## Serial Communication Cards

### Serial Communication Card Selection Guide

#### PCI & Universal Communication Cards

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# Serial Communication Card Selection Guide

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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. The PCI-1604UP provides two independent RS-232 ports, while the PCI-1602UP has two RS-422/485 ports. The PCI-1610UP and PCI-1610AUP provide four RS-232 ports. To improve system performance, all cards allow transmission rates up to 921.6 kbps. To increase reliability, the cards offer EFT protection, protecting your system from abrupt high voltages up to 2,500 VDC. High-performance OXuPC1952 and OXuPC1954 UARTs with 128-byte FIFO, reduces the CPU load, making the cards especially suitable for multitasking environments.

The cards follow the Low Profile PCI M1 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.

Specifications

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

Communications
- **Communication Controller**: PCI-1602UP, PCI-1604UP: OXuPC1952
  - PCI-1610AUP, PCI-1610UP: OXuPC1954
- **Data Bits**: 5, 6, 7, 8
- **Data Signals**:
  - RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
  - RS-422: Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, 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 to 921.6 kbps
  - 230.4 kbps (PCI-1610UP only)
- **Stop Bits**: 1, 1.5, 2

Protection
- **ESD Protection**: 15 KV
- **Isolation Protection**: 2,500 VDC (PCI-1602UP, PCI-1604UP)
- **EFT Protection**: 2,500 VDC (PCI-1602UP, PCI-1610AUP, PCI-1610UP)

Software
- **Bundled Software**: ICOM Tools
- **OS Support**: Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux, and QNX

Environment
- **Operating Humidity**: 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 Uni PCI Comm Card w/iso
- **PCI-1604UP**: 2-port RS-232 Low-Profile Uni PCI Comm Card w/iso
- **PCI-1610AUP**: 4-port RS-232 Low-Profile Uni PCI Comm Card
- **PCI-1610UP**: 4-port RS-232 Low-Profile Uni PCI Comm w/Surge

Note: 30 cm DB25 to 2 x DB9 cable included (PCI-1602UP, PCI-1604UP)
30 cm DB44 to 4 x DB9 cable included (PCI-1610AUP, PCI-1610UP)
Introduction

The PCI-1601 and PCI-1602 are two port RS-422/485 PCI communication cards that are compatible with the PCI 2.2 bus specification. Both cards provide EFT protected RS-422/485 ports, and come with features such as: high transmission speed of 921.6 kbps, optional isolation protection, windows utility software and more. The cards also come with high-performance OXuPC1952 UART with a 128-byte FIFO to reduce CPU load. This makes the PCI-1601 and PCI-1602 especially suitable for multitasking environments.

The PCI-1603 offers a versatile range of high-speed interfacing options. You can switch its ports between the popular RS-232 or noise-resistant current-loop. The card utilizes OXuPC1952 UARTs with 128-byte FIFO buffer for faster and more reliable communication, especially under multi-tasking environments such as Windows operating systems. The card utilizes OXuPC1952 UART that buffers data into packets before sending it to the bus. This drastically reduces CPU load and avoids data loss when the system is busy and cannot process an interrupt quickly. These FIFO buffers make the PCI-1603 especially suitable for high speed serial I/O under Windows.

Specifications

General
- **Bus Type**: Universal PCI v2.2
- **Connectors**: 2 x DB9-M
- **Dimensions (L x W)**: 123 x 92 mm (4.8” x 3.6”)
- **Power Consumption**: 300 mA @ +5V

Current-loop Interface (PCI-1603)
- **Baud-rate**: 50 ~ 57600 bps
- **Current Value**: 20 mA (Standard)
- **Mode**: Asynchronous, full duplex
- **Signal Driver/Receiver**: 6N136
- **Signals**: TxD+, TxD-, RxD+, RxD-
- **Transmission Distance**: 1,000 m

Communications
- **Communications Controller**: OXuPC1952
- **Data Bits**: 5, 6, 7, 8
- **Data Signals**: RS-422: Tx+, Tx-, Rx+, Rx-, RTS-, RTS+, CTS+, CTS-, GND
  RS-485: Data+, Data-, GND
  RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
- **FIFO**: 128 bytes
- **Flow Control**: RTS/CTS, Xon/Xoff
- **IRQ**: Assigned by Plug & Play
- **Parity**: None, Even, Odd
- **Speed**: 50 bps – 921.6 kbps, any baud rate setting
  230.4 kbps (PCI-1601B only)
- **Stop Bits**: 1, 1.5, 2

