**Intelligent Motion Control and Machine Vision**

**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 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 SCXI Cable, 1m/2m/3m
- **PCL-10251-1E/2E/3E** 100-pin SCXI to Two 50-pin SCXI Cable, 1m/2m/3m
- **PCL-101100B-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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All product specifications are subject to change without notice. Last updated: 9-Dec-2019