

RS-232C 2ch Serial I/O Board with Isolation

COM-2P(PCI)H

RS-232C 4ch Serial I/O Board with Isolation

COM-4P(PCI)H



This board is a PCI interface board for performing RS-232C serial communications with external devices.

The < COM-2P(PCI)H > has two RS-232C serial ports per board. The < COM-4P(PCI)H > has four RS-232C serial ports per board. You can use the standard COM driver software (COM Setup Disk) supplied with the board to access the serial ports as standard Windows or Linux COM ports.

The specification, color, and design of a product may be changed without a preliminary announcement.

Features

- The communication lines for each channel are electrically isolated from each other and from the PC.
- Maximum communication speed = 921,600bps.
- The baud rate can be set independently for each channel, by software.
- Each channel is equipped with separate 128-byte FIFO buffers for transmit and receive.
- A maximum of 16 boards can be installed as configured in the range COM1 - COM256.
- Driver software is supplied to allow the serial ports to be used as standard Windows or Linux COM ports.
- Surge protection is provided for each RS-232C signal line.
- Uses the same easy-to-use 9-pin D-SUB connectors as a PC. [COM-2P(PCI)H]

Cable & Connector (Option)

RS-232C Straight Cable with D-SUB9P (1.8m)	: RSS-9M/F
RS-232C Cross Cable with D-SUB9P (1.8m)	: RSC-9F
RS-232C Straight Cable with D-SUB25P (1.8m)	: RSS-25M/9F
RS-232C Cross Cable with D-SUB25P (1.8m)	: RSC-25F
RS-232C Connection Conversion Straight Cable (25M 9F, 1.8m)	: RSS-25M/9F
RS-232C Connection Conversion Straight Cable (25F 9M, 1.8m)	: RSS-25F/9M
RS-232C Connection Conversion Cross Cable (25F 9F, 1.8m)	: RSC-25F/9F
Connection Conversion Cable (37M 9M x 4, 250mm)	: PCE37/9PS
Connection Conversion Cable (37M 25M x 4, 250mm)	: PCE37/25PS
D-SUB9P Male Connector Set (5 Pieces)	: CN5-D9M
D-SUB9P Female Connector Set (5 Pieces)	: CN5-D9F
D-SUB25P Male Connector Set (5 Pieces)	: CN5-D25M
D-SUB25P Female Connector Set (5 Pieces)	: CN5-D25F
D-SUB37P Male Connector Set (5 Pieces)	: CN5-D37M

specification

COM-2P(PCI)H

Item	Specification
Number of channels	2ch
Interface type	RS-232C
Isolation	Channel Isolation/Bus Isolation
Isolation voltage	Channel Isolation: 500VDC, Bus Isolation: 1000VDC
Transfer method	Asynchronous serial transfer
Baud rate	2 · 921,600bps *1 *2
Data length	5, 6, 7, 8 bits 1, 1.5, 2 stop bits *1
Parity check	Even, Odd, Non-parity *1
Controller chip	162850 or equivalent (Each channel has 128-byte receive and 128-byte transmit FIFO buffers.)
Connecting distance	15m(Typ.)
Interrupt requests	1 level use *3
I/O address	Any 32-byte boundary
Power consumption	5VDC 600mA (Max.)
Operating temperature	0 · 50°C, 10 · 90%RH(No condensation)
PCI bus specification	32bit, 33MHz, Universal key shapes supported *4
Dimension (mm)	121.69(L) x 105.68(H)
Weight	80g

*1 These items can be set by software.

For the "Driver Library API-PAC(W32)" and the "Standard COM Driver Software COM Setup Disk" on the supplied CD-ROM, the range is 15 · 921,600 bps.

*2 Data transmission at high speed may not be performed normally depending on the environment including the type of status of connected material of cable and environment.

*3 The interrupt signals from all channels are connected as a single interrupt signal on the PCI bus.

*4 This board requires power supply at +5 V from an expansion slot (it does not work on a machine with a +3.3V power supply alone).

COM-4P(PCI)H

Item	Specification
Number of channels	4ch
Interface type	RS-232C
Isolation	Channel Isolation/Bus Isolation
Isolation voltage	Channel Isolation: 500VDC, Bus Isolation: 1000VDC
Transfer method	Asynchronous serial transfer
Baud rate	2 · 921,600bps *1 *2
Data length	5, 6, 7, 8 bits 1, 1.5, 2 stop bits *1
Parity check	Even, Odd, Non-parity *1
Controller chip	162850 or equivalent (Each channel has 128-byte receive and 128-byte transmit FIFO buffers.)
Connecting distance	15m(Typ.)
Interrupt requests	1 level use *3
I/O address	Any 32-byte boundary
Power consumption	5VDC 1000mA (Max.)
Operating temperature	0 · 50°C, 10 · 90%RH(No condensation)
PCI bus specification	32bit, 33MHz, Universal key shapes supported *4
Dimension (mm)	121.69(L) x 105.68(H)
Weight	90g

*1 These items can be set by software.