Protection
- **ESD Protection**: 15 KV
- **Isolation Protection**: 2,500 VDC
- **Surge Protection**: 1,000 VDC

Software
- **Bundled Software**: ICOM Tools
- **OS Support**: 32-bit/64-bit Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux, and QNX

Environment
- **Humidity (Operating)**: 5 ~ 95 % RH, non-condensing
- **Operating Temperature**: -10 ~ 60°C (14 ~ 144°F)
- **Storage Temperature**: -25 ~ 85°C (-13 ~ 185°F)

Regulatory Approvals
- **EMC**: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55044 including (IEC 61000-4-2/3/4/5/6/8/11), FCC Part 15 Subpart B

Ordering Information
- **PCI-1601A**: 2-port RS-422/485 PCI Comm. Card
- **PCI-1601B**: 2-port RS-422/485 PCI Comm. Card w/Surge
- **PCI-1602**: 2-port RS-422/485 PCI Comm. Card w/iso
- **PCI-1603**: 2-port RS-232/Current Loop PCI Comm. Card w/iso

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Serial Communication Cards

PCI-1610
4-port RS-232 Universal PCI Communication Card

PCI-1612
4-port RS-232/422/485 Universal PCI Communication Card

Features
- PCI bus 2.2 compliant
- Supports serial speed up to 921.6 kbps, and any baud rate setting
- 4-port RS-232 (PCI-1610), 4-port RS-232/422/485 (PCI-1612)
- OXuPC1954 UART with 128-byte FIFOs standard
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows 2K/XP/Vista/7, Windows CE 5.0/6.0, Linux, and QNX
- Interrupt status register for increased performance
- Powerful and easy to use utility (ICOM Tools)
- Universal PCI, supports 3.3 V or 5 V PCI bus signal
- 1,000 V<sub>oc</sub> surge protection
- 2,500 V<sub>oc</sub> isolation protection (PCI-1610C and PCI-1612C only)

Introduction
The PCI-1610 is a four port RS-232, and PCI-1612 is a four port RS-232/422/485 PCI communication card that are compatible with the PCI 2.2 bus specification, and offer transmission speeds up to 921.6 kbps. Moreover, it supports any baud rate setting, for example 500 kbps is acceptable. The PCI-1610 and PCI-1612 also come with high-performance OXuPC1954 UART with a 128-byte FIFO to reduce CPU load. These components make your system more stable and reliable. Thus, the PCI-1610 and PCI-1612 are especially suitable for multitasking environments.

Both the PCI-1610 and PCI-1612 have an universal PCI connector that is compatible with both the latest 3.3 V signaling systems and the traditional 5V signaling system. This gives high compatibility and allows usage in diverse systems. To further increase reliability, the PCI-1610 and PCI-1612 offer EFT protection technology, protecting your system from abrupt high voltages up to 2,500 volt. PCI-1610C and PCI-1612C also provide 2,500 volt optical isolation to protect your PC and equipment against damages from ground loops in harsh environments.

Specifications

General
- Bus Type: Universal PCI v2.2
- Connectors: 1 x DB37-F
- Dimensions (L x W): 185 x 100 mm (7.3” x 3.9”)
- Power Consumption: 180 mA @ +5 V

Communications
- Communication Controller: OXuPC1954
- Data Bits: 5, 6, 7, 8
- Data Signals:
  - RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI
  - RS-422: Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-
  - RS-485: Data+, Data- (PCI-1612)
- FIFO: 128 bytes
- Flow Control: RTS/CTS, Xon/Xoff
- IRQ: Assigned by Plug & Play
- Parity: None, Even, Odd
- Stop Bits: 1, 1.5, 2
- Speed: 50 bps – 921.6 kbps, any baud rate setting
  - 230.4 kbps (PCI-1610B and PCI-1612B only)

Protection
- ESD Protection: 15 KV
- Isolation Protection: 2,500 V<sub>oc</sub> (PCI-1610C and PCI-1612C only)
- Surge Protection: 1,000 V<sub>oc</sub>

Software
- Bundled Software: ICOM Tools
- OS Support: 32-bit/64-bit Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux, and QNX

Environment
- Operating Humidity: 5 – 95% RH, non-condensing
- Operating Temperature: -10 – 60°C (14 – 140°F)
- Storage Temperature: -25 – 85°C (-13 – 185°F)

Regulatory Approvals
- EMC: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55044, including (IEC 61000-4-2/3/4/5/6/8/11), FCC Part 15 Subpart B

