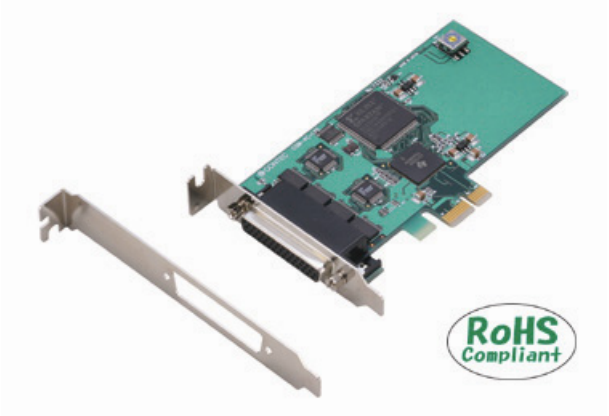
4Ch RS-232C Serial I/O board
for Low Profile PCI Express

COM-4C-LPE



This product is a Low Profit PCI Express bus-supported board designed for extending RS-232C compatible serial communication functionality on your PC.

The < COM-4C-LPE > has four RS-232C communication ports.

With a 128byte built-in FIFO buffer for transmission and reception of each channel, the product supports a baud rate of up to 921,600bps. It also comes with a Windows/Linux driver, which allows boards to be used as OS-standard COM ports.

This product supports CONTEC-defined driver library “API-PAC(W32)” that provide local routines.

* Specifications, color and design of the products are subject to change without notice.

Features

Max. 921,600bps RS-232C Serial Communication
The < COM-4C-LPE > has four RS-232C-standard serial ports. Baud rates from 2 to 921,600bps can be set. When using the bundled “Standard COM Driver Software” and “Driver library API-PAC(W32)”, baud rates from 15 to 921,600bps can be set.

Possibly used as Windows, Linux-standard COM ports, using the bundled driver library
Comes with a driver software that allows the boards to be used under Windows / Linux in the same way as COM ports on the PC. Under Windows, the product supports the OS-standard Win32 API communication function as well as Visual Basic MSComm. Under Linux, OS-standard tty driver’s standard-function can be used. In addition, supplies a diagnostic program to confirm hardware operation and to perform a communication test with equipment.

Max. 16 boards can be installed as configured in the range COM1 - COM256.
Up to 16 boards can be mounted on a single PC. COM1 - COM256 can be set using the device manager.

Equipped with separate 128-byte FIFObuffers for transmit and receive.
Employed a buffer memory 128-byte dedicated to transmission and 128-byte. These are FIFO format, useful for high speed communications and to reduce the load to the CPU when transmitting/receiving. As the device manager can be used to enable/disable the use of FIFO and set the FIFO trigger size, this permits operation to be adjusted to achieve optional performance for your system.

Support for both of Low Profile and standard size slots
Support for both of Low Profile and standard size slots (interchangeable with a bundled bracket).

To suit your application, cables and connectors are available as optional.
Distribution cable for 4channels and 44-pin D-SUB connectors (male type) for your own cables are available as optional.

The control line for RS-232C can be controlled and monitored by software.
The control lines for RTS, CTS, DTR and DSR can be controlled and monitored using an application. The lines can be controlled or monitored by software from the application.

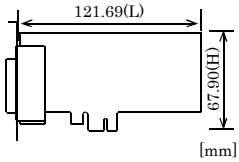
Driver library API-PAC(W32) is supported.
API-PAC(W32) is library software based on Win32 API routines (DLL), which provides local routines specific to CONTEC. You can create high-speed application software taking advantage of the CONTEC hardware using various programming languages that support Win32 API functions, such as Visual Basic and Visual C++.

Specification

Item	Specification
Number of channels	4ch
Interface type	RS-232C
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	162850or 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 (Max.)	3.3VDC 350mA
Operating condition	0 to 50°C, 10 to 90%RH (No condensation)
Bus specification	PCI Express Base Specification Rev. 1.0a x 1
Dimension (mm)	121.69(L)×67.90(H)
Interface connector	44-pin D-SUB, female connector 103A-44FGTBBB3 (mfd.by COXOX) equivalent
Weight	60g

*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 Express bus.

Board Dimensions



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

Support Software

Standard COM Driver Software COM Setup Disk(Bundled)

The purpose of this software is to allow the CONTEC serial communication boards (cards) to be used under Windows or Linux in the same way as the standard COM ports on the PC. By installing additional boards (cards), 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). Supports the communication class of .NET Framework 2.0 (SerialPort class).
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 7, Vista, XP, Linux etc.

You can download the updated version from the CONTEC's Web site (http://www.contec.com/comdrv/). For more details on the supported OS, applicable language and new information, please visit the CONTEC's Web site.

⚠ 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/) to supply the updated drivers and differential files.
For details, visit the CONTEC's Web site.

< Operating environment >
OS Windows Vista, XP, Server 2003 etc.
Adaptation language Visual C++ .NET, Visual C# .NET, Visual Basic .NET, Visual C++, Visual Basic, Delphi, C++Builder, etc.

