

Si Modbus Configurator 0.n - Documentation

1 Introduction

Si Modbus Configurator 0.n is a software tool to set the MODBUS parameter and test the communication for the silicon irradiance sensors series Si-RS485 (Si-RS485TC-T, Si-RS485TC-2T, Si-RS485TC-2T-v) and temperature sensors with MODBUS protocol.

1.1 System Requirements

IBM-compatible PC, approx. 160 MB free hard disk space, one free RS485 port, display resolution at least 1024x768, Windows 2000/XP/7 prof.

1.2 Software Installation

For installation of *Si Modbus Configurator 0.n* execute the file *setup.exe* of the *Si Modbus Configurator 0.n* installation CD-ROM and follow the instructions.

If the LabVIEW RunTimeEngine 2012 not exists, it will be installed on your system.

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1.3 Hardware Installation

The PC system must have a RS485 port installed as a serial COM port. Therefore several RS232-to-RS485- and USB-to-RS485-adapter are available.

Recommended hardware:

Isolated USB-RS485 adapter, Vendor ICPCON, Type I-7561

Non-Isolated USB-RS485 adapter, Vendor DIGITUS, Type DA-70157

Connect the sensor to the RS485-bus and to a power supply (12...28 Vdc).

It is not allowed to drive more than one sensor on the bus during configuration. In case than more than one sensor is installed on the bus system, disconnect bus lines or power supply lines of the sensors that does not need to be configured.

2 Using Si Modbus Configurator 0.n

After starting *Si Modbus Configurator 0.n* the following screen appears

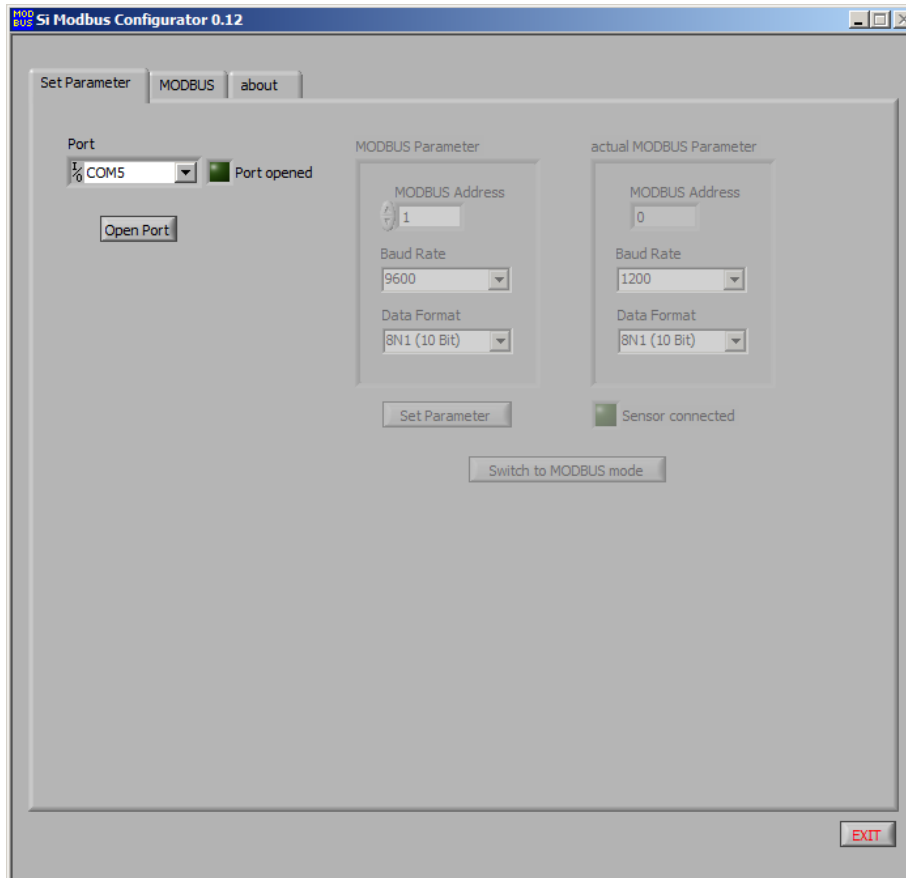


Fig. 1: Open COM Port

At first select the COM port the Si-RS485 sensor is connected to and press “Open Port”. If the port is opened successfully, the green LED “Port opened” lights on. If the LED stays off make sure that the port exists and no other application does access to the selected port.