Ordering Information
- PCI-1610A: 4-port RS-232 PCI Comm. Card
- PCI-1610B: 4-port RS-232 PCI Comm. Card w/Surge
- PCI-1610C: 4-port RS-232 PCI Comm. Card w/Iso
- PCI-1612A: 4-port RS-422/485 PCI Comm. Card
- PCI-1612B: 4-port RS-422/485 PCI Comm. Card w/Surge
- PCI-1612C: 4-port RS-422/485 PCI Comm. Card w/Iso

Note: 30 cm DB37 to 4 x DB9 cable included

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RoHS COMPLIANT

2002/95/EC
## Introduction

The PCI-1620 is an eight port RS-232, and PCI-1622 is an eight port RS-422/485 PCI communication card that are compatible with the PCI 2.2 bus specification, and offer transmission speeds up to 921.6 kbps. It also supports any baud rate setting, for example 500 kbps is acceptable. PCI-1620 and PCI-1622 also come with high-performance OXuPC1954 UART with a 128-byte FIFO to reduce CPU load. These components make your system more stable and reliable. Thus, the PCI-1620 and PCI-1622 are especially suitable for multitasking environments.

The PCI-1620 and PCI-1622 have an universal PCI connector that is compatible with both the latest 3.3 V signaling systems and the traditional 5V signaling system. This gives high compatibility and allows usage in diverse systems. To further increase reliability, the PCI-1620 and PCI-1622 offer EFT protection technology, protecting your system from electrical surges up to 2,500 voltage. The PCI-1622C also provides 2,500 voltage optical isolation to protect your PC and equipment against damages from ground loops in harsh environments.

## Specifications

### General
- Card Interface: Universal PCI v2.2
- Connectors: PCI-1620: 1 x DB62-F; PCI-1622: 1 x DB78-F
- Dimensions (L x W): 185 x 100 mm (7.3” x 3.9”)
- Power Consumption: 600 mA @ +5 V

### Communications
- Communication Controller: OXuPC1954
- Data Bits: 5, 6, 7, 8
- Data Signals: RS-232: TxO, RxO, DTR, DSR, DCD, RI, GND (PCI-1620)
  - RS-422: Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS- (PCI-1622)
  - RS-485: Data+, Data- (PCI-1622)
- FIFO: 128 bytes
- Flow Control: RTS/CTS, Xon/Xoff
- IRQ: Assigned by Plug & Play
- Parity: None, Even, Odd
- Speed: 50 bps – 921.6 kbps, any baud rate setting
  - 230.4 kbps (PCI-1620B and PCI-1622B only)
- Stop Bits: 1, 1.5, 2

### Protection
- ESD Protection: 15 KV
- Surge Protection: 1,000 V<sub>oc</sub>
- Isolation Protection: 2,500 V<sub>oc</sub> (PCI-1622C only)

### Software
- Bundled Software: ICOM Tools
- OS Support: Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux, QNX

### Environment
- Operating Humidity: 5 – 95% RH, non-condensing
- Operating Temperature: -10 – 60°C (14 – 144°F)
- Storage Temperature: -25 – 85°C (-13 – 185°F)

### Regulatory Approvals
- EMC: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55044 including (IEC 61000-4-2/3/4/5/6/8/11), FCC Part 15 Subpart B

### Ordering Information
- PCI-1620B: 8-port RS-232 PCI Comm. Card w/Surge
- PCI-1622A: 8-port RS-422/485 PCI Comm. Card
- PCI-1622B: 8-port RS-422/485 PCI Comm. Card w/Surge
- PCI-1622C: 8-port RS-422/485 PCI Comm. Card w/Iso

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**PCI-1620**

**PCI-1622**

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**800-999-7378**
PCIE-1620
PCIE-1622

8-port RS-232 PCI Express Communication Card
8-port RS-232/422/485 PCI Express Communication Card

**Features**
- PCI Express x1 compliant
- Speeds up to 921.6 kbps for extreme fast data transmission
- Supports any baud rate with high precision
- 8 x RS-232 or RS-232/422/485 ports
- Drivers for 32-bit/64-bit Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux 2.4/2.6, QNX 6 supported
- OxPCIe958 UART with 128-byte FIFO, hardware, software flow control

**Introduction**
PCIE-1620 is an 8-port RS-232, and PCIE-1622 is an 8-port RS-232/422/485 PCI Express communication cards that are compatible with the PCI Express x1 specification. The cards provide eight EFT protected RS-232/422/485 ports up to 2,500 V_{DC}, and have many functions such as high transmission speed of 921.6 kbps; either eight independent RS-232 ports or eight independent RS-232/422/485 ports which comes with high-performance OxCIe958 UARTs with 128-byte FIFO to reduce CPU load. Thus, the PCIE-1620/ PCIE-1622 are especially suitable for making your system reliable in multitasking environments.

