

Serial Communication Cards

Serial Communication Card Selection Guide

11-2

PCI & Universal Communication Cards

PCI-1602UP	2-port RS-422/485 Low-Profile Universal PCI Communication Card with Isolation Protection	
PCI-1604UP	2-port RS-232 Low-Profile Universal PCI Communication Card with Isolation Protection	11-4
PCI-1610AUP/UP	4-port RS-232 Low-Profile Universal PCI Communication Card	
PCI-1601	2-port RS-422/485 Universal PCI Communication Card	
PCI-1602	2-port RS-422/485 Universal PCI Communication Card with Isolation Protection	11-5
PCI-1603	2-port RS-232/Current-loop Universal PCI Communication Card with Isolation Protection	
PCI-1610	4-port RS-232 Universal PCI Communication Card	11-6
PCI-1612	4-port RS-232/422/485 Universal PCI Communication Card	
PCI-1620	8-port RS-232 Universal PCI Communication Card	11-7
PCI-1622	8-port RS-422/485 Universal PCI Communication Card	

PCI Express Communication Cards

PCIE-1620 (New)	8-port RS-232 PCI Express Communication Card	11-8
PCIE-1622 (New)	8-port RS-232/422/485 PCI Express Communication Card	
PCIE-1672P (New)	2-port 10/100/1000 BaseT(X) 802.3af (PoE) Compliant Ethernet ports, PCI Express Communication Card	11-9
PCIE-1674P (New)	4-port 10/100/1000 BaseT(X) 802.3af (PoE) Compliant Ethernet ports, PCI Express Communication Card	

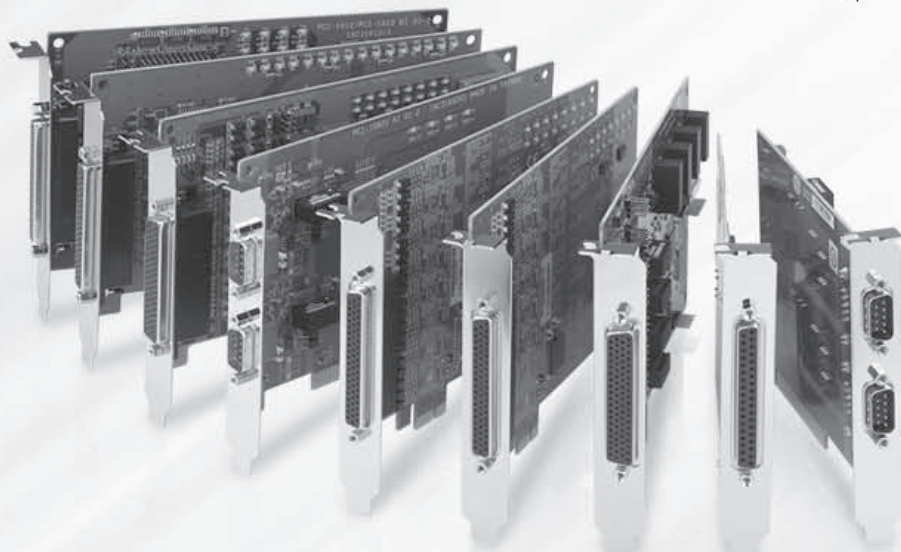
CAN Communication Cards

PCI-1682U	2-port CAN-bus Universal PCI Communication Card with CANopen Support	11-10
PCI-1680U	2-port CAN-bus Universal PCI Card with Isolation Protection	
PCL-841	2-port CAN-bus ISA Card with Isolation Protection	11-11
PCM-3680/I	2-port CAN-bus PC/104 / PCI-104 Module with Isolation Protection	

PC/104 & PCI-104 Communication Modules

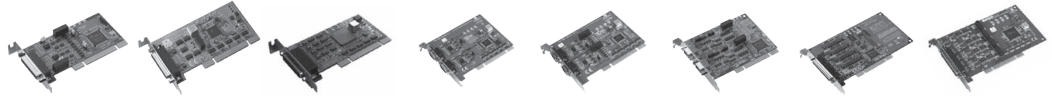
PCM-3610	2-port RS-232/422/485 PC/104 Module with Isolation Protection	11-12
PCM-3612	2-port RS-422/485 PC/104 Module	
PCM-3614	4-port RS-422/485 High-speed PC/104 Module	
PCM-3618	8-port RS-422/485 High-speed PC/104 Module	11-13
PCM-3640/3641	4-port RS-232 High-speed PC/104 Module	
PCM-3660	Jumperless Ethernet PC/104 Module	
PCM-3614I/3618I	4/8-port RS-232/422/485 PCI-104 Module	11-14
PCM-3641I/3642I	4/8-port RS-232 PCI-104 Module	

To view all of Advantech's Serial Communication Cards, please visit www.advantech.com/products.



