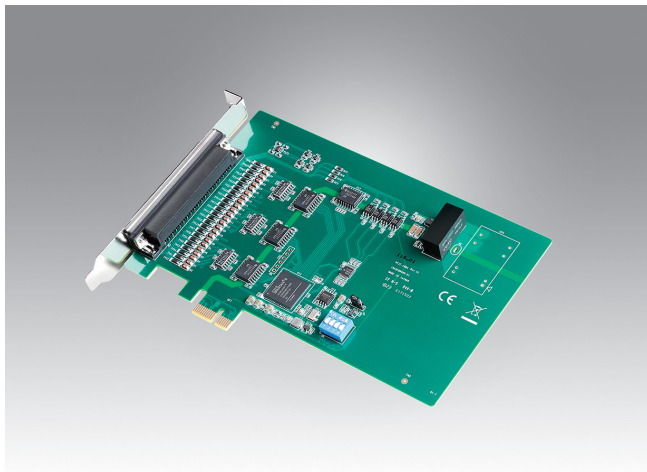


# PCIE-1884

## 32-bit, 4-ch Encoder Counter with Preload Position Compare FIFO PCI Express Card



### Features

- Four 32-bit programmable encoder counters
- Quadrature (X1, X2, X4), dual pulse (CW/CCW), signed pulse (OUT/DIR) modes
- Programmable trigger output (preload FIFO) for position comparison
- Single-ended or differential inputs
- 2,500 V<sub>DC</sub> isolation protection for all signals
- Digital filter with selectable values

### Introduction

The PCIE-1884 is a 4-ch encoder counter PCI Express card. It includes four 32-bit encoder counters with programmable trigger output (preload FIFO) for position comparison which is suitable for motor control and position monitoring applications. It also provides general counter functions such as frequency measurement, pulse width measurement, pulse output, and PWM output. All channels are protected by 2,500 V<sub>DC</sub> isolation circuit.

### Specifications

#### Encoder Counters

- **Channels** 4
- **Resolution** 32 bits
- **Max. Input Frequency** 10 MHz (40 MHz for quadrature X4)
- **Max. Output Frequency** 10 MHz
- **Digital Filter** 1.28  $\mu$ s ~ 1.31 ms
- **Preload FIFO Size** 1,024 values
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Input Voltage** Single-ended  
Logic 0: 0.8 V max.  
Logic 1: 2.8 V min. (12 V max.)  
Differential  
Logic 0: -0.5 V max. (-12 V min.)  
Logic 1: 0.5 V min. (12 V max.)
- **Output Voltage** 0.8V max. @+24mA  
2V min. @-24mA
- **Encoder Counter** Quadrature (X1, X2, X4), dual pulse (CW/CCW), signed pulse (OUT/DIR), position compare output
- **General Counter** Frequency measurement, pulse width measurement, pulse output, PWM output

#### Digital Input

- **Channels** 4 (shared with CNTn\_SCLK/L pins)
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Opto-isolator response** 100 ns
- **Input Voltage** Logic 0 : 2V max.  
Logic 1 : 5V min. (50V max.)

#### Digital Output

- **Channels** 4 (shared with CNTn\_OUT pins)
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 100 ns
- **Output Type** 5V / TTL
- **Sink/Source Current** 24mA max.

#### General

- **Form Factor** PCI Express x1
- **I/O Connector** 37-pin D-sub female connector
- **Dimensions (L x W)** 167 x 100 mm (6.6" x 3.9")
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F) (refer to IEC 68-2-1, 2)
- **Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 68-2-3)
- **Board ID** TM switch
- **Power Consumption** typical: 3.3V @ 290mA  
12V @ 95mA  
Max.: 3.3V @ 360mA  
12V @ 245mA

### Ordering Information

- **PCIE-1884-AE** 32-bit, 4-ch encoder counter with programmable trigger output PCI express card

#### Accessories

- **PCL-10137H-1E** High-speed DB37 cable, 1m
- **PCL-10137H-3E** High-speed DB37 cable, 3m
- **ADAM-3937-BE** DB37 DIN-rail wiring board

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