**Specifications**

**General**
- **Bus Type**: PCI Express x1
- **Certifications**: CE, FCC class A
- **Connectors**: 1 x DB62-F
- **Dimensions (L x W)**: 167 x 111 mm (6.6" x 4.4")
- **Power Consumption**
  - Typical: +3.3V: 0.26A
  - Max: +3.3V: 0.5A
- **Power Requirement**: +3.3 V

**Communications**
- **Comm. Controller**: OxPCIe958
- **Data Bits**: 5, 6, 7, 8
- **Data Signals**: RS-232: 1xD, RxD, RTS, CTS, DTR, DSR, DCD, GND
  - 128 bytes
- **Flow Control**: RTS/CTS, Xon/Xoff
- **Parity**: None, Odd, Even
- **Speed**: 50 bps ~ 921.6 kbps (Supports any baud rate)
  - 230.4 kbps (PCIE-1620B and PCIE-1622B only)
- **Stop Bits**: 1, 1.5, 2

**Protection**
- **ESD Protection**: 15 KV
- **EFT Protection**: 2,500 V_{DC}
- **Surge Protection**: 1,000 V_{DC}

**Software**
- **Bundled Software**: ICOM Tools
- **OS Support**: Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux 2.4/2.6, QNX 6

**Environment**
- **Operating Humidity**: 5 – 95 % RH, non-condensing
- **Operating Temperature**: -10 – 60°C (-14 – 140°F)
- **Storage Temperature**: -25 – 85°C (-13 – 185°F)

**Ordering Information**
- **PCIE-1620A**: 8-port RS-232 PCI Express Comm. Card
- **PCIE-1620B**: 8-port RS-232 PCI Express Comm. Card w/Surge
- **PCIE-1622A**: 8-port RS-232/422/485 PCI Express Comm. Card
- **PCIE-1622B**: 8-port RS-232/422/485 PCI Express Comm. Card w/Surge
**PCIE-1672P**
**PCIE-1674P**

2-port 10/100/1000 BaseT(X) 802.3af (PoE) Compliant Ethernet ports, PCI Express Communication Card

4-port 10/100/1000 BaseT(X) 802.3af (PoE) Compliant Ethernet ports, PCI Express Communication Card

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**Features**

- Intel® GbE Mac Controller
- PCI Express® x4 compliant
- Supports 2 or 4 Gigabit Ethernet MAC Controller and PHY ports
- Supports 12 Vdc AT/ATX input power boost up to 15.4 watts at 48 Vdc per PoE port
- Supports PoE (Power over Ethernet), IEEE 802.3af compliant
- Powered Device (PD) auto detection and classification
- Supports IEEE 802.3u Auto-Negotiation
- Supports 12 Vdc AT/ATX input power boost up to 15.4 watts at 48 Vdc per PoE port
- 2.25 KV isolation protection on LAN ports and power

---

**Introduction**

The PCIE-1672P/PCIE-1674P PoE (Power over Ethernet) PCIE series is PCI express communication card which supports 2 or 4 independent 10/100/1000BaseT(X) 802.3af (PoE) compliant Ethernet ports. With 12 Vdc AT/ATX power input, the PCIE-1672P/PCIE-1674P can boost then provides up to 15.4 watts at 48 Vdc power to maximum 2 or 4 x PoE ports on each module. It allows power to be supplied to connected devices, such as PoE-based GigE cameras in machine vision inspection systems, without the need to use separate PoE injectors for those applications. With its 2.25 KV isolation protection, and overload current/voltage protection on LAN ports, the PCIE-1672P/PCIE-1674P is ideally designed for scientific research instrumentations, Medical Research Instrumentations, Gigabit Ethernet surveillance IP cameras in intelligent transportation systems, which can also benefit from a scalable Gigabit backbone construction with Power-over-Ethernet support.

