

CNVT-USB-RS485 | MODBUS TO USB CONVERTER

Operating instructions

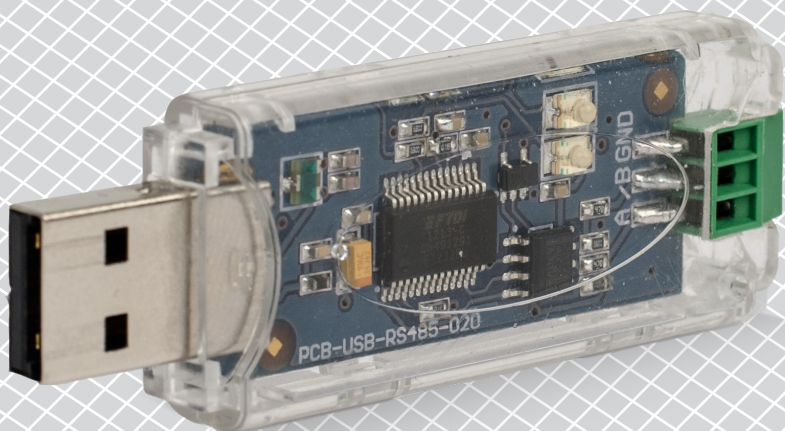


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SAFETY AND PRECAUTIONS



Read all the information, the datasheet, mounting and operating instructions and study the wiring and connection diagram before working with the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the contents before installing, using, or maintaining this product.



For safety and licensing (CE) reasons, unauthorised conversion and /or modifications of the product are inadmissible.



The product should not be exposed to abnormal conditions, such as: extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible; avoid condensation.



All installations shall comply with local health and safety regulations and local electrical standards and approved codes. This product can only be installed by an engineer or a technician who has expert knowledge of the product and safety precautions.



Avoid contacts with energised electrical parts; always treat the product as if it is live. Always disconnect the power supply before connecting, servicing or repairing the product.



Always verify that you apply appropriate power supply to the product and use appropriate wire size and characteristics. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.



Recycling of equipment and packaging should be taken into consideration and these should be disposed of in accordance with local and national legislation / regulations.



In case there are any questions that are not answered, please contact our technical support or consult a professional.

PRODUCT DESCRIPTION

The CNVT-USB-RS485 is a self-powered Modbus RTU (RS485) to USB converter. The Modbus RTU serial information is automatically converted to serial information on a USB virtual COM port in both transmitted and received communication.

INTENDED AREA OF USE

- To connect any Sentera device with Modbus RTU communication to a computer
- To connect Sentera devices to the 3SModbus software suite for monitoring and configuration
- For indoor use only!

TECHNICAL DATA

- Easy plug & play installation
- LED indication for receiving and transmitting signals
- Integrated terminal block
- Compatible with USB 1.1 and 2.0
- Installs as a standard Windows COM port
- Supply: USB powered
- Input: USB Type A
- Output: Modbus RTU (RS485) A, /B and GND
- Protection class: IP30
- Enclosure: polycarbonate, colour: transparent
- Operating ambient conditions:
 - ▶ temperature range: 0—50 °C
 - ▶ rel. humidity: 5—85 % rH (non-condensing)
- Storage temperature: -10—60 °C

STANDARDS

- Low Voltage Directive 2014/35/EC
- EMC Directive 2014/30/EC: EN 61000-6-2: 2005/AC:2005, EN 61000-6-3:2007/A1:2011/AC: 2012, EN 61326-2-3:2013
- WEEE Directive 2012/19/EC
- RoHs Directive 2011/65/EC



WIRING AND CONNECTIONS

Connections	
A	RS485 signal A
/B	RS485 signal /B
GND	Ground



NOTE

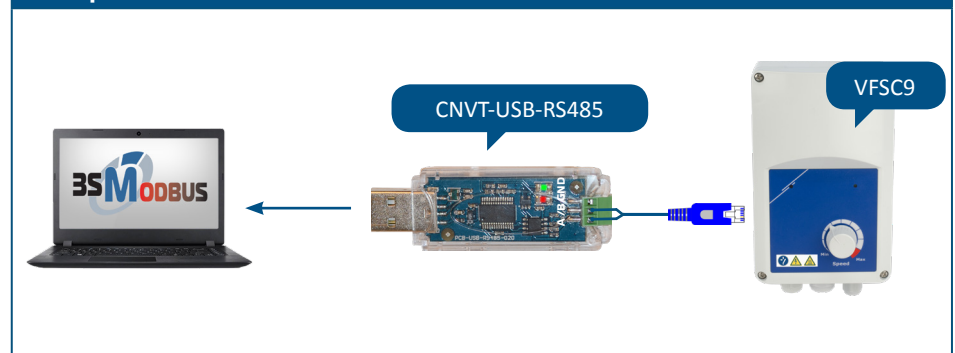
The GND terminal should NOT be used! Connecting equipment with a GND that is not common with your computer's GND will damage your USB port. Therefore it is strongly recommend NOT to use the GND terminal.

