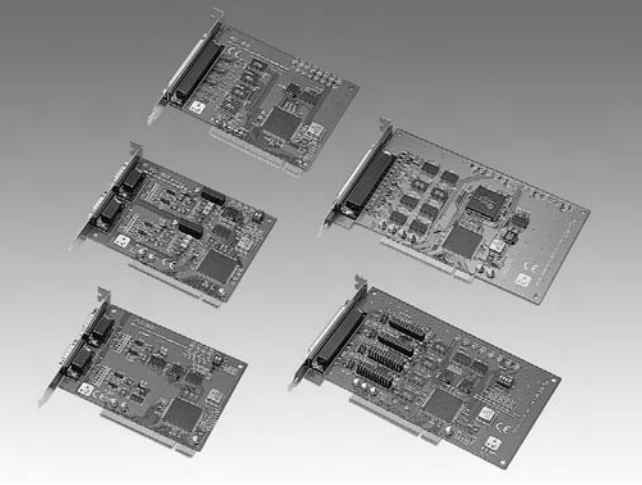


Industrial Communication

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AD-CIF104-COS	CANopen Slave PC/104 Module	10-25
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Universal PCI/PCL COMM Card Series



Features

- PCI bus specification 2.1/2.2 compliant
- Speeds up to 921.6 kbps
- UARTs with 128-byte standard
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- Optional surge protection up to 3,000 V_{DC}
- Optional isolation protection for RS-232/422/485 up to 3,000 V_{DC}
- Interrupt status register for increased performance
- Space reserved for termination resistors
- Automatic RS-485 data flow control
- Communication performance analysis tools

Introduction

The PCI Local Bus is a high-performance bus that provides a processor-independent data path between the CPU and high-speed peripherals. PCI is a robust interconnection mechanism designed specifically to accommodate multiple high performance peripherals for serial communication, SCSI, LAN, etc.

Advantech serial communication cards leverage the "Plug & Play" capability defined in the PCI 2.1/2.2 bus specification, and are available with up to 8 ports. The board requires only one PCI slot within the personal computer and provides independent serial channels. All channels are addressed in a continuous 32 byte I/O block for simplified software access. And,

The Advantech PCI communication cards come with standard 16PC1954/16PC1952 UARTs containing 128 byte FIFOs which are available as an option. These upgraded FIFOs greatly reduce CPU overhead and are an ideal choice for demanding multi-tasking environments.

The Advantech PCI communication cards are available with optical isolation up to 3000 V_{DC}. This protects your PC and equipment against damages from ground loops, which increases system reliability in harsh environments. To further increase reliability, the boards offer surge protection; protecting your system from abrupt high voltage surges (up to 3000 V_{DC}), such as those caused by lightning during thunderstorms.

16PC1954/16PC1952 UART

The 16PC1954/16PC1952 is a high performance Quad UART with an on-chip PCI interface. Targeted at PCI-based serial and parallel expansion cards, PCI-architecture computer systems and embedded applications, the 16PC1954/16PC1952 integrates a PCI bus interface together with four 16C950 high performance UARTs, a bi-directional parallel port and a local bus bridge function. This single-chip solution

Quick Troubleshooting

Advantech provides easy-to-use analysis tools and utilities that allow you to monitor or log data between two communicating devices, and help you acquire the data within a friendly user interface. Diagnostic functions make the installation process trouble free.

An RS-485 Network with Automatic Data Flow Control Using RS-232 Software

The RS-485 mode automatically senses the direction of incoming data and switches its transmission direction accordingly. The feature makes your network look and act just like an RS-232 network. Application software written for half duplex RS-232 can be used without modification. Moreover, you can simply and quickly build an RS-485 network with just two wires.

Industrial Communication Cards Selection Guide

Bus	Model Name	Ports	Communication Interfaces					Protection		Cable Connector Type	Page
			Current Loop	RS-232	RS-422	RS-485	CAN	Surge	Isolation		
Universal Low Profile PCI	PCI-1602UP	2			V	V		2500 V _{DC}	2500 V _{DC}	DB9 Male	10-14
	PCI-1604UP	2		V				2500 V _{DC}		DB9 Male	10-14
	PCI-1610UP	4		V				2500 V _{DC}		DB9 Male	10-14
	PCI-1610AUP	4		V						DB9 Male	10-14
PCI & Universal PCI	PCI-1601A	2			V	V				-	10-4
	PCI-1601B	2			V	V		2500 V _{DC}		-	10-4
	PCI-1602A	2			V	V			3000 V _{DC}	-	10-4
	PCI-1602B	2			V	V		2500 V _{DC}	3000 V _{DC}	-	10-4
	PCI-1603	2	V	V					3000 V _{DC}	-	10-5
	PCI-1680U	2					V		2500 V _{DC}	-	10-19
	PCI-1610A	4		V						DB25 Male	10-6
	PCI-1610A/9	4		V						DB9 Male	10-6
	PCI-1610AJU	4		V						DB9 Male	10-7
	PCI-1610B	4		V				3000 V _{DC}		DB25 Male	10-6
	PCI-1610B/9	4		V				3000 V _{DC}		DB9 Male	10-6
	PCI-1610CU	4		V				2500 V _{DC}	2500 V _{DC}	DB25 Male	10-6
	PCI-1610CU/9	4		V				2500 V _{DC}	2500 V _{DC}	DB9 Male	10-6
	PCI-1611U	4			V	V		2500 V _{DC}	2500 V _{DC}	DB25 Male	10-9
	PCI-1611U/9	4			V	V		2500 V _{DC}	2000 V _{DC}	DB9 Male	10-9
	PCI-1612A	4		V	V	V				DB25 Male	10-9
	PCI-1612A/9	4		V	V	V				DB9 Male	10-9
	PCI-1612B	4		V	V	V		2500 V _{DC}		DB25 Male	10-9
	PCI-1612B/9	4		V	V	V		2500 V _{DC}		DB9 Male	10-9
	PCI-1612AU	4		V	V	V				DB25 Male	10-9
	PCI-1612AU/9	4		V	V	V				DB9 Male	10-9
	PCI-1612U	4		V	V	V		2500 V _{DC}		DB25 Male	10-9
	PCI-1612U/9	4		V	V	V		2500 V _{DC}		DB9 Male	10-9
	PCI-1612CU	4		V	V	V		2500 V _{DC}	2500 V _{DC}	DB25 Male	10-9
	PCI-1612CU/9	4		V	V	V		2500 V _{DC}	2500 V _{DC}	DB9 Male	10-9
	PCI-1620A	8		V						Optional	10-10
	PCI-1620B	8		V				3000 V _{DC}		Optional	10-10
	PCI-1620AU	8		V						Optional	10-10
	PCI-1620U	8		V				2500 V _{DC}		Optional	10-10
	PCI-1622CU	8			V	V		2500 V _{DC}	2500 V _{DC}	Optional	10-11
	PCI-1625U *	8		V	V**	V				Optional	10-12
ISA	PCL-740	1	V	V	V	V				-	10-15
	PCL-741	2	V	V					2500 V _{DC}	-	10-15
	PCL-743B	2			V	V				-	10-15
	PCL-743S	2			V	V		2500 V _{DC}		-	10-15
	PCL-745B	2			V	V			3000 V _{DC}	-	10-15
	PCL-745S	2			V	V		2500 V _{DC}	3000 V _{DC}	-	10-15
	PCL-841	2					V		1000 V _{DC}	-	10-20
	PCL-746+	4		V	V	V				DB25 Male	10-15
	PCL-746+/9	4		V	V	V				DB9 Male	10-15
	PCL-846A	4			V	V			1000 V _{DC}	DB9 Male	10-16
	PCL-846B	4			V	V		2000 V _{DC}	1000 V _{DC}	DB9 Male	10-16
	PCL-849A	4		V						DB25 Male	10-16
	PCL-849A/9	4		V						DB9 Male	10-16
	PCL-849B	4		V				3000 V _{DC}		DB25 Male	10-16
	PCL-849B/9	4		V				3000 V _{DC}		DB9 Male	10-16
	PCL-849+	4		V				3000 V _{DC}		DB25 Male	10-16
	PCL-849+/9	4		V				3000 V _{DC}		DB9 Male	10-16
	PCL-849L	4		V						DB25 Male	10-16
	PCL-849L/9	4		V						DB9 Male	10-16
	PCL-844+*	8		V	V**					Optional	10-13
	PCL-858A	8		V						Optional	10-16
	PCL-858B	8		V				3000 V _{DC}		Optional	10-16
PC/104	PCM-3610	2		V	V	V			1000 V _{DC}	-	10-17
	PCM-3612	2			V	V				-	10-17
	PCM-3680	2					V		1000 V _{DC}	-	10-20
	PCM-3614	4			V	V		1000 V _{DC}		-	10-17
	PCM-3640/3641	4		V						-	10-18
	PCM-3618	8			V	V		1000 V _{DC}		-	10-18

Accessories (See Page 10-21)

Model Name	Connectors Side 1	Connectors Side 2	Length	Type	Use With
OPT8AP	1 x DB62 Male	8 x DB25 Female	1.5 m	Connection Box	PCI-1620A/B/AU/U PCI-1625U PCL-844+ PCL-858A/B
OPT8BP	1 x DB62 Male	8 x DB25 Male	1.5 m	Connection Box	
OPT8FP	1 x DB62 Male	8 x DB25 Female	1.5 m	Connection Box	
OPT8C	1 x DB62 Male	8 x DB25 Male	1 m	Cable	
OPT8H	1 x DB62 Male	8 x DB9 Male	1 m	Cable	PCI-1622CU
OPT8I	1 x DB78 Male	8 x DB25 Male	1 m	Cable	
OPT8J	1 x DB78 Male	8 x DB9 Male	1 m	Cable	

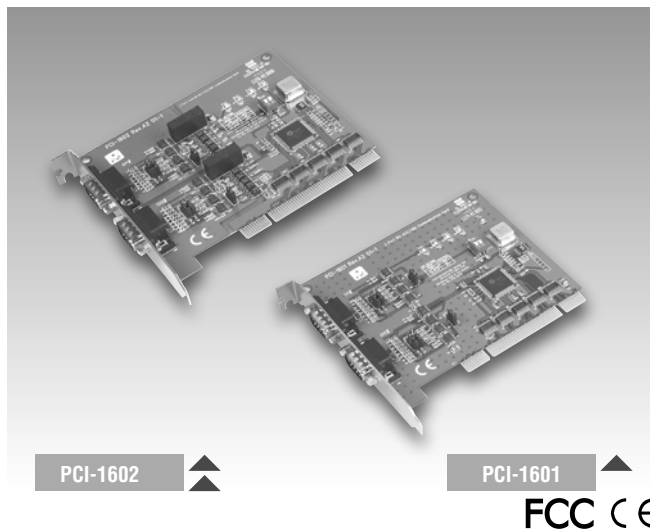
* Intelligent Communication Card, ** Link with OPT8FP can support RS-422

1	Software
2	IPPC
3	TPC
4	FPM
5	ATM & AWS
6	DA&C
7	cPCI
8	ADAM-3000
9	Motion Control
10	ICOM
11	eConnectivity
12	UNO
13	ADAM-4000
14	ADAM-5000
15	ADAM-6000
16	ADAM-8000
17	BAS

PCI-1601 PCI-1602

2-port RS-422/485 PCI Communication Card

2-port RS-422/485 PCI Communication Card, w/Isolation Protection



Features

- PCI bus specification 2.1 compliant
- Speeds up to 921.6 kbps
- 2-port RS-422/485 interface
- I/O address automatically assigned by PCI Plug & Play
- OS support: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- Optional surge protection
- Optional isolation protection for RS-422/485
- 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)

Introduction

PCI-1601 and PCI-1602 are 2 port RS-422/485 PCI communication cards that are compatible with the PCI 2.1 bus specification. Both cards provide two optional isolated and surge protected RS-422/485 ports, and comes with features such as: high transmission speed of 921.6 kbps, optional surge & isolation protection, windows utility software and more. The cards also come with high-performance 16PC1952 UART with a 128-byte FIFO to reduce CPU load. This makes the PCI-1601 and PCI-1602 especially suitable for multitasking environments.

PCI-1602 is available with 3,000 V_{dc} optical isolation to protect your PC and equipment against damages from ground loops in harsh environments. To further increase reliability, both boards has surge protection technology, protecting your system from abrupt high voltages up to 2,500 V_{dc} (PCI-1601B and PCI-1602B). Besides, Advantech also provides a convenient utility program called ICOM Tools, to help test the PCI card performance by analyzing the port status. Controlled by easy-to-use menu commands and toolbar buttons, ICOM Tools acts as a PC-based data scope that lets you set a trigger condition, capture the communications data and monitors the signal status. In addition, ICOM Tools is applicable to all series of Advantech ICOM cards.