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**Specifications**

**Ethernet Communications**

- **Compatibility**: IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3af
- **Speed**: 10/100/1000 Mbps
- **No. of Ports**: 2 or 4 Gigabit Ethernet Media Access Control (MAC) and physical layer (PHY) ports.
- **Port Connector**: 8-pin RJ45
- **Protection**: Built-in 2.25KV isolation protection on LAN ports and power, ESD 8KV, EFT 2KV

**Bus Interface**

- **PCI Express® x4 compliant**

**Power Requirements**

- **Input Voltage**: 12 Vdc, AT/ATX System power input
- **Overload Current Protection**: Present
- **Connection**: AT/ATX Power Jack
- **Output PoE Power**
  - PCIE-1672P: Supports 2 PoE ports up to 15.4 W at 48 Vdc
  - PCIE-1674P: Supports 4 PoE ports up to 15.4 W at 48 Vdc

**Environment**

- **Operating Temperature**: 0°C (32°F) - 50°C (122°F)
- **Storage Temperature**: -20°C (4°F) - 80°C (176°F)
- **Operating Humidity**: 5% - 95% RH

**Mechanics**

- **Dimensions (W x D x H)**: T.B.C

**Ordering Information**

- **PCIE-1672P**: 2-port PoE ports PCI Express Comm Card
- **PCIE-1674P**: 4-port PoE ports PCI Express Comm Card

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**NEW**

- FCC
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**Introduction**

The PCI-1682U is a special purpose communication card that offers the connectivity of the Controller Area Network (CAN) to your PC. With its built-in CAN controllers, the PCI-1682U provides bus arbitration and error detection with a automatic transmission repeat function. This drastically reduces the chance of data loss and ensures system reliability. The onboard CAN controllers are located at different positions in the memory, and you can run both CAN controllers independently at the same time. Besides, the PCI-1682U has a universal PCI connector, which is compatible with both new 3.3 V signaling systems and traditional 5 V signaling systems. With high-compatibility, the PCI-1682U can be used in diverse systems.

**Specifications**

**General**
- Card Interface: Universal PCI V 2.2
- Certifications: CE, FCC class A
- Connectors: 2 x DB9-M
- Dimensions: 175 x 105 mm (6.9” x 4.1”)
- Ports: 2
- Power Consumption: 5 V @ 400 mA (Typical)

**Communication**
- CAN Controller: NXP SJA1000
- CAN Transceiver: PCA82C250
- Protocol: CAN 2.0 A/B
- Signal Support: CAN_H, CAN_L, GND
- Speed: 1 Mbps
- Termination Resistor: 120 ohm (selected by jumper)

**Software**
- CAN bus Driver: Windows 2000/XP/Vista/7 (x86 and x64), Windows CE 5.0/6.0, Linux, QNX
- CANopen Software: Windows 2000/XP/Vista/7 (x86 and x64), Windows CE 5.0/6.0

**Features**
- PCI bus 2.2 compliant
- Operates two separate CAN networks at the same time
- High speed transmission up to 1 Mbps
- 16 MHz CAN controller frequency
- Optical isolation protection of 1000 VDC ensures system reliability
- I/O address automatically assigned by PCI PnP
- LED indicated transmit/receive status on each port
- Windows™ DLL library and examples included
- Supports Windows 2000/XP/Vista/7, Linux and QNX CAN driver
- Supports CANopen protocol

**Environment**
- Operating Temperature: 0 ~ 65°C (32 ~ 149°F)
- Storage Temperature: -25 ~ 85°C (-13 ~ 185°F)
- Operating Humidity: 5 ~ 95% RH
- Storage Humidity: 0 ~ 95% RH

**Regulatory Approvals**
- EMC: EN55011, EN55022, EN61000-6-4, EN55024, EN61000-6-2, IEC 61000-4-2/3/4/6/8, FCC Part 15 Subpart B (Class B)

**Protection**
- Isolation Protection: 1,000 VDC

**Ordering Information**
- PCI-1682U: 2-port CAN-bus Uni PCI Comm Card w/CANopen
### Specifications

**General**
- **Card Interface:** Universal PCI
- **Certifications:** CE, FCC
- **Connectors:** 2 x DB9-M
- **Dimensions:** 185 x 100 mm (7.3” x 3.9”)
- **Ports:** 2
- **Power Consumption:** 5 V @ 400 mA typical

**Communications**
- **CAN Controller:** SJA-1000
- **CAN Transceiver:** 82C250
- **Protocol:** CAN2.0 A/B
- **Speed:** 1 Mbps
- **CAN Frequency:** 16 MHz
- **Signal Support:** CAN_H, CAN_L

**Protection**
- **Isolation Protection:** 1,000 V_{DC}

**Environment**
- **Operating Temp.:** 0 ~ 65°C (32 ~ 149°F)

**Ordering Information**
- **PCI-1680U:** 2-port CAN Uni-PCI COMM Card w/isolation

### Features
- Operates two separate CAN networks simultaneously
- High speed transmission up to 1 Mbps
- Optical isolation protection of 1000 V_{DC}
- Windows DLL library and examples included
- I/O address automatically assigned by PCI PnP
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7 and Linux

