

# Платы управления серии PCI-12 XX, PCI-17 XX

## ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

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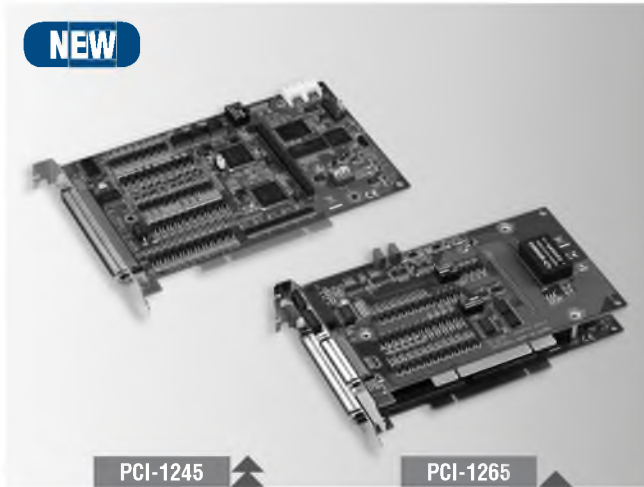
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# PCI-1245 PCI-1265 PCI-1285

## DSP-based 4/6/8-axis Stepping and Servo Motor Control Universal PCI Card

NEW



PCI-1245

PCI-1265



### Features

- Encoder input is 10 MHz for 4xAB mode, 2.5 MHz for CW/CCW mode
- Pulse output up to 5 Mpps
- Memory buffer (10K points) for trajectory planning which is designed in DSP
- Supports E-Gear, and helical interpolation
- Supports E-CAM providing 256 points to describe the CAM profiles which buffers located in DSP
- Hardware emergency input
- Watchdog timer
- Position latch
- Position compare triggering up to 100 KHz, and memory buffer is up to 100 K points in DSP
- Programmable interrupt
- Supports gantry mode by semi-closed loop pulse train control
- RDY/LTC-dedicated input channels & SVON/CMP/CAM-DO/ERC-dedicated output channels are switchable for general input and output purposes

### Introduction

PCI-1245/65/85 is a 4/6/8-axis universal PCI (supporting both 3.3 V and 5 V signal slot) stepping/pulse-type servo motor control card designed for applications which need to control interpolation, synchronization among multiple axes, continuous contouring and high speed triggering to integrated machine vision solution. PCI-1245/65/85 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 up to 4/6-axis linear interpolation, 2-axis circular interpolation, helical interpolation, T/S-curve acceleration/deceleration rate and so on. In addition, Advantech supplies a Common Motion API library, graphical utility and user-friendly examples to decrease programming load, helping users complete configuration and diagnosis easily.

### Specifications

#### Pulse Type Motion Control

- Motor Driver Support** Pulse-type servo/stepping
- Number of Axes** PCI-1245: 4  
PCI-1265: 6  
PCI-1285: 8
- Interpolation** PCI-1245: 2 to 4-axis linear, 2-axis circular, X-Y plane with Z thread helical interpolation  
PCI-1265: 2 to 6-axis linear, 2-axis circular, X-Y plane with Z thread helical interpolation  
PCI-1285: 2 to 8-axis linear, 2-axis circular, X-Y plane with Z thread helical interpolation
- Max. Output Speed** 5 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: LMT+, LMT-, ORG  
Servo Driver Interfaces: ALM, INP  
Position Compare I/O: CMP  
General Digital I/O: PCI-1245: 16-ch DI, 16-ch DO (RDY/LTC pin can be switchable to general-purpose input and CAM-DO/ CMP/SVON/ ERC pin to general-purpose output)  
PCI-1265: 32-ch DI, 32-ch DO (RDY/LTC pin can be switchable to general-purpose input and CAM-DO/ CMP/SVON/ ERC pin to general-purpose output)  
PCI-1285: 32-ch DI, 32-ch DO (RDY/LTC pin can be switchable to general-purpose input and CAM-DO/ CMP/SVON/ ERC pin to general-purpose output)
- Analog Input** PCI-1265: 2

#### 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 ~ 15 V
- Isolation Protection** 2,500 V<sub>DC</sub>
- Max. Input Frequency** 10 MHz under 4xAB mode

