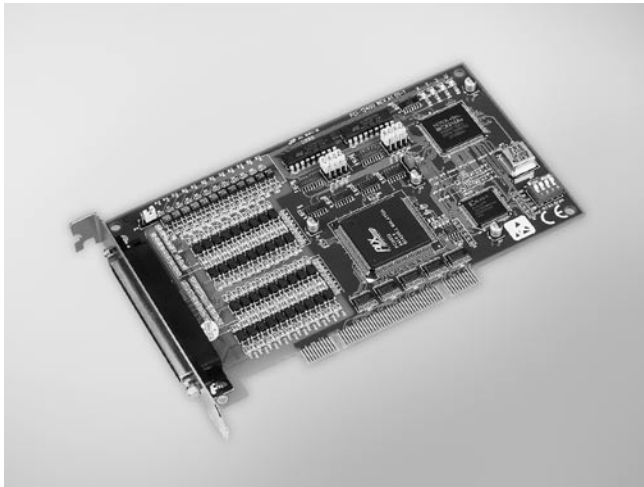# PCI-1240U

4-axis Stepping and Servo Motor Control Universal PCI Card

Features

- Independent 4-axis motion control
- Hand wheel and jog function
- 2/3-axis linear interpolation function
- 2-axis circular interpolation function
- Continuous interpolation function
- Programmable T/S-curve acceleration/deceleration rate
- Up to 4 Mpps output for each axis
- Two pulse output types: CW/CCW or pulse/direction
- Up to 1 MHz encoder input for each axis
- Two encoder pulse input types: A/B phase or up/down
- Constant speed control
- Position management and software limit switch function
- BoardID™ switch

Introduction

Advantech introduces the PCI-1240U 4-axis Universal PCI (supports both 3.3 V and 5 V signal slot) stepping/pulse-type servo motor control card designed for general-purpose extreme motion applications. The PCI-1240U is a high-speed 4-axis motion control card for the PCI bus that simplifies stepping and pulse-type servo motor control, giving you added performance from your motors. The card's intelligent NOVA® MCX314-motion ASIC builds in a variety of motion control functions, such as 2/3-axis linear interpolation, 2-axis circular interpolation, T/S-curve acceleration/deceleration rate and more. In addition, the PCI-1240U performs these motion control functions without processor loading during driving. For advanced applications, Advantech supplies Windows® DLL drivers and user-friendly examples to decrease your programming load. Moreover, through a free bundled PCI-1240U motion utility, you can 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, 3-axis linear, 2-axis circular
- **Max. Output Speed** 4 Mpps
- **Step Count Range** ±2, 147, 483, 646
- **Pulse Output Type** Pulse/direction (1-pulse, 1-direction type) or CW/CCW (2-pulse type)
- **Position Counters** Range of command and actual position
- **Velocity Profiles** T-Curve, S-Curve
- **Local I/O**
  Machine Interfaces: PEL x 4, MEL x 4, ORG x 4
  Servo Driver Interfaces: ALM x 4, INP x 4
  Position Compare I/O: CMP x 4
  General Inputs: 12 (IN0 ~ 2 of each axis)
  General Outputs: 16 (OUT4 ~ 7 of each axis)

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 ~ 25 V
- **Isolation Protection** 2,500 V_{DC}
- **Max. Input Frequency** 1 MHz

General

- **Bus Type** Universal PCI V2.2
- **Certifications** CE
- **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 @ 850 mA
  Max.: 5 V @ 1 A
- **Humidity** 5 ~ 95% RH, non-condensing (IEC 68-2-3)
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Storage Temperature** -20 ~ 85° C (-4 ~ 185° F)

Ordering Information

- **PCI-1240U** 4-axis Servo Motor Control PCI Card
- **ADAM-3952** 50-pin DIN-rail SCSI Wiring Board
- **PCL-101100M-1** 100-pin SCSI Cable, 1 m
- **PCL-101100M-3** 100-pin SCSI Cable, 3 m
- **PCL-10251-1** 100-pin SCSI to Two 50-pin SCSI Cable, 1 m
- **PCL-10251-2** 100-pin SCSI to Two 50-pin SCSI Cable, 2 m
- **PCL-10251-3** 100-pin SCSI to Two 50-pin SCSI Cable, 3 m