---

### Specifications

**General**
- **Card Interface:** ISA
- **Certifications:** CE, FCC
- **Connectors:** 2 x DB9-M
- **Dimensions:** 185 x 100 mm (7.3” x 3.9”)
- **Ports:** 2
- **Power Consumption:** 5 V @ 400 mA typical

**Communications**
- **CAN Controller:** SJA-1000
- **CAN Transceiver:** 82C250
- **Protocol:** CAN2.0 A/B
- **Speed:** 500 kbps
- **IRQ:** 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- **Memory Segment Base Address:** From C800H to EF00H
- **Signal Support:** CAN_H, CAN_L

**Protection**
- **Isolation Protection:** 1,000 V_{DC}

**Environment**
- **Operating Temp.:** -40 ~ 85°C (-40 ~ 185°F)

**Ordering Information**
- **PCL-841:** 2-port CAN-bus ISA Comm. Card w/Isolation

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### Specifications

**General**
- **Card Interface:** PC/104 / PCI-104
- **Certifications:** CE, FCC
- **Connectors:** 2 x DB9-M with cable
- **Dimensions:** 90 x 96 mm (3.6” x 3.8”)
- **Ports:** 2
- **Power Consumption:** 5 V @ 400 mA

**Communications**
- **CAN Controller:** SJA-1000
- **CAN Transceiver:** 82C250
- **Protocol:** CAN2.0 A/B
- **Speed:** Up to 1 Mbps programmable transfer rate
- **CAN Frequency:** 16 MHz
- **Signal Support:** CAN_H, CAN_L
- **Memory Segment Base Address:** From C800H to EF00H
- **Signal Support:** CAN_H, CAN_L

**Protection**
- **Isolation Protection:** 2,500 V_{DC}

**Environment**
- **Operating Temp.:** -40 ~ 85°C (-40 ~ 185°F)

**Ordering Information**
- **PCM-3680:** Dual-port Iso CAN-bus PC/104 Module
- **PCM-3680I:** Dual-port ISO CAN-bus PCI-104 Module

---

**Ordering Information**
- **PCM-3680:** Dual-port Iso CAN-bus PC/104 Module
- **PCM-3680I:** Dual-port ISO CAN-bus PCI-104 Module
Serial Communication Cards

Specifications

General
- Card Interface: PC/104
- Certifications: CE, FCC
- Connectors: 2 x DB9-M
- Ports: 2
- Power Consumption:
  - Typical: 5 V @ 400 mA
  - Max.: ±12 V @ 950 mA

Communications
- Channel 1: RS-232, 422, or 485
- Character Length: 5, 6, 7, or 8 bits
- IRQ: 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, or 15
- Parity: Even, Odd, or None
- Speed: 50 bps ~ 115.2 kbps
- Stop Bit: 1, 1.5, or 2

Protection
- Isolation Protection: 2,500 V

Environment
- Operating Humidity: 0 ~ 90 % RH
- Operating Temperature: 0 ~ 70°C (32 ~ 158°F)
- Storage Temperature: -40 ~ 90°C (-40 ~ 194°F)

Ordering Information
- PCM-3610: Isolated RS-232/422/485 Module

Features
- High speed transmission rate
- Automatic RS-485 data flow control
- Jumper selectable interrupt level
- Supports Windows 2000/XP/Vista/7
- Supports WinCE 5.0/6.0
- Powerful and easy-to-use utility (ICOM Tools)

Specifications

General
- Card Interface: PC/104
- Certifications: CE, FCC
- Connectors: 2 x DB9-M
- Ports: 2
- Power Consumption: 5 V @ 400 mA typical

Communications
- Channel 1 and 2: RS-422, or RS-485
- Character Length: 5, 6, 7, or 8 bits
- IRQ: 3, 4, 5, 6, 7, 9, 10, 11, 12, or 15
- Parity: Even, Odd, or None
- Speed: 50 bps ~ 115.2 kbps
- Stop Bit: 1, 1.5, or 2

Protection
- Isolation Protection: 2,500 V

Environment
- Operating Humidity: 0 ~ 90 % RH
- Operating Temperature: 0 ~ 70°C (32 ~ 158°F)
- Storage Temperature: -40 ~ 90°C (-40 ~ 194°F)