#### General

- Bus Type** Universal PCI V2.2
- Connectors** PCI-1245: 1 x 100-pin SCSI female connector  
PCI-1265: 1 x 100-pin SCSI female connector & 1 x 50-pin SCSI female connector  
PCI-1285: 2 x 100-pin mini-SCSI female connector
- Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- Power Consumption** PCI-1245/1265: Typical: 5 V @ 850 mA  
Max.: 5 V @ 1 A  
PCI-1285: Typical: 5 V @ 300 mA  
3.3 V @ 1.2 A  
Max.: 5 V @ 400 mA  
3.3 V @ 1.5 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-1245-AE** 4-axis Stepping/Servo Control Universal PCI Card
- PCI-1265-AE** 6-axis Stepping/Servo Control Universal PCI Card
- PCI-1285-AE** 8-axis Stepping/Servo Control Universal PCI Card

#### Accessories

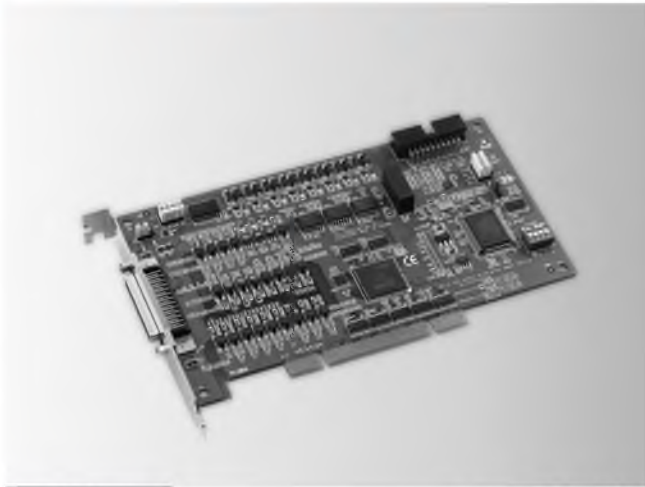
- ADAM-3956-AE** 100-pin DIN-rail SCSI 4-axis Motion Wiring Board
- ADAM-3955-AE** 50-pin DIN-rail SCSI 2-axis Motion Wiring Board
- ADAM-3952-AE** 50-pin DIN-rail SCSI and Box Header Board
- ADAM-39100-AE** 100-pin DIN-rail SCSI Wiring Board
- PCL-101100M-1E/2E/3E** 100-pin SCSI Cable, 1m/2m/3m (for PCI-1245/65)
- PCL-10251-1E/3E** 100-pin SCSI to Two 50-pin SCSI Cable, 1 m/3m (for PCI-1245/65 only)
- PCL-101100SB-1E/2E/3E** Mini-SCSI-100 Shielded Cable, 1m/2m/3m (for PCI-1285)
- PCL-10153PA5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic A4 and A5 Servo, 2 m
- PCL-10153PA5LS-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic MINAS A Servo, 2 m
- PCL-10153YS5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Yaskawa Sigma V Servo, 2 m
- PCL-10153MJ3-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Mitsubishi J3 Servo, 2 m
- PCL-10153DA2-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Delta A2 Servo, 2 m

# PCI-1220U

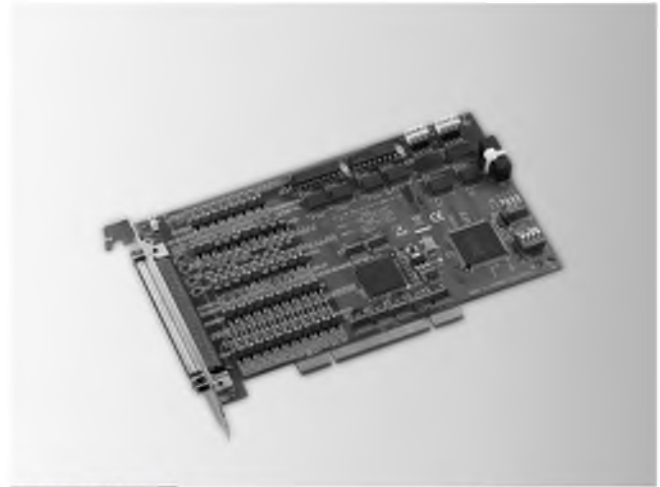
# PCI-1240U

**2-axis Stepping and Servo Motor Control  
Universal PCI Card**

**4-axis Stepping and Servo Motor Control  
Universal PCI Card**



PCI-1220U



PCI-1240U



## Specifications

### Pulse Type Motion Control

- **Motor Driver Support** Pulse-type servo/stepping
- **Number of Axis** 4
- **Interpolation** 2-axis linear, 3-axis linear, 2-axis circular (PCI-1240U)  
2-axis linear, 2-axis circular (PCI-1220U)
- **Max. Output Speed** 4 Mpps
- **Step Count Range**  $\pm 2, 147, 483, 646$  (32-bit)
- **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, RDY, SVON, INP  
Position Compare I/O: CMP  
General Digital I/O: 12-ch DI, 16-ch DO