⚠ 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.).

Optional Cables and Connectors

Cable (Option)

Connection Conversion Cable (44M→9M x 4, 250mm)
: PCE44/9P4S

Connector (Option)

Set of five 44-pin D-SUB (male) connectors : CN5-D44M

* Check the CONTEC's Web site for more information on these options.

Packing List

- Board [COM-4C-LPE] …1
- First step guide …1
- CD-ROM *1 [COM Setup Disk] …1
- Standard size bracket …1

*1 The CD-ROM contains the driver software and User's Guide.

External Connection

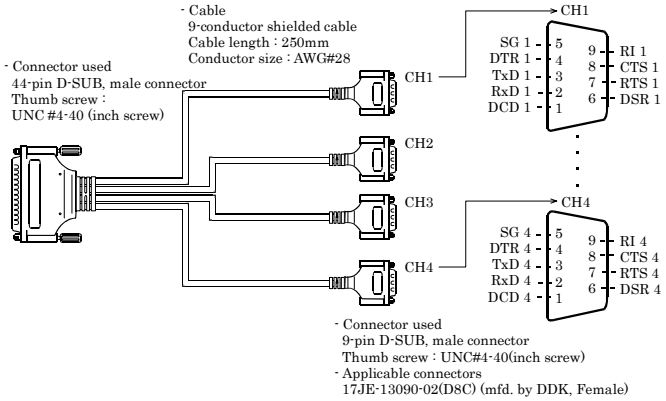
In addition to connecting directly to the connector on the board, you can also connect external devices via a distribution cable.

Connecting directly to the port connector.
Using a distribution cable

Using the 9-pin D-SUB Connector Conversion Cables

Use a PCE44/9P4S 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.

< Specification of PCE44/9P4S" >



< Connection conversion cable (Option) >

Connection Conversion Cable (44M→9M x 4, 250mm)
: PCE44/9P4S

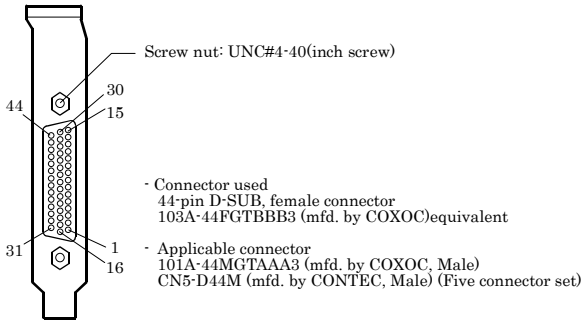
< Connection cable (Option) >

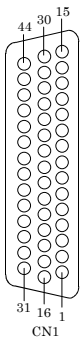
RS-232C Straight Cable with D-SUB9P (1.8m) : RSS-9M/F
RS-232C Cross Cable with D-SUB9P (1.8m) : RSC-9F
RS-232C Connection
Conversion Straight Cable (25M→9F, 1.8m): RSS-25M/9F
RS-232C Connection
Conversion Cross Cable (25F→9F, 1.8m) : RSC-25F/9F

Connecting it directly from the on-board connector

If connecting an external device directly from the connector on the board, use a CN5-D44M or equivalent connector.

<Pin Assignment>



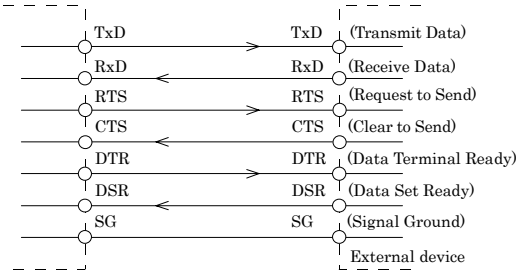


Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name
44	DCD1	30	DSR1	15	CTS1
43	TxDC1	29	RxD1	14	RI1
42	SG1	28	RTS1	13	DTR1
41	N.C.	27	N.C.	12	N.C.
40	DCD2	26	DSR2	11	CTS2
39	TxD2	25	RxD2	10	RI2
38	SG2	24	RTS2	9	DTR2
37	N.C.	23	N.C.	8	N.C.
36	DCD3	22	DSR3	7	CTS3
35	TxD3	21	RxD3	6	RI3
34	SG3	20	RTS3	5	DTR3
33	DCD4	19	N.C.	4	N.C.
32	TxD4	18	DSR4	3	CTS4
31	SG4	17	RxD4	2	RI4
---------		16	RTS4	1	DTR4

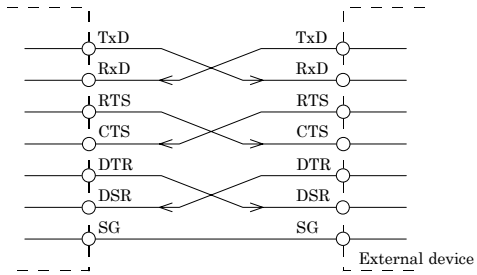
Types of Cable and Example Connections

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