Specifications

General

▪ Bus Type	PCI V 2.1	
▪ Certifications	CE, FCC class A	
▪ Connectors	2 x DB9-M	
▪ Dimensions	123 x 92 mm (4.8" x 3.6")	
▪ Power Consumption	Typical	Max
PCI-1601	220 mA (+5 V)	270 mA (+5 V)
PCI-1602	250 mA (+5 V)	300 mA (+5 V)

Communications

▪ Communications Controller	16PC1952
▪ Data Bits	5, 6, 7, 8
▪ Data Signals	Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-, GND (RS-422) Data+, Data-, GND (RS-485)
▪ FIFO	128 bytes
▪ Flow Control	RTS/CTS. 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	3,000 V _{dc} (PCI-1602A/B only)
▪ Surge Protection	2,500 V _{dc} (PCI-1601B/PCI-1602B only)

Software

▪ Bundled Software	ICOM Tools
▪ Driver Support	Windows® 98/ME/2000/XP/XP Embedded, Linux

Environment

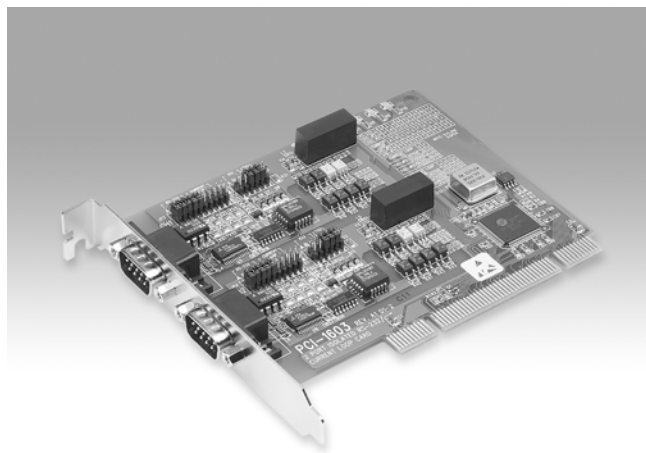
▪ Humidity (Operating)	5 ~ 95 % RH, non-condensing (refer to IEC 68-2-3)
▪ Operating Temperature	0 ~ 65° C (refer to IEC 68-2-1, 2) (32 ~ 149° F)
▪ Storage Temperature	-25 ~ 85° C (-13 ~ 185° F)

Ordering Information

▪ PCI-1601A	2-port RS-422/485 PCI COMM Card
▪ PCI-1601B	2-port RS-422/485 PCI COMM Card, w/surge protection
▪ PCI-1602A	2-port RS-422/485 PCI COMM Card, w/isolation protection
▪ PCI-1602B	2-port RS-422/485 PCI COMM Card, w/isolation and surge protection

PCI-1603

2-port Isolated RS-232/Current-loop PCI Communication Card



FCC CE

Features

- Two independent RS-232 or Current-loop serial ports
- Each port can be individually configured to RS-232 or current-loop
- 16PCI952 FIFO UART (128-byte FIFO)
- PCI bus specification 2.2 compliant
- Speeds:
 - RS-232: 50 bps ~ 230.4 kbps
 - Current-loop: 57.6 kbps
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- 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)

Introduction

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 16PCI952 UARTs with 128-byte FIFO bu

PCI-1603 provides two isolated RS-232 or current-loop serial ports. You can configure each port individually to RS-232 or current-loop using on-board jumpers.

The card utilizes 16PCI952 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.

Onboard optica

Specifications

General

- **Bus Type** Universal PCI V 2.2
- **Certifications** CE, FCC class A
- **Connectors** 2 x DB9-M
- **Dimensions** 123 x 92 mm (4.8" x 3.6")
- **Power Consumption** +5 V (250 ~ 300 mA)

Current-loop Interface

- **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** 1000 m

Communications

- **Communication Controller** 16PCI952
- **Data Bits** 5, 6, 7, 8
- **Data Signals** RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
Current Loop: Tx+, Tx-, Rx+, Rx-
- **FIFO** 128 bytes
- **Flow Control** RTS/CTS, Xon/Xoff
- **IRQ** Assigned by Plug & Play
- **Parity** None, even, odd
- **Speed** RS-232: 50 bps ~ 230.4 kbps
Current Loop: 50 bps ~ 57.6 kbps
- **Stop Bits** 1, 1.5, 2

Software

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

Protection

- **ESD Protection** 16 kV
- **Isolation Protection** 3,000 V_{DC} for RS-232 and current-loop

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-1603** 2-port Isolated RS-232/current-loop PCI Comm. Card

1
Software

2
IPPC

3
TPC

4
FPM

5
ATM & AWS

6
DA&C

7
cPCI

8
ADAM-3000

9
Motion Control

10
ICOM

11
eConnectivity

12
UNO

13
ADAM-4000

14
ADAM-5000

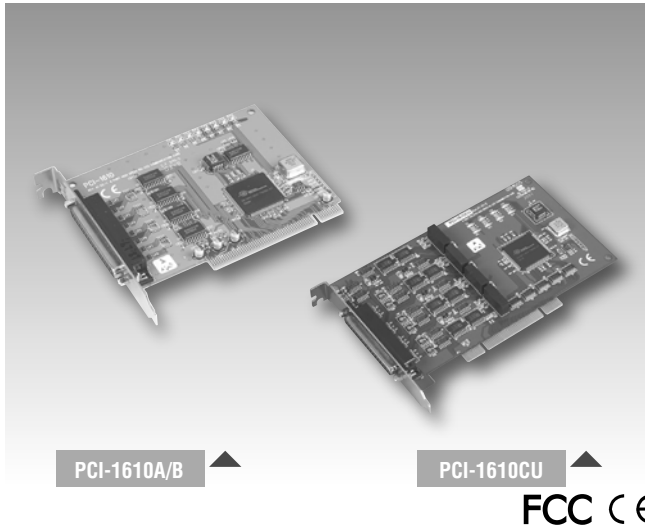
15
ADAM-6000

16
ADAM-8000

17
BAS

PCI-1610A PCI-1610B PCI-1610CU

4-port RS-232 PCI Communication Card
4-port RS-232 PCI Communication Card, w/Surge Protection
4-port RS-232 Universal PCI Communication Card, w/Isolation & Surge Protection



Features

- PCI bus specification 2.1(PCI-1610A/1610B), 2.2 (PCI-1610CU) compliant
- Speeds up to 921.6 kbps
- 4-port RS-232
- 16PCI954 UARTs with 128-byte FIFOs standard
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- 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) (PCI-1610CU only)
- 2,500 V_{DC} Surge Protection (PCI-1610B/1610CU)
- 2,500 V_{DC} Isolation Protection (PCI-1610CU only)

Introduction

PCI-1610 is a 4-port RS-232 PCI communication card that is compatible with the PCI 2.1 bus specification. (PCI-1610CU is also compliant with 2.2) and offer transmission speeds up to 921.6 kbps.

PCI-1610 also comes with high-performance 16PCI954 UART with a 128-byte FIFO to reduce CPU load. These components make your system more stable and reliable. Thus, the PCI-1610 is especially suitable for multitasking environments.

PCI-1610CU has a 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-1610B and PCI-1610CU offers surge protection technology, protecting your system from abrupt high voltages up to 2,500 V_{DC}. PCI-1610CU also provides 2,500 V_{DC} isolation to protect your PC and equipment against damages from ground loops in harsh environments.

Advantech also provides a convenient utility program, ICOM Tools, to help test the PCI card performance by analyzing the port status. With menu commands and toolbar buttons, ICOM Tools acts as a PC-based data scope that lets you set a trigger condition, capture the communications data and monitor the signal status. ICOM Tools is applicable to all series of Advantech ICOM cards.

Specifications

General

- **Bus Type** PCI V 2.1 (PCI-1610A/1610B)
Universal PCI V 2.2 (PCI-1610CU)
- **Certifications** CE, FCC class A
- **Connectors** 1 x DB37-F
- **Dimensions (L x W)** 123 x 92 mm (4.8" x 3.6") (for 1610A and PCI-1610B)
185 x 100 mm (7.3" x 3.9") (for PCI-1610CU)
- **Power Consumption**

Typical	Max
+12 V: 60 mA	+12 V: 80 mA
+5 V: 150 mA	+5 V: 180 mA

Communications

- **Communication Controller** 16PCI954
- **Data Bits** 5, 6, 7, 8
- **Data Signals** Tx/D, Rx/D, RTS, CTS, DTR, DSR, DCD, GND, RI
- **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

Protection

- **ESD Protection** 16 kV

- **Isolation Protection** 2,500 V_{DC} (PCI-1610CU only)
- **Surge Protection** 2,500 V_{DC} (PCI-1610B/1610CU only)

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)

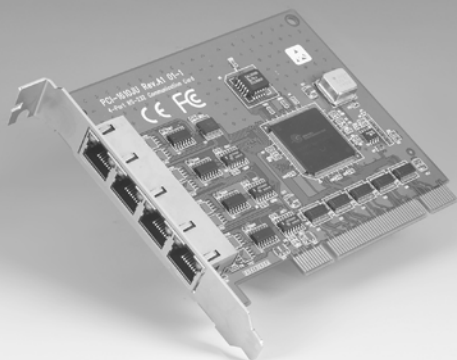
Ordering Information

- **PCI-1610A** 4-port RS-232 PCI COMM Card (30 cm DB37 to 4 DB25 cable included)
- **PCI-1610A/9** 4-port RS-232 PCI COMM Card (30 cm DB37 to 4 DB9 cable included)
- **PCI-1610B** 4-port RS-232 PCI COMM Card w/Surge Protection (30 cm DB37 to 4 DB25 cable included)
- **PCI-1610B/9** 4-port RS-232 PCI COMM Card w/Surge Protection (30cm DB37 to 4 DB9 cable included)
- **PCI-1610CU** 4-port RS-232 Universal PCI COMM Card w/Isolation & Surge Protection (30 cm DB37 to 4 DB25 cable included)
- **PCI-1610CU/9** 4-port RS-232 Universal PCI COMM Card w/Isolation & Surge Protection (30 cm DB37 to 4 DB9 cable included)

PCI-1610AJU

4-port RS-232 Universal PCI Communication Card, w/4 RJ45 Connectors

NEW



FCC CE

Features

- PCI bus specification 2.2
- Speeds up to 921.6 kbps
- 4-port RS-232
- 16PCI954 UARTs with 128-byte FIFOs standard
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- Interrupt status register for increased performance
- Powerful and easy to use Utility (ICOM Tools)
- Provides four RJ45 connectors
- Universal PCI (Supports 3.3 V or 5 V PCI bus signal)

Introduction

PCI-1610AJU is a 4-port RS-232 universal PCI communication card and provides 4 RJ-45 connectors for easy installation and cabling for some unique applications like ATMs or POS systems.

PCI-1610AJU offers transmission speeds up to 921.6 kbps and also comes with a high-performance 16PCI954 UART with a 128-byte FIFO to reduce CPU load. These components make your system more stable and reliable. PCI-1610AJU's universal PCI connector is compatible with both newer 3.3 V PCI BUS and traditional 5 V PCI BUS signals. This gives high compatibility and allows usage in diverse systems.

Advantech also provides a convenient utility program, ICOM Tools, to help test the PCI card performance by analyzing the port status. With menu commands and toolbar buttons, ICOM Tools acts as a PC-based data scope that lets you set a trigger condition and captures the communications data and monitors the signal status. ICOM Tools is applicable to all series of Advantech ICOM cards. Although the card is designed for RJ-45 connector requirements, the card also comes with four RJ-45 to DB9 cables and LEDs on the RJ-45 connectors and you can test the PCI card's performance by analyzing the status of the ports, and easily configure the settings of the card.

Specifications

General

▪ Bus Type	Universal PCI V 2.2
▪ Certifications	CE, FCC class A
▪ Connectors	4 x RJ45
▪ Dimensions (L x W)	123 x 92 mm (4.8" x 3.6")
▪ Power Consumption	Typical Max
	+12 V: 60 mA +12 V: 80 mA
	+5 V: 150 mA +5 V: 180 mA

Communications

▪ Communication Controller	16PCI954
▪ Data Bits	5, 6, 7, 8
▪ Data Signals	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
▪ 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

Protection

▪ ESD Protection	16 kV
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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-1610AJU	4-port RS-232 PCI COMM card w/ 4 RJ45 connectors (4*30cm RJ45 to DB9 cable included)
▪ OPT1E	1 m RJ45 to DB9 cable (only for PCI-1610AJU)
▪ OPT1F	30 cm RJ45 to DB9 cable (only for PCI-1610AJU)

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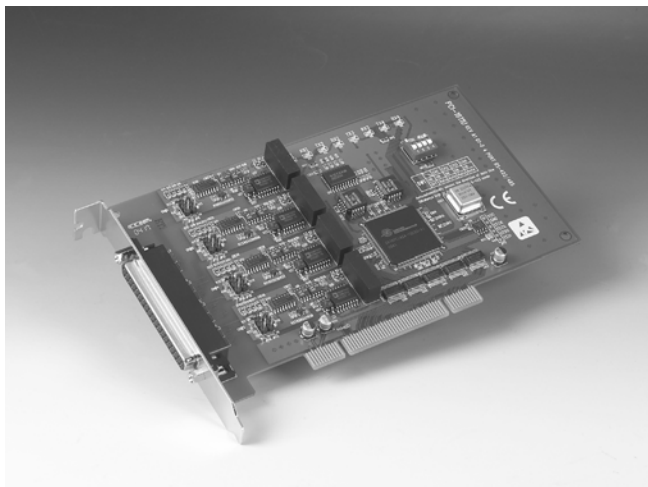
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ADAM-6000

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ADAM-8000

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BAS

PCI-1611U

4-port RS-422/485 Universal PCI Communication Card, w/ Isolation & Surge Protection



FCC CE

Features

- PCI bus Specification 2.2 compliant
- Speeds up to 921.6 kbps
- 4-port RS-422/485
- 16PCI954 UARTs with 128-byte FIFOs standard
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- 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)
- 2,500 V_{DC} Surge Protection
- 2,000 V_{DC} Isolation Protection

Introduction

PCI-1611U is a 4-port RS-422/485 PCI communication card that is compatible with the PCI 2.2 bus specification. The PCI-1611U provides many functions such as four independent RS-422/485 ports with isolation protection, high transmission speed of 921.6 kbps, and surge protection. PCI-1611U also comes with high-performance 16PCI954 UARTs with a 128-byte FIFO to reduce CPU loading. These

PCI-1611U has a universal PCI connector that is compatible with both newer 3.3 V signaling systems and the traditional 5 V signaling systems. This gives high compatibility and allows usage in diverse systems.