Serial Communication Card Selection Guide

Serial Communication Cards



Bus		Universal Low-Profile PCI			Universal PCI				
Model Name		PCI-1602UP	PCI-1604UP	PCI-1610UP	PCI-1601	PCI-1602	PCI-1603	PCI-1610	PCI-1610C
Number of Ports		2	2	4	2	2	2	4	4
Communication Interfaces	Current Loop	-	-	-	-	-	V	-	-
	RS-232	-	V	V	-	-	V	V	V
	RS-422	V	-	-	V	V	-	-	-
	RS-485	V	-	-	V	V	-	-	-
	CAN	-	-	-	-	-	-	-	-
Driver		32-bit/64-bit Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux, and QNX							
Protection	ESD	1,500 V _{DC}							
	Isolation	2,500 V _{DC}	2,500 V _{DC}	-	-	2,500 V _{DC}	2,500 V _{DC}	-	2,500 V _{DC}
Cable Connector Type		DB9 Male	DB9 Male	DB9 Male	-	-	-	DB9 Male	DB9 Male
Page		11-4	11-4	11-4	11-5	11-5	11-5	11-6	11-6



Bus		Universal PCI				
Model Name		PCI-1612	PCI-1612C	PCI-1620	PCI-1622	PCI-1622C
Number of Ports		4	4	8	8	8
Communication Interfaces	Current Loop	-	-	-	-	-
	RS-232	V	V	V	-	-
	RS-422	V	V	-	V	V
	RS-485	V	V	-	V	V
	CAN	-	-	-	-	-
Driver		32-bit/64-bit Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux, and QNX				
Protection	ESD	1,500 V _{DC}				
	Isolation	-	2,500 V _{DC}	-	-	2,500 V _{DC}
Cable Connector Type		DB9 Male	DB9 Male	-	-	-
Page		11-6	11-6	11-7	11-7	11-7

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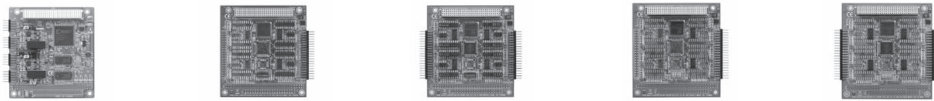
Bus		PCI Express				CAN-bus Universal PCI		CAN-bus ISA
Model Name		PCIE-1620	PCIE-1622	PCIE-1672P	PCIE-1674P	PCI-1682U	PCI-1680U	PCL-841
Number of Ports		8	8	2	4	2	2	2
Communication Interfaces	RJ45 Ports	-	-	V	V	-	-	-
	RS-232	V	V	-	-	-	-	-
	RS-422	-	V	-	-	-	-	-
	RS-485	-	V	-	-	-	-	-
	CAN	-	-	-	-	V	V	V
Driver		32-bit/64-bit Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux, and QNX						
Protection	ESD	1,500 V _{DC}	1,500 V _{DC}	8,000 V _{DC}	8,000 V _{DC}	-	-	-
	Isolation	-	-	2,250 V _{DC}	2,250 V _{DC}	1,000 V _{DC}	1,000 V _{DC}	1,000 V _{DC}
Cable Connector Type		DB9 Male	DB9 Male	RJ45	RJ45	-	-	DB9 Male
Page		11-8	11-8	11-9	11-9	11-10	11-12	11-11

PC/104 Communication Modules



Bus		PC/104					
Model Name		PCM-3680	PCM-3610	PCM-3612	PCM-3614	PCM-3618	PCM-3640/3641
Ports		2	2	2	4	8	4
Communication Interfaces	Current Loop	-	-	-	-	-	-
	RS-232	-	V	-	-	-	V
	RS-422	-	V	V	V	V	-
	RS-485	-	V	V	V	V	-
	CAN	V	-	-	-	-	-
Protection	EFT	-	-	-	1,000 V _{DC}	1,000 V _{DC}	-
	Isolation	2,500 V _{DC}	2,500 V _{DC}	-	-	-	-
Cable Connector Type		-	-	-	-	-	-
Page		11-11	11-12	11-12	11-12	11-13	11-13

