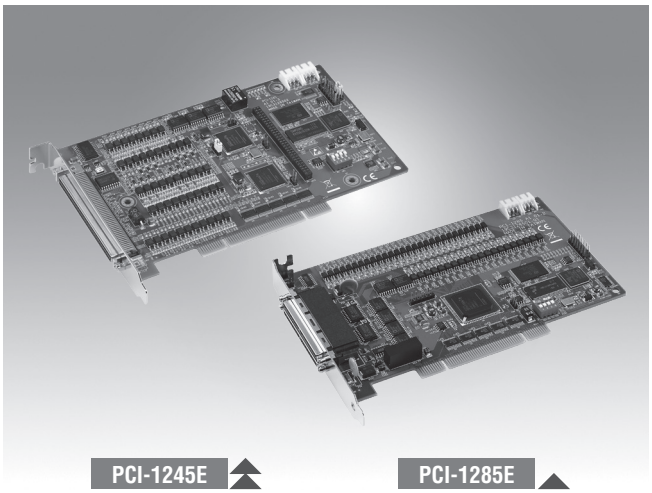
PCI-1245E
PCI-1285E

Economic DSP-Based 4/8-Axis Stepping and Servo Motor Control Universal PCI Card



Features

- Encoder input is 10 MHz for 4xAB mode, 2.5 MHz for CW/CCW mode
- Pulse output up to 5 Mpps
- Memory buffer (up to 10K) for trajectory planning (circular trajectory and auto blending are not supported)
- Supports E-Gear
- Hardware emergency input
- Watchdog timer
- Programmable interrupt
- RDY/LTC-dedicated input channels & SVON/CMP/CAM-DO/ERC-dedicated output channels are switchable for general input and output purposes

Introduction

PCI-1245E/1285E is a 4/8-axis economic universal PCI (supporting both 3.3 V and 5 V signal slot) stepping/pulse-type servo motor control card designed for entry-level applications which need to control linear interpolation, electronic gear, continuous contouring (circular trajectories and auto blending are excluded). PCI-1245E/1285E utilizes the high-performance DSP and FPGA to calculate the motion trajectories, synchronization timing control for multiple axes and input/output handling to offer functionality, such as 2~8-axis linear interpolation, E-Gear (only for PCI-1245E), T/S-curve acceleration/deceleration rate, speed override, 16 home modes and so on. In addition, Advantech supplies a Common Motion API library, graphical utility, and user-friendly examples to decrease programming workloads.

Specifications

Pulse Type Motion Control

- **Motor Driver Support** Pulse-type servo/stepping
- **Number of Axis** PCI-1245E: 4
  PCI-1285E: 8
- **Interpolation** PCI-1245E: 2-axis linear
  PCI-1285E: 2-axis linear
- **Max. Output Speed** 5 Mbps
- **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: LMT+, LMT-, ORG
  Servo Driver Interfaces: ALM, INP
  General Digital I/O: PCI-1245E: 16-ch DI, 16-ch DO
  PCI-1285E: 32-ch DI, 32-ch DO

Encoder Interface

- **Input Type** Quadrature (A/B phase) or up/down
- **Counts per Enc. Cycle** x1, x2, x4 (A/B phase only)
- **Input Range** PCI-1245E: 3~10V
  PCI-1285E: 3~10V
- **Isolation Protection** 2,500 V_{DC}
- **Max. Input Frequency** 10 MHz under 4xAB mode

General

- **Bus Type** Universal PCI V2.2
- **Connectors** PCI-1245E: 1 x 100-pin SCSI female connector
  PCI-1285E: 2 x 100-pin mini-SCSI female connector
- **Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** PCI-1245E: Typical: 5 V @ 850 mA
  Max.: 5 V @ 1 A
  PCI-1285E: Typical: 5 V @ 530 mA
  3.3 V @ 160 mA
  Max.: 5 V @ 500 mA
  3.3 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-1245E-AE** Economic 4-axis Stepping/Servo Control Universal PCI Card
- **PCI-1285E-AE** Economic 8-axis Stepping/Servo 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
- **PCL-101100M-1E/2E/3E** 100-pin SCSI Cable, 1m/2m/3m
- **PCL-10251-1E/2E/3E** 100-pin SCSI to Two 50-pin SCSI Cable, 1m/2m/3m
- **PCL-101100SB-1E/2E/3E** Mini-SCSI-100 Shielded Cable, 1m/2m/3m (for PCI-1285E)
- **PCL-20153PA5-S2E** 50-pin Cable to Panasonic A4/A5 Servo, 2 m
- **PCL-20153YS5-S2E** 50-pin Cable to Yaskawa Sigma V/7 Servo, 2 m
- **PCL-20153MJ3-S2E** 50-pin Cable to Mitsubishi J3/J4 Servo, 2 m
- **PCL-20153DA2-S2E** 50-pin Cable to Delta A2 Servo, 2 m

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