) |
|  | 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 | 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) |