PCI-104 Communication Modules



Bus		PCI-104				
Model Name		PCM-3680I	PCM-3614I	PCM-3618I	PCM-3641I	PCM-3642I
Ports		2	4	8	4	8
Communication Interfaces	Current Loop	-	-	-	-	-
	RS-232	-	V	V	V	V
	RS-422	-	V	V	-	-
	RS-485	-	V	V	-	-
	CAN	V	-	-	-	-
Protection	EFT	-	1,000 V _{DC}	1,000 V _{DC}	1,000 V _{DC}	1,000 V _{DC}
	Isolation	2,500 V _{DC}	-	-	-	-
Cable Connector Type		-	-	-	-	-
Page		11-11	11-14	11-14	11-14	11-14

Accessories



Model Name		OPT4A	OPT8C	OPT8H	OPT8J
Length		30 cm	1 m	1 m	1 m
Communication Interfaces	Connector Type	DB37 Male	DB62 Male	DB62 Male	DB78
	Qty	1	1	1	1
	Connector Type	DB9 Male	DB25 Male	DB9 Male	DB9 Male
	Qty	4	8	8	8
Where Used		PCI-1610, PCI-1610C, PCI-1612, PCI-1612C	PCI-1620, PCIE-1620, PCIE-1622	PCI-1620, PCIE-1620, PCIE-1622	PCI-1622, PCI-1622C
Page		online	online	online	online

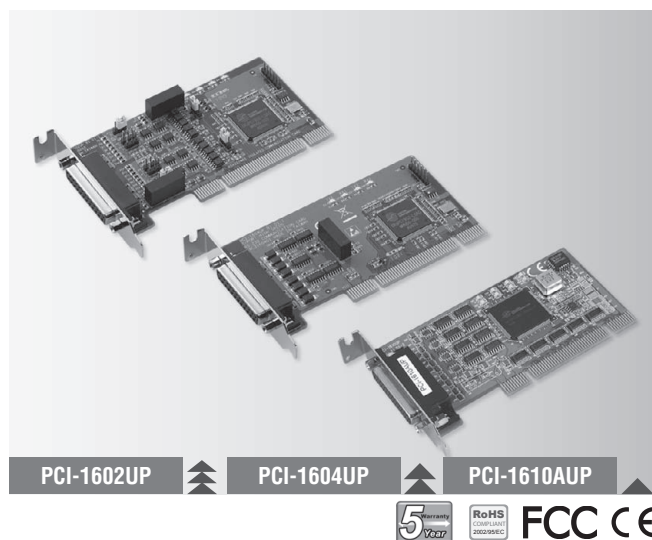
- 1 Motion Control
- 2 Hazardous Location
- 3 Energy Automation
- 4 Building Automation Systems
- 5 Automation Software
- 6 Operator Panels
- 7 Automation Panel PCs
- 8 Industrial Monitors
- 9 Industrial Ethernet
- 10 Device Servers & Gateways
- 11 Serial Communication Cards
- 12 Embedded Auto. Computers
- 13 PACs
- 14 M2M I/O
- 15 Distributed Nano Controllers
- 16 RS-485 I/O
- 17 Ethernet I/O
- 18 DAQ Boards

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

2-port RS-422/485 Low-Profile Universal PCI Communication Card with Isolation Protection

2-port RS-232 Low-Profile Universal PCI Communication Card with Isolation Protection

4-port RS-232 Low-Profile Universal PCI Communication Card



Features

- PCI bus 2.2 compliant
- Speeds up to 921.6 kbps
- 2-port RS-422/485 (PCI-1602UP); 2-port RS-232 (PCI-1604UP); 4-port RS-232 (PCI-1610UP)
- I/O address automatically assigned by PCI Plug & Play
- OS support: Windows 2000/XP/Vista/7, Windows CE 5.0/6.0, Linux
- 2,500 V_{DC} EFT Protection
- 2,500 V_{DC} Isolation protection for RS-422/485 (PCI-1602UP) or RS-232 (PCI-1604UP)
- 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. 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 V_{DC}. 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 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.

