

Isolated RS-422A/485 1ch Micro Converter
for USB2.0

COM-1PD(USB)H



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

This product is an isolated micro converter for converting the USB port of PC into RS-422A/485 serial communications. Each converter has one channel RS-422A/485 communication port. Higher noise-resistant models with isolation between a PC and bus line as well as a surge protection circuit for communication ports. This product supports a baud rate of up to 921,600bps and has separate 128-byte / 384-byte buffer memory for transmit and receive. It also comes with a Windows 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.

Features

Max. 921,600bps RS-422A/485 Serial Communication

This product has one channel RS-422A/485-standard serial ports. Baud rates from 300 to 921,600bps can be set by software. When data is transferred at the high speed, it may not be transferred normally, depending on the use environment such as the external device and cable length used.

Compatible to USB1.1/USB2.0 and not necessary to power this product externally as the bus power is used.

Compatible to USB1.1/USB2.0 and capable to achieve high speed transfer at Full Speed (12Mbps). Not necessary to power this product externally as the bus power of USB is used.

Possibly used as Windows-standard COM ports, using the bundled driver library

Comes with a driver software that allows the products to be used under Windows 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. In addition, supplies a diagnostic program to confirm hardware operation and to perform a communication test with equipment.

Electric isolation is provided between channels and between PCs.

Electric isolation is provided between channels and between PCs. This prevents electric noise between PCs and external circuits.

Max. 127 converter can be installed as configured in the range COM1 - COM256.

Using a USB hub allows you to install up to 127 converters to a single PC. COM1 - COM256 can be set using the device manager.

Each channel is equipped with separate 128-byte / 384-byte FIFO buffers for transmit and receive.

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, you can build an optimum system according to your use.

To suit your application, cables and connectors are available as optional

Straight cables (1.8m), cross cables (1.8m) and 9-pin D-SUB connectors (male or female type) for your own cables are available as optional.

The control line for RS-422A/485 can be controlled and monitored by software.

The control lines for RTS+, RTS-, CTS+ and CTS- can be controlled and monitored using software.

Specification

Item	COM-1PD(USB)H
Number of channels	1 channel
I/O specification	RS-422A/RS-485
Isolated specification	Bus isolation
Dielectric strength	300VDC
Transfer method	Asynchronous serial transfer (Full-duplex / half-duplex)
Baud rate	300 - 921,600bps *1*2
Data length	7, 8 bit / 1, 2 stop bit
Parity check	Even, Odd, Non-parity
Loading LSI	FT232BL Mounting the FIFO memory as the common buffer of RS-422A/RS-485 communication and USB. Sending: 128byte / receiving: 384byte (by the view of PC)
Connecting distance	Within 1200m
Connector specification	USB side : USB A connector RS-422A/485 side : 9 pin D-SUB connector (male)
Operation guaranteed voltage	5V±5%
Power consumption	5VDC 350mA (Max.)
Operating condition	0 - 50°C, 10 - 90%RH(No condensation)
USB bus specification	USB Specification 1.1/2.0 standard
Power supply	Only bus power
USB transmission speed	12Mbps (full speed mode)
Cable length	1.8m
Physical dimension (mm)	68.3(W) x 20.5(D) x 36.5(H)
Weight	130g

*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 These items can be set by software.

Support Software

Standard COM Driver Software COM Setup Disk (Bundled)

Under Windows, this software allows you to use the serial ports on the converter as if they were standard COM ports on the PC. You can add additional micro converters up to a maximum of 127 COM ports.

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). * API-SIO(98/PC) is not used.

< Operating environment >
OS Windows Vista, XP, Server 2003, 2000

Cable & Connector

Connector(Optional)

D-SUB 9 pin Male Connector Set (5 Pieces) : CN5-D9M

D-SUB 9 pin Female Connector Set (5 Pieces) : CN5-D9F

Packing List

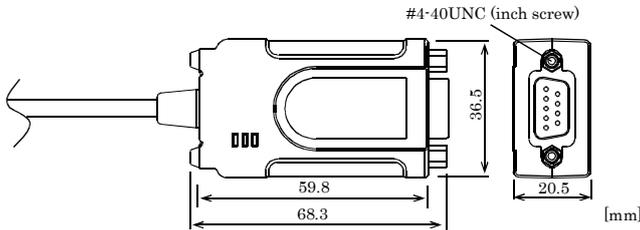
Micro converter [COM-1PD(USB)H] ...1

First step guide ...1

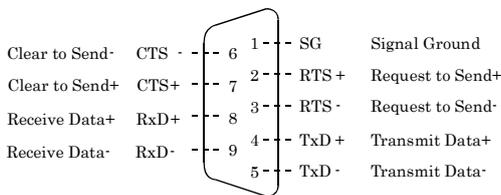
COM Setup Disk(CD-ROM *1) ...1

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

Physical Dimensions



Interface connectors



CAUTION

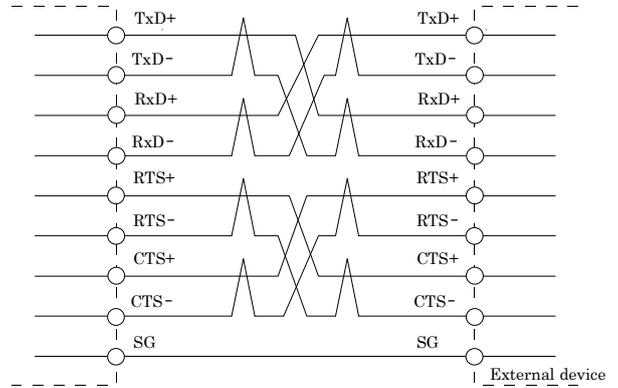
For TxD, RxD, and RTS, pin assignment has even-numbered pins for positive and odd-numbered ones for negative. For CTS, however, even-numbered and odd-numbered pins are assigned for negative and positive, respectively, in contrast with other signals. This is not a description error.

Example Connections

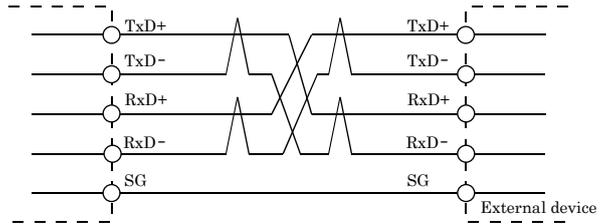
The RS-422A/485 interface provides a differential method of transmission, in which relative potential differences between two conductors (positive and negative) are meaningful as signals.

For the converter, a twisted-pair cable (balanced line) should be used as possible to improve noise immunity.

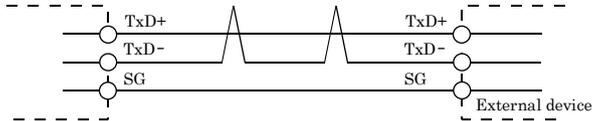
Example of connection with RTS and CTS connected to external device in full-duplex mode



Example of connection with RTS and CTS self-looping in full-duplex mode



Example of connection in half-duplex mode



CAUTION

Connecting the converter by incorrect wiring can cause a fault in the converter and/or the device connected.