### Encoder Interface

- **Input Type** Quadrature (A/B phase or up/down)
- **Counts /Enc. Cycle** x1, x2, x4 (A/B phase only)
- **Input Range** 5 ~ 25 V
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Max. Input Freq.** 1 MHz

### General

- **Bus Type** PC/104
- **Certification** CE, FCC Class A
- **Connectors** 2 x IDC 50-pin male connector
- **Dimensions (L x H)** 96 x 90 mm (3.8" x 3.5")
- **Power Consumption** Typical: 5 V @ 850 mA  
Max.: 5 V @ 1 A
- **Humidity** 5 ~ 95% RH, non-condensing (IEC 60068-2-3)
- **Operating Temp.** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temp.** -20 ~ 85°C (-4 ~ 185°F)

## Ordering Information

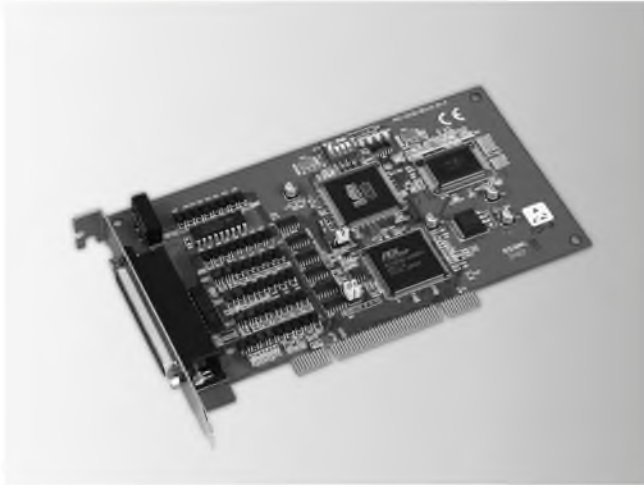
- **PCI-1220U-AE** 2-axis Stepping and Servo Motor Control Universal PCI Card
- **PCI-1240U-B2E** 4-axis Stepping and Servo Motor Control Universal PCI Card

### Accessories

- **ADAM-3956-AE** 100-pin DIN-rail SCSI 4-axis Motion Wiring Board (PCI-1240U only)
- **ADAM-3955-AE** 50-pin DIN-rail SCSI 2-axis Motion Wiring Board (PCI-1220U/1240U)
- **ADAM-3952-AE** 50-pin DIN-rail SCSI and Box Header Board (PCI-1220U/1240U)
- **ADAM-3950-AE** 50-pin DIN-rail Flat Cable Wiring Board (PCM-3240 only)
- **ADAM-39100-AE** 100-pin DIN-rail SCSI Wiring Board (PCI-1240U only)
- **PCL-101100M-1E/2E/3E** 100-pin SCSI Cable, 1m/2m/3m (PCI-1240U only)
- **PCL-10150-1.2E** IDC-50 Flat Cable, 1.2m (PCM-3240 only)
- **PCL-10152-1E/3E** 50-pin SCSI M-M Shielded Cable, 1m/3m (PCI-1220U only)
- **PCL-10251-1E/3E** 100-pin SCSI to Two 50-pin SCSI Cable, 1 m/3m (PCI-1240U only)
- **PCL-10153PA5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic A4 and A5 Servo, 2 m
- **PCL-10153PA5LS-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic MINAS A Servo, 2 m
- **PCL-10153YS5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Yaskawa Sigma V Servo, 2 m
- **PCL-10153MJ3-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Mitsubishi J3 Servo, 2 m
- **PCL-10153DA2-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Delta A2 Servo, 2 m

# PCI-1243U

## 4-axis Stepping Motor Control Universal PCI Card



RoHS CE FCC

### Features

- 4 axis stepping motor control
- PCI universal bus
- Up to 400 k pulse output rate
- T-Curve acceleration/deceleration
- Pulse/Dir and CW/CCW pulse output mode
- Up 24-bit step count
- Opto-Isolated Digital input and output
- Up to 1,500 V<sub>RMS</sub> system isolation
- BoardID switch

### Introduction

PCI-1243U is a 4-axis stepping motor control card with universal PCI interface. Each axis can be controlled directly through the card's I/O registers. This board is economic solution for stepping motor which provides 4 channels pulse train, T/S speed profile, on-the-fly velocity change and so on. The board is supplied with DLL library for Windows programmer to write the program. With the DLL driver, you can easily link to VC++®, Visual Basic® or BCB.

