

Modbus templates for Solar SMS 32CH RS485

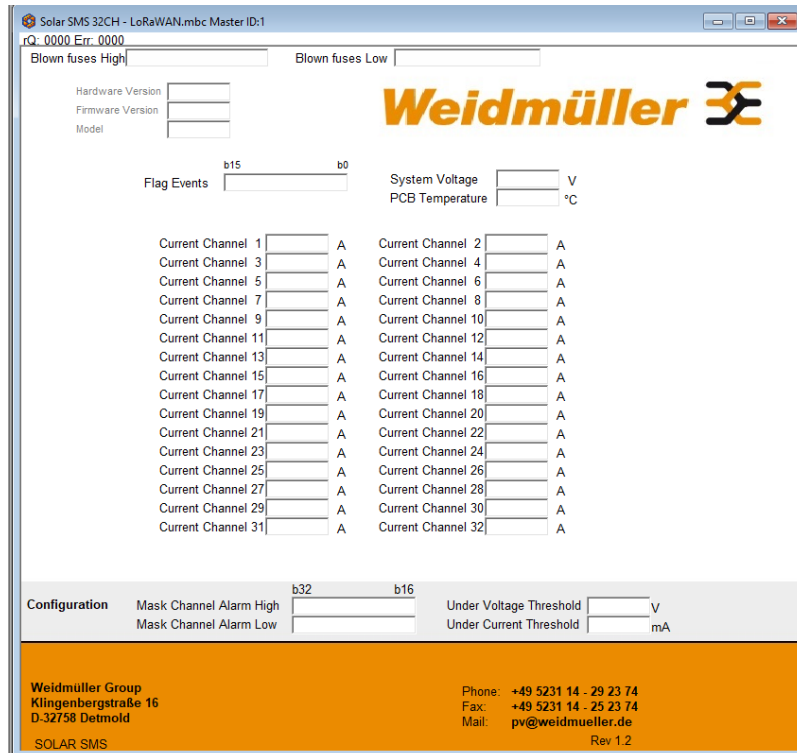
This document provides guidance on how to use the available Modbus templates and how to adjust them when necessary.

Within the Solar SMS – 32CH Modbus Templates folder, you will find the resources MBReader Templates and the MBpoll Templates for **RS485 Solar SMS version**.

The MBReader and MBpoll templates are ready for direct use.

1. MBReader template

The MBReader template is the most intuitive option. Below is an image showing the appearance of the Modbus template.




Solar SMS 32CH - LoRaWAN.mbc Master ID:1

rQ: 0000 Err: 0000

Blown fuses High Blown fuses Low

Hardware Version
Firmware Version
Model

Weidmüller 

Flag Events b15 b0

System Voltage V
PCB Temperature °C

Current Channel 1	<input type="text"/>	A
Current Channel 3	<input type="text"/>	A
Current Channel 5	<input type="text"/>	A
Current Channel 7	<input type="text"/>	A
Current Channel 9	<input type="text"/>	A
Current Channel 11	<input type="text"/>	A
Current Channel 13	<input type="text"/>	A
Current Channel 15	<input type="text"/>	A
Current Channel 17	<input type="text"/>	A
Current Channel 19	<input type="text"/>	A
Current Channel 21	<input type="text"/>	A
Current Channel 23	<input type="text"/>	A
Current Channel 25	<input type="text"/>	A
Current Channel 27	<input type="text"/>	A
Current Channel 29	<input type="text"/>	A
Current Channel 31	<input type="text"/>	A
Current Channel 2	<input type="text"/>	A
Current Channel 4	<input type="text"/>	A
Current Channel 6	<input type="text"/>	A
Current Channel 8	<input type="text"/>	A
Current Channel 10	<input type="text"/>	A
Current Channel 12	<input type="text"/>	A
Current Channel 14	<input type="text"/>	A
Current Channel 16	<input type="text"/>	A
Current Channel 18	<input type="text"/>	A
Current Channel 20	<input type="text"/>	A
Current Channel 22	<input type="text"/>	A
Current Channel 24	<input type="text"/>	A
Current Channel 26	<input type="text"/>	A
Current Channel 28	<input type="text"/>	A
Current Channel 30	<input type="text"/>	A
Current Channel 32	<input type="text"/>	A