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 (L x W)** 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: 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-, 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
230.4 kbps (PCI-1610UP only)
- **Stop Bits** 1, 1.5, 2

Protection

- **ESD Protection** 15 KV
- **Isolation Protection** 2,500 V_{DC} (PCI-1602UP, PCI-1604UP)
- **EFT Protection** 2,500 V_{DC} (PCI-1602UP, PCI-1604UP, 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

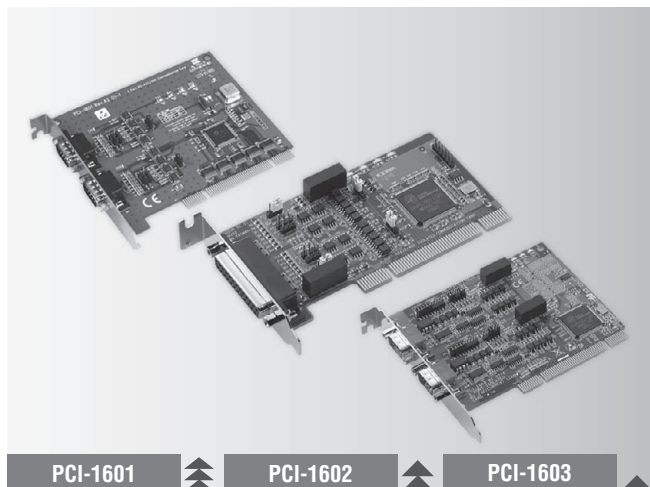
Note: 30 cm DB25 to 2 x DB9 cable included (PCI-1602UP, PCI-1604UP)
30 cm DB44 to 4 x DB9 cable included (PCI-1610AUP, PCI-1610UP)

PCI-1601 PCI-1602 PCI-1603

2-port RS-422/485 Universal PCI Communication Card

2-port RS-422/485 Universal PCI Communication Card with Isolation Protection

2-port RS-232/Current-loop Universal PCI Communication Card with Isolation Protection



Features

- PCI bus 2.2 compliant
- Supports serial speed up to 921.6 kbps, and any baud rate setting
- 2-port RS-422/485 interface (PCI-1601/PCI-1602)
- 2 independent RS-232 or Current-loop serial ports (PCI-1603)
- 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

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 V_{DC}
- **Surge Protection** 1,000 V_{DC}

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

1

Motion Control

2

Hazardous Location

3

Energy Automation

4

Building Automation Systems

5

Automation Software

6

Operator Panels

7

Automation Panel PCs

8

Industrial Monitors

9

Industrial Ethernet

10

Device Servers & Gateways

11

Serial Communication Cards

12

Embedded Auto. Computers

13

PACs

14

M2M I/O

15

Distributed Nano Controllers

16

RS-485 I/O

17

Ethernet I/O

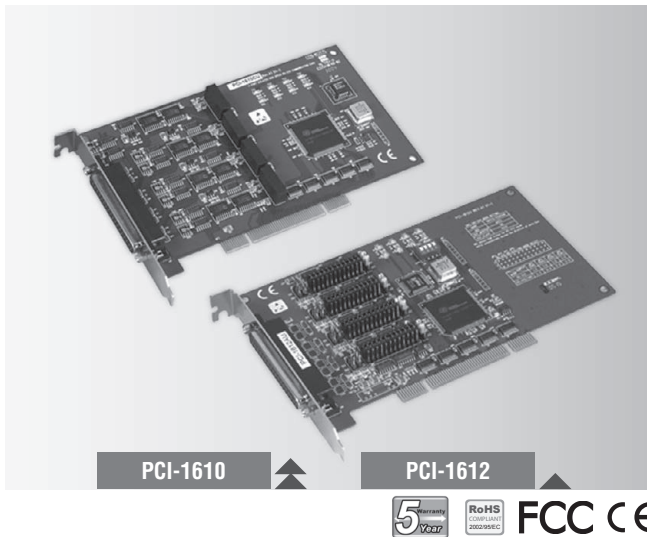
18

DAQ Boards

PCI-1610 PCI-1612

4-port RS-232 Universal PCI Communication Card

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_{DC} surge protection
- 2,500 V_{DC} 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 voltage. PCI-1610C and PCI-1612C also provide 2,500 voltage 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: Tx_D, Rx_D, RTS, CTS, DTR, DSR, DCD, RI, GND (PCI-1610)
RS-422: Tx₊, Tx₋, Rx₊, Rx₋, RTS₊, RTS₋, CTS₊, CTS₋ (PCI-1612)
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_{DC} (PCI-1610C and PCI-1612C only)
- **Surge Protection** 1,000 V_{DC}

