I/O Cards

PCI-1602U/PCI-1602FU

Universal PCI, 32-ch, 16-bit, 100 or 200 kS/s
Multi-function Board

Features ▶▶▶▶

- Universal PCI (3.3 V/5 V) interface
- 100 or 200 kS/s A/D converter
- 16-ch 5 V TTL D/I
- 16-ch 5 V TTL D/O
- External: Post-trigger, Pre-trigger and Middle-trigger
- D/I with pull-high and pull-low function
- Drop-in replacement for the PCI-1602/1602F

- 16-bit, 32 S.E/16 Diff. Analog inputs
- 8 K-sample hardware FIFO
- Built-in MagicScan controller
- Internal: Software-trigger and Pacer-trigger
- Data transfer rate is up to 2.1 M words/s (max.)
- Two 12-bit independent programmable DAC, 2 MHz throughput per channel (max.)

Introduction

The PCI-1602U/1602FU is a high performance multifunction card providing high-speed analog I/O and digital I/O functions. The PCI-1602U/1602FU has a universal PCI interface supporting both 3.3 V and 5 V PCI bus, and it features a continuous, 100 kS/s (200 kS/s for F version) 16-bit resolution A/D converter, 8 K-sample hardware FIFO, a MagicScan controller (for multi-channel scan), 2-ch 16-bit D/A converter, 16-ch digital input and 16-ch digital output. The PCI-1602U/1602FU provides either 32-ch single-ended or 16-ch differential analog inputs which are jumper selectable, and a programmable high speed PGA is equipped for gain controls (1, 2, 4 and 8). The PCI-1602U/FU are fully compatible with the PCI-1602/F, and users can replace the PCI-1602/F by the PCI-1602U/FU directly without software/driver modification.

The PCI-1602U/1602FU has a Card ID switch for users to recognize the board by the ID via software when using two or more PCI-1602U/1602FU cards in one computer. The pull-high/pull-low jumpers of the card allow user to predefine the DI status instead of floating when the DI channels are unconnected or broken.

Software

- DOS Lib and TC/BC/MSC sample program (with source codes)
- VB/VC/Delphi/BCB/VB.NET/C#.NET sample programs with source codes
- DLL and OCX SDK for 32-bit and 64-bit Windows XP/2003/Vista/2008/7
- Supports LabVIEW and Linux

Pin Assignments
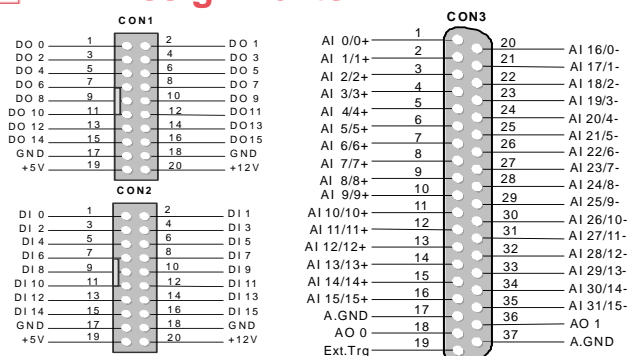
Hardware Specifications

Models	PCI-1602U	PCI-1602FU
Analog Input		
Channels	16-bit, 32 S.E/16 Diff.	
Accuracy	0.01% of FSR ± 1 LSB @ 25 °C, ± 10 V	
FIFO Size	8192 samples	
Sampling Rate	100 kS/s	200 kS/s
Analog Output		
Channels	12-bit, 2	
Accuracy	0.06% of FSR ± 1 LSB @ 25 °C, ± 10 V	
Output Range	Bipolar: ± 5 V, ± 10 V	
Output Driving	± 5 mA	
Slew Rate	8.33 V/µs	
Digital Input		
Channels	16-ch, 5 V/TTL	
Input Voltage	Logic 0: 0.8 V max., Logic 1: 2.0 V min.	
Response Speed	3.0 MHz (Typical)	
Digital Output		
Channels	16-ch, 5 V/TTL	
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	
Response Speed	3.0 MHz (Typical)	
General		
Bus Type	Universal PCI, 3.3 V and 5 V, 33 MHz, 32-bit, Plug and Play	
Connectors	Female DB-37 x1, 20-pin box header x 2	
Power Consumption	300 mA @ +5 V	
Operating Temperature	0 °C ~ +60 °C	
Storage Temperature	-20 °C ~ +70 °C	
Humidity	5 ~ 85% RH, non-condensing	

Ordering Information

PCI-1602U CR	Universal PCI, 32-ch, 16-bit, 100 kS/s. Low Gain Multi-function DAQ Board (8 K word FIFO). (RoHS) Includes one CA-4002 D-Sub connector.
PCI-1602FU CR	Universal PCI, 32-ch, 16-bit, 200 kS/s. High Gain Multi-function DAQ Board (8 K word FIFO). (RoHS) Includes one CA-4002 D-Sub connector.