### Specifications

#### Pulse Type Motion Control

- **Motor Driver Support** Stepping
- **Number of Axis** 4
- **Max. Output Speed** 400 kpps
- **Step Count Range** 0 ~ 16, 777, 215
- **Pulse Output Type** Pulse/Direction, CW/CCW
- **Position Counters** ±16, 777, 215
- **Home Modes** 4
- **Velocity Profiles** T-Curve or S-Curve acceleration/deceleration
- **Local I/O Interfaces** PEL x 4, NEL x 4, RG x 4, SLD x 4, EMG x 1
- **General Input Channels** 8
- **General Output Channels** 8

#### Isolated Digital Input

- **Channels** 8
- **Input Voltage** Logic 0: 1 V  
Logic 1: 12 V (24 V max.)
- **Isolation Protection** 3,750 V<sub>RMS</sub>
- **Opto-Isolator Response** 25 μs
- **Input Resistance** 4.7 kW

#### Isolated Digital Output

- **Channels** 8
- **Output Type** Sink (NPN)
- **Isolation Protection** 3,750 V<sub>RMS</sub>
- **Output Voltage** 5 ~ 30 V<sub>DC</sub>
- **Sink Current** 200 mA max./channel; 1.1 A max. total
- **Opto-Isolator Response** 25 μs

#### General

- **Bus Type** PCI V2.2
- **Certification** CE, FCC Class A
- **Connectors** 1 x DB-62 female
- **Dimensions** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** Typical: 5 V @ 340 mA  
Max.: 5 V @ 500 mA
- **Storing Humidity** 5 ~ 95% RH, non-condensing (IEC 60068-2-3)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storing Temperature** -20 ~ 80°C (-4 ~ 170°F)

### Ordering Information

- **PCI-1243U-AE** 4-axis Stepping Motor Control Card

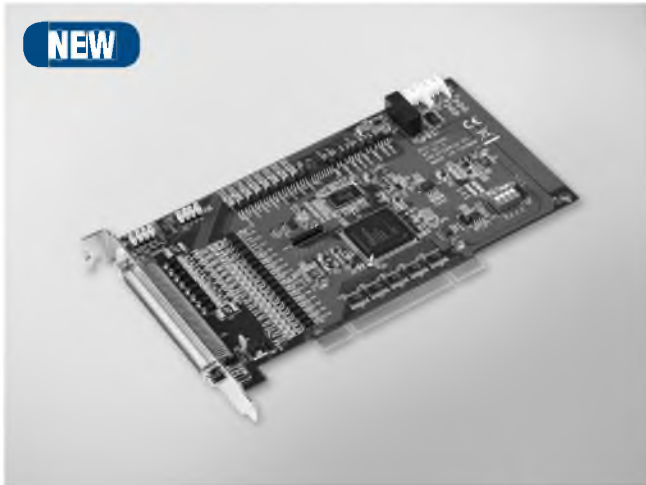
#### Accessories

- **PCL-10162-1E** DB-62 Cable Assembly, 1m
- **PCL-10162-3E** DB-62 Cable Assembly, 3m
- **ADAM-3962-AE** DB-62 Wiring Board with DIN-rail Mounting

# PCI-1245L

## 4-axis Stepping and Servo Motor Control Universal PCI Card

NEW



### Features

- Encoder input is 10 MHz for 4xAB mode, 2.5 MHz for CW/CCW mode
- Pulse output up to 1 Mpps and the output type can be switched to differential or single-end by jumper setting
- Supports 2 axis linear interpolation
- Supports T/S-curve
- Supports speed override
- Hardware emergency input
- Watchdog timer
- Supports programmable acceleration/deceleration rate
- Programmable interrupt
- RDY dedicated input channels & SVON/ERC dedicated output channels are switchable for general input and output purposes

### Introduction

The PCI-1245L is a 4-axis universal PCI card (supporting both 3.3 V and 5 V signal slots) stepping/pulse-type servo motor control card designed for entry-level applications which need to control interpolation, synchronization among multiple axes, with SoftMotion algorithm inside to perform the motion trajectory and precise movement. The PCI-1245L utilizes the high-performance FPGA to calculate the motion trajectories, synchronization timing control for multiple axes and input/output handling to offer functionality, such as 2 axis linear interpolation, T/S-curve, speed override, programmable acceleration/deceleration rate, 16 home modes and so on.