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 ~ 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

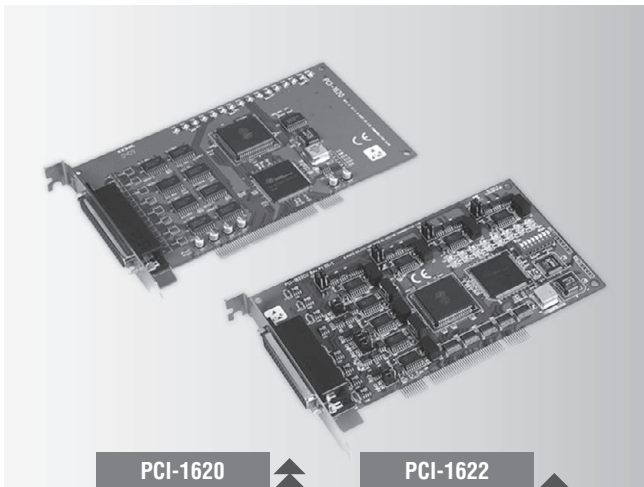
- **PCI-1610A** 4-port RS-232 PCI Comm. Card
- **PCI-1610B** 4-port RS-232 PCI Comm. Card w/Surge
- **PCI-1610C** 4-port RS-232 PCI Comm. Card w/Iso
- **PCI-1612A** 4-port RS-422/485 PCI Comm. Card
- **PCI-1612B** 4-port RS-422/485 PCI Comm. Card w/Surge
- **PCI-1612C** 4-port RS-422/485 PCI Comm. Card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

Note: 30 cm DB37 to 4 x DB9 cable included

PCI-1620 PCI-1622

8-port RS-232 Universal PCI Communication Card

8-port RS-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
- 8-port RS-232, or 8-port RS-422/485
- OXuPC1954 UARTs 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
- Space reserved for termination resistors
- Automatic RS-485 data flow control
- Powerful and easy to use utility (ICOM Tools)
- Universal PCI, supports 3.3 V or 5 V PCI bus signal
- 1,000 V_{DC} surge protection
- 2,500 V_{DC} isolation protection (PCI-1622C only)

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: Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-, GND (PCI-1620)
RS-422: Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-, GND (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_{DC}
- **Isolation Protection** 2,500 V_{DC} (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-1620A** 8-port RS-232 PCI Comm. Card
- **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

1

Motion Control

2

Hazardous Location

3

Energy Automation

4

Building Automation Systems

5

Automation Software

6

Operator Panels

7

Automation Panel PCs

8

Industrial Monitors

9

Industrial Ethernet

10

Device Servers & Gateways

11

Serial Communication Cards

12

Embedded Auto. Computers

13

PACs

14

M2M I/O

15

Distributed Nano Controllers

16

RS-485 I/O

17

Ethernet I/O

18

DAQ Boards

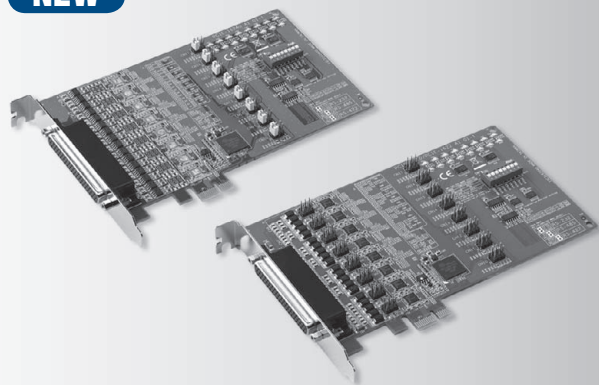
PCIE-1620

PCIE-1622

8-port RS-232 PCI Express Communication Card

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

NEW



PCIE-1620

PCIE-1622



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
- OxCPl958 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 x 1 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 PCIe958 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 x 1
- **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** OxCPl958
- **Data Bits** 5, 6, 7, 8
- **Data Signals** RS-232: Tx/D, Rx/D, RTS, CTS, DTR, DSR, DCD, GND
- **FIFO** 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

