RS-232C Serial I/O Board for PCI Express
Low Profile Size 4ch type
COM-4C-LPE

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

COM-4C-LPE has four RS-232C communication port.

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.

Windows/Linux device driver is supported with this product.

* The contents in this document are subject to change without notice.
* Visit the CONTEC website to check the latest details in the document.
* The information in the data sheets is as of April, 2024.

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

Features

Max. 921,600bps RS-232C Serial Communication
The COM ports of this product support up to 921,600 bps.

COM-4C-LPE has four RS-232C-standard serial port.

Possibly used as Windows, Linux-standard COM ports
Combining the product with our device driver COM-DRV makes it possible to use the product in the same manner as the COM ports of a PC.

This product supports communication using DCB structures in the Win32 API and Linux-standard system calls.

In addition, supplies a diagnostic program to confirm hardware operation and to perform a communication test with equipment.

Up to 16 boards can be installed
Up to 16 boards of the same model can be mounted on a single PC.

Each channel is equipped with separate 128-byte FIFO buffers for transmit and receive
Equipped with a buffer memory for transmitting 128 bytes and receiving 128 bytes for each channel. These are FIFO format, useful for high speed communications and to reduce the load to the CPU when transmitting/receiving.

Support for Low Profile size slot / standard size slot (bundled with bracket)
Bundled with each bracket for Low Profile size slot / standard size slot. Exchanges it for the standard size bracket when mounting on the standard size slot.

Conversion cable is available as optional
COM-4C-LPE : Distribution cable for 4channels is 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 software.

Specifications

Function specification

Item	Specifications
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	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	3.3VDC 350mA (Max.)
PCI Bus specification	PCI Express Base Specification Rev. 1.0a x 1
Dimension (mm)	121.69(L) x 67.90(H)
Weight	60g

*1 These items can be set by software.
In our device driver COM-DRV(WDM) 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 are arranged into a single interrupt signal and connected to the PCI Express bus.

Installation Environment Requirements

Item	Specifications
Operating ambient temperature	0 - 50℃
Operating ambient humidity	10 - 90%RH (No condensation)
Floating dust particles	Not to be excessive
Corrosive gases	None
Standard	VCCI Class A, CE Marking (EMC Directive Class A, RoHS Directive), UKCA

Support Software

| Name	Contents	How to get
Windows Version Serial communication driver COM-DRV(WDM)	Software that makes it possible to use the product in the same manner as the COM ports of a PC running Windows. This software supports communication using DCB structures in the standard OS Win32 API, and the SerialPort class in the .NET Framework and the pySerial module in Python. Various sample programs such as C# and Visual Basic .NET, Visual C++, Python etc. and diagnostic program useful for checking operation is provided.	Download from the CONTEC website *1
Linux Version Serial communication driver COM-DRV(LNX)	Software that makes it possible to use the product in the same manner as the COM ports of a PC running Linux. This software conforms to Linux-standard tty drivers, and the pySerial module in Python. The software includes various sample programs such as gcc (C, C++) and Python programs.	Download from the CONTEC website *1

*1 Download the files from the following URL.

https://www.contec.com/download/

Included Items

Product [COM-4C-LPE] ...1
Standard Size Bracket ... 1
Please read the following ... 1

Physical Dimensions

121.69(L)
67.90(H)
[mm]
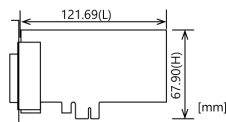
The standard outside dimension (L) is the distance from the end of the card to the outer surface of the slot cover.

Optional Products

Product Name	Model type	Description
Connection Conversion Cable for Serial I/O (44P→9Px4)	PCE44/9P4S	

Visit the CONTEC website for the latest optional products.

Nomenclature of Product Components

COM-4C-LPE
SW1 BOARD ID
①
②
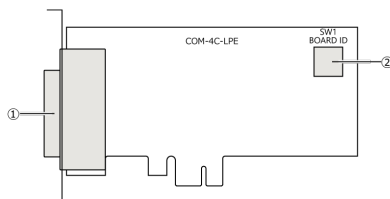
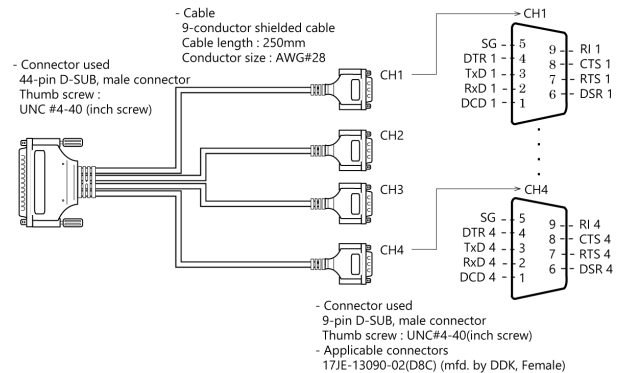| No.	Name
1	Interface Connector (CN1)
2	Board ID Setting Switch (SW1)

Connecting to an External Device

When using a COM-4C-LPE, an alternative to connecting an external device directly to the connector
on the board is to use a connection conversion cable or connection conversion unit.