To improve the performance of the system, the PCI-1611U allows transmission rates up to 921.6 kbps, and to further increase reliability, the PCI-1611U offers surge protection technology, protecting your system from abrupt high voltages up to 2,500 V_{DC}. Besides, Advantech also provides a convenient utility program, ICOM Tools, to help you test the PCI card's performance by analyzing the port status. The easy-to-use graphical user interface of ICOM Tools works like a PC-based data scope that lets you set trigger conditions to capture communication data and monitor a signal's status. ICOM Tools is applicable to all series of Advantech ICOM cards.

Specifications

General

- **Bus Type** Universal PCI V 2.2
- **Certifications** CE, FCC class A
- **Connectors** 1 x DB37-F
- **Dimensions** 185 x 100 mm (7.3" x 3.9")
- **Power Consumption** 600 mA @ 5 V

Communications

- **Communication Controller** 16PCI954
- **Data Bits** 5, 6, 7, 8
- **Data Signals** Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-, GND (RS-422), Data+, Data-, GND (RS-485)
- **FIFO** 128 bytes
- **Flow Control** RTS/CTS, 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** 2,000 V_{DC}
- **Surge Protection** 2,500 V_{DC}

Software

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

Environment

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

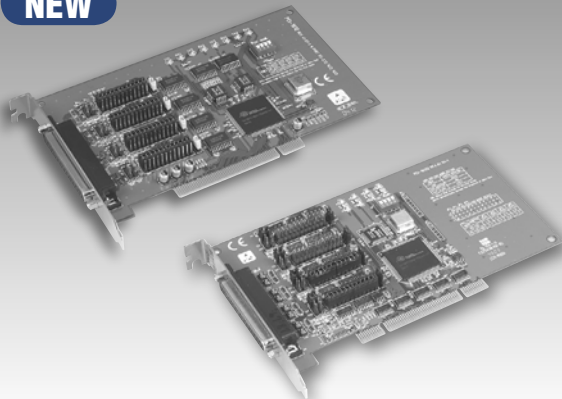
Ordering Information

- **PCI-1611U** 4-port RS-422/485 Universal PCI Communication Card, w/Isolation & Surge Protection (30 cm DB37 to 4 DB25 cable included)
- **PCI-1611U/9** 4-port RS-422/485 Universal PCI Communication Card, w/Isolation & Surge Protection (30 cm DB37 to 4 DB9 cable included)

PCI-1612A/AU PCI-1612B PCI-1612U

4-port RS-232/422/485 PCI Communication Card
4-port RS-232/422/485 Universal Communication Card
4-port RS-232/422/485 PCI Communication Card, w/Surge Protection
4-port RS-232/422/485 Universal PCI Communication Card, w/Surge Protection

NEW



PCI-1612A/B

PCI-1612AU/U

FCC CE

Features

- PCI bus specification 2.1(PCI-1612A/1612B), 2.2 (PCI-1612AU/1612U/1612CU) compliant
- Speeds up to 921.6 kbps
- 4-port RS-232/422/485
- 16PCI954 UARTs with 128-byte FIFOs standard
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- 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) (PCI-1612AU, PCI-1612U, PCI-1612CU)
- 2,500 V_{DC} Surge Protection (PCI-1612B/1612U/1612CU)
- 2,500 V_{DC} Isolation Protection (PCI-1612CU only)

Introduction

PCI-1612 is a 4-port RS-232/422/485 PCI communication card that is compatible with the PCI 2.1/2.2 bus specification and offer transmission rates up to 921.6 kbps. PCI-1612 comes with high-performance 16PCI954 UARTs with a 128-byte FIFO to reduce CPU load. These components make your system more stable and reliable. Thus, the PCI-1612 is especially suitable for multitasking environments.

PCI-1612AU, PCI-1612U and PCI-1612CU have universal PCI connectors that are compatible with both newer 3.3 V signaling systems and the traditional 5 V signaling system. This gives highly-compatibility and allows usage in diverse systems. To further increase reliability, PCI-1612B, PCI-1612U and PCI-1612CU offers surge protection for high voltages up to 2,500 V_{DC}. Meanwhile, PCI-1612CU provides 2,500 V_{DC} isolation to protect your PC and equipment against damages from ground loops in harsh environments. Advantech also provides a convenient utility program called ICOM Tools to help test the PCI card 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 communications data and monitor the signal status. ICOM Tools is applicable to all series of Advantech ICOM cards.

Specifications

General

- **Card Interface** PCI V 2.1 (PCI-1612A, PCI-1612B)
Universal PCI V2.2 (PCI-1612U, PCI-1612AU, 1612CU)
- **Certifications** CE, FCC class A
- **Connectors** 1 x DB37-F
- **Dimensions** 185 x 100 mm (7.3" x 3.9")
- **Power Consumption**

Typical	Max
+12 V: 60 mA	+12 V: 80 mA
+5 V: 270 mA	+5 V: 338 mA

Communications

- **Communication Controller** 16PCI954
- **Data Bits** 5, 6, 7, 8
- **Data Signals** Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS- (RS-232)
Data+, Data- (RS-485)
- **FIFO** 128 bytes
- **Flow Control** RTS/CTS, Xon/Xoff
- **IRQ** Assigned by Plug & Play
- **Parity** None, even, odd
- **Speed** 50 bps ~ 921.6 kbps
- **Stop Bits** 1, 1.5, 2

Protection

- **Surge Protection** 2,500 V_{DC} (PCI-1612B/1612U/1612CU only)
- **ESD Protection** 16 kV
- **Isolation Protection** 2,500 V_{DC} (PCI-1612CU only)

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-1612A** 4-port RS-232/422/485 PCI COMM Card (30 cm DB37 to 4 DB25 cable included)
- **PCI-1612A/9** 4-port RS-232/422/485 PCI COMM Card (30 cm DB37 to 4 DB9 cable included)
- **PCI-1612B** 4-port RS-232/422/485 PCI COMM Card w/Surge Protection (30 cm DB37 to 4 DB25 cable included)
- **PCI-1612B/9** 4-port RS-232/422/485 PCI COMM Card w/Surge Protection (30 cm DB37 to 4 DB9 cable included)
- **PCI-1612AU** 4-port RS-232/422/485 Universal Comm. Card (30 cm DB37 to 4 DB25 cable included)
- **PCI-1612AU/9** 4-port RS-232/422/485 Universal Comm. Card (30 cm DB37 to 4 DB9 cable included)
- **PCI-1612U** 4-port RS-232/422/485 Universal PCI COMM Card w/Surge Protection (30 cm DB37 to 4 DB25 cable included)
- **PCI-1612U/9** 4-port RS-232/422/485 Universal PCI COMM Card w/ Surge Protection (30 cm DB37 to 4 DB9 cable included)
- **PCI-1612CU** 4-port RS-232/422/485 Universal PCI COMM Card w/Isolation & Surge Protection (30 cm DB37 to 4 DB25 cable included)
- **PCI-1612CU/9** 4-port RS-232/422/485 Universal PCI COMM Card w/Isolation & Surge Protection (30 cm DB37 to 4 DB9 cable included)

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PCI-1620A/AU

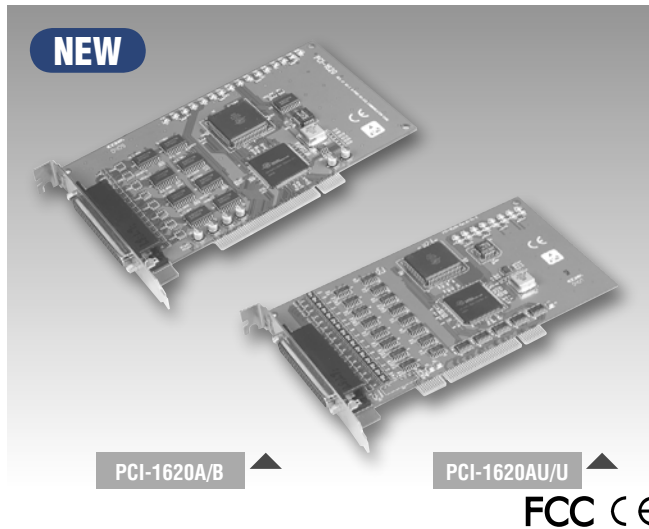
PCI-1620B

PCI-1620U

**8-port RS-232 PCI Communication Card/
8-port RS-232 Universal PCI COMM Card**

**8-port RS-232 PCI Communication Card,
w/Surge Protection**

**8-port RS-232 Universal PCI Communication
Card, w/Surge Protection**



Features

- PCI bus specification 2.1, 2.2 (PCI-1620U, PCI-1620AU) compliant
- Speeds up to 921.6 kbps
- 8-port RS-232
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- 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) (PCI-1620AU, PCI-1620U)

Introduction

PCI-1620 is an 8-port RS-232 PCI communication card that is compatible with the PCI 2.1 bus specification. The card provides eight optional surge protected RS-232 ports, and has many functions such as high transmission speed of 921.6 kbps, eight independent RS-232 ports and also comes with high-performance 16PC1954 UARTs with 128-byte FIFO and a 16C954 UART to reduce CPU load. Thus, the PCI-1620 is especially suitable for making your system reliable in multitasking environments.

PCI-1620AU and PCI-1620U have a universal PCI connector that is compatible with both 3.3 V signaling and 5 V signaling. This means that PCI-1610AU and PCI-1620U can not only be used in traditional systems with 5 V signaling but also newer systems with 3.3 V signaling.

To further increase reliability, PCI-1620B and PCI-1620U offer surge protection technology, protecting your system from abrupt high voltages of up to 3,000 V_{DC}. Advantech also provides a convenient utility program called ICOM Tools, to help you test the PCI card's performance by analyzing the port status. ICOM Tools is easy to use with its menu commands and toolbar buttons, and acts as a PC-based data scope that lets you set a trigger condition, capture the communications data and monitor the signal status. ICOM Tools is applicable to all series of Advantech ICOM cards.

Specifications

General

▪ Bus Type	PCI-1620A, PCI-1620B: PCI V2.1 PCI-1620AU, PCI-1620U: Universal PCI V2.2	
▪ Certifications	CE, FCC class A	
▪ Connectors	1 x DB62-F	
▪ Dimensions	185 x 100 mm (7.3" x 3.9")	
▪ Power Consumption		
Typical	+12 V: 120 mA	+5 V: 180 mA
Max	+12 V: 150 mA	+5 V: 220 mA
▪ Power Requirement	±12 V	

Communications

▪ Communication Controller	16PC1954+16C954
▪ Data Bits	5, 6, 7, 8
▪ Data Signals	TxD, Rx D, RTS, CTS, DTR, DSR, DCD, GND (RS-232)
▪ FIFO	128 bytes
▪ Flow Control	RTS/CTS, 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
▪ Surge Protection	3,000 V _{DC} (PCI-1620B) 2,500 V _{DC} (PCI-1620U)

Software

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

Environment

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

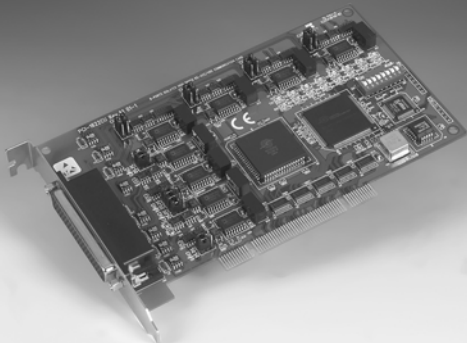
Ordering Information

▪ PCI-1620A	8-port RS-232 PCI COMM Card (cables not included)
▪ PCI-1620B	8-port RS-232 PCI COMM Card, w/surge protection (cables not included)
▪ PCI-1620AU	8-port RS-232 universal PCI COMM Card (cables not included)
▪ PCI-1620U	8-port RS-232 universal PCI COMM card w/surge protection (cables not included)
▪ Opt8C	8-port RS-232 cable with male DB62 to DB25 connector (1 m)
▪ Opt8H	8-port RS-232 cable with male DB62 to DB9 connector (1 m)
▪ OPT8AP	8-port RS-232(DCE) connection box with female DB25 connectors
▪ OPT8BP	8-port RS-232(DTE) connection box with male DB25 connectors
▪ OPT8FP	8-port RS-422 to RS-232 converter connection box with Isolation Protection

PCI-1622CU

8-port Intelligent RS-422/485 Universal PCI Communication Card, w/Isolation & Surge Protection

NEW



FCC CE

Features

- PCI Specification 2.2 compliant
- Speeds up to 921.6 kbps
- 8-port RS-422/485
- 16PCI954 UARTs with 128-byte FIFOs standard
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows® 98/ME/2000/XP/XP Embedded, Linux®
- 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)
- 2,500 V_{DC} Surge Protection
- 2,500 V_{DC} Isolation Protection

Introduction

PCI-1622CU is an 8-port RS-422/485 PCI communication card that is compatible with the PCI 2.2 bus specification. PCI-1622CU provides many functions such as eight independent RS-422/485 ports with isolation protection, high transmission speed of 921.6 kbps, surge protection and comes with high-performance 16PCI954 UARTs with a 128-byte FIFO to reduce CPU load. These

PCI-1622CU has a universal PCI connector that is compatible with both newer 3.3 V signaling systems and the traditional 5 V signaling system. This gives high-compatibility and allows usage in diverse systems.