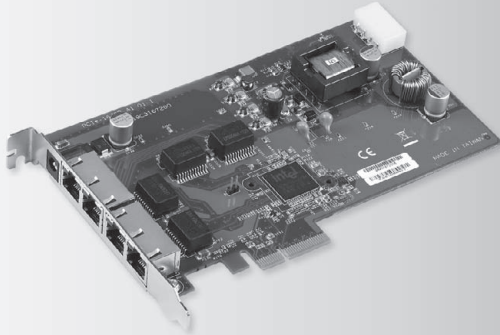
- **PCIE-1620A** 8-port RS-232 PCI Express Comm. Card
- **PCIE-1620B** 8-port RS-232 PCI Express Comm. Card w/Surge
- **PCIE-1622A** 8-port RS-232/422/485 PCI Express Comm. Card
- **PCIE-1622B** 8-port RS-232/422/485 PCI Express Comm. Card w/ Surge

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

NEW



FCC CE

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 V_{DC} AT/ATX power input, the PCIE-1672P/PCIE-1674P can boost then provides up to 15.4 watts at 48 V_{DC} 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.

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 V_{DC}, AT/ATX System power input
- **Overload Current Protection** Present
- **Connection** AT/ATX Power Jack
- **Output PoE Power** 48 V_{DC} PoE Power output
 - PCIE-1672P Supports 2 PoE ports up to 15.4 W at 48 V_{DC}
 - PCIE-1674P Supports 4 PoE ports up to 15.4 W at 48 V_{DC}

Features

- Intel® GbE Mac Controller
- PCI Express® x4 compliant
- Supports 2 or 4 Gigabit Ethernet MAC Controller and PHY ports
- Supports 12 V_{DC} AT/ATX input power boost up to 15.4 watts at 48 V_{DC} 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 V_{DC} AT/ATX input power boost up to 15.4 watts at 48 V_{DC} per PoE port
- 2.25 KV isolation protection on LAN ports and power

Environment

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

Mechanics

- **Dimensions (W x D)** 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

1

Motion Control

2

Hazardous Location

3

Energy Automation

4

Building Automation Systems

5

Automation Software

6

Operator Panels

7

Automation Panel PCs

8

Industrial Monitors

9

Industrial Ethernet

10

Device Servers & Gateways

11

Serial Communication Cards

12

Embedded Auto. Computers

13

PACs

14

M2M I/O

15

Distributed Nano Controllers

16

RS-485 I/O

17

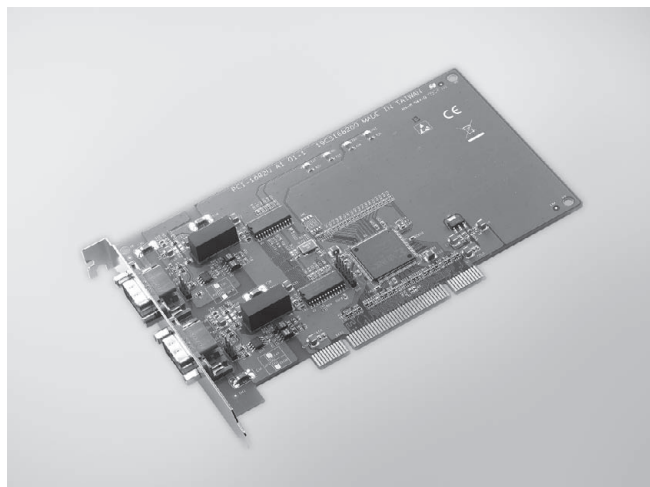
Ethernet I/O

18

DAQ Boards

PCI-1682U

2-port CAN-bus Universal PCI Communication Card with CANopen Support



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 V_{DC} 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

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 an 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

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 V_{DC}

Ordering Information

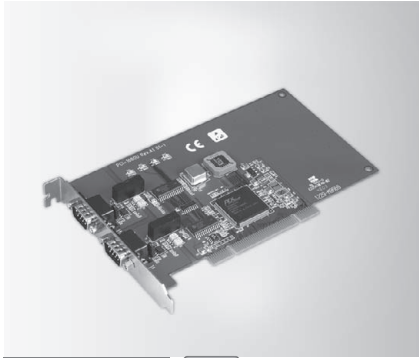
- **PCI-1682U** 2-port CAN-bus Uni PCI Comm Card w/CANopen

