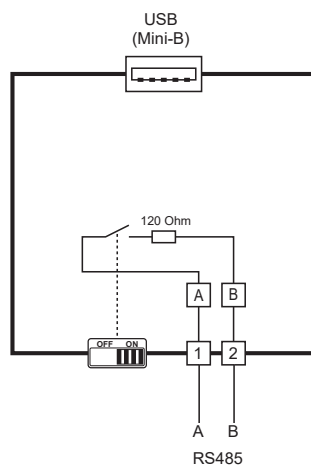Gateway USB/RS485

Order number: 900228.003

As of: 13.06.2023

Wiring diagram

Product description

With the help of the USB / RS485 gateway it is possible to convert the corresponding signal levels from USB (0 ... 5V) to RS485 level (20mA).
Often the response speed of the RS485 node is too fast, so that data packets are lost. The conversion is therefore buffered so that the PC operating system has enough time to switch its COM interface to "Receive".

Furthermore, the signal conversion is galvanically decoupled, so that electronic devices such as notebooks can be connected to other devices without danger.

Housing dimensions: approx. 102 x 55 x 20 mm

Meaning of the display LEDs:

LED 1: "RXD" green
This LED shows the receiving activity of the PC, i.e. data is sent from the gateway to the PC.

LED 2: "TXD" green
This LED indicates the sending activity of the PC, i.e. data is sent from the PC to the gateway (or the DTE).

LED 3: "POWER" yellow
This LED indicates the operational readiness or the presence of a sufficient supply voltage.
In addition, this LED is used to display a flashing code in the event of an error. (see below)

Connecting the gateway to the PC

The gateway can be connected directly to a PC or notebook using the supplied USB cable.

Connection of the gateway to the RS485 network

If the gateway is used as a termination device (e.g. when used with only one RS485 node), the selector switch must be in position "ON". This switches on an internal 120Ω resistor for bus termination. If the gateway is used as a bus participant in a network (line topology) and is not the terminal device, the slide switch must be in position "OFF".

Description of function

The function of the coupler is as follows:

If data arrive from the PC, an internal receive buffer is filled with 16Byte. If the receive buffer is full, the data is forwarded to the RS485 side with a delay.
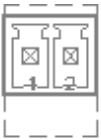
Data from RS485 are forwarded to the PC without delay.

If errors occur during data transmission (e.g. CRC errors), these are displayed as a flashing code.

Display modes of the POWER-LED

POWER LED	Meaning
'POWER'-LED flashes quickly	Permanent CRC error in 16Byte data packet from RS232
'POWER'-LED flashes slowly	Permanent CRC error in 16Byte data packet from RS485
'POWER'-LED permanently on	Supply ok, normal operation

Connections	RS485, ST-Bus, 2-pole USB connector, Type B
Pin assignment	RS 485 2 pole 1 Net A 2 Net B
Power supply	5V DC via USB connection Power consumption at max. 100mA
Environmental conditions	Storage temperature -20°C ... +70°C Operating temperature 0...70°C Relative humidity max. 75% r.h., no condensation
Weight	ca. 70 g
Protection	IP00
Dimensions	(Length x width x height): approx. 102 mm x 55 mm x 20 mm