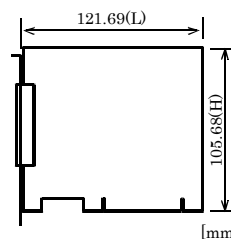
For the "Driver Library API-PAC(W32)" and the "Standard COM Driver Software COM Setup Disk" on the supplied CD-ROM, the range is 15 · 921,600 bps.

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*3 The interrupt signals from all channels are connected as a single interrupt signal on the PCI bus.

*4 This board requires power supply at +5 V from an expansion slot (it does not work on a machine with a +3.3V power supply alone).

Board Dimensions
[COM-2P(PCI)H, COM-4P(PCI)H]



The standard outside dimension (L) is the distance from the end of the board to the outer surface of the slot cover.

Support Software

You should use CONTEC support software according to your purpose and development environment.

Standard COM Driver Software COM Setup Disk COM Setup Disk (Bundled)

The purpose of this software is to allow the CONTEC serial communication boards to be used under Windows or Linux in the same way as the standard COM ports on the PC. By installing additional boards, you can use COM ports in the range COM1 - COM256.

The boards can be used for all types of serial communications such as for remote access service (RAS) and uninterruptible power supply (UPS) applications.

Under Windows, the serial ports can be accessed using the standard Win32 API communication routines (CreateFile(), WriteFile(), ReadFile(), and SetCommState(), etc.) The serial ports are also compatible with the Visual Basic communication control (MSComm).

Under Linux, the serial ports are compatible with the operating system's standard tty driver. The standard routines including open(), close(), read(), write() are supported.

< Operating environment >

OS Windows XP, 2000, NT, Me, 98, Linux etc..

▼ CAUTION

The maximum number of COM ports able to be used depends on the configuration of your OS.

Driver library API-PAC(W32) (Available for downloading (free of charge) from the CONTEC web site.)

API-PAC(W32) is the library software that provides the commands for CONTEC hardware products in the form of Windows standard Win32 API functions (DLL). It makes it easy to create high-speed application software taking advantage of the CONTEC hardware using various programming languages that support Win32 API functions, such as Visual Basic and Visual C/C++.

It can also be used by the installed diagnosis program to check hardware operations.

CONTEC provides download services (at <http://www.contec.com/apipac/>) to supply the updated drivers and differential files.

For details, visit the CONTEC's Web site.

< Operating environment >

OS Windows XP, 2000, NT, Me, 98, etc..

Adaptation language Visual C/C++, Visual Basic, Delphi, Builder, etc..

Others Each piece of library software requires 50 megabytes of free hard disk space.

▼ CAUTION

This library provides local routines that are specific to CONTEC (SioOpen(), SioWrite(), SioRead(), SioStatus(), etc.). These are not compatible with the standard Win32 API communication routines (CreateFile() and WriteFile(), etc.).

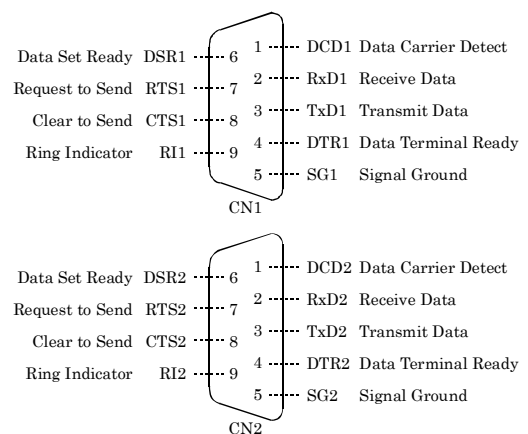
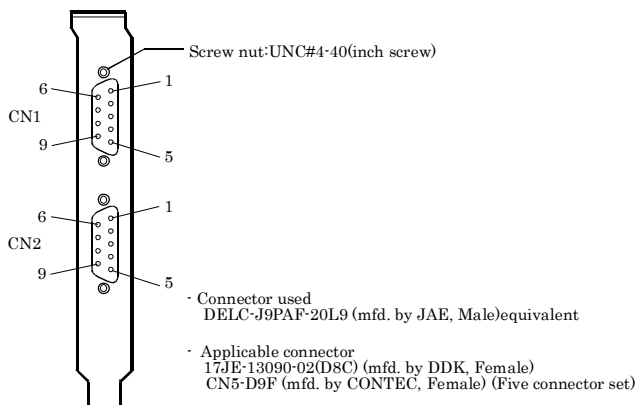
External Connection

In the case of COM-2P(PCI)H

◆ Connecting directly to the port connector

When connecting directly from the connector on the board to the external device, use the appropriate cable which can be purchased separately. If making your own cable, use a CN5-D9F or similar connector which can be purchased separately.