PCI-1680U PCL-841 PCM-3680/I

2-port CAN-bus Universal PCI Card with Isolation Protection

2-port CAN-bus ISA Card with Isolation Protection

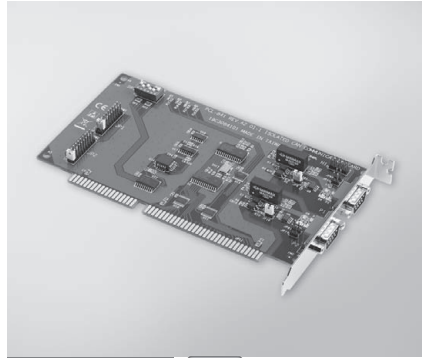
2-port CAN-bus PC/104 / PCI-104 Module with Isolation Protection



PCI-1680U



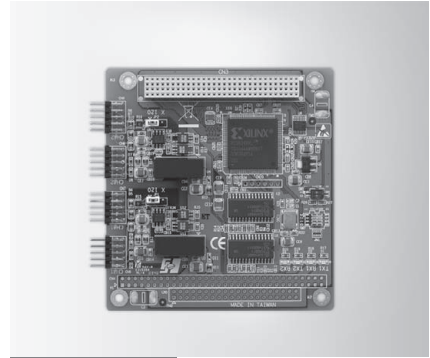
FCC CE



PCL-841



FCC CE



PCM-3680I



FCC CE

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** 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/Iso

Features

- Operates two separate CAN networks simultaneously
- High speed transmission up to 500 kbps
- Optical isolation protection of 1000 V_{DC}
- Windows DLL library and examples included
- Wide IRQ selection for each port: IRQ 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- 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, or 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.** 0 ~ 50°C (32 ~ 122°F)

Ordering Information

- PCL-841** 2-port CAN-bus ISA Comm. Card w/ Iso

Features

- Operates two separate CAN networks simultaneously
- High speed transmission up to 1 Mbps
- 16 MHz CAN controller frequency
- Optical isolation protection ensures system reliability
- LEDs indicate Transmit/Receive status on each port
- Supports wide operating temperature
- Supports 32/64-bit WinXP/Vista/Win7 and Linux
- Supports WinCE 5.0/6.0

Specifications

General

- Card Interface** PCM-3680: PC/104
PCM-3680I: 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

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

1
Motion Control

2
Hazardous Location

3
Energy Automation

4
Building Automation Systems

5
Automation Software

6
Operator Panels

7
Automation Panel PCs

8
Industrial Monitors

9
Industrial Ethernet

10
Device Servers & Gateways

11
Serial Communication Cards

12
Embedded Auto. Computers

13
PACs

14
M2M I/O

15
Distributed Nano Controllers

16
RS-485 I/O

17
Ethernet I/O

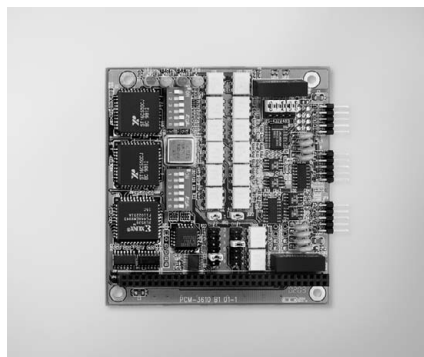
18
DAQ Boards

PCM-3610 PCM-3612 PCM-3614

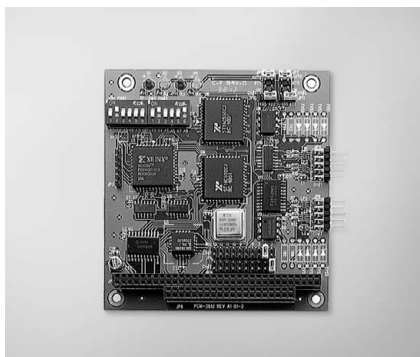
2-port RS-232/422/485 PC/104 Module
with Isolation Protection

2-port RS-422/485 PC/104 Module

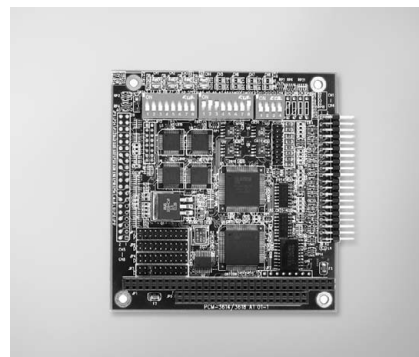
4-port RS-422/485 High-speed PC/104 Module



PCM-3610



PCM-3612



PCM-3614



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** Typical: 5 V @ 400 mA
Max.: ±12 V @ 950 mA

