Intelligent Motion Control and Machine Vision

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-D0/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 VDC
- 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 SCSC Cable, 1m/2m/3m
- PCL-10251-1E/2E/3E 100-pin SCSC to Yaskawa Sigma V/7 Servo, 1m/2m/3m
- PCL-101100B-1E/2E/3E Mini-SCSI-100 Shielded Cable, 1m/2m/3m
- PCL-10153PA5-2E 50-pin Cable to Panasonic A4/AS Servo, 2 m
- PCL-10153YS5-2E 50-pin Cable to Yaskawa Sigma V/7 Servo, 2 m
- PCL-10153MJ3-2E 50-pin Cable to Mitsubishi J3/J4 Servo, 2 m
- PCL-10153DA2-2E 50-pin Cable to Delta A2 Servo, 2 m

All product specifications are subject to change without notice. Last updated: 27-Jun-2018