RS-232C Serial I/O Board for PCI Express 8ch

COM-8C-PE

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

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

COM-8C-PE has eight 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.

Up to 16 boards can be mounted on a single PC and the range COM1 - COM256 can be set.

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 February, 2025.

Features

Max. 921,600bps RS-232C Serial Communication

The COM ports of this product support up to 921,600 bps.

COM-8C-PE has eight RS-232C-standard serial ports.

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.

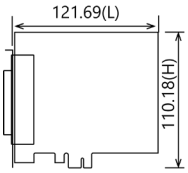
The control line for RS-232C can be controlled and monitored by software

The control lines for RTS, CTS, DTR and DSR can be controlled and monitored using software.

Included Items

Product [COM-8C-PE] ...1
Please read the following ... 1

External Dimensions



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

Specifications

Function specification

Item	Specifications
Number of channels	8ch
Interface type	RS-232C
Transfer method	Asynchronous serial transfer
Baud rate	30 - 921,600bps *1*3
Data length	5, 6, 7, 8 bits 1, 1.5, 2 stop bits
Parity check	Even, Odd, Non-parity
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 *2
I/O address	Any 32-byte boundary
Power consumption	3.3VDC 500mA (Max.)
PCI Bus specification	PCI Express Base Specification Rev. 1.0a x 1
Dimension (mm)	121.69(L) x 110.18(H)
Weight	100g

*1 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.

*2 The interrupt signals from individual channels are arranged into a single interrupt signal and connected to the PCI Express bus.

*3 Product with different board numbers are different in these specifications. See "Differences by Board Number" at the end of this document.

Installation Environment Requirements

Item	Specifications
Operating ambient temperature	0 - 50°C
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, KC

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/

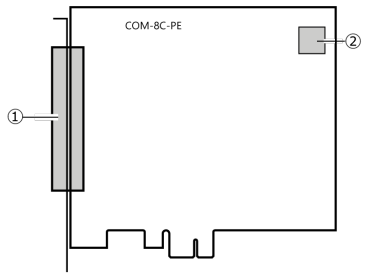
Optional Products

Product Name	Model type	Description
Connection Conversion Unit for RS-232C (78p→9p×8)	PCE78/9PS	1m
Connection Conversion Unit for RS-232C (78p→25p×8)	PCE78/25PS	1m
COM-8ch Board Optional Cable for CCU-78F/25M	RSS-78M	2m
Connection Conversion Unit for RS-232C (78p→25p×8)	CCU-78F/25M	*1

*1 RSS-78M optional cable is required separately.

Visit the CONTEC website for the latest optional products.

Nomenclature of Product Components



No.	Name
1	Interface Connector (CN1)
2	Board ID Setting Switch (SW1)

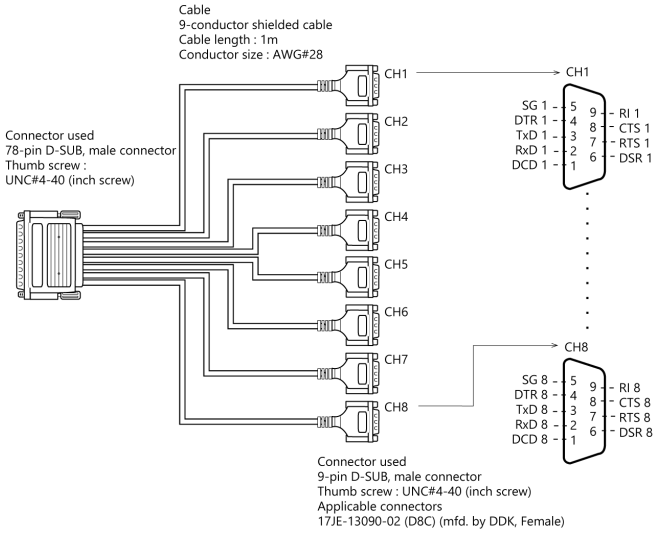
Connecting to an External Device

When using a COM-8C-PE, 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 PCE78/9PS connection conversion cable (purchased separately) to connect to external devices after dividing into eight 9-pin D-SUB male connector channels.