To further increase reliability, the PCI-1622CU offers surge protection from high voltages up to 2,500 V_{DC} and 2,500 V_{DC} isolation to protect your PC and equipment against damages from ground loops in harsh environments.

Advantech provides a convenient utility program 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 captures the communication data and monitors the signal status. ICOM Tools is applicable to all series of Advantech ICOM cards.

Specifications

General

- **Card Interface** Universal PCI V2.2
- **Certifications** CE, FCC class A
- **Connectors** 1 x DB78-F
- **Dimensions** 185 x 100 mm (7.3" x 3.9")
- **Power Consumption** 600 mA @ 5 V

Communications

- **Communication Controller** 16PCI954+16C954
- **Data Bits** 5, 6, 7, 8
- **Data Signals** RTS+,RTS-,CTS+,CTS-,TX+,TX-,RX+,RX-,GND (for RS-422)
Data+,Data-, GND (for RS-485)
- **FIFO** 128 bytes
- **Flow Control** RTS/CTS, Xon/Xoff
- **IRQ** Assigned by Plug & Play
- **Parity** None, even, odd
- **Ports** 8
- **Speed** 50 bps ~ 921.6 kbps
- **Stop Bits** 1, 1.5, 2

Protection

- **ESD Protection** 16 kV
- **Isolation Protection** 2,500 V_{DC}
- **Surge Protection** 2,500 V_{DC}

Software

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

Environment

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

Ordering Information

- **PCI-1622CU** 8-port RS-422/485 Universal PCI COMM card w/isolation and surge protection (cables not included)
- **OPT8I** 1 m DB78 to 8 DB25 cable
- **OPT8J** 1 m DB78 to 8 DB9 cable

Note: PCI-1622 will for most applications need the OPT8I or OPT8J cable.

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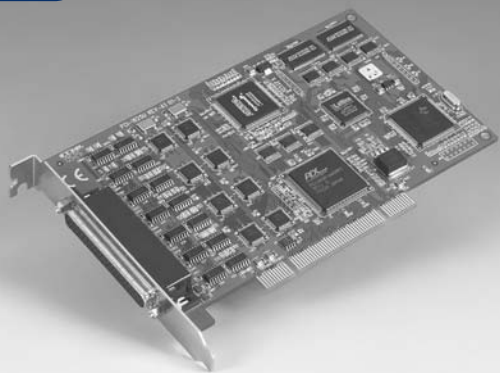
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PCI-1625U

8-port Intelligent RS-232 Universal PCI Communication Card

NEW



FCC CE

Features

- RISC processor (TMS320)
- 512 KB dual-port RAM
- PCI Specification 2.2 compliant
- Speed up to 921.6 kbps
- 8-port RS-232
- I/O address automatically assigned by PCI Plug & Play
- OS supported: Windows 2000/XP
- Powerful and easy to use utility (ICOM tools)
- Link with OPT8FP peripherals up to 1200m (4000ft) from controller (RS-422)
- Universal PCI (Supports 3.3 V or 5 V PCI bus signal)

Introduction

The intelligent PCI-1625U is virtually a self contained computer. The card has an onboard DSP processor that takes over the processing load from the host PC. When you are transferring large amounts of data from multiple ports, servicing the interrupts alone consumes a large percentage of the capacity of your computer's CPU. PCI-1625U serves as a high-speed dedicated interrupt processor. PCI-1625U also has 1 MB of SRAM which can store serial data and reduce host CPU loading effectively. When PCI-1625U initializes, it downloads the driver software (which functions like a PC's BIOS) into its onboard DSP. This improves performance and makes version upgrading easy so there is no hardware redundancy.

PCI-1625U has a universal PCI connector that is compatible with both newer 3.3 V PCI bus and the traditional 5 V PCI bus. It also provides a convenient utility program called ICOM Tools to help test the PCI card 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 communications data and monitor the signal status. ICOM Tools is applicable to all series of Advantech ICOM cards.

The intelligent PCI-1625U 8-port RS-232 or RS-422 interface card is designed for industrial applications where a PC needs to communicate with terminals, modems, or other instruments. RS-422 applications have to use the optional OPT8FP, 8-port RS-232 to RS-422 converter with 2,500 V_{DC} isolation protection. You can install up to four PCI-1625U cards for total of 32 ports in any PCI bus-based PC.

Specifications

General

- **Card Interface** Universal PCI V2.2
- **Certifications** CE, FCC class A
- **Connectors** 1 x DB62-F
- **Dimensions** 185 x 100 mm (7.3" x 3.9")
- **Power Consumption** 504 mA, max 558 mA @ 5 V

Communications

- **Controller** 8 x 16c550
- **Processor** TMS320c5402
- **Memory** 1 MB
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Data Signals** Tx/D, Rx/D, RTS, CTS, DTR, DSR, DCD, GND(RS-232)
- **Flow Control** RTS/CTS, Xon/Xoff
- **IRQ** Assigned by Plug & Play
- **Parity** None, even, odd
- **Speed** 50 bps ~ 921.6 kbps

Protection

- **ESD Protection** 16 kV

Software

- **Bundled Software** ICOM Tools
- **Driver Support** Windows 2000/XP

Environment

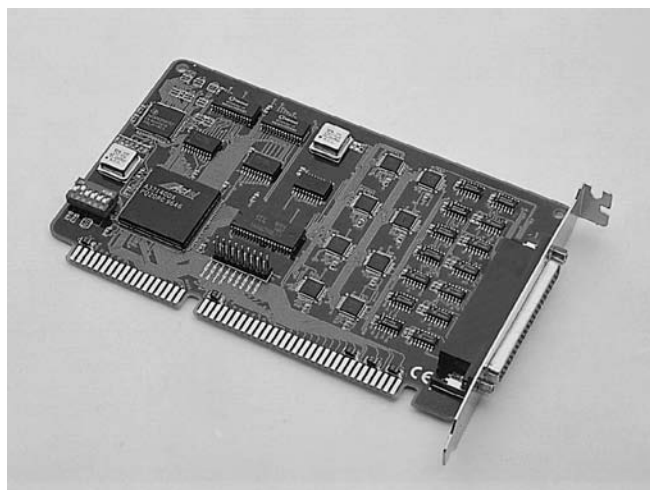
- **Operating Temperature** 0 ~ 65° C (refer to IEC 68-2-1,2) (32 ~ 149° F)
- **Storing Temperature** 5 ~ 95 % RH, non-condensing (refer to IEC 68-2-3)
- **Storing Humidity** -25 ~85° C (-13 ~ 185° F)

Ordering Information

- **PCI-1625U** 8-port Intelligent RS-232 Universal PCI Communication Card (cables not included)
- **OPT8AP** 8-port RS-232 (DCE) connection box with female DB25 connectors
- **OPT8BP** 8-port RS-232 (DTE) connection box with male DB25 connectors
- **OPT8C** 8-port RS-232 cable with male DB25 connector (1m)
- **OPT8H** 8-port RS-232 cable with male DB9 connector (1m)
- **OPT8FP** 8-port RS-422 to RS-232 converter connection box w/ isolation protection

PCL-844+

8-port Intelligent RS-232 ISA Communication Card



CE

Features

- RISC Processor (TMS 320)
- 512 KB dual-port RAM
- Transmission speed up to 921.6 kbps with eight ports on-line
- Complete RS-232 modem control signals
- Maps to just 16 KB of system memory. Choose one of six addresses from C8000 to DC000.
- Many IRQ options: 2, 3, 4, 5, 7, 10, 11, 12 or 15
- Easy-to-use menu driven installation program
- LEDs on connection box let you monitor the TxD/RxD status of any port
- Links via OPT8FP to peripherals up to 1200 m (4000 ft) from controller (RS-422)

Introduction

The intelligent PCL-844+ was designed as a 8-port RS-232 or RS-422 interface card for lab and industrial applications where a PC needs to communicate with terminals, modems, or other instruments. RS-422 applications have to use OPT8FP which is an 8-port RS-232 to RS-422 converter with 2,500 Vdc isolation protection. You can install up to four PCL-844+ cards for a total of 32 ports in any AT/ISA bus-based PC.

The PCL-844+ card has an on-board RISC processor that takes over the communications load from the host PC. When you are processing large amounts of data from multiple ports, servicing the interrupts alone consumes a large percentage of the capacity of your computer's CPU. The PCL-844+ serves as a high speed, dedicated interrupt processor.

PCL-844+ is virtually a self contained computer in its own right. It contains 512 KB of dual-port RAM which you can use to store and run programs. The dual-port RAM maps into the host system's address space to give you the fastest possible data transfers between PCL-844+ and the PC memory.

When the PCL-844+ initializes, it downloads the driver software (which functions like a PC's BIOS) into on-board SRAM. This improves performance and makes version upgrading easy, with no hardware redundancy.

Specifications

General

- **Card Interface** ISA
- **Certifications** CE
- **Connectors** 1 x DB62-F
- **Dimensions** 185 x 100 mm (7.3" x 3.9")
- **Power Consumption** +5 V @ 155 mA, +12 V @ 110 mA, -12 V @ 160 mA

Communications

- **Number of Ports** 8
- **Processor** RISC, TI TMS320C203-57
- **Dual-ported RAM** 512 KB
- **SRAM** 16 KB
- **UART** RISC-based CD180
- **Interrupt** 2, 3, 4, 5, 7, 10, 11, 12 or 15
- **Maximum Ports in One System** 32

RS-232 Interface

- **Signals** TxD, RxD, RTS, CTS, DTR, DSR, DCD and GND
- **Mode** Asynchronous full duplex
- **Communication Speed** 50 bps ~ 921.6 kbps
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** Even, odd or none

Environment

- **Operating Temperature** 0 ~ 55° C (32 ~ 131° F)
- **Storing Temperature** -20 ~ 85° C (-4 ~ 185° F)
- **Storing Humidity** 5~95% RH, non-condensing (refer to IEC68-2-3)

Ordering Information

- **PCL-844+** 8-port Intelligent RS-232 Card, with ISA bus (cables not included)
- **Opt8AP** 8-port RS-232 (DCE) connection box with female DB25 connectors
- **Opt8BP** 8-port RS-232 (DTE) connection box with male DB25 connectors
- **Opt8C** 8-port RS-232 connection cable with male DB25 connectors
- **Opt8H** 8-port RS-232 connector cable with male DB9 connector (1 m length)
- **Opt8FP** 8-port RS-422 to RS-232 converter connection box with isolation protection

1
Software

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IPPC

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TPC

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FPM

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ATM & AWS

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DA&C

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cPCI

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ADAM-3000

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Motion Control

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ICOM

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eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

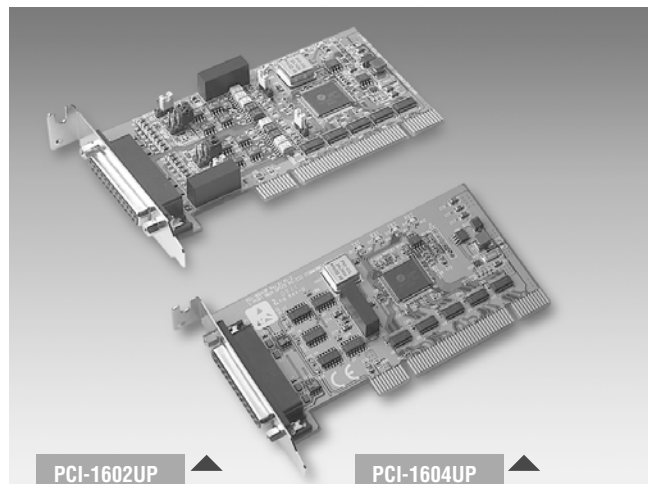
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BAS

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

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

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

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



FCC CE

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_{DC} Surge protection
- 2,500V_{DC} 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 surge protection, protecting your system from abrupt high voltages up to 2,500 V_{DC}. 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_{DC} (PCI-1602UP)
- **Surge Protection** 2,500 V_{DC} (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 Surge Protection (30 cm DB25 to 2DB9 cable included)
- **PCI-1604UP** 2-port RS-232 Low-Profile Universal PCI COMM Card, w/Surge Protection (30 cm DB25 to 2DB9 cable included)
- **PCI-1610UP** 4-port RS-232 Low-Profile Universal PCI COMM Card, w/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)

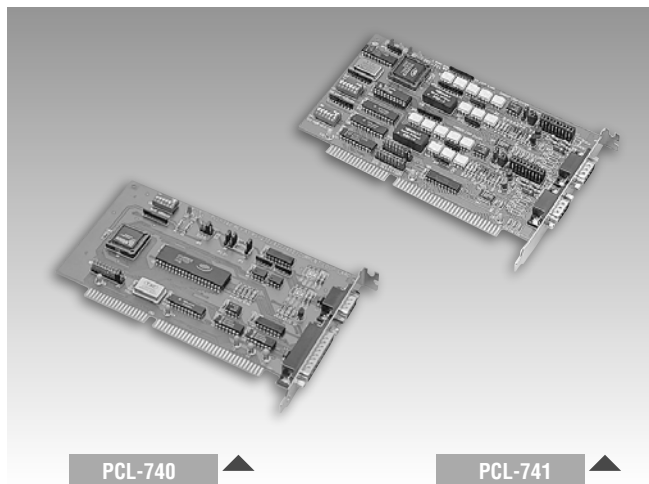
PCL-740 PCL-741 PCL-743/745 PCL-746+

RS-232/422/485, Current-loop Communication Card

2-port RS-232, Current-loop Communication Card

2-port RS-422/485 Communication Card

4-port RS-232/422/485 Communication Card



PCL-740

PCL-741



Features

- RS-232, RS-422, RS-485 or current-loop interface
- 16C550 UART with 16-byte FIFO
- Transmission speeds up to 921.6 kbps
- Flexible I/O address and IRQ selection
- IRQ: 3, 4, 5, 6, 7, 9, 10, 11, 12 or 15
- Complete RS-232 modem control signals
- Supports 4-wire or 2-wire operation for RS-422/485
- Automatic RS-485 data flow control
- Space reserved for termination resistors
- Supports Windows® 98/ME/2000/XP, Linux®
- Powerful and easy-to-use utility (ICOM Tools)

Introduction

The PCL-740 offers a versatile range of high speed interfacing options. You can switch its single port between the popular RS-232, long distance RS-422, multi-drop RS-485, or noise-resistant current-loop. The card's 16C550 UART has an on-chip 16-byte FIFO buffer for faster and more reliable communication, especially under Windows.