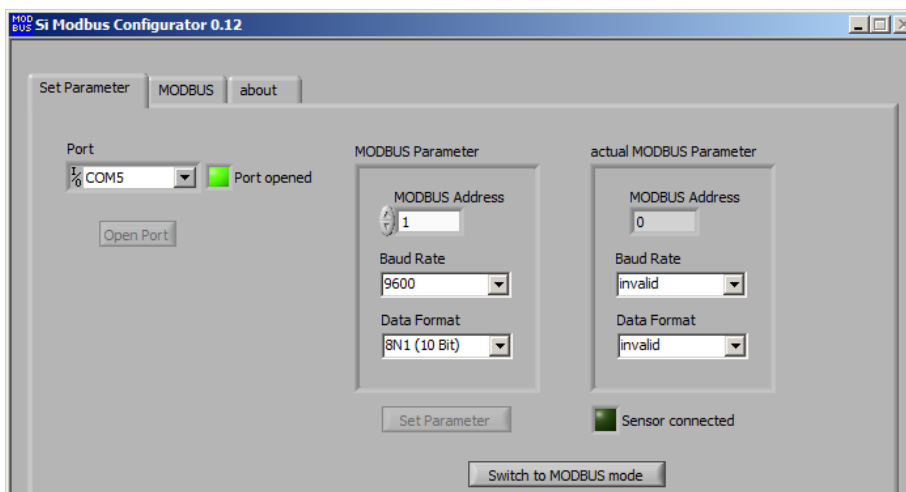


Fig. 2: COM Port opened

The *Si Modbus Configurator 0.n* tries automatically to connect to the Si-RS485. Therefore the Si-RS485 has to be in configuration mode. As the Si-RS485 stays in configuration mode for 4 seconds after power on you may have to reset the Si-RS485 to establish the connection (switch power supply of Si-RS485 off and on). If the connection is established the green LED “Sensor connected” lights on and the actual MODBUS parameter are read from the Si-RS485.

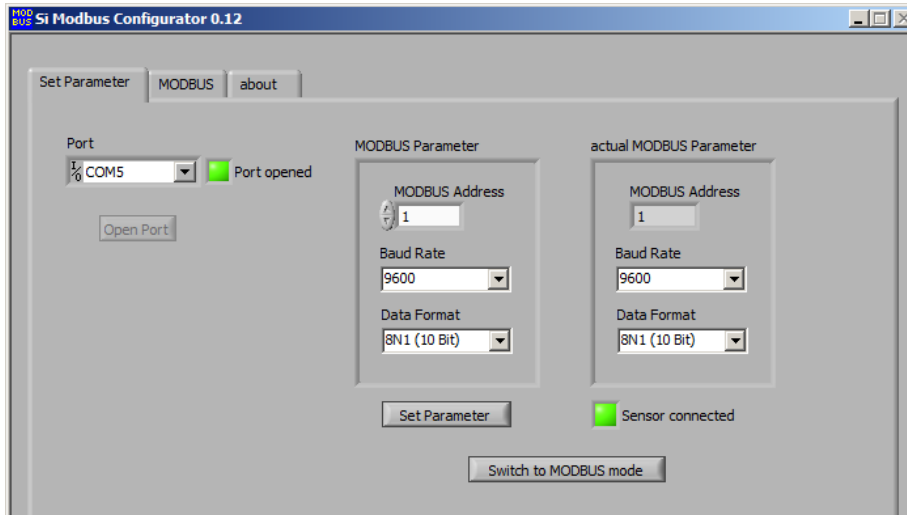


Fig. 3: Sensor connected

To change the MODBUS parameter (MODBUS address, baud rate and data format) select the required setting in “MODBUS Parameter” and press “Set Parameter”.