■ Pin Assignment



■ Cable (Option)

RS-232C Straight Cable with D-SUB9P (1.8m) : RSS-9M/F
RS-232C Cross Cable with D-SUB9P (1.8m) : RSC-9F

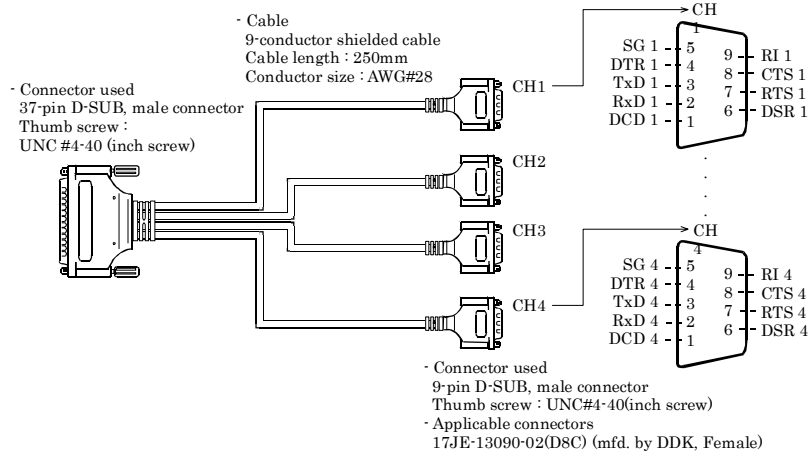
In the case of COM-4P(PCI)H

When using a COM-4P(PCI)H, an alternative to connecting an external device directly to the connector on the board is to use a connection conversion cable.

◆ Converting the Interface Connector to 9-pin D-SUB, Male Connectors

Use a PCE37/9PS connection conversion cable (purchased separately) to connect to external devices after dividing into four 9-pin D-SUB male connector channels.

Use cable suitable for use with 9-pin D-SUB connectors (purchase separately) with the four divided connectors.



■ Connection conversion (Option)

Connection Conversion Cable (37M 9M x 4, 250mm) : PCE37/9PS

■ Cable (Option)

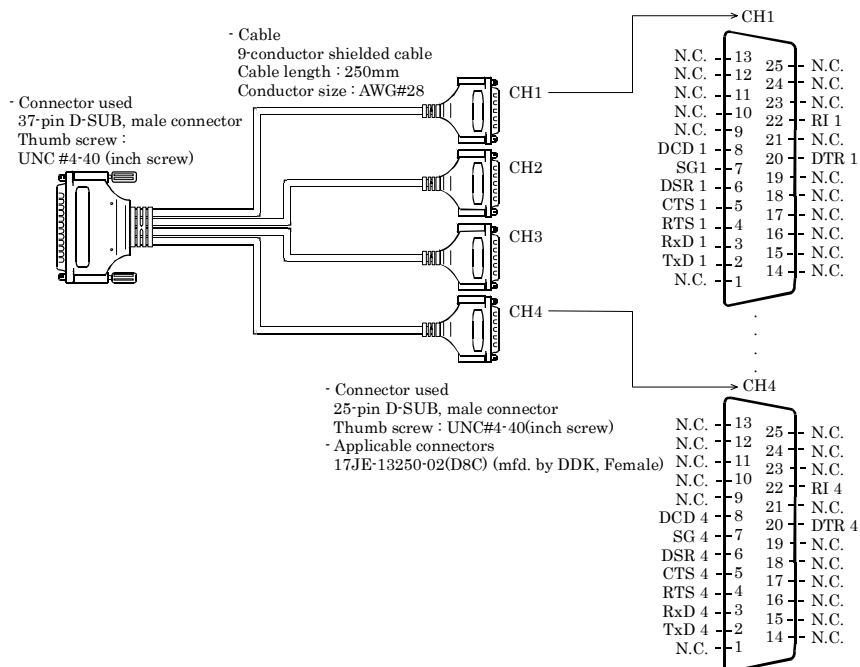
RS-232C Straight Cable with D-SUB9P (1.8m) : RSS-9M/F

RS-232C Cross Cable with D-SUB9P (1.8m) : RSC-9F

◆ Converting the Interface Connector to 25-pin D-SUB, Male Connectors

Use a PCE37/25PS connection conversion cable (purchased separately) to connect to external devices after dividing into four 25-pin D-SUB male connector channels.

Use cable suitable for use with 25-pin D-SUB connectors (purchase separately) with the four divided connectors.



