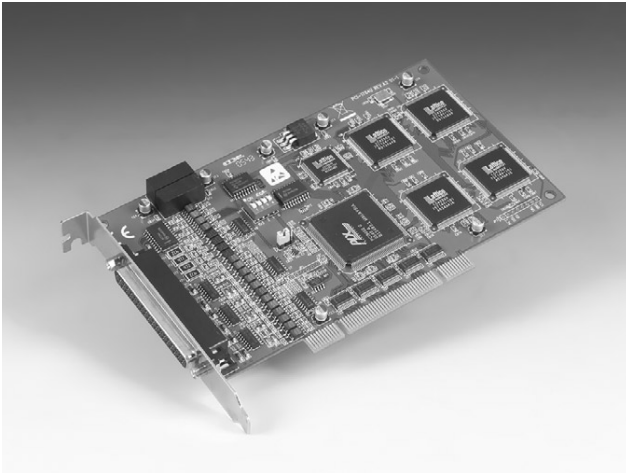


PCI-1784U

4-axis Quadrature Encoder and Counter Card



Features

- Four 32-bit up/down counters
- Single ended or differential inputs
- Pulse/direction and up/down counter
- x1, x2, x4 counts for each encoder cycle
- Optically isolated up to 2,500 V_{DC}
- 4-stage digital filter with selectable sampling rate
- Onboard 8-bit timer with wide range time-base selector
- Multiple interrupt sources for precision application
- 4 isolated digital input
- 4 isolated digital output
- BoardID™ switch

Introduction

PCI-1784U is a 4-axis quadrature encoder and counter add-on card for PCI bus. The card includes four 32-bit quadruple AB phase encoder counters, 8-bit timer with multi range time-base selector and 4 isolated digital inputs as well as 4 isolated digital outputs. Its flexible interrupt sources are suitable for motor control and position monitoring.

Specifications

Encoder Input

- **Number of Axes** 4 (independent)
- **Resolution** 32-bit
- **Max. Quadrature Input** 1.0 MHz with digital filter
2.0 MHz without digital filter
- **Digital Filter** 4 stage
- **Drive Type** Single-ended or differential
- **Counter Modes** Quadrature, Up/Down, Count/Direction
- **Isolation Protection** 2,500 V_{DC}
- **Max. Input Pulse Freq.** x1, x2, x4
- **Sample Clock Freq.** 8, 4, 2, or 1 MHz

Input Range

- **Single Ended Configuration**
Logic 0 : 0.8 V max.
Logic 1 : 2.8 V min. (12 V max.)
- **Differential Configuration**
Logic 0 : -0.2 V max.
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 Ch.** DI0~DI3
- **Isolation Protection** 2,500 V_{DC}
- **Opto-Isolator Response** 25µs
- **Overtoltage Protection** 70 V_{DC}

Isolated Digital Output

- **Channels** 4
- **Compatibility** 5 V/TTL
- **Isolation Protection** 2,500 V_{DC}
- **Output Voltage** Logic 0 : 0.8 V min.
Logic 1 : 2.0 max.
- **Sink/Source Current** 50 mA max./channel
- **Opto-Isolator Response** 20 ms

Counter/Timer

- **Channels** 4
- **Resolution** 32 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 8 MHz
- **Counter Modes** Quadrature, 2-pulse, Pulse/Direction
- **Interrupt Capable Ch.** Counter0 ~ Counter3
- **Digital Noise Filter** 4 stage

General

- **Bus Type** PCI V2.2
- **Connectors** 37-pin D-sub female
- **Dimensions (L x H)** 175 x 100 mm (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)
- **Storing Humidity** 5~95% RH, non-condensing (refer to IEC 68-2-3)
- **Certifications** CE certified

Ordering Information

- **PCI-1784U** 4-axis Quadrature Encoder and Counter Card
- **PCL-10137H-1** High-speed DB-37 cable assembly, 1 m
- **PCL-10137H-3** High-speed DB-37 cable assembly, 3 m
- **ADAM-3937** DB-37 Wiring Terminal Board for DIN-rail mounting