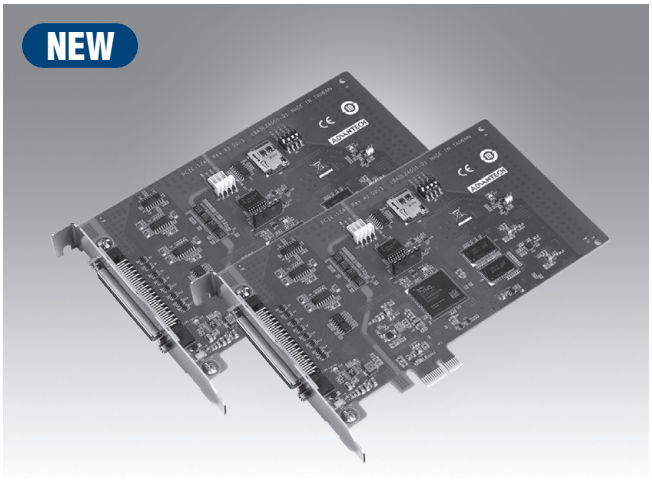
PCIE-1245
PCIE-1245E

Standard/Economic 4-Axis Stepping and Servo Motor Control Universal PCI Express Card



CE FCC RoHS COMPLIANT 2002/95/EC

Features

- Encoder input is 5 MHz for CW/CCW,P/D,AB mode
- Pulse output up to 5 MHz
- Memory buffer (10 K points) for trajectory planning
- Point-to-point, line and E-Gear
- Circular and helical interpolation (PCIE-1245 only)
- Hardware emergency input
- Position latch up to 10KHz and memory buffer 1K points (PCIE-1245 only)
- Position compare triggering up to 100 KHz, and memory buffer is up to 100 K points (PCIE-1245 only)
- 1D&2D plane position compensation (PCIE-1245 only)
- Gantry mode by semi-closed loop pulse train control (PCIE-1245 only)
- Dynamic PWM output for velocity following (PCIE-1245 only)

Introduction

PCIE-1245/1245E series are 4-axis motion control PCI Express cards which are designed for electrical machine automation and traditional machine automation wide applications. The board is equipped with SoftMotion algorithm inside to perform the motion trajectory and timing control to meet the synchronization in precise movement. The Advantech SoftMotion features synchronization control in gantry, electronic gear and dynamic PWM following; interpolation in linear, circular and helical (spiral) curve; continuous movement in buffering piecewise trajectory to realize; cutting movement in tangential following to ensure the Z-axes is tangent to X-Y curve; high-speed position compare and triggering with any 3rd party machine vision solution.

PCIE-1245/1245E are applied to "MotionNavi API" architecture which is an unified user programming interface. Programmer can benefit from integrating any Advantech SoftMotion controller without changing the application code in large scale. This architecture can save the effort of application maintenance and upgrade.

Specifications

Pulse Type Motion Control

- **Motor Driver Support** Pulse-type servo/stepping
- **Number of Axes** 4
- **Interpolation** Linear, circular, helical interpolation
- **Max. Output Speed** 5 MHz
- **Step Count Range** ±2, 147, 483, 646
- **Pulse Output Type** Pulse/Direction (1-pulse, 1-direction type) or CW/CCW (2-pulse type), AB phase
- **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
  - Motion I/O: 2-ch CMP, 2-ch LTC
  - General Digital I/O: 8-ch DI, 8-ch DO

Encoder Interface

- **Input Type** CW/CCW, Pulse/Direction, AB x1, x2, x4
- **Input Range** EIA Standard RS-422
- **Isolation Protection** All isolation 1400 V
- **Max. Input Frequency** 5MHz x1, x2, x4 (A/B phase only)

General

- **Bus Type** PCI Express x1
- **Connectors** 1x 68-pin SCSI female connector
- **Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** Typical: 3.3 V@530 mA; 12 V@25 mA
  Max: 3.3 V@800 mA; 12 V@45 mA
- **Humidity** 5~95% RH non-condensing (refer to IEC 60068-2-3)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 85°C (-4 ~ 185°F)

Ordering Information

- **PCIE-1245** Standard 4-Axis Stepping and Servo Motor Control Universal PCI Express Card
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Accessories

- **MTB-400-AE** 4-Axis 68-pin SCSI Motion Wiring Board
- **PCL-30168M-1E** SCSI 68-pin Shielded Cable, 1m
- **PCL-30168M-2E** SCSI 68-pin Shielded Cable, 2m
- **PCL-30168M-3E** SCSI 68-pin Shielded Cable, 3m
- **PCL-30153PA5-S2E** DB25 to SCSI-50 Cable for Panasonic A5/A6, 2m
- **PCL-30153YS5-S2E** DB25 to SCSI-50 Cable for Yaskawa Sigma V/7, 2m
- **PCL-30153MJ3-S2E** DB25 to SCSI-50 Cable for Mitsubishi J4/J5, 2m
- **PCL-30153DA2-S2E** DB25 to SCSI-50 Cable for Delta A2, 2m

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