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



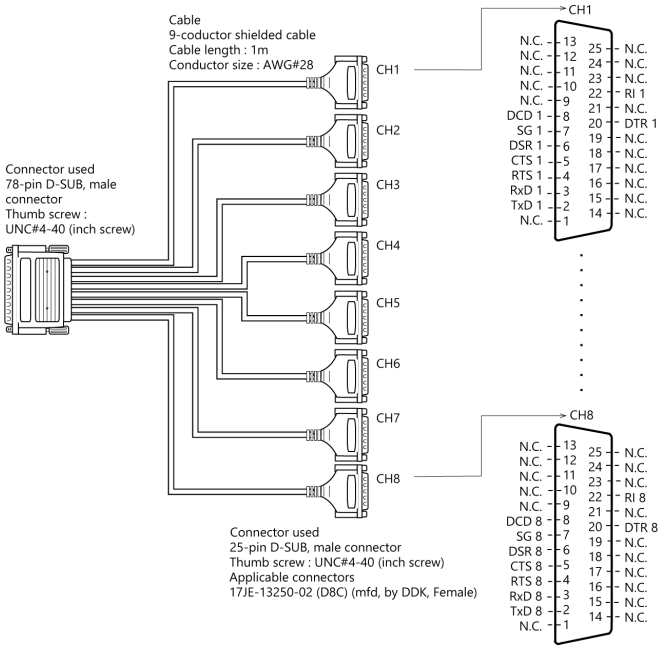
Connection conversion cable (Option)

Divider Cable for RS-232C 8ch (78P→9P×8, 1m) PCE78/9PS

Using the 25-pin D-SUB Connector Conversion Cables

Use a PCE78/25PS connection conversion cable (purchased separately) to connect to external devices after dividing into eight 25-pin D-SUB male connector channels.

Use separately purchased 25-pin D-SUB or equivalent cables to connect from the eight individual connectors.



Connection conversion cable (Option)

Connection Conversion Cable for RS-232C (78P→25P×8, 1m) PCE78/25PS

Using the 25-pin D-SUB Connector Conversion Units

Use a CCU-78F/25M connection conversion unit (purchased separately) to connect to external devices after dividing into eight 25-pin D-SUB male connector channels.

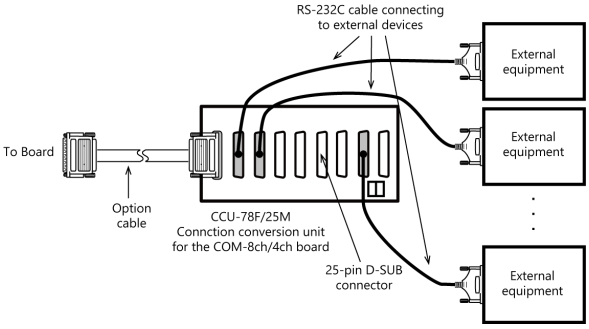
This method has the following features.

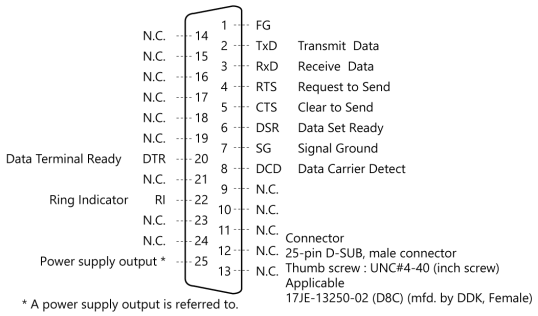
The unit can be fitted to a DIN rail using a separately purchased ADP-1 DIN rail adapter.

The unit can be fitted to a wall or similar using screws.

By connecting an external power supply, the unit can output a power supply from the 25-pin D-SUB connector.

Use a separately purchased 25-pin D-SUB connector cable to connect from the eight individual connectors.





* A power supply output is referred to.

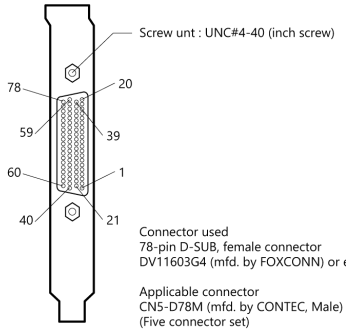
Connection conversion cable (Option)

Connection Conversion Unit for RS-232C (78p→25p×8)	CCU-78F/25M
COM-8ch Board Optional Cable for CCU-78F/25M (2m)	RSS-78M

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.

