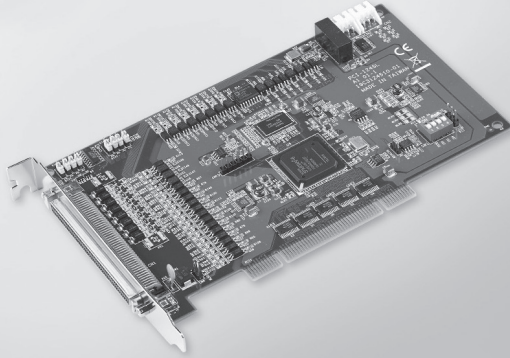


# PCI-1245L

## 4-axis Stepping and Servo Motor Control Universal PCI Card

NEW



### Features

- Encoder input is 4 MHz for 4xAB mode, 1 MHz for CW/CCW mode
- Pulse output up to 1 Mpps and the output type can be switched to differential or single-end by jumper setting
- Supports 2 axis linear interpolation
- Supports T/S-curve
- Supports speed override
- Hardware emergency input
- Watchdog timer
- Supports programmable acceleration/deceleration rate
- Programmable interrupt
- RDY dedicated input channels & SVON/ERC dedicated output channels are switchable for general input and output purposes

### Introduction

The PCI-1245L is a 4-axis universal PCI card (supporting both 3.3 V and 5 V signal slots) stepping/pulse-type servo motor control card designed for entry-level applications which need to control interpolation, synchronization among multiple axes, with SoftMotion algorithm inside to perform the motion trajectory and precise movement. The PCI-1245L utilizes the high-performance FPGA to calculate the motion trajectories, synchronization timing control for multiple axes and input/output handling to offer functionality, such as 2 axis linear interpolation, T/S-curve, speed override, programmable acceleration/deceleration rate, 16 home modes and so on.

In addition, all Advantech motion controllers use the "Common Motion API" architecture which is a unified user programming interface and graphical utility. This architecture saves application maintenance and upgrades. Programmers can benefit from integrating any Advantech SoftMotion controller without changing large amounts of the application code. User-friendly examples decrease programming load, helping users complete configuration and diagnosis easily.

### Specifications

#### Pulse Type Motion Control

- **Motor Driver Support** Pulse-type servo/stepping
- **Number of Axes** 4
- **Interpolation** 2-axis linear interpolation
- **Max. Output Speed** 1 Mbps
- **Step Count Range**  $\pm 2, 147, 483, 646$
- **Pulse Output Type** Pulse/direction (1-pulse, 1-direction type), CW/CCW (2-pulse type) or single-ended +5V output
- **Position Counters** Range of command and actual position
- **Velocity Profiles** T-Curve, S-Curve
- **Local I/O**
  - Machine Interfaces: LMT+, LMT-, ORG
  - Servo Driver Interfaces: ALM, INP
  - General Digital I/O: 16-ch DI, 16-ch DO (RDY pin can be switchable to general-purpose input and SVON/ERC pin to generalpurpose output)

#### Encoder Interface

- **Input Type** Quadrature (A/B phase) or up/down
- **Counts per Enc. Cycle** x1, x2, x4 (A/B phase only)
- **Input Range** 5-10 V
- **Isolation Protection** 2,500 V<sub>oc</sub>
- **Max. Input Frequency** 4 MHz for 4xAB mode

#### General

- **Bus Type** Universal PCI V2.2
- **Connectors** 1 x 100-pin SCSI female connector
- **Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** Typical: 5 V @ 0.6 A  
Max.: 5 V @ 1 A
- **Humidity** 5 ~ 95% RH, non-condensing (IEC 60068-2-3)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 85°C (-4 ~ 185°F)

### Ordering Information

- **PCI-1245L-AE** 4-axis Stepping/Pulse-type Servo Motor Control Universal PCI Card

#### Accessories

- **ADAM-3956-AE** 100-pin DIN-rail SCSI 4-axis Motion Wiring Board
- **ADAM-3955-AE** 50-pin DIN-rail SCSI 2-axis Motion Wiring Board
- **ADAM-3952-AE** 50-pin DIN-rail SCSI and Box Header Board
- **ADAM-39100-AE** 100-pin DIN-rail SCSI Wiring Board
- **ADAM-3956-AE** 100-pin DIN-rail SCSI 4-axis Motion Wiring Board
- **PCL-10251-1E/3E** 100-pin SCSI to Two 50-pin SCSI Cable, 1 m/3m
- **PCL-10153PA5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic A4 and A5 Servo, 2 m
- **PCL-10153PA5LS-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic MINAS A Servo, 2 m
- **PCL-10153YS5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Yaskawa Sigma V Servo, 2 m
- **PCL-10153MJ3-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Mitsubishi J3 Servo, 2 m
- **PCL-10153DA2-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Delta A2 Servo, 2 m