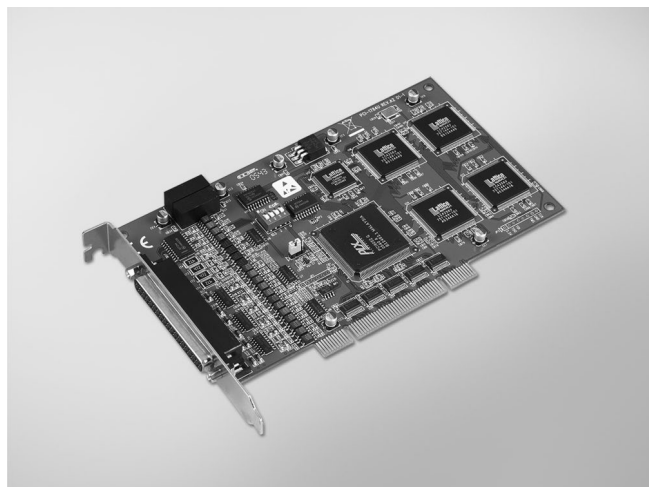


# PCI-1784U

## 4-ch, 32-bit Encoder Counter Universal PCI Card with 8-ch Isolated Digital I/O



### Features

- Four 32-bit encoder counters
- Single-ended or differential inputs
- Quadrature (x1, x2, x4), pulse/direction, and up/down counting modes
- Optically isolated up to 2,500 VDC
- 4-stage digital filter with selectable sampling rate
- On-board 8-bit timer with wide range time-base selector
- Multiple interrupt sources for precision applications
- 4 isolated digital inputs and 4 isolated digital outputs
- BoardIDTM switch

### Introduction

PCI-1784U is a 4-ch encoder counter universal PCI card. It includes four 32-bit encoder counters, 8-bit timer with multiple range time-base selector, 4 isolated digital inputs, and 4 isolated digital outputs. Its flexible interrupt sources are suitable for motor control and position monitoring.

### Specifications

#### Encoder Counter

- **Channels** 4
- **Resolution** 32 bits
- **Counting Modes** Quadrature, pulse/direction, or up/down
- **Max. Input Frequency** 8 MHz for pulse/direction and up/down modes  
2 MHz for quadrature mode without digital filter  
1 MHz for quadrature mode with digital filter
- **Digital Filter** 4 stages
- **Isolation** 2,500 V<sub>DC</sub>
- **Sample Clock Frequency** 8, 4, 2, or 1 MHz
- **Interrupt Sources** Overflow, underflow, input status, counter over compare, counter under compare
- **Input Voltage** Single-ended:  
Logic 0: 0.8 V max.  
Logic 1: 2.8 V min. (12 V max.)  
Differential:  
Logic 0: -0.2 V max. (-12 V min.)  
Logic 1: 0.2 V min. (12 V max.)

#### Isolated Digital input

- **Channels** 4
- **Input Voltage** Logic 0: 3 V max  
Logic 1: 10 V min. (30 V max.)
- **Interrupt Capable** All 4 channels
- **Isolation** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 100  $\mu$ s
- **Overvoltage Protection** 70 V<sub>DC</sub>

#### Isolated Digital Output

- **Channels** 4
- **Output Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- **Output Capability** 50 mA @ 0.8 V  
-50 mA @ 2.0 V
- **Isolation** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 2  $\mu$ s

#### General

- **Bus Type** Universal PCI V2.2
- **Connector** 37-pin D-sub female
- **Dimension (L x H)** 175 x 100 mm<sup>2</sup> (6.9" x 3.9")
- **Power Consumption** Typical: +5 V @ 200 mA  
Max.: +5 V @ 450 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- **Certification** CE

### Ordering Information

- **PCI-1784U** 4-ch encoder counter universal PCI card
- **PCL-10137H-3E** High-speed DB37 cable, 3 m
- **ADAM-3937** DB37 DIN-rail wiring board