Communications

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

Protection

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

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

- Long distance communication
- 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
- **Indicators** Red LED for TX
Green LED for RX
- **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

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

- Automatic RS-485 data flow control
- Shared IRQ settings for each ports
- LED indicators: TX, RX
- Standard PC ports: COM1, COM2, COM3, COM4 compatible
- 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-
- **Speed** 50 bps ~ 921.6 kbps
- **Stop Bits** 1, 1.5, 2

Protection

- **EFT Protection** 1,000 V_{DC}
- **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

PCM-3618

PCM-3640/3641

PCM-3660

8-port RS-422/485 High-speed
PC/104 Module

4-port RS-232 High-speed
PC/104 Module

Jumperless Ethernet PC/104 Module



PCM-3618



PCM-3641



PCM-3660



Features

- Automatic RS-485 data flow control
- 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** 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
- IRQ** 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- Parity** None, Even and Odd
- Data Signals** RS-422: TxD+, TxD-, RxD+, RxD-, CTS+, CTS-, RTS+ and RTS-
RS-485: DATA+, DATA-, CTS+, CTS-
50 bps ~ 921.6 kbps
- Speed** 1, 1.5, 2
- Stop Bits** 1, 1.5, 2
- Termination Resistor** 120 Ω

Protection

- EFT Protection** 1,000 V_{DC}

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-3618** 8-port RS-422/485 High-Speed Module

Features

- Transmission speeds up to 460 kbps (PCM-3641)
- Shared IRQ settings for each of 4 RS-232 ports (PCM-3641)
- Standard PC ports: COM1, COM2, COM3, COM4 compatible
- 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** 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
- IRQ** 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- Parity** None, Even and Odd
- Speed** 50 bps ~ 460.3 kbps (PCM-3641)
50 bps ~ 115.2 kbps (PCM-3640)
1, 1.5, 2
- Stop Bits** 1, 1.5, 2

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

Features

- Automatically detects 8-bit or 16-bit
- AUI connector supports external MAUs
- Onboard 32 KB buffer for multi-packages

Specifications

General

- Boot ROM Address** C0000, C8000, D0000, or D8000H
- Card Interface** PC/104
- Certifications** CE, FCC
- Connectors** 1 x PC/104 stackthrough
1 x 10Base-T (RJ-45)
1 x 16-pin insulation displacement connector for AU1
- 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, 2A0, 2C0, 300, 320, 340, 380, 3A0
- IRQ** 3, 4, 5, 9, 10, 11, 12 or 15
- Standard** IEEE 802.3 10 Mbps CSMA/CD 10Base-T Transceiver

Environment

- Operating Humidity** 10 ~ 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

1
Motion Control

2
Hazardous Location

3
Energy Automation

4
Building Automation Systems

5
Automation Software

6
Operator Panels

7
Automation Panel PCs

8
Industrial Monitors

9
Industrial Ethernet

10
Device Servers & Gateways

11
Serial Communication Cards

12
Embedded Auto. Computers

13
PACs

14
M2M I/O

15
Distributed Nano Controllers

16
RS-485 I/O

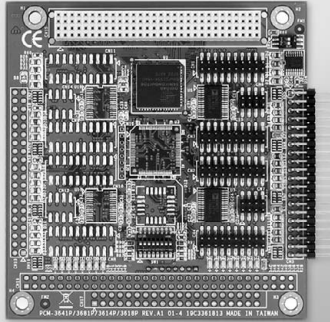
17
Ethernet I/O

18
DAQ Boards

PCM-3614I/3618I PCM-3641I/3642I

4/8-port RS-232/422/485
PCI-104 Module

4/8-port RS-232 PCI-104
Module



PCM-3614I



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)

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, DTR, 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

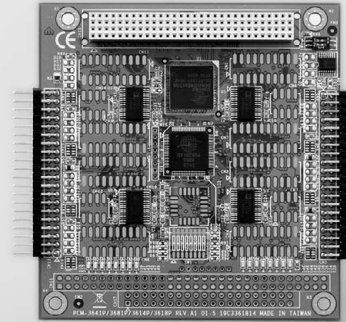
- EFT Protection** 1,000 V_{DC}
- Termination Resistor** 120 Ω

Environment

- Operating Humidity** 0 ~ 90 % RH
- Operating Temperature** 0 ~ 65°C (32 ~ 149°F)
- 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-232/422/485 PCI-104 Module



PCM-3642I



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)

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 (max.)

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 V_{DC}
- 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