

PCI-1706U/UL

250 kS/s, 16-bit, Simultaneous 8-ch
Universal PCI Multifunction Card



RoHS
COMPLIANT
2006/66/EC

FCC CE

Features

- 8 differential analog inputs
- 8 A/D converters simultaneously sampling
- 16-bit A/D converter, with up to 250kHz sampling rate for each channel
- Programmable gain
- Onboard FIFO memory up to 8K Sample
- Multiple A/D triggering modes
- Programmable pacer/counter
- BoardID™ switch
- Universal PCI Bus (supports 3.3V or 5V PCI bus signals)

Introduction

PCI-1706U is an advanced high-performance multifunction card based on the Universal PCI Bus. With a large FIFO of 8K Sample, the maximum sampling rate of PCI-1706U is up to 250 kS/s with 8 A/D converters simultaneously sampling on each channel. If more than 8 analog input channels are required, multiple cards can be synchronized through the Device-to-Device Bus to support more AI channels simultaneously sampling. The PCI-1706U has two 12-bit D/A output channels, 16 digital input/output channels, and two 32-bit Time/counter channels so that it can provide specific functions for different application requirements.

Specifications

Analog Input

- **Channels** 8 differential
- **Resolution** 16 bits
- **Max. Sampling rate** 250 kS/s per channel
- **FIFO Size** 8K samples (shared by all AI channels)
- **Overvoltage Protection** 30 Vp-p
- **Sampling Mode** Delay to Start, Delay to Stop, None
- **Trigger Source** Software, Digital, Analog
- **Input Range (V, software programmable) & Absolute Accuracy**

Bipolar	±10	±5	±2.5	±1.25
Absolute Accuracy (% of FSR)*	0.04	0.04	0.06	0.08

* ±1 LSB is added as the derivative for absolute accuracy

Analog Output (PCI-1706U only)

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** Static update
- **Output Range** (V/A, software programmable)

Voltage	0 ~ +10V, 0 ~ +5 V, -5V ~ +5V -10V ~ +10V
Current	0~20mA, 0~24mA, 4~20mA

- **Slew Rate** 1 V/μs , 2 mA/μs
- **Driving Capability** 10 mA
- **Output impedance** 5 Ω (max)
- **Operation Mode** Software polling
- **Accuracy** ±1LSB

Digital Input

- **Channels** 16 (Share with Output)
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8V max; Logic 1: 2.0V min

Digital Output

- **Channels** 16 (Share with Input)
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.4V max; Logic 1: 2.4V min
- **Output Capability** Sink: 0.8 mA @ 0.4V
Source: -0.4mA @ 2.4V

Timer/Counter

- **Channels** 2
- **Resolution** 32 bits
- **Mode** IN:Event Counting, Frequency In, PWM In
OUT:OneShot, Pulse Out, PWM Out
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Reference Clock** Internal: 20 MHz
External Clock Frequency: 1 Hz ~ 10 MHz

General

- **Bus Type** Universal PCI V2.2
- **I/O Connector** 1 x 68-pin SCSI female connector
- **Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** Typical: 5 V @ 850 mA; Max.: 5 V @ 1 A,
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F) (refer to IEC 60068-2-1,2)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 60068-2 -3)

Ordering Information

- **PCI-1706U** 250 KS/s, 16-bit Simultaneous Multi. Card
- **PCI-1706UL** 250 KS/s, 16-bit Simultaneous Multi. Card w/o AO
- **PCL-10168-1** 68-pin SCSI Shielded Cable, 1 m
- **PCL-10168-2** 68-pin SCSI Shielded Cable, 2 m
- **ADAM-3968** 68-pin DIN-rail SCSI Wiring Board

- 1 Motion Control
- 2 Hazardous Location
- 3 Energy Automation
- 4 Building Automation Systems
- 5 Automation Software
- 6 Operator Panels
- 7 Automation Panel PCs
- 8 Industrial Monitors
- 9 Industrial Ethernet
- 10 Device Servers & Gateways
- 11 Serial Communication Cards
- 12 Embedded Auto. Computers
- 13 PACs
- 14 M2M I/O
- 15 Distributed Nano Controllers
- 16 RS-485 I/O
- 17 Ethernet I/O
- 18 DAO Boards