In addition, all Advantech motion controllers use the "Common Motion API" architecture which is a unified user programming interface and graphical utility. This architecture saves application maintenance and upgrades. Programmers can benefit from integrating any Advantech SoftMotion controller without changing large amounts of the application code. User-friendly examples decrease programming load, helping users 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 interpolation
- **Max. Output Speed** 1 Mpps
- **Step Count Range**  $\pm 2, 147, 483, 646$
- **Pulse Output Type** Pulse/direction (1-pulse, 1-direction type), CW/CCW (2-pulse type) or single-ended +5V output
- **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: 16-ch DI, 16-ch DO (RDY pin can be switchable to general-purpose input and SVON/ERC pin to general-purpose output)

#### Encoder Interface

- **Input Type** Quadrature (A/B phase) or up/down
- **Counts per Enc. Cycle** x1, x2, x4 (A/B phase only)
- **Input Range** 5-10 V
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Max. Input Frequency** 4 MHz under 4xAB mode

#### General

- **Bus Type** Universal PCI V2.2
- **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 @ 0.6 A  
Max.: 5 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-1245L-AE** 4-axis Stepping/Pulse-type Servo Motor Control Universal PCI Card

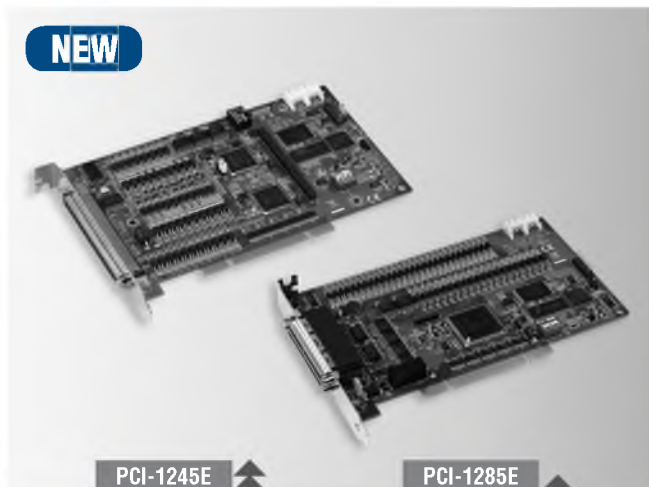
#### Accessories

- **ADAM-3955-AE** 50-pin DIN-rail SCSI 2-axis Motion Wiring Board
- **ADAM-3952-AE** 50-pin DIN-rail SCSI and Box Header Board
- **ADAM-39100-AE** 100-pin DIN-rail SCSI Wiring Board
- **PCL-101100M-3E** 100-pin SCSI Cable, 3 m
- **PCL-10152-1E** 50-pin SCSI Male-male Shielded Cable, 1m
- **PCL-10152-3E** 50-pin SCSI Male-male Shielded Cable, 3m
- **PCL-10251-1E** 100-pin SCSI to Two 50-pin SCSI Cable, 1 m
- **PCL-10251-2E** 100-pin SCSI to Two 50-pin SCSI Cable, 2 m
- **PCL-10251-3E** 100-pin SCSI to Two 50-pin SCSI Cable, 3 m
- **PCL-10153PA5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic A4 and A5 Servo, 2 m
- **PCL-10153PA5LS-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic MINAS A Servo, 2 m
- **PCL-10153YS5-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Yaskawa Sigma V Servo, 2 m
- **PCL-10153MJ3-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Mitsubishi J3 Servo, 2 m
- **PCL-10153DA2-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Delta A2 Servo, 2 m

# PCI-1245E PCI-1285E

## Economic DSP-based 4/8-axis Stepping and Servo Motor Control Universal PCI Card

NEW



PCI-1245E

PCI-1285E



### Features

- Encoder input is 10 MHz for 4xAB mode, 2.5 MHz for CW/CCW mode
- Pulse output up to 5 Mpps
- Memory buffer 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 load, helping users complete configuration and diagnosis easily.