The PCL-741 provides two isolated RS-232 or current-loop serial ports. You can configure each port individually to RS-232 or current-loop using on-board jumpers.

The card has two 16C550 UARTs with on-chip 16-byte FIFO buffers. The UARTs buffer data into 16-byte packets before sending it to the bus. This drastically reduces CPU load and avoids data loss when the system is busy and cannot process the interrupt quickly. These FIFO buffers make the PCL-741 especially suitable for high speed serial I/O under Windows. Onboard optica

Specifications

General

- **Card Interface** ISA
- **Certifications** CE
- **Connectors** PCL-740: 1 x DB9-M, 1 x DB25-M
PCL-741, PCL-743, PCL-745: 2 x DB9-M
PCL-746+: 1 x DB37-F
- **Dimensions** 185 x 100 mm (7.3" x 3.9")
- **Power Consumption** PCL-740: +5 V @ 180 mA max., ±12 V @ 20 mA max.
PCL-741: +5 V @ 300 mA (typical), +5 V @ 1.1 A max.
PCL-743, PCL-745: +5V @ 400 mA typical, 950 mA max.
PCL-746+: +5 V @ 800 mA typical, 1.5 A max.
±12 V @ 60 mA typical, 120 mA max.
- **Weight (Gross)** PCL-740, PCL-741, PCL-743, PCL-745: 0.6 kg (1.3 lb)
PCL-746+: 1.1 kg (2.4 lb) (including cable)

Communications

- **Data Bits** 5, 6, 7, 8
- **Data Signals** RS-232: Tx, Rx, CTS, RTS, DTR, DSR, DCD, GND, RI
Current loop: Tx+, Tx-, Rx+, Rx-
RS-422: Tx+, Tx-, Rx+, Rx-, GND, CTS+, CTS-, RTS+, RTS-
RS-485: Data+, Data-, GND
- **I/O Address** From 200H to 3F8H (for PCL-740/741/743/745)
From 000h to 3F8H (for PCL-746+)
- **IRQ** 3, 4, 5, 6, 7, 9, 10, 11, 12 or 15
- **Ports** PCL-740: 1, PCL-741: 2
PCL-743, PCL-745: 2
PCL-746+: 4
- **Parity** None, even, odd
- **Protocols** PCL-740: RS-232/422/485, current-loop
PCL-741: RS232, current-loop
PCL-743, 745: RS-422/485
PCL-746+: RS-232/422/485

Speed

PCL-740, PCL-741: 50 bps ~115.2 kbps
(for RS-232/422/485)
50 bps~57.6 kbps (current-loop)
PCL-743, PCL-745: 50 bps ~ 921.6 kbps
PCL-746+: 50 bps ~ 115.2 kbps

Stop Bits

UART

1, 1.5, 2
PCL-743, PCL-745: 2 x 16C550 with 16-byte FIFO
PCL-746+: 4 x 16C550 16-byte FIFO
PCL-740: 1 x 16C550 with 16-byte FIFO
PCL-741: 2 x 16C550 with 16-byte FIFO

Protection

Isolation Protection

2500 V_{dc} (PCL-741), 3000 V_{dc} (PCL-745B/745S)

Surge Protection

2500 V_{dc} (PCL-743S/745S)

Software

Bundled Software

ICOM Tools

Driver Support

Windows 98/ME/2000/XP, Linux

Environment

Operating Temperature

PCL-740, PCL-741, PCL-746+: 0 ~ 50° C (32 ~ 122° F)
PCL-743, PCL-745: 0 ~ 65° C (32 ~ 149° F)

Ordering Information

- **PCL-740** RS-232/RS-422/RS-485/current-loop serial interface card
- **PCL-741** Isolated dual-port RS-232/current-loop interface card.
- **PCL-743B** 2-port RS-422/485 communication card
- **PCL-743S** 2-port RS-422/485 communication card with surge protection
- **PCL-745B** 2-port RS-422/485 communication card with isolation protection
- **PCL-745S** 2-port RS-422/485 communication card with isolation and surge protection
- **PCL-746+** 4-port RS-232/422/485 communication card (30cm DB37 to 4 DB25 cable included)
- **PCL-746+9** 4-port RS-232/422/485 communication card (30cm DB37 to 4 DB9 cable included)

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IPPC

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FPM

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ATM & AWS

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DA&C

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cPCI

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ADAM-3000

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Motion Control

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ICOM

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eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

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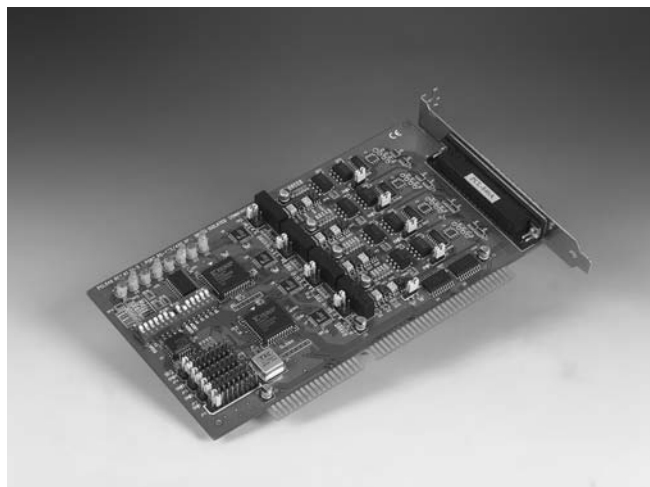
BAS

PCL-846 PCL-849 PCL-858

4-port High-speed RS-422/485 Communication Card

4-port RS-232 Communication Card

8-port High-speed RS-232 Communication Card



CE

Features

- Four or eight RS-232 or RS-422/485 serial ports
- Transmission speeds up to 921.6 kbps
- Independent/shared IRQ settings between each of the 4 serial ports
- Wide IRQ selection: 3, 4, 5, 6, 7, 9, 10, 11, 12 or 15
- Supports COM1, COM2, COM3, and COM4
- Provides 1000 V_{DC} isolation (PCL-846 only)
- Provides 2000 V_{DC} surge protection (PCL-846B only)
- Provides 3000 V_{DC} surge protection (PCL-849B, PCL-849+, PCL-858B)
- Space reserved for termination resistors
- Supports 2 wire or 4 wire operation
- Automatic RS-485 data flow control or RTS control
- Supports Windows® 98/ME/2000/XP, Linux®
- Powerful and easy-to-use utility (ICOM Tools)

Introduction

PCL-800 series communication card provides reliable, high-speed serial communication. The unique shared interrupt can be set to most common (extended) AT interrupts. This simplifies programming, speeds up interrupt processing and frees up interrupts for other devices. PCL-800 series cards also provide surge or isolation protection to prevent your PC and equipment against damage from ground loops, increasing system reliability in harsh environments or abrupt high voltage surges such as those caused by lightning during thunderstorms.

Specifications

General

- Card Interface** ISA
- Certifications** CE
- Connectors** 1 x DB37-F (PCL-846, PCL-849)
1 x DB62-F (PCL-858)
185 x 100 mm (7.3" x 3.9")
- Dimensions**
- Power Consumption** PCL-846: +5 V @ 970 mA typical, 1.2 A max.
PCL-849: +5 V @ 250 mA typical, 500 mA max.
±12 V @ 70 mA typical, 120 mA max.
PCL-858: +5 V @ 450 mA typical, 950 mA max.
±12 V @ 140 mA typical, 240 mA max

Communications

- Data Bits** 5, 6, 7, 8
- Ports** PCL-846 and PCL-849: 4, PCL-858: 8
- Stop Bits** 1, 1.5, 2
- Speed** PCL-849L: 50 ~ 115.2 kbps
PCL-849B, PCL-849+: 50 ~ 307.2 kbps
Other: 50 ~ 921.6 kbps
- Parity** None, even and odd
- I/O Address Range** PCL-846, PCL-849: From 200H to 3F8H
PCL-858: From 000H to 3FFH
- IRQ** 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- Data Signals** Tx, Rx, CTS, RTS, DTR, DSR, DCD, GND, RI (PCL-849)
Tx, Rx, CTS, RTS, DTR, DSR, DCD, GND (PCL-858)
Tx+, Tx-, Rx+, Rx-, GND, CTS+, CTS-, RTS+, RTS-, Data+, Data-, GND
- UART** PCL-846: 4 x 16C550 with 16-byte FIFO
PCL-849A/849B/849L: 1 x 16C554
PCL-849+: 1 x 16C654
PCL-858A/858B: 2 x 16C554

Protection

- Isolation Voltage** PCL-846: 1,000 V_{DC}
- Surge Protection** PCL-846B: 2,000 V_{DC}
PCL-849B, PCL-849+, PCL-858B: 3,000 V_{DC}

Software

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

Environment

- Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- Storage Temperature** -25 ~ 80° C (-13 ~ 176° F)

Ordering Information

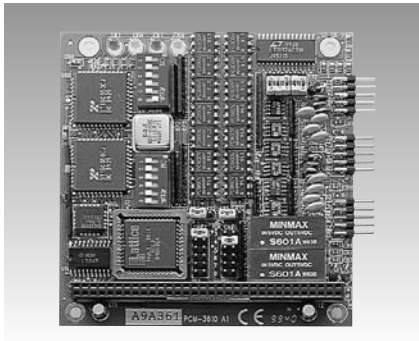
- PCL-846A** 4-port RS-422/485 interface card w/isolation protection (30cm DB37 to 4 DB9 cable included)
- PCL-846B** 4-port RS-422/485 interface card w/isolation and surge protection (30cm DB37 to 4 DB9 cable included)
- PCL-849A** 4-port high-speed RS-232 interface card (30cm DB37 to 4 DB25 cable included)
- PCL-849A/9** 4-port high-speed RS-232 interface card (30cm DB37 to 4 DB9 cable included)
- PCL-849B** 4-port high-speed RS-232 interface card w/ surge protection (30cm DB37 to 4 DB25 cable included)
- PCL-849B/9** 4-port high-speed RS-232 interface card w/ surge protection (30cm DB37 to 4 DB9 cable included)
- PCL-849+** 4-port high-speed RS-232 interface card w/ surge protection and 16C654 UART (30cm DB37 to 4 DB25 cable included)
- PCL-849+/9** 4-port high-speed RS-232 interface card with surge protection and 16C654 UART (30cm DB37 to 4 DB9 cable included)
- PCL-849L** 4-port RS-232 interface card (30cm DB37 to 4 DB25 cable included)
- PCL-849L/9** 4-port RS-232 interface card (30cm DB37 to 4 DB9 cable included)
- PCL-858A** 8-port high-speed RS-232 interface card (cables not included)
- PCL-858B** 8-port high-speed RS-232 interface card w/surge protection (cables not included)

PCM-3610 PCM-3612 PCM-3614

Isolated RS-232/422/485 Module

2-port RS-422/485 Module

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



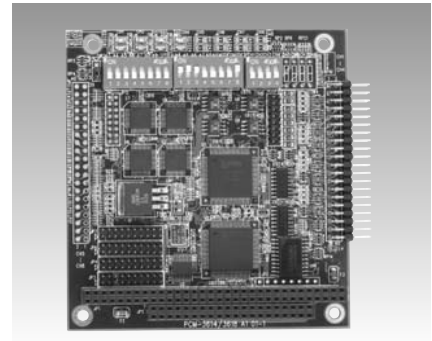
PCM-3610

FCC CE



PCM-3612

CE



PCM-3614

FCC CE

Features

- High speed transmission rate
- Automatic RS-485 data flow control
- Jumper selectable interrupt level
- Supports Windows® 98/2000/XP
- Supports WinCE 3.0, 4.2
- Powerful and easy-to-use utility (ICOM Tools)