Ordering Information
- PCM-3612: Dual Port RS-422/485 Module

Features
- Shared IRQ settings for each ports
- LED indicators: TX, RX
- Supports Windows 2000/XP/Vista/7
- Supports WinCE 5.0/6.0
- Powerful and easy-to-use utility (ICOM Tools)

Specifications

General
- Card Interface: PC/104
- Certifications: CE, FCC
- Connectors: 4 x DB9-M
- Ports: 4
- Power Consumption: 5 V @ 450 mA

Communications
- Data Bits: 5, 6, 7, 8
- I/O Address Range: 0 x 000 ~ 0 x 3F8
- IRQ: 3, 4, 5, 6, 7, 9, 10, 11, 12, or 15
- Parity: Even, Odd, or None
- Data Signals: RS-422: TxD+, TxD-, RxD+, RxD-, CTS+, CTS-, RTS+, and RTS-
  - RS-485: DATA+, DATA-, CTS+, CTS-, RTS+
- Speed: 50 bps ~ 921.6 kbps
- Stop Bit: 1, 1.5, 2

Protection
- EFT Protection: 1,000 V
- Termination Resistor: 120 Ω

Environment
- Operating Humidity: 0 ~ 90 % RH
- Operating Temperature: 0 ~ 65°C (32 ~ 149°F)
- Storage Temperature: -40 ~ 85°C (-40 ~ 185°F)

Ordering Information
- PCM-3614: 4-port RS-422/485 High-speed Module

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PCM-3610
PCM-3612
PCM-3614

2-port RS-232/422/485 PC/104 Module with Isolation Protection
2-port RS-422/485 PC/104 Module
4-port RS-422/485 High-speed PC/104 Module
### PCM-3618

**Card Interface**: PC/104

**Certifications**: CE, FCC

**Connectors**: 8 x DB9-M

**Ports**: 8

**Power Consumption**: 5 V @ 650 mA

**Communications**

- **Data Bits**: 5, 6, 7, 8
- **I/O Address Range**: 0 x 000 ~ 0 x 3F8
- **Parity**: None, Even and Odd
- **Data Signals**: RS-422: TxD+, TxD-, RxD+, RxD-, RTS+, RTS-, CTS+, CTS-
- **Speed**: 50 bps ~ 921.6 kbps
- **Stop Bits**: 1, 1.5, 2
- **Termination Resistor**: 120 Ω

**Protection**

- **EFT Protection**: 1,000 Vdc

**Environment**

- **Operating Humidity**: 0 ~ 90 % RH
- **Operating Temperature**: 0 ~ 65°C (32 ~ 149°F) (IEC-68-1-2)
- **Storage Temperature**: -25 ~ 80°C (-13 ~ 176°F)

**Ordering Information**

- PCM-3618: 8-port RS-422/485 High-Speed Module

### PCM-3640/3641

**Card Interface**: PC/104

**Certifications**: CE, FCC

**Connectors**: 4 x DB9-M

**Ports**: 4

**Power Consumption**

- **Typical**: 5 V @ 200 mA
- **Max.**: 5 V @ 250 mA

**Communications**

- **Data Bits**: 5, 6, 7, 8
- **Data Signals**: RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
- **I/O Address Range**: 0 x 0200 ~ 0 x 03F8
- **Parity**: None, Even and Odd
- **Speed**: 50 bps ~ 460.3 kbps (PCM-3641)
- **Stop Bits**: 1, 1.5, 2
- **IRQ**: 3, 4, 5, 6, 7, 9, 10, 11, 12, 15

**Protection**

- **EFT Protection**: 1,000 Vdc

**Environment**

- **Operating Humidity**: 0 ~ 90 % RH
- **Operating Temperature**: 0 ~ 70°C (32 ~ 158°F)
- **Storage Temperature**: -15 ~ 80°C (-5 ~ 176°F)

**Ordering Information**

- PCM-3640: 4-port RS-232 Module
- PCM-3641: 4-port RS-232 High-speed Module

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### PCM-3660

**Card Interface**: PC/104

**Certifications**: CE, FCC

**Connectors**: 1 x PC/104 stackthrough

**Ports**: 1

**Power Consumption**: 5 V @ 400 mA max

**Communications**

- **Data Bus**: 8-bit, 16-bit, or auto-sending
- **I/O Address**: 200, 220, 240, 260, 280, 300, 320, 340, 360, 380, 3A0
- **IRQ**: 3, 4, 5, 6, 7, 9, 10, 11, 12 or 15
- **Standard**: IEEE 802.3 10 Mbps CSMA/CD 10Base-T Transceiver