### 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 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: 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 5–15V  
PCI-1285E 5–10V
- Isolation Protection** 2,500 V<sub>DC</sub>
- 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
- ADAM-3952-AE** 50-pin DIN-rail SCSI and Box Header Board
- ADAM-39100-AE** 100-pin DIN-rail SCSI Wiring Board
- PCL-101100M-1E/2E/3E** 100-pin SCSI Cable, 1m/2m/3m (for PCI-1245E)
- PCL-10251-1E/3E** 100-pin SCSI to Two 50-pin SCSI Cable, 1m/3m
- PCL-101100SB-1E/2E/3E** Mini-SCSI-100 Shielded Cable, 1m/2m/3m (for PCI-1285E)
- PCL-10153PA5-2E** DB-26 pin to SCSI-50 pin 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic A4 and A5 Servo, 2 m
- PCL-10153PA5LS-2E** DB-26 pin to SCSI-50 pin 50-pin Cable from ADAM-3955/ADAM-3956 to Panasonic MINAS A Servo, 2 m
- PCL-10153YS5-2E** DB-26 pin to SCSI-50 pin 50-pin Cable from ADAM-3955/ADAM-3956 to Yaskawa Sigma V Servo, 2 m
- PCL-10153MJ3-2E** DB-26 pin to SCSI-50 pin 50-pin Cable from ADAM-3955/ADAM-3956 to Mitsubishi J3 Servo, 2 m
- PCL-10153DA2-2E** DB-26 pin to SCSI-50 pin Cable from ADAM-3955/ADAM-3956 to Delta A2 Servo, 2 m

# PCI-1784U

## 4-ch, 32-bit Encoder Counter Universal PCI Card with 8-ch Isolated Digital I/O



### Features

- Four 32-bit encoder counters
- Single-ended or differential inputs
- Quadrature (x1, x2, x4), pulse/direction, and up/down counting modes
- Optically isolated up to 2,500 VDC
- 4-stage digital filter with selectable sampling rate
- On-board 8-bit timer with wide range time-base selector
- Multiple interrupt sources for precision applications
- 4 isolated digital inputs and 4 isolated digital outputs
- BoardIDTM switch

### Introduction

PCI-1784U is a 4-ch encoder counter universal PCI card. It includes four 32-bit encoder counters, 8-bit timer with multiple range time-base selector, 4 isolated digital inputs, and 4 isolated digital outputs. Its flexible interrupt sources are suitable for motor control and position monitoring.

### Specifications

#### Encoder Counter

- **Channels** 4
- **Resolution** 32 bits
- **Counting Modes** Quadrature, pulse/direction, or up/down
- **Max. Input Frequency** 8 MHz for pulse/direction and up/down modes  
2 MHz for quadrature mode without digital filter  
1 MHz for quadrature mode with digital filter
- **Digital Filter** 4 stages
- **Isolation** 2,500 V<sub>DC</sub>
- **Sample Clock Frequency** 8, 4, 2, or 1 MHz
- **Interrupt Sources** Overflow, underflow, index status, counter over compare, counter under compare
- **Input Voltage** Single-ended:  
Logic 0: 0.8 V max.  
Logic 1: 2.8 V min. (12 V max.)  
Differential:  
Logic 0: -0.2 V max. (-12 V min.)  
Logic 1: 0.2 V min. (12 V max.)

#### Isolated Digital input

- **Channels** 4
- **Input Voltage** Logic 0: 3 V max  
Logic 1: 10 V min. (30 V max.)
- **Interrupt Capable** All 4 channels
- **Isolation** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 100 μs
- **Overvoltage Protection** 70 V<sub>DC</sub>

#### Isolated Digital Output

- **Channels** 4
- **Output Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- **Output Capability** 50 mA @ 0.8 V  
-50 mA @ 2.0 V
- **Isolation** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 2 μs

#### General

- **Bus Type** Universal PCI V2.2
- **Connector** 37-pin D-sub female
- **Dimension (L x H)** 175 x 100 mm<sup>2</sup> (6.9" x 3.9")
- **Power Consumption** Typical: +5 V @ 200 mA  
Max.: +5 V @ 450 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 608-2-3)
- **Certification** CE

### Ordering Information

- **PCI-1784U** 4-ch encoder counter universal PCI card
- **PCL-10137H-3E** High-speed DB37 cable, 3 m
- **ADAM-3937** DB37 DIN-rail wiring board

**По вопросам продаж и поддержки обращайтесь:**

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