

USB-RS485 Converter

Overview

With the IC4 USB-RS485 bidirectional adapter you can create an extra serial port on a notebook or PC and connect a serial device through a free USB port. It provides reliable galvanic isolation between the interfaces. The device is powered directly through the USB port.

Driver installation

When an Internet connection is available, the driver is automatically installed when you first connect the device to the PC.

If the device should be connected to a PC without internet connection, the driver must be installed on the PC before the device connection. The latest version of the driver is available for download at www.akytec.de. Execute the installation file and follow the instructions.

The connection appears in the Device Manager as a virtual COM port "CP2104 USB to UART Bridge Controller". The driver runs under:

- Windows XP/Vista/7/8/8.1/10
- Linux 2.6.x/3.x.x
- Mac OSX

Technical data

Table 1

Power supply	over USB (5 V)
Power consumption, max.	0.5 W
Galvanic isolation	1500 V
USB interface	
Specification	USB 2.0
Baud rate	up to 115.2 kbit/s
Cable length, max.	3 m
RS485 interface	
Specification	TIA/EIA-485
Terminals	D+, D-
Number of devices in the network, max.	32
Cable length, max.	1200 m
Dimensions	36 x 93 x 57 mm
Weight	approx. 65 g

Environmental conditions

The device is designed for natural convection cooling that should be taken into account when choosing the installation site.

The following environment conditions must be observed:

- clean, dry and controlled environment, low dust level
- closed non-hazardous areas, free of corrosive or flammable gases

Table 2 Environmental conditions

Condition	Permissible range
Ambient temperature	-20...+75°C
Storage temperature	-25...+55°C
Relative humidity	up to 80% (at +25°C, non-condensing)
Altitude	up to 2000 m above sea level
IP code	IP20
Protection class	III

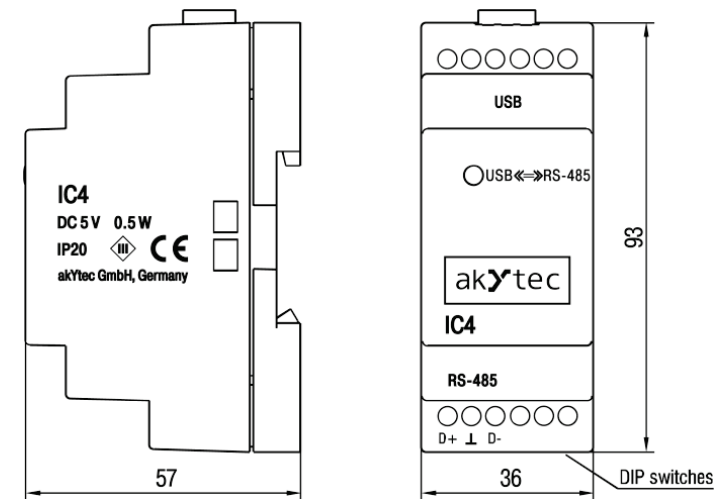


Fig. 1 Dimensions

USB-RS485 Converter

Control elements

Front side:

- LED „USB <=>> RS-485“ - status indication (see Table 3)

Upper side:

- USB interface





Lower side:

- RS485 terminals (see Fig. 2)
- DIP switches - selection of a built-in terminating resistors (see Table 4)

Table 3 LED status indicator

LED	Description
ON	Power supply OK
OFF	Power supply too low or no power supply
flashing	Data exchange

Table 4 DIP switches

Position *	Terminating resistor	Position *	Terminating resistor
	not connected		120 ohm ±5%
	620 ohm ±5%		100 ohm ±5%

* White – switch position

Installation

The device is designed in a plastic enclosure for DIN rail mounting (see Fig. 1).

The device should be connected according to the diagram shown in the Fig. 2:

- Connect the USB port of the converter with the USB port of the PC
- Connect the RS485 terminals of the converter with the RS485 terminals of the Slave device
- Twisted pair cable should be used for the connection to the RS485 network

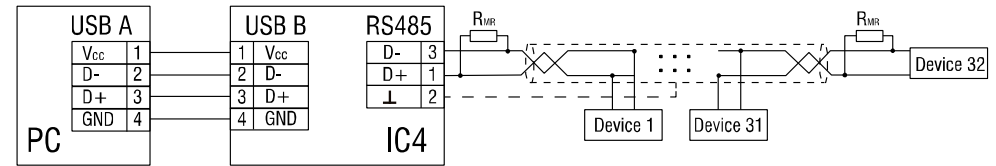


Fig. 2 Wiring

Maintenance

The maintenance includes:

- cleaning of the housing and terminal blocks from dust, dirt and debris
- checking the fastening of the device
- checking the wiring (connecting leads, fastenings, mechanical damage)

The device should be cleaned with a damp cloth only. No abrasives or solvent-containing cleaners may be used. When carrying out maintenance the safety information must be observed.

Transport and storage

Pack the device in such a way as to protect it reliably against impact for storage and transportation. The original packaging provides optimum protection.

If the device is not taken immediately after delivery into operation, it must be carefully stored at a protected location. The device should not be stored in an atmosphere with chemically active substances.

Scope of delivery

- IC4 1
- USB cable 1
- User guide 1