Specifications

General

- Card Interface** PC/104
- Certifications** CE
- Connectors** 2 x DB9-M
- Ports** 2
- Power Consumption** +5 V @ 400 mA typical
±12 V @ 950 mA max

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

Isolation

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

Environment

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

Ordering Information

- PCM-3610-B** Isolated RS-232/422/485 module

Features

- Long distance communication
- Automatic RS-485 data flow control
- Jumper selectable interrupt level
- Supports Windows® 98/2000/XP
- Supports WinCE 3.0, 4.2
- Powerful and easy-to-use utility (ICOM Tools)

Specifications

General

- Card Interface** PC/104
- Certifications** CE
- 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

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

Ordering Information

- PCM-3612-A** 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® 98/2000/XP
- Supports WinCE 4.2
- Powerful and easy-to-use utility (ICOM Tools)

Specifications

General

- Card Interface** PC/104
- Certifications** CE
- 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
- RS-422 Signal Support** TxD+, TxD-, RxD+, RxD-, CTS+, CTS-, RTS+ and RTS-
- RS-485 Signal Support** DATA+, DATA-, CTS+, CTS-
- Speed** 50 bps ~ 921.6 kbps
- Stop Bits** 1, 1.5, 2

Isolation

- Surge Protection** 1000 V_{DC}
- Termination Resistor** 120 Ω

Environment

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

Ordering Information

- PCM-3614-A** 4-port RS-422/485 High-speed module

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Software

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IPPC

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TPC

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FPM

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ATM & AWS

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DA&C

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cPCI

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ADAM-3000

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Motion Control

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ICOM

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eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

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BAS

PCM-3618

PCM-3640/3641

PCM-3660

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

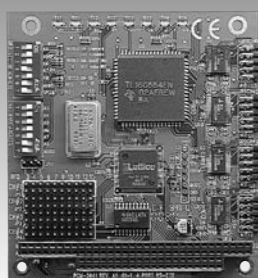
4-port RS-232 High-speed Module

Jumperless Ethernet Module



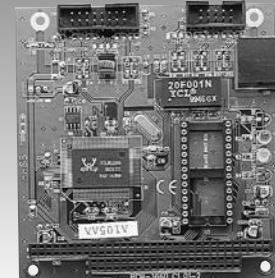
PCM-3618

FCC CE



PCM-3640/3641

CE



PCM-3660

CE

Features

- Automatic RS-485 data flow control
- Shared IRQ settings for each ports
- LED indicators: TX, RX
- Supports Windows® 98/2000/XP
- Supports WinCE 4.2
- Powerful and easy-to-use utility (ICOM Tools)

Specifications

General

- Card Interface** PC/104
- Certifications** CE
- 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
- RS-422 Signal Support** TxD+, TxD-, RxD+, RxD-, CTS+, CTS-, RTS+ and RTS-
- RS-485 Signal Support** DATA+, DATA-, CTS+, CTS-
- Speed** 50 bps ~ 921.6 kbps
- Stop Bits** 1, 1.5, 2
- Termination Resistor** 120 Ω

Isolation

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

Environment

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

Ordering Information

- PCM-3618-A** 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® 98/2000/XP
- Supports WinCE 3.0, 4.2
- Powerful and easy-to-use utility (ICOM Tools)

Specifications

General

- Card Interface** PC/104
- Certifications** CE
- Connectors** 4 x DB9-M
- Ports** 4
- Power Consumption** +5 V @ 200 mA (Typical); +5 V @ 250 mA (Max.)

Communications

- Data Bits** 5, 6, 7, 8
- Data Signals** 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)
- Stop Bits** 1, 1.5, 2

Environment

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

Ordering Information

- PCM-3640-A** 4-port RS-232 module
- PCM-3641-A** 4-port RS-232 high-speed module

Features

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

Specifications

General

- Boot ROM Address** C0000, C8000, D0000, or D8000H
- Card Interface** PC/104
- Certifications** CE
- Connectors** 1 x PC/104 stackthrough 1 x 10Base-T (RJ-45) 1 x 16-pin insulation displacement connector for AU1

Power Consumption

- Power Consumption** +5 V @ 400 mA max

Communications

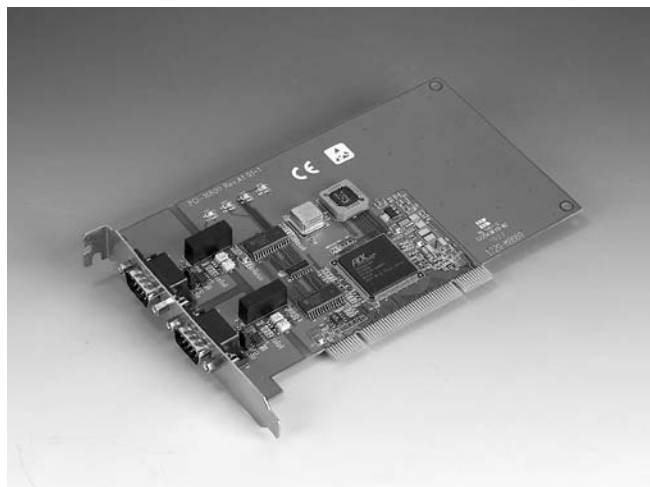
- Data Bus** 8-bit, 16-bit, or auto-sending
- I/O Address** 200, 220, 240, 260, 280, 2A0, 2C0, 300, 320, 340, 380, 3A0
- IRQ** 3, 4, 5, 9, 10, 11, 12 or 15
- Standard** IEEE 802.3 10 Mbps CSMA/CD 10Base-T Transceiver

Ordering Information

- PCM-3660-C1** Jumperless Ethernet module

PCI-1680U

2-Port CAN Interface Universal PCI Communication Card w/Isolation



FCC CE

Features

- PCI bus specification 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
- Universal PCI Universal PCI (Supports 3.3 V or 5 V PCI bus signal)
- Supports Windows® 95/98/2000/XP and Linux®

Introduction

PCI-1680U 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-1680U 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 on-board CAN controllers are located at different positions in the memory, and you can run both CAN controllers independently at the same time. Besides, PCI-1680U 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-1680U can be used in diverse systems.

Controller Area Network (CAN)

The CAN is a serial bus system especially suitable for networking “intelligent” I/O devices as well as sensors and actuators within a machine or plant. Characterized by its multi-master protocol, real-time capability, error correction, high noise immunity, and the existence of many different silicon components, the CAN serial bus system, originally developed by Bosch™ for use in automobiles, is increasingly being used in industrial automation.

Direct Memory Mapping Enables Direct Access to the CAN Controller

The PCI-1680U is assigned a memory address. This is the simplest method of integrating a board in a PC and provides the quickest access since the board is treated by the PC as being standard RAM.

Optical Isolation Protection

On-board optical iso

Specifications

General

- **Card Interface** Universal PCI V 2.2
- **Certifications** CE, FCC class A
- **Connectors** 2 x DB9-M
- **Dimensions** 185 x 100 mm (7.3" x 3.9")
- **Ports** 2
- **Power Consumption** 5 V @ 400 mA (Typical)

Communication

- **CAN Controller** SJA-1000
- **CAN Transceiver** 82C250
- **Protocol** CAN 2.0 A/B
- **Signal Support** CAN_H, CAN_L
- **Speed** 1 Mbps

Isolation

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

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-1680U-A** 2-Port CAN Interface Universal PCI Communication Card w/ Isolation

1
Software

2
IPPC

3
TPC

4
FPM

5
ATM & AWS

6
DA&C

7
cPCI

8
ADAM-3000

9
Motion Control

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ICOM

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eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

16
ADAM-8000

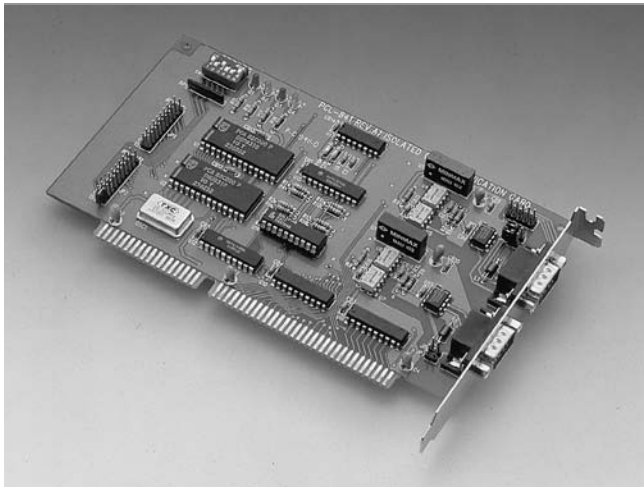
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PCL-841

PCM-3680

Dual-port Isolated CAN-bus Interface ISA Card

Dual-port Isolated CAN Interface PC/104 Module



PCL-841



Features

- Operates two separate CAN networks at the same time
- High speed transmission up to 500 kbps
- 16 MHz CAN controller frequency
- Optical isolation protection of 1000 V_{DC} ensures system reliability
- Wide IRQ selection for each port: IRQ 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- LEDs indicate Transmit/Receive status on each port
- Direct memory mapping enables very fast access to the CAN controllers
- Windows® DLL library and examples included
- Supports Windows® 95/98/2000/XP and Linux®

Specifications

General

- Card Interface** ISA
- Certifications** CE
- Connectors** 2 x DB9-M
- Dimensions** 185 x 100 mm (7.3" x 3.9") (PCL-841)
- Ports** 2
- Power Consumption** +5 V @ 400 mA typical, 950 mA max.
- Weight (Gross)** 0.6 kg (1.3 lb)

Communications

- CAN Controller** SJA-1000
- CAN Transceiver** 82C250
- Protocol** CAN2.0 A/B
- 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

Isolation

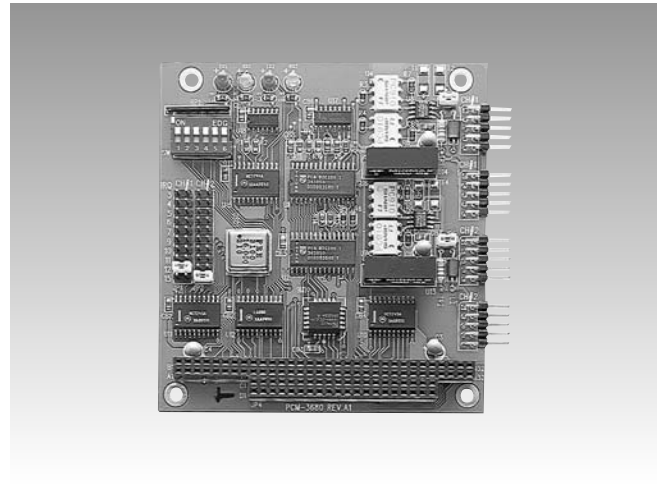
- Isolation Voltage** 1,000 V_{DC}

Environment

- Operating Temperature** 0 ~ 50° C (32 ~ 122° F)

Ordering Information

- PCL-841-A** Dual-port Isolated CAN-bus Interface Card



PCM-3680



Features

- Operates two separate CAN networks at the same time
- High speed transmission up to 500 kbps
- 16 MHz CAN controller frequency
- Optical isolation protection of 1000 V_{DC} ensures system reliability
- Wide IRQ selection for each port: IRQ 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- LEDs indicate Transmit/Receive status on each port
- Direct memory mapping enables very fast access to the CAN controllers
- Windows® DLL library and examples included
- Supports Windows® 95/98/2000/XP and Linux®

Specifications

General

- Card Interface** PC/104
- Certifications** CE
- Connectors** 2 x DB9-M w/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
- 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

Isolation

- Isolation Voltage** 1,000 V_{DC}

Environment

- Operating Temperature** 0 ~ 65° C (32 ~ 122° F)

Ordering Information

- PCM-3680-A** Dual-port Isolated CAN Interface Module

Accessories



OPT1A: 1 m RJ-48 to male DB9 RS-232/422/485 cable

To be used with:

EDG-4508P/16P, EDG-4508(R)+/16(R)+, ADAM-4570, ADAM-4570L, ADAM-4571, ADAM-4570S, ADAM-4571S, ADAM-4579



OPT1D: 30 cm RJ-48 to male DB9 RS-232/422/485 cable

To be used with:

EDG-4508P/16P, EDG-4508(R)+/16(R)+, ADAM-4570, ADAM-4570L, ADAM-4571, ADAM-4570S, ADAM-4571S, ADAM-4579



OPT1E: 1 m RJ-45 to male DB9 cable

To be used with:

PCI-1610AJU



OPT1F: 30 cm RJ-45 to male DB9 cable

To be used with:

PCI-1610AJU



OPT4A: 30 cm DB-37 to 4 x male DB9 cable

To be used with:

PCI-1610A/B/CU, PCI-1611U, PCI-1612A/B/AU/U/CU, PCL-746+, PCL-846A/B, PCL-849A/B/+L



OPT8C: 1 m DB62 to 8 x male DB25 cable

To be used with:

PCI-1620A/B/AU/U, PCI-1625U, PCL-844+, PCL-858A/B



OPT8H: 1 m DB-62 to 8 x male DB9 cable

To be used with:

PCI-1620A/B/AU/U, PCI-1625U, PCL-844+, PCL-858A/B



OPT8I: 1 m DB-78 to 8 x male DB25 cable

To be used with:

PCI-1622CU



OPT8J: 1 m DB-78 to 8 x male DB9 cable

To be used with:

PCI-1622CU



OPT8FP: 8-Port RS-422 to RS-232 converter connection box with isolation protection

To be used with:

PCI-1620A/B/AU/U, PCI-1625U, PCL-844+, PCL-858A/B

Isolation Protection 2500V_{DC}



OPT8AP: 8-Port RS-232 Connection Box (DCE) with female DB25 connector

To be used with:

PCI-1620A/B/AU/U, PCI-1625U, PCL-844+, PCL-858A/B



OPT8BP: 8-Port RS-232 Connection Box (DTE) with male DB25 Connector

To be used with:

PCI-1620A/B/AU/U, PCI-1625U, PCL-844+, PCL-858A/B

1
Software

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IPPC

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TPC

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FPM

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ATM & AWS

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DA&C

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cPCI

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ADAM-3000

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Motion Control

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ICOM

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eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

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Fieldbus Communication Overview

Introduction

Today, the PC assumes a key position in automation technology. Together with a real-time operating system such as Windows® NT, it creates an ideal hardware platform for control and visualization of process data. Fieldbus systems with remote input and output modules are used for the data transfer between the PC and the automation equipment. Advantech has launched a series of Fieldbus communication interface cards from Hilscher™, a company with a field-proven record in industrial communication technology. We offer special interface PC cards, since PCs do not feature a direct link to the Fieldbus. These intelligent cards manage the entire data transfer so that only useful data are passed onto the user applications.