OPERATING INSTRUCTIONS

Before you start connecting the CNVT-USB-RS485, read carefully **"Safety and Precautions"**. Then follow these steps:

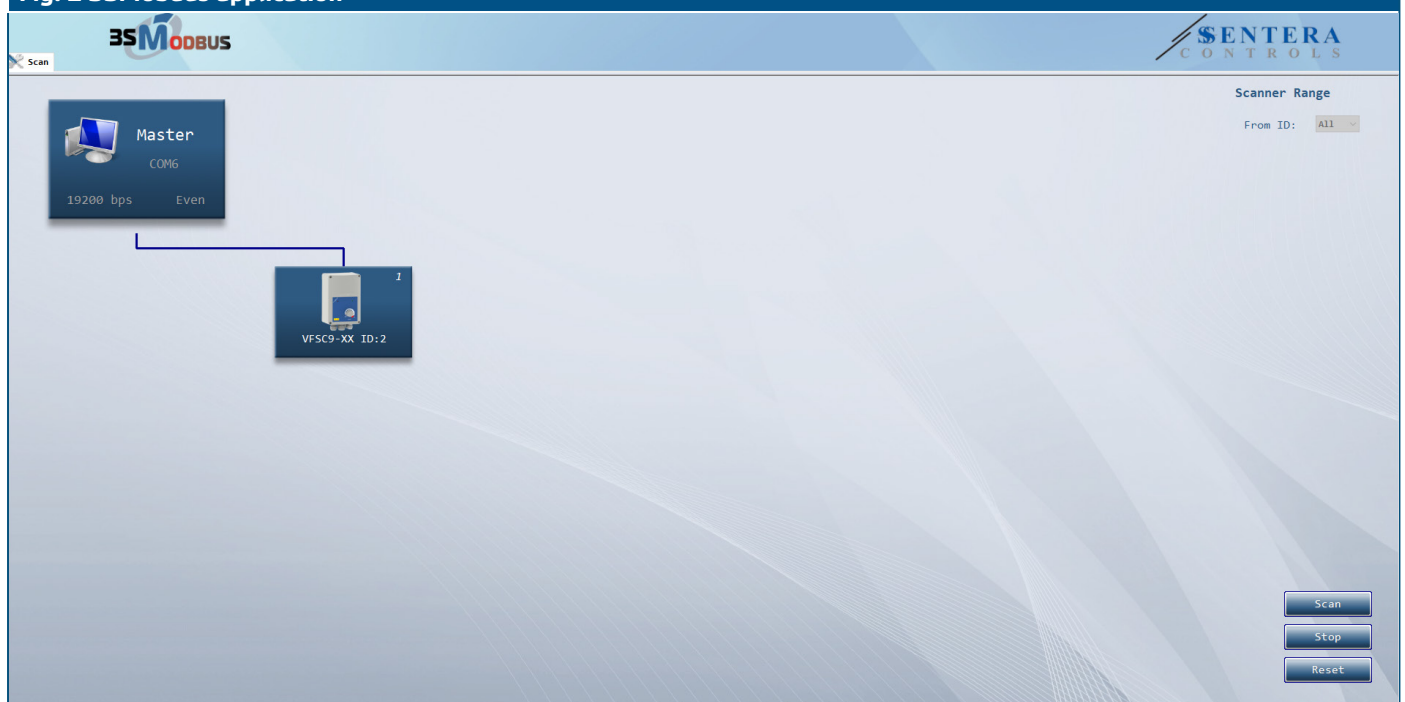
1. Before you start using the CNVT-USB-RS485 converter, you need to download the free 3SM Center application from Sentera's website: <https://www.sentera.eu/3SMCenter/Index/eng> and install it on your computer.
2. Connect the A signal of the 3SModbus device to the A terminal of the CNVT-USB-RS485..
3. Connect the /B signal of the 3SModbus device(s) to the /B terminal of the CNVT-USB-RS485.
4. Plug the converter into the USB port of your computer. It will be recognised and installed automatically once the connections are complete (see **Fig. 1**).

Fig. 1 Example of connecting Sentera's VFSC9 electronic fan speed controller to a computer via CNVT-USB-RS485



5. Connect the 3SModbus device(s) which will be monitored and / or configured to the power supply network.
6. Start the 3SM Center Software Suite and click on the 3SModbus application button. Once you start the application, the computer will scan and automatically recognize the connected device (see **Fig. 2**).

Fig. 2 3SMobdus application



VERIFICATION OF INSTALLATION

- After the communication between the computer and the 3SModbus device(s) has been established, the LEDs on the PCB of the converter should blink - the red LED indicates that packages are received and the green indicates that packages are transmitted via Modbus RTU. If this is not the case, check the connections.

Fig. 3 Modbus communication indication



TRANSPORT AND STORAGE

Avoid shocks and extreme conditions. Stock in original packing.

WARRANTY AND RESTRICTIONS

Two years from the delivery date against defects in manufacturing. Any modifications or alterations to the product after the date of publication relieve the manufacturer of any responsibilities. The manufacturer bears no responsibility for any misprints or mistakes in this data.

MAINTENANCE

In normal conditions these controllers are maintenance-free. If soiled, clean with a dry or damp cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances, the unit should be disconnected from the main supply. Pay attention that no fluids enter the unit. Only reconnect the controller to the main supply when it is completely dry.