■ Connection conversion (Option)

Connection Conversion Cable (37M 25M x 4, 250mm) : PCE37/25PS

■ Cable (Option)

RS-232C Straight Cable with D-SUB25P (1.8m) : RSS-25M/9F

RS-232C Cross Cable with D-SUB25P (1.8m) : RSC-25F

RS-232C Connection Conversion Straight Cable (25F 9M, 1.8m) : RSS-25M/9F

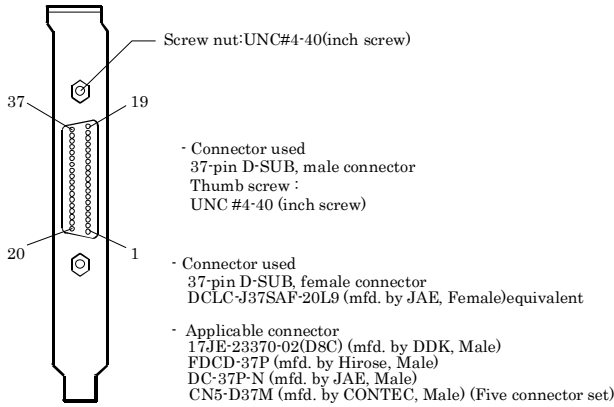
RS-232C Connection Conversion Cross Cable (25F 9F, 1.8m) : RSS-25F/9M

RS-232C Connection Conversion Cross Cable(25F 9F, 1.8m) : RSC-25F/9F

◆ Connecting directly to the port connector

If connecting an external device directly from the connector on the board, use a CN5-D37M or equivalent connector.

■ Pin Assignment



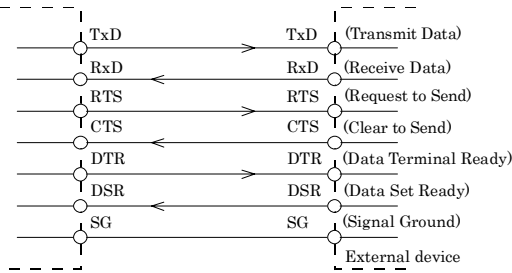
CH1 Receive Data 1	RxD1	37	19	TxD1	CH1 Transmit Data 1
CH1 Clear to Send 1	CTS1	36	18	RTS1	CH1 Request to Send 1
CH1 Signal Ground 1	SG1	35	17	DSR1	CH1 Data Set Ready 1
CH1 Data Carrier Detect 1	DCD1	34	16	DTR1	CH1 Data Terminal Ready 1
CH2 Transmit Data 2	TxD2	33	15	RI1	CH1 Ring Indicator 1
CH2 Request to Send 2	RTS2	32	14	RxD2	CH2 Receive Data 2
CH2 Data Set Ready 2	DSR2	31	13	CTS2	CH2 Clear to Send 2
CH2 Data Terminal Ready 2	DTR2	30	12	SG2	CH2 Signal Ground 2
CH2 Ring Indicator 2	RI2	29	11	DCD2	CH2 Data Carrier Detect 2
CH4 Receive Data 4	RxD4	28	10	TxD4	CH4 Transmit Data 4
CH4 Clear to Send 4	CTS4	27	9	RTS4	CH4 Request to Send 4
CH4 Signal Ground 4	SG4	26	8	DSR4	CH4 Data Set Ready 4
CH4 Data Carrier Detect 4	DCD4	25	7	DTR4	CH4 Data Terminal Ready 4
CH3 Transmit Data 3	TxD3	24	6	RI4	CH4 Ring Indicator 4
CH3 Request to Send 3	RTS3	23	5	RxD3	CH3 Receive Data 3
CH3 Data Set Ready 3	DSR3	22	4	CTS3	CH3 Clear to Send 3
CH3 Data Terminal Ready 3	DTR3	21	3	SG3	CH3 Signal Ground 3
CH3 Ring Indicator 3	RI3	20	2	DCD3	CH3 Data Carrier Detect 3
			1	N.C.	

CN1

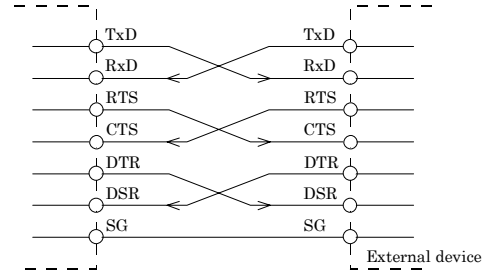
Types of Cable and Example Connections

When using an RS-232C interface, different cables are required depending on the type of device to which you are connecting (computer or modem, etc.). Check the requirements of the external device and select either a straight-through or crossed (null modem) cable as appropriate. If special treatment of the signal lines in the connector is required, ensure that this is done in accordance with the specifications.

Example Connection to a Modem (Straight cable)



Example Connection to a PC (Cross cable)



Example Connection to a Device