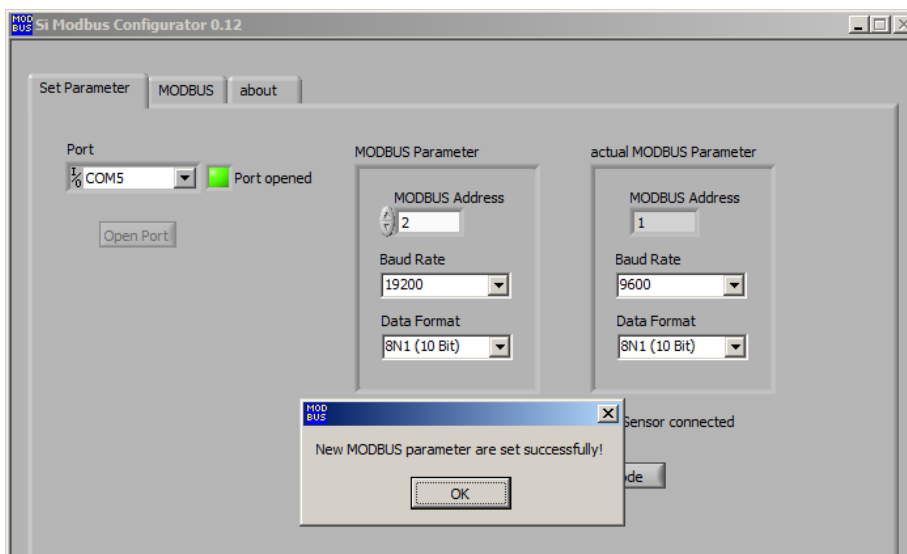


Fig. 4: Set MODBUS parameter

If needed, you can change to MODBUS communication by pressing “Switch to MODBUS mode”. *Si Modbus Configurator 0.n* re-opens the COM port with the actual bus parameter of the Si-RS485 and Changes to MODBUS communication.

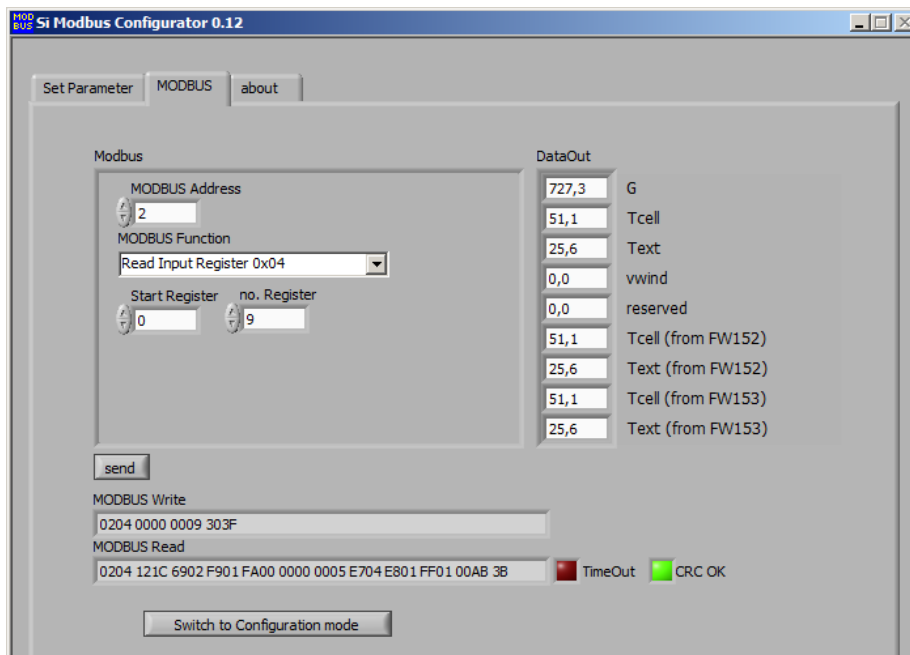


Fig 5: MODBUS communication

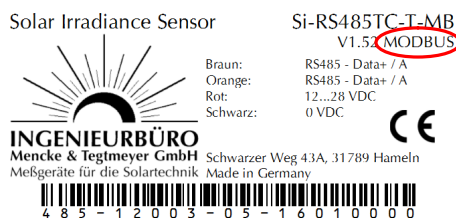
Select the required MODBUS function and press “Send”. *Si Modbus Configurator 0.n* sends the MODBUS command to Si-RS485 and reads the response.

By pressing “Switch to Configuration Mode”, *Si Modbus Configurator 0.n* changes back to configuration mode. For setting the Si-RS485 to configuration mode you have to reset the Si-RS485.

2.1 Trouble Shooting

In case that you cannot establish a connection to sensor, please check:

- Is the sensor connected to a power supply (12...28 dc)?
- Is the sensor connected to RS485 port or RS485 converter correct (data+ and data- not mismatched)?
- Are the hardware drivers of your RS485 converter installed correct? The RS485 port must appear as a COM port at you operating system.
- Did you select the correct COM port?
- Is your Si-RS485 sensor delivered with MODBUS protocol (see sensor label)?



- Is the sensor set to configuration mode (switch OFF and ON again during software is waiting for connection)?
- Do you use one of the recommended RS485 adapters (see cap. 1.3)? If not, make sure that your RS485 adapter works properly with Si-RS485 sensors.