The idea behind the "Communication Interface - CIF", is to provide common access to the various Fieldbus systems available on the market. We provide a powerful, easy to handle and reliable solution at a low-cost. Thus, you can concentrate on your applications and do not need to "reinvent the wheel" when you're required to use a different Fieldbus system tomorrow.

We place special value on ease of operation. This includes loadable Firmware, configuration data that remain even after a power failure, an online RS-232C diagnostic interface and LED status indicators. Naturally, each card supplied carries the CE mark.

PC Cards in all Formats for the Fieldbus Standards

We supply PC cards with PCI-bus or in the PC/104 and PC/104-Plus format for all leading Fieldbus systems. Careful component selection and focus of the necessary functions has resulted in a single-side surface mounted card with a low cost.

Fieldbuses differ from each other in their physical interfaces and capacity spectrums. We don't use plug-in modules for adaptation. We provide a dedicated card for the Fieldbus system, sometimes different ones for Master or Slave functions. Only in this way can we guarantee you the best performance relationship with the highest degree of reliability.

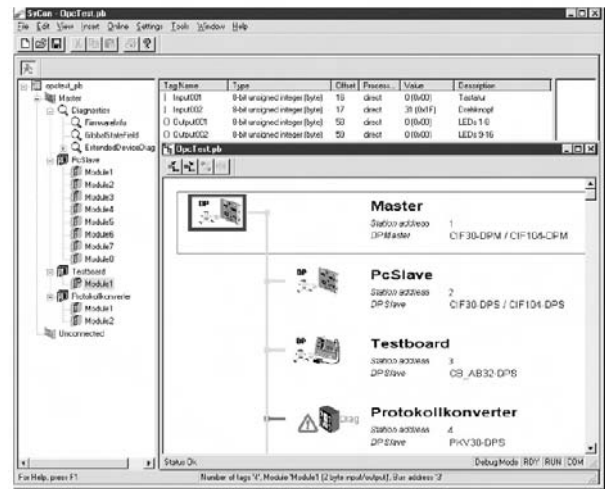
Form Factor	Fieldbus Communication Interface Support				Type		Model Name	Page
	PROFIBUS DP	PROFIBUS FMS	DeviceNet	CANopen	Master	Slave		
PCI	Yes	Yes			Yes		AD-CIF50-PB	10-29
			Yes		Yes		AD-CIF50-DNM	10-30
				Yes	Yes		AD-CIF50-COM	10-31
PC/104	Yes	Yes			Yes		AD-CIF104-PB	10-29
	Yes					Yes	AD-CIF104-DPS	10-29
			Yes		Yes		AD-CIF104-DNM	10-30
			Yes			Yes	AD-CIF104-DNS	10-30
				Yes	Yes		AD-CIF104-COM	10-31
				Yes		Yes	AD-CIF104-COS	10-31
PC/104 Plus	Yes	Yes			Yes		AD-CIF104P-PB	10-29
			Yes		Yes		AD-CIF104P-DNM	10-30
				Yes	Yes		AD-CIF104P-COM	10-31

System Configurator with an Uniform "look and feel"

All cards are configured using the SyCon® System Configurator. This software has been coded in C++ and executes under the Windows® 95/98/ME and Windows® NT/2000/XP operating systems.

Graphical input of the individual bus participants, clearly structured menu guidance and automatic computations of the bus parameters make the configuration a very simple exercise.

By means of the function interface, other programs can exchange data with the configurator



and access its database.

The configurator can also be included in your own product as an OEM version.

Uniform and Easy-to-use application Interface

The data exchange between the application and the communication interface takes place via a dual-port memory. This is a type of memory where read/write accesses are performed both from the application and from the interface side. A static data model is used for the dual-port memory. It is uniform for all cards and contains the process image. Commands and message-oriented data are exchanged using two mailboxes. The entire handshake is performed in either polling or interrupt mode using only two bytes.

Driver for all Windows® operating systems and Linux

We supply a 32-bit Device Driver, since you cannot access the hardware directly with modern operating systems. This driver has the same functional interface as our drivers for DOS. Thus you can access the communication interface using the same C interface for all operating system.

Support for Three Types of Popular Fieldbus Communication Interfaces

We support three types of popular fieldbus protocol: PROFIBUS, DeviceNet and CANopen with PCI-bus or in the PC/104 or PC/104-Plus format.

PROFIBUS™

PROFIBUS is a multi-master system that enables mutual operation of several automation, engineering or visualization systems on a bus. We supply two PROFIBUS protocol specifications: PROFIBUS-DP and PROFIBUS-FMS, simultaneously, to satisfy different requirements.

DeviceNet™

DeviceNet utilizes CAN technology for data transmission. The transmission rates of DeviceNet are 125, 250 and 500 kBaud. It is one of the most popular networks for factory automation as it can connect industrial devices to a network at a low cost without expensive wiring.

CANopen

Controller Area Network (CAN) is a serial network and features quick reaction and a high degree of reliability. The transmission rates in the CANopen range from 1 kBaud up to 1MBaud. CANopen is usually used in an embedded network such as machine control within industries.

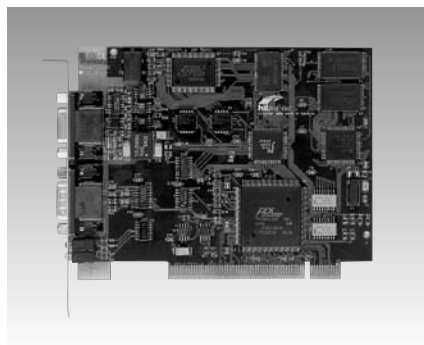
AD-CIF50-PB AD-CIF104-PB AD-CIF104-DPS AD-CIF104P-PB

PROFIBUS™ DP/FMS Master PCI Communication Card

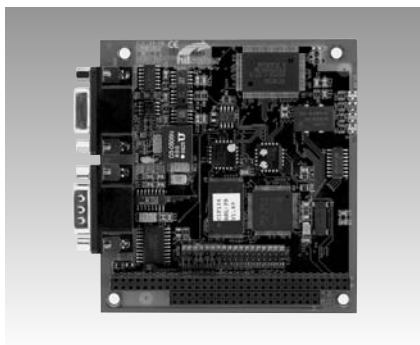
PROFIBUS™ DP/FMS Master PC/104 Module

PROFIBUS™ DP Slave PC/104 Module

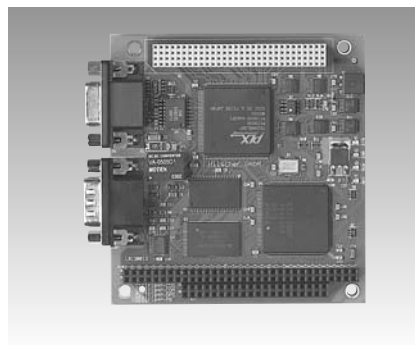
PROFIBUS™ DP/FMS Master PC/104-plus Module



AD-CIF50-PB



AD-CIF104-PB, AD-CIF104-DPS



AD-CIF104P-PB

Specifications

Bus Interface

- Interface: PCI
- Dual-port Memory: 8 KB
- Interrupt: 3-7, 9-12, 14, 15 via Plug & Play

PROFIBUS Interface

- Interface: EN 50170
- Transmission Rate: 9.6 kBaud to 12 MBaud
- Connector: ASPC2
- Interface: RS485, optically isolated
- Connector: DSub-female connector 9-pin

Diagnostic Interface

- Interface: RS232C, non-isolated
- Connector: DSub-male connector 9-pin

General

- Display: RDY, RUN, STA, ERR
- Operating Voltage: 5 V \pm 5%/650 mA
- Operating Temperature: 0 ~ 55° C (32 ~ 131° F)
- Dimensions (L x W x H): 134 x 107 x 20 mm (5.3" x 4.2" x 0.8")
- Weight: 130 g
- Software: C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- AD-CIF50-PB: Communication Interface PCI PROFIBUS-DP/FMS-Master Card

Specifications

- Card Format: PC/104

Bus Interface

- Interface: ISA
- Dual-port Memory: 8 KB
- Interrupt: 3-7, 9-12, 14, 15

PROFIBUS interface

- Interface: EN 50170
- Transmission Rate: 9.6 kBaud to 12 MBaud
- Controller: ASPC2
- Interface: RS485, optically isolated
- Connector: DSub-female 9-pin

Diagnostic Interface

- Interface: RS232C, non-isolated
- Connector: DSub-male 9-pin

General

- Display: RDY, RUN, STA, ERR
- Operating Voltage: +5 V \pm 5%/650 mA
- Operating Temperature: 0 ~ 55° C (32 ~ 131° F)
- Dimensions (L x W x H): 90 x 96 x 25 mm (3.5" x 3.7" x 1")
- Weight: 120 g
- Software: C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- AD-CIF104-PB: PROFIBUS-DP/FMS-Master PC/104 Module with left DSub 9-pin connector
- AD-CIF104-DPS: PROFIBUS-DP-Slave PC/104 Module with left DSub 9-pin connector

Specifications

- Card Format: PC/104-Plus

Bus Interface

- Interface: PCI
- Dual-port Memory: 8 KB
- Interrupt: Plug & Play

PROFIBUS interface

- Interface: EN 50170
- Transmission Rate: 9.6 kBaud to 12 MBaud
- Controller: EC1
- Interface: RS485, optically isolated
- Connector: DSub-female 9-pin

Diagnostic Interface

- Interface: RS232C, non-isolated
- Connector: DSub-male 9-pin

General

- Display: RDY, RUN, STA, ERR
- Operating Voltage: +5 V \pm 5%/50 mA, +3.3 V \pm 5% < 400 mA
- Operating Temperature: 0 ~ 55° C (32 ~ 131° F)
- Dimensions (L x W x H): 90 x 96 x 25 mm (3.5" x 3.7" x 1")
- Weight: 120 g
- Software: C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- AD-CIF104P-PB: PROFIBUS-DP/FMS-Master PC/104-Plus Module with left DSub 9-pin connector

1

Software

2

IPPC

3

TPC

4

FPM

5

ATM & AWS

6

DA&C

7

cPCI

8

ADAM-3000

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Motion Control

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ICOM

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eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

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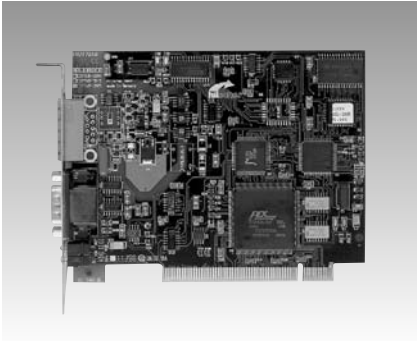
AD-CIF50-DNM AD-CIF104-DNM AD-CIF104-DNS AD-CIF104P-DNM

DeviceNet™ Master PCI Communication Card

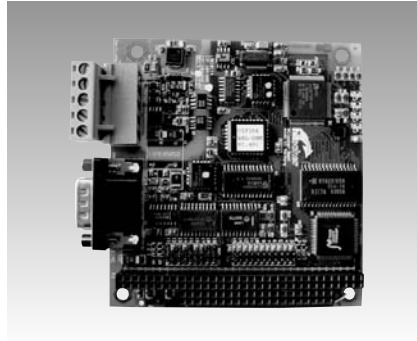
DeviceNet™ Master PC/104 Module

DeviceNet™ Slave PC/104 Module

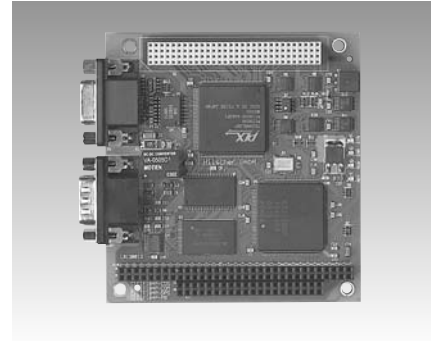
DeviceNet™ Master PC/104-plus Module



AD-CIF50-DNM



AD-CIF104-DNM, AD-CIF104-DNS



AD-CIF104P-DNM

Specifications

Bus Interface

- **Interface** PCI
- **Dual-port Memory** 8 KB
- **Interrupt** 3-7,9-12,14,15 via Plug & Play