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 separately purchased 9-pin D-SUB or equivalent cables to connect from the four individual connectors.

- Cable
9-conductor shielded cable
Cable length : 250mm
Conductor size : AWG#28

- Connector used
44-pin D-SUB, male connector
Thumb screw :
UNC #4-40 (inch screw)

CH1
CH2
CH3
CH4

CH1
SG 5
DTR 1 4
TxD 1 3
RxD 1 2
DCD 1 1
9 RI 1
8 CTS 1
7 RTS 1
6 DSR 1

CH4
SG 5
DTR 4 4
TxD 4 3
RxD 4 2
DCD 4 1
9 RI 4
8 CTS 4
7 RTS 4
6 DSR 4

- Connector used
9-pin D-SUB, male connector
Thumb screw : UNC#4-40(inch screw)
- Applicable connectors
17JE-13090-02(D8C) (mfd. by DDK, Female)

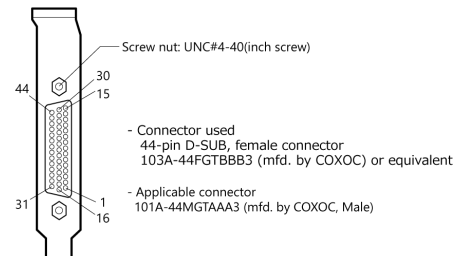### Connection conversion cable (Option)

Connection Conversion Cable for Serial I/O 44p→9p x 4   PCE44/9P4S

Connecting it directly from the on-board connector

If connecting an external device directly from the connector on the board, make your own cable and connect it.
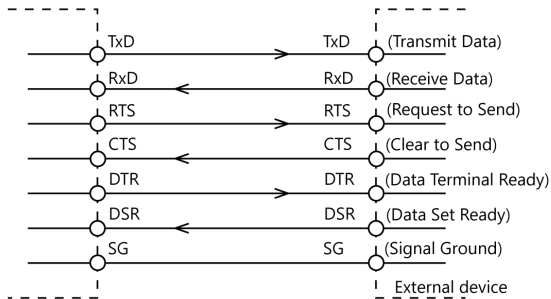
Pin Assignment

Screw nut: UNC#4-40(inch screw)

44 30
15
31 1
16

- Connector used
44-pin D-SUB, female connector
103A-44FGTBBB3 (mfd. by COXOC) or equivalent
- Applicable connector
101A-44MGTAAA3 (mfd. by COXOC, Male)

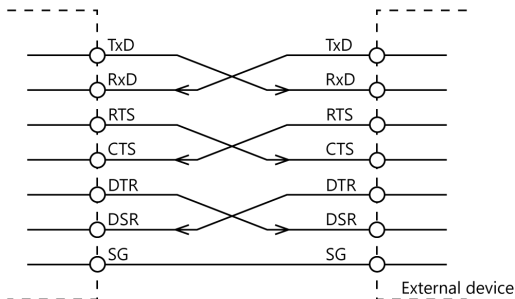| Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name
44	DCD1	30	DSR1	15	CTS1
43	TxD1	29	RxD1	14	RI1
42	SG	28	RTS1	13	DTR1
41	N.C.	27	N.C.	12	N.C.
40	DCD2	26	DSR2	11	CTS2
39	TxD2	25	RxD2	10	RI2
38	SG	24	RTS2	9	DTR2
37	N.C.	23	N.C.	8	N.C.
36	DCD3	22	DSR3	7	CTS3
35	TxD3	21	RxD3	6	RI3
34	SG	20	RTS3	5	DTR3
33	DCD4	19	N.C.	4	N.C.
32	TxD4	18	DSR4	3	CTS4
31	SG	17	RxD4	2	RI4
-----		16	RTS4	1	DTR4

44 30 15
31 16 1
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)

TxD	TxD	(Transmit Data)
RxD	RxD	(Receive Data)
RTS	RTS	(Request to Send)
CTS	CTS	(Clear to Send)
DTR	DTR	(Data Terminal Ready)
DSR	DSR	(Data Set Ready)
SG	SG	(Signal Ground)

External device

Example Connection to a PC (Cross cable)

TxD	TxD
RxD	RxD
RTS	RTS
CTS	CTS
DTR	DTR
DSR	DSR
SG	SG

External device

Example Connection to a Device

TxD	TxD
RxD	RxD
RTS	RTS
CTS	CTS
DTR	DTR
DSR	DSR
SG	SG

External device