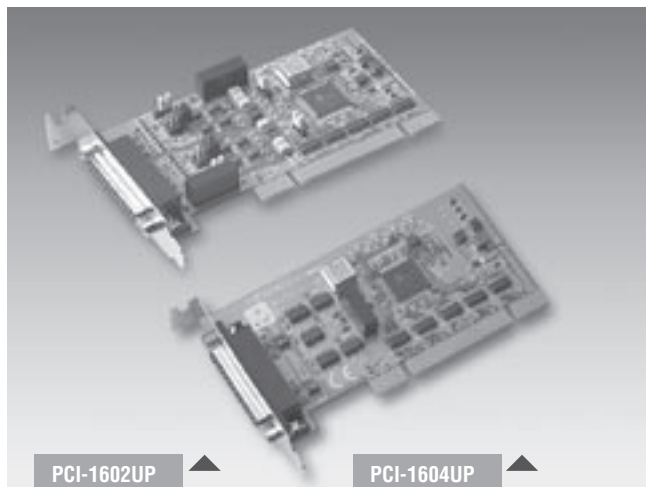


# PCI-1602UP PCI-1604UP PCI-1610UP/AUP

**2-port RS-422/485 Low-Profile PCI Communication Card, w/Isolation and EFT Surge Protection**

**2-port RS-232 Low-Profile PCI Communication Card, w/EFT Surge Protection**

**4-port RS-232 Low-Profile Universal PCI Communication Card, w/EFT Surge Protection**



PCI-1602UP

PCI-1604UP



## Features

- PCI bus specification 2.2 compliant
- Speeds up to 921.6 kbps
- 2-port RS-232(PCI-1604UP); 2-port RS-422/485 (PCI-1602UP); 4-port RS-232 (PCI-1610UP)
- I/O address automatically assigned by PCI Plug & Play
- OS support: Windows® 98/ME/2000/XP, XP Embedded, Linux
- 2,500V<sub>DC</sub> EFT Surge Protection
- 2,500V<sub>DC</sub> Isolation protection for RS-422/485 (PCI-1602UP)
- Interrupt status register for increased performance
- Space reserved for termination resistors (PCI-1602UP)
- Automatic RS-485 data flow control (PCI-1602UP)
- Powerful and easy-to-use utility (ICOM Tools)
- Universal and Low-profile PCI (Supports 3.3 V or 5 V PCI bus signal)

## Introduction

These RS-232/422/485 PCI communication cards are compatible with the PCI 2.2 bus specification for universal connectivity and low profile PCI cards. PCI-1604UP provides two independent RS-232 ports, while PCI-1602UP has two RS-422/485 ports. PCI-1610UP and PCI-1610AUP provide 4 RS-232 ports. To improve system performance, all cards allow transmission rates up to 921.6 kbps. To increase reliability, the cards offer EFT surge protection, protecting your system from abrupt high voltages up to 2,500 V<sub>DC</sub>. High-performance 16PCI952 and 16PCI954 UARTs with 128-byte FIFO, reduces the CPU load, making the cards especially suitable for multitasking environments.

The cards follow the Low Profile PCI MD1 standard. This standard has the same protocol and electronic definition as standard PCI, but the Low Profile PCI standard is smaller. Thus, the cards are suitable for embedded systems, and size-constrained environments. Moreover, all cards are equipped with an universal PCI connector, which allows support for traditional systems with 5 V signaling or newer systems with 3.3 V signaling.

Advantech also provides a convenient utility called ICOM Tools, to help test the PCI card's performance by analyzing the port status. The menu commands and toolbar buttons of ICOM Tools acts as a PC-based data scope that lets you set a trigger condition, capture the communication data and monitor the signal status. ICOM Tools can be used with all series of Advantech ICOM cards.

## Specifications

### General

- **Bus Type** Universal PCI V 2.2
- **Certifications** CE, FCC class A
- **Connectors** PCI-1610UP: 1 x Female DB44  
PCI-1602UP and PCI-1604UP: 1 x Female DB25
- **Dimensions** 119.91 x 64.41 mm (4.7" x 2.5") (Low profile MD1)
- **Power Consumption** 5 V @ 400 mA (Max.)
- **Power Requirement** 5 V

### Communications

- **Communication Controller** PCI-1602UP, PCI-1604UP: 16PCI952  
PCI-1610UP: 16PCI954
- **Data Bits** 5, 6, 7, 8
- **Data Signals** RS-232: TxD,RxD,RTS, CTS, DTR, DSR, DCD, GND, RI  
RS-422: Tx+,Tx-,Rx+,Rx-,RTS+,RTS-,CTS+,CTS-, GND  
RS-485: Data+, Data-, GND
- **FIFO** 128 bytes
- **Flow Control** CTS/RTS, Xon/Xoff
- **IRQ** Assigned by Plug & Play
- **Parity** None, even, odd
- **Speed** 50 bps ~ 921.6 kbps
- **Stop Bits** 1, 1.5, 2

### Protection

- **ESD Protection** 16 kV
- **Isolation Protection** 2,500 V<sub>DC</sub> (PCI-1602UP)
- **EFT Surge Protection** 2,500 V<sub>DC</sub> (PCI-1602UP, PCI-1604UP, PCI-1610UP)

### Software

- **Bundled Software** ICOM Tools
- **Driver Support** Windows 98/ME/2000/XP/XP Embedded, Linux

### Environment

- **Humidity (Operating)** 5 ~ 95 % RH, non-condensing (refer to IEC 68-2-3)
- **Operating Temperature** 0 ~ 65° C (refer to IEC 68-2-1, 2) (32 ~ 149° F)
- **Storage Temperature** -25 ~ 85° C (-13 ~ 185° F)

## Ordering Information

- **PCI-1602UP** 2-port RS-422/485 Low-Profile Universal PCI COMM Card, w/Isolation and EFT Surge Protection (30 cm DB25 to 2DB9 cable included)
- **PCI-1604UP** 2-port RS-232 Low-Profile Universal PCI COMM Card, w/EFT Surge Protection (30 cm DB25 to 2DB9 cable included)
- **PCI-1610UP** 4-port RS-232 Low-Profile Universal PCI COMM Card, w/EFT Surge Protection (30 cm DB44 to 4DB9 cable included)
- **PCI-1610AUP** 4-port RS-232 Low-Profile Universal PCI COMM Card, (30cm DB44 to 4 DB9 cable included)