DeviceNet Interface

- **Transmission Rates** 125 kBaud, 250 kBaud, 500 kBaud
- **Controller** SJA 1000
- **Interface** ISO 11898, optically isolated
- **Connector** COMBICON 5-pin

Diagnostic Interface

- **Interface** RS-232C, non-isolated
- **Connector** DSub-male connector 9-pin

General

- **Display** RDY, RUN, NET, MOD
- **Operating Voltage** +5 V $\pm 5\%$ / 650 mA, ± 12 V $\pm 5\%$ / 50 mA, +11~25 V / 55 mA
- **Operating Temperature** 0 ~ 55° C (32 ~ 131° F)
- **Dimensions (L x W x H)** 134 x 107 x 20 mm (5.3" x 4.2" x 0.8")
- **Weight** 130 g
- **Software**
C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- **AD-CIF50-DNM** Communication Interface PCI DeviceNet-Master Card

Specifications

- **Card Format** PC/104

Bus Interface

- **Interface** ISA
- **Dual-port memory** 8 KB
- **Interrupt** 3-7,9-12,14,15

DeviceNet Interface

- **Transmission Rates** 125 kBaud, 250 kBaud, 500 kBaud
- **Controller** SJA1000
- **Interface** ISO 11898, optically isolated
- **Connector** COMBICON 5-pin

Diagnostic Interface

- **Interface** RS-232C, non-isolated
- **Connector** RS-232C, non-isolated COMBICON 5-pin

General

- **Display** RDY, RUN, NET, MOD
- **Operating Voltage** +5 V $\pm 5\%$ / 650 mA, +11~25 V / 55 mA
- **Operating Temperature** 0 ~ 55° C (32 ~ 131° F)
- **Dimensions (L x W x H)** 90 x 96 x 25 mm (3.5" x 3.7" x 1")
- **Weight** 120 g
- **Software**
C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- **AD-CIF104-DNM** DeviceNet-Master PC/104 Module with left COMBICON 5-pin connector
- **AD-CIF104-DNS** DeviceNet-Slave PC/104 Module with left COMBICON 5-pin connector

Specifications

- **Card Format** PC/104-Plus

Bus Interface

- **Interface** PCI
- **Dual-port memory** 8 KB
- **Interrupt** Plug & Play

DeviceNet Interface

- **Transmission Rates** 125 kBaud, 250 kBaud, 500 kBaud
- **Controller** EC1
- **Interface** ISO 11898, optically isolated
- **Connector** COMBICON 5-pin

Diagnostic Interface

- **Interface** RS-232C, non-isolated
- **Connector** RS-232C, non-isolated COMBICON 5-pin

General

- **Display** RDY, RUN, NET, MOD
- **Operating Voltage** +5 V $\pm 5\%$ / 650 mA, 3.3 V $\pm 5\%$ / 400 mA, +11~25 V / 55 mA
- **Operating Temperature** 0 ~ 55° C (32 ~ 131° F)
- **Dimensions (L x W x H)** 90 x 96 x 25 mm (3.5" x 3.7" x 1")
- **Weight** 120 g
- **Software**
C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- **AD-CIF104P-DNM** DeviceNet-Master PC/104-Plus Module with left COMBICON 5-pin connector

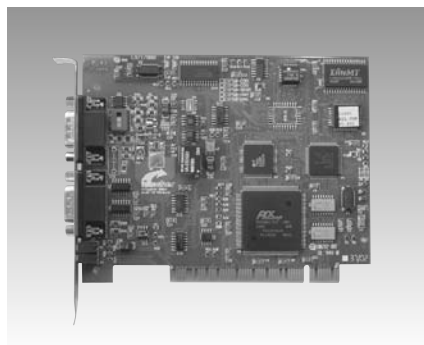
AD-CIF50-COM AD-CIF104-COM AD-CIF104-COS AD-CIF104P-COM

CANopen Master PCI Communication Card

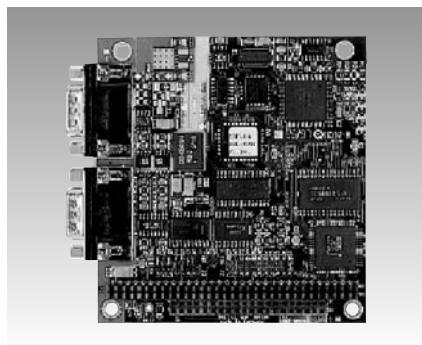
CANopen Master PC/104 Module

CANopen Slave PC/104 Module

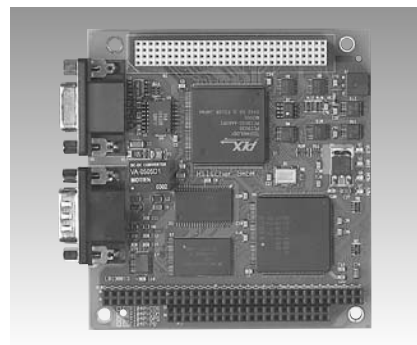
CANopen Master PC/ 104-plus Module



AD-CIF50-COM



AD-CIF104-COM, AD-CIF104-COS



AD-CIF104P-COM

Specifications

Bus Interface

- **Bus Interface** PCI
- **Dual-port Memory** 8 KB
- **Interrupt** 3-7,9-12,14,15 via Plug & Play

CANopen Interface

- **Interface** CiA DS-102
- **Transmission Rate** 10 kBaud to 1 MBaud
- **Controller** SJA 1000
- **Interface** ISO 11898, optically isolated
- **Connector** DSub-male connector 9-pin

Diagnostic Interface

- **Interface** RS-232C, non-isolated
- **Connector** DSub-male connector 9-pin

General

- **Display** RDY, RUN, STA, ERR
- **Operating Voltage** +5 V $\pm 5\%$ /500 mA, ± 12 V $\pm 5\%$ /50 mA
- **Operating Temperature** 0 ~ 55° C (32 ~ 131° F)
- **Dimensions (L x W x H)** 134 x 107 x 20 mm (5.3" x 4.2" x 0.8")
- **Weight** 130 g
- **Software** C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- **AD-CIF50-COM** Communication Interface PCI CANopen-Master Card

Specifications

- **Card Format** PC/104

Bus Interface

- **Bus Interface** ISA
- **Dual-port memory** 8 KB
- **Interrupt** 3-7, 9-12, 14, 15

CANopen Interface

- **Interface** CiA DS - 102
- **Transmission Rate** 10 kBaud to 1 MBaud
- **Controller** SJA1000
- **Interface** ISO 11898, optically isolated
- **Connector** DSub-male 9-pin

Diagnostic Interface

- **Interface** RS-232C, non-isolated
- **Connector** DSub-male 9-pin

General

- **Display** RDY, RUN, STA, ERR
- **Operating Voltage** +5 V $\pm 5\%$ /500 mA
- **Operating Temperature** 0 ~ 55° C (32 ~ 131° F)
- **Dimensions (L x W x H)** 90 x 96 x 25 mm (3.5" x 3.7" x 1")
- **Weight** 120 g
- **Software** C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- **AD-CIF104-COM** CANopen-Master PC/104 Module with left DSub 9-pin connector
- **AD-CIF104-COS** CANopen-Slave PC/104 Module with left DSub 9-pin connector

Specifications

- **Card Format** PC/104-Plus

Bus Interface

- **Bus Interface** PCI
- **Dual-port memory** 8 KB
- **Interrupt** Plug & Play

CANopen Interface

- **Interface** CiA DS - 102
- **Transmission Rate** 10 kBaud to 1 MBaud
- **Controller** EC1
- **Interface** ISO 11898, optically isolated
- **Connector** DSub-male 9-pin

Diagnostic Interface

- **Interface** RS-232C, non-isolated
- **Connector** DSub-male 9-pin

General

- **Display** RDY, RUN, STA, ERR
- **Operating Voltage** +5 V $\pm 5\%$ /50 mA, 3.3 V $\pm 5\%$ < 400 mA
- **Operating Temperature** 0 ~ 55° C (32 ~ 131° F)
- **Dimensions (L x W x H)** 90 x 96 x 25 mm (3.5" x 3.7" x 1")
- **Weight** 120 g
- **Software** C functions library: DRV-TKIT
COM interface: DRV-COM
Device driver Windows: DRV-WIN
Device driver Linux: DRV-LNX
Documentation on CD: CD-SYS
Basic version System Configurator

Ordering Information

- **AD-CIF104P-COM** CANopen-Master PC/104-Plus Module with left DSub 9-pin connector

1

Software

2

IPPC

3

TPC

4

FPM

5

ATM & AWS

6

DA&C

7

cPCI

8

ADAM-3000

9

Motion Control

10

ICOM

11

eConnectivity

12

UNO

13

ADAM-4000

14

ADAM-5000

15

ADAM-6000

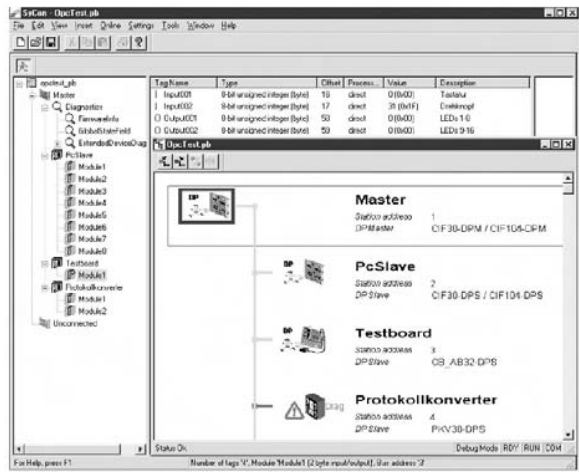
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ADAM-8000

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BAS

SyCon® - Fieldbus System Configurator



Features

- Unified operating desktop for all Fieldbus systems
- Supports all Slaves
- Graphical input of the Fieldbus system
- Configuration of the individual bus devices
- Plausibility testing of the bus parameters and the process image
- On-line diagnostic and statistic functions
- Writing and reading I/O data
- Export functions
- Uses GSD, EDS or other device description files

Introduction

SyCon® is a universal System Configurator with a unified user desktop for all Fieldbus PC cards. As a basis for the configuration, so-called device description files or electronic data sheets, in which the characteristics of the bus device are defined, are used. These are standardised for some Fieldbus systems and are supplied by the device manufacturer. For other cases, SyCon® offers this function for input. The bus structure is determined by a graphic editor where the individual devices are placed. A double click on the device opens the corresponding configuration window. A table displays all the possible modules or data that will be created with the current device configuration. The address of the data in the process image is issued manually or automatically by the configurator. The parameterization of the devices is carried out by means of the selection or entry of the values of the respective Fieldbus system.

The final step is defining the bus parameters. This is limited to the definition of the transmission rate, as all other parameters are independently calculated on the basis of the data in the device description files. All process variables can be provided with a symbolic name. These are made available as labels in the interface for a primary visualisation, SoftLogic or OPC server. In this way the entry and comparison of variable addresses becomes unnecessary. SyCon® offers comprehensive diagnostic aids. In diagnostic mode, the status of all devices are cyclically called up and presented in red or green depending on whether a data exchange is taking place with it at the time. By double clicking on 'red' bus devices, the cause of the error is shown in clear text as far as possible. SyCon® is provided as a basic version with every device. Without license code, the configuration is limited to two devices on a network, which is sufficient for slave modules.

System Configurator with a Uniform “Look and Feel”

All cards are configured using the SyCon® System Configurator, which has been coded in C++ and executes under the Windows® 95/98/ME and Windows® NT/2000/XP operating systems. Graphical input of the individual bus participants, clearly structured menu guidance and automatic computations of the bus parameters make the configuration a very simple exercise.

Ordering Information

	Basic Sycon®	Basic Sycon® w/License code	Basic Sycon® + OPC server	Basic Sycon® w/License code + OPC server
PROFIBUS™	AD-CIF50-PB	AD-CIF50-PB-S	AD-CIF50-PB-O	AD-CIF50-PB-SO
	AD-CIF104-PB	AD-CIF104-PB-S	AD-CIF104-PB-O	AD-CIF104-PB-SO
	AD-CIF104-DPS	N/A	AD-CIF104-DPS-O	N/A
	AD-CIF104P-PB	AD-CIF104P-PB-S	AD-CIF104P-PB-O	AD-CIF104P-PB-SO
DeviceNET™	AD-CIF50-DNM	AD-CIF50-DNM-S	AD-CIF50-DNM-O	AD-CIF50-DNM-SO
	AD-CIF104-DNM	AD-CIF104-DNM-S	AD-CIF104-DNM-O	AD-CIF104-DNM-SO
	AD-CIF104-DNS	N/A	AD-CIF104-DNS-O	N/A
	AD-CIF104P-DNM	AD-CIF104P-DNM-S	AD-CIF104P-DNM-O	AD-CIF104P-DNM-SO
CANopen	AD-CIF50-COM	AD-CIF50-COM-S	AD-CIF50-COM-O	AD-CIF50-COM-SO
	AD-CIF104-COM	AD-CIF104-COM-S	AD-CIF104-COM-O	AD-CIF104-COM-SO
	AD-CIF104-COS	N/A	AD-CIF104-COS-O	N/A
	AD-CIF104P-COM	AD-CIF104P-COM-S	AD-CIF104P-COM-O	AD-CIF104P-COM-SO