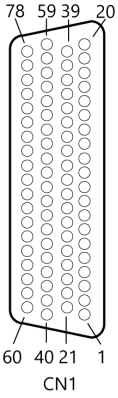
Pin Assignment



Connector used
78-pin D-SUB, female connector
DV11603G4 (mfd. by FOXCONN) or equivalent

Applicable connector
CN5-D78M (mfd. by CONTEC, Male)
(Five connector set)

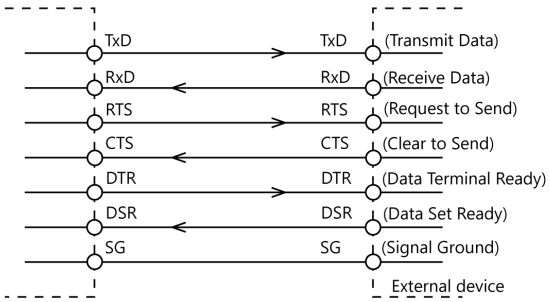
Pin No.	Signal name	Pin No.	Signal name		Pin No.	Signal name	Pin No.	Signal name
78	N.C.	59	DSR 1		39	RTS 1	20	TxD 1
77	SG 1	58	DCD 1		38	CTS 1	19	RxD 1
76	N.C.	57	RI 1		37	DSR 2	18	DTR 1
75	SG 2	56	DCD 2		36	RTS 2	17	TxD 2
74	RI 2	55	DTR 2		35	CTS 2	16	RxD 2
73	N.C.	54	DSR 3		34	RTS 3	15	TxD 3
72	SG 3	53	DCD 3		33	CTS 3	14	RxD 3
71	DSR 4	52	RI 3		32	RTS 4	13	DTR 3
70	SG 4	51	DCD 4		31	CTS 4	12	TxD 4
69	RI 4	50	DTR 4		30	DSR 5	11	RxD 4
68	SG 5	49	DCD 5		29	RTS 5	10	TxD 5
67	RI 5	48	DTR 5		28	CTS 5	9	RxD 5
66	N.C.	47	DSR 6		27	RTS 6	8	TxD 6
65	SG 6	46	DCD 6		26	CTS 6	7	RxD 6
64	N.C.	45	RI 6		25	DSR 7	6	DTR 6
63	SG 7	44	DCD7		24	RTS 7	5	TxD 7
62	RI 7	43	DTR 7		23	CTS 7	4	RxD 7
61	N.C.	42	DSR 8		22	RTS 8	3	TxD 8
60	SG 8	41	DCD 8		21	CTS 8	2	RxD 8
		40	RI 8				1	DTR 8



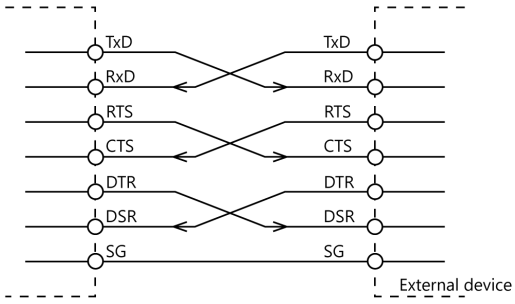
Types of Cable and Example Connections

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.

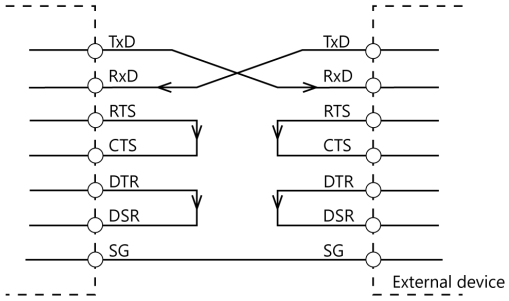
Example Connection to a Modem (Straight cable)



Example Connection to a PC (Cross cable)



Example Connection to a Device



Differences by Board Number

The products are different in specifications, depending on the board number as listed below.

COM-8C-PE

Item	Board No.	
	No.7413, No.7413A, No.7413B, No.7413C	No.7413D or later
Baud rate	2 - 921,600bps	30 - 921,600bps