

USB / RS-485 INTERFACE CONVERTER

USB-RS485

INSTRUCTION MANUAL

1 GENERAL

1.1 Description

The USB-RS485, USB-to-RS485 Interface Converter is designed to convert USB interface signals to signals of two-wire trunk interface RS-485 with galvanic isolation. The USB-RS485 is powered via a USB port of a personal computer (PC). The USB-RS485 can operate under such operating systems as Windows 2000, XP, Server 2003, Vista, Server 2008, Windows 7, Server 2008 R2, Windows 8 (x86 and x64) forming a virtual COM port. The USB-RS485 is designed for round-the-clock operation.

1.2 Specifications

- 1) Power Voltage: USB port of a PC.
- 2) Consumed Current: 200 mA max.
- 3) Baud rates: 110, 300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400.
- 4) Operation Temperatures: -30°C to $+50^{\circ}\text{C}$.
- 5) Relative Humidity: up to 93 % at $+40^{\circ}\text{C}$.
- 6) Overall Dimensions: 19 mm $\times$ 58 mm $\times$ 11 mm max.
- 7) Weight: 11 g max.

1.3 Standard Delivery

For each USB-RS485, standard delivery includes:

- USB-RS485: 1 pc.;
- Instruction Manual: 1 pc.;
- Installation Driver: 1 archived file;
- Package: 1 pc.

1.4 Interface Converter Operation Principle

USB-RS485 operation is based on converting USB interface signals to the RS-485 interface signals and back. After connecting the USB-RS485 to a PC and installing the software the interface converter is 'seen' as an additional COM port providing data transmission in the half-duplex mode. Parameters of transmitting data over the RS-485 interface (data transmission rate, parity, quantity of stop bits) are adjusted by the same way as for any other COM port of the PC.

2 OPERATING INSTRUCTIONS

2.1 External Connections

Figure 1 shows the typical schematic for connecting the USB-RS485.

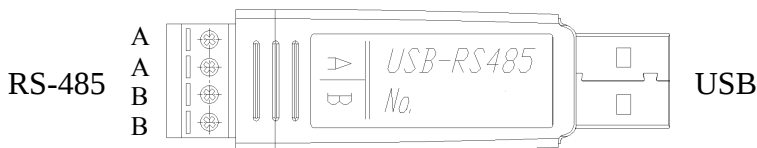


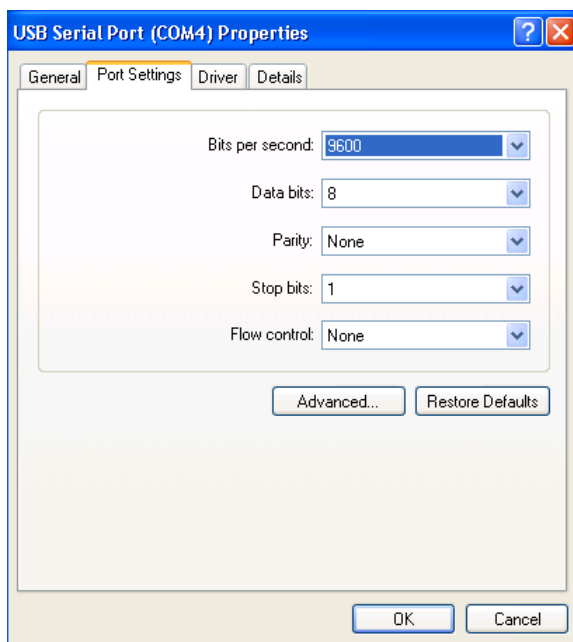
Figure 1: Schematic for connecting the USB-RS485

2.2 Operating the USB-RS485

2.2.1 A terminal resistor $120\ \Omega$ is brought to the interface line, so the USB-RS485 must be the first or the last device in the RS-485 interface bus.

2.2.2 The USB-RS485 to operate on your PC, you should install the USB-RS485 driver on the PC before connecting the USB-RS485. To do so, run the provided file *CDM v2.08.30 WHQL Certified.exe* and follow instructions.

2.2.3 As soon as the USB-RS485 Driver is installed on the PC, the group Ports (COM&LPT) of the Device Manager shall include the *USB Serial Port (COMx)* entry where 'x' is the number of the virtual COM port. Right click the entry and select *Properties*; then select *Port Settings*:



Click Advanced:

Advanced Settings for COM4

COM Port Number:

USB Transfer Sizes
Select lower settings to correct performance problems at low baud rates.
Select higher settings for faster performance.

Receive (Bytes):

Transmit (Bytes):

BM Options
Select lower settings to correct response problems.

Latency Timer (msec):

Timeouts

Minimum Read Timeout (msec):

Minimum Write Timeout (msec):

Miscellaneous Options

Serial Enumerator ☒

Serial Printer ☐

Cancel If Power Off ☐

Event On Surprise Removal ☐

Set RTS On Close ☐

Disable Modem Ctrl At Startup ☐

OK Cancel Defaults

In the Advanced Settings window you can change the number of the COM-port, if you need. Set *Receive* and *Transmit* to 256 and *Latency Timer* to 1 msec. Click OK to save changed settings. The USB-RS485 is ready to operate.

2.2.4 Indicator Operation. Indicator's lighting means receiving/transmitting signals via RS-485 interface bus.



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