**Protection**

- **EFT Protection**: 1,000 Vdc

**Environment**

- **Operating Humidity**: 0 ~ 90 % RH
- **Operating Temperature**: 0 ~ 70°C (32 ~ 158°F)
- **Storage Temperature**: -15 ~ 80°C (5 ~ 176°F)

**Ordering Information**

- PCM-3660: Jumperless Ethernet Module

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The PCM-3618, PCM-3640/3641, and PCM-3660 are advanced industrial Ethernet PC/104 modules designed for high-speed data communication. They offer various features and specifications tailored for different applications, including 8-port RS-422/485 High-speed Module, 4-port RS-232 High-speed Module, and Jumperless Ethernet PC/104 Module, respectively. Each module supports various communication protocols and has different specifications catering to diverse industrial needs.
### PCM-3614I/3618I

**Serial Communication Cards**

**PCM-3614I/3618I**

**PCM-3641I/3642I**

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<tr>
<td>4/8-port RS-232 PCI-104 Module</td>
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</tbody>
</table>

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### Specifications

#### General
- **Card Interface**: PCI-104
- **Connectors**
  - PCM-3614I: 1 x 40-pin box header
  - PCM-3618I: 2 x 40-pin box header
- **Ports**
  - PCM-3614I: 4
  - PCM-3618I: 8
- **Power Consumption**: 5 V @ 450 mA

#### Communications
- **Data Bits**: 5, 6, 7, 8
- **Data Signals**
  - RS-422: TxD+, TxD-, RxD+, RxD-, CTS+, CTS-, RTS+, RTS-
  - RS-485: DATA+, DATA-, GND
  - RS-232: TxD, RxD, RTS, CTS, DSR, DCD, RI, GND
- **IRQ**: 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- **Parity**: None, Even and Odd
- **Speed**: 50 bps ~ 921.6 kbps
- **Stop Bits**: 1, 1.5, 2

#### Protection
- **EFT Protection**: 1,000 VDC
- **Termination Resistor**: 120 Ω

#### Environment
- **Operating Humidity**: 0 ~ 90 % RH
- **Operating Temperature**: 0 ~ 65°C (32 ~ 149°F) (IEC-68-1-2)
- **Storage Temperature**: -25 ~ 80°C (-13 ~ 176°F)

#### Ordering Information
- PCM-3614I: 4-port RS-232/422/485 PCI-104 Module
- PCM-3618I: 8-port RS-232/485 PCI-104 Module

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### Features
- Automatic RS-485 data flow control
- Shared IRQ settings for each port
- LED indicators: TX, RX
- Standard PC ports: COM1, COM2, COM3, COM4 compatible
- Supports Windows 2000/XP/Vista/7 and Linux
- Supports WinCE 5.0/6.0
- Powerful and easy-to-use utility (ICOM Tools)

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### PCM-3641I/3642I

**Serial Communication Cards**

**PCM-3641I/3642I**

<table>
<thead>
<tr>
<th>4/8-port RS-232/422/485 PCI-104 Module</th>
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<td>4/8-port RS-232 PCI-104 Module</td>
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### Specifications

#### General
- **Card Interface**: PCI-104
- **Connectors**
  - PCM-3641I: 1 x 40-pin box header
  - PCM-3642I: 2 x 40-pin box header
- **Ports**
  - PCM-3641I: 4
  - PCM-3642I: 8
- **Power Consumption**: 5 V @ 250 mA

#### Communications
- **Data Bits**: 5, 6, 7, 8
- **Data Signals**
  - TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
- **IRQ**: 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- **Parity**: None, Even and Odd
- **Speed**: 50 bps ~ 460.3 kbps
- **Stop Bits**: 1, 1.5, 2

#### Protection
- **EFT Protection**: 1,000 VDC
- **Termination Resistor**: 120 Ω

#### Environment
- **Operating Humidity**: 0 ~ 90 % RH
- **Operating Temperature**: 0 ~ 65°C (32 ~ 149°F) (IEC-68-1-1, 2)
- **Storage Temperature**: -25 ~ 80°C (-13 ~ 176°F)

#### Ordering Information
- PCM-3641I: 4-port RS-232 PCI-104 Module
- PCM-3642I: 8-port RS-232 PCI-104 Module

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### Features
- Transmission speeds up to 460 kbps
- Shared IRQ settings for each port
- Standard PC ports: COM1, COM2, COM3, COM4 compatible
- Supports Windows 2000/XP/Vista/7 and Linux
- Supports WinCE 5.0/6.0
- Powerful and easy-to-use utility (ICOM Tools)