Configuration Mask Channel Alarm High b32 b16
Mask Channel Alarm Low

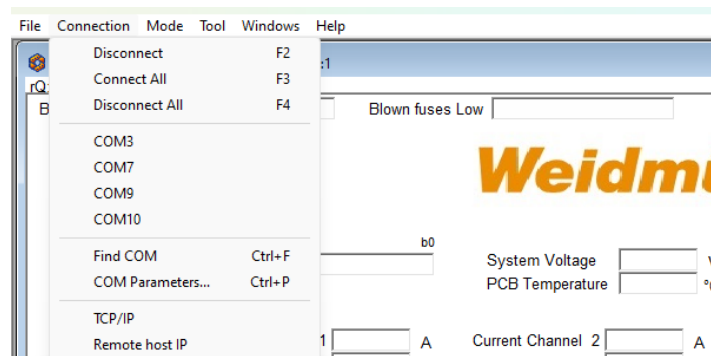
Under Voltage Threshold V
Under Current Threshold mA

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SOLAR SMS Rev 1.2

Communication can be established between MBReader and a Modbus device using Serial (COM Ports) and TCP/IP. Using the Connection menu located in the top toolbar, shown in the following image, you can configure and start the communication.

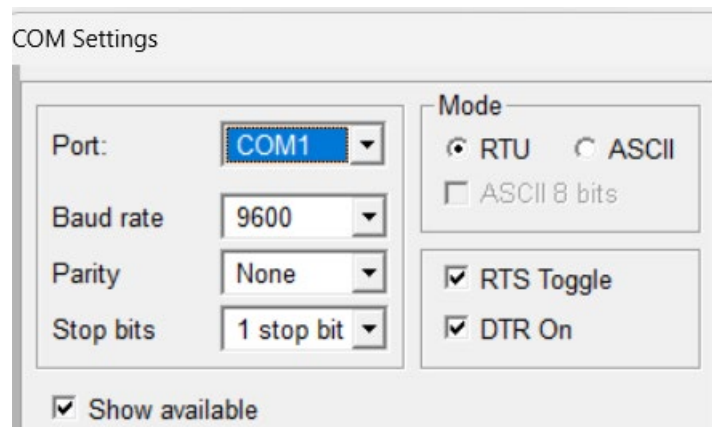


1.1. Serial Communications

When communication is performed through a serial interface, the operator must select the appropriate COM port from the list displayed in the Connection menu. The software automatically enumerates all available ports (e.g., COM3, COM7, COM9, COM10).

If the correct port is not known, the operator may use the Find COM function to scan and identify active serial interfaces.

Communication parameters (baud rate, data bits, stop bits, and parity) can be configured via COM Parameters. These settings must match those specified by the target Modbus slave device, shown below.



1.2. TCP/IP Communications

If the Modbus device communicates over Ethernet, the operator must select the TCP/IP option within the Connection menu.

When required, the target device's IP address may be set manually using the Remote host IP option. The default port for Modbus TCP communication is 502, unless otherwise specified by the device manufacturer.

1.3. Establishing the Connection

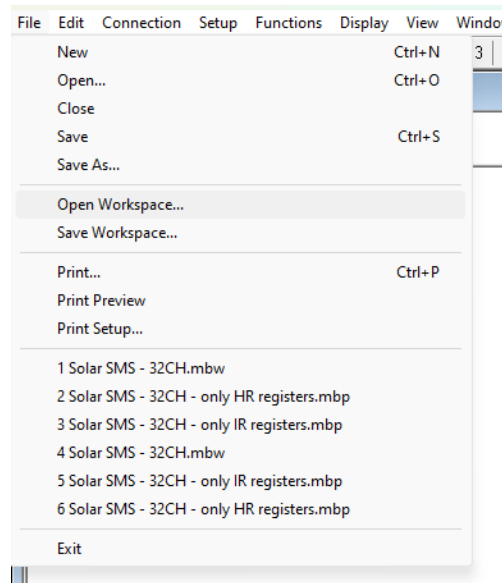
After selecting the communication interface and applying the corresponding configuration, the operator must execute the Connect command from the Connection menu. Once the connection has been established, MBReader will begin updating register values in real time.

Successful communication is confirmed by the absence of timeout or communication error indicators. If communication cannot be established, the operator should verify the selected interface, configuration parameters, device addressing, physical connections, and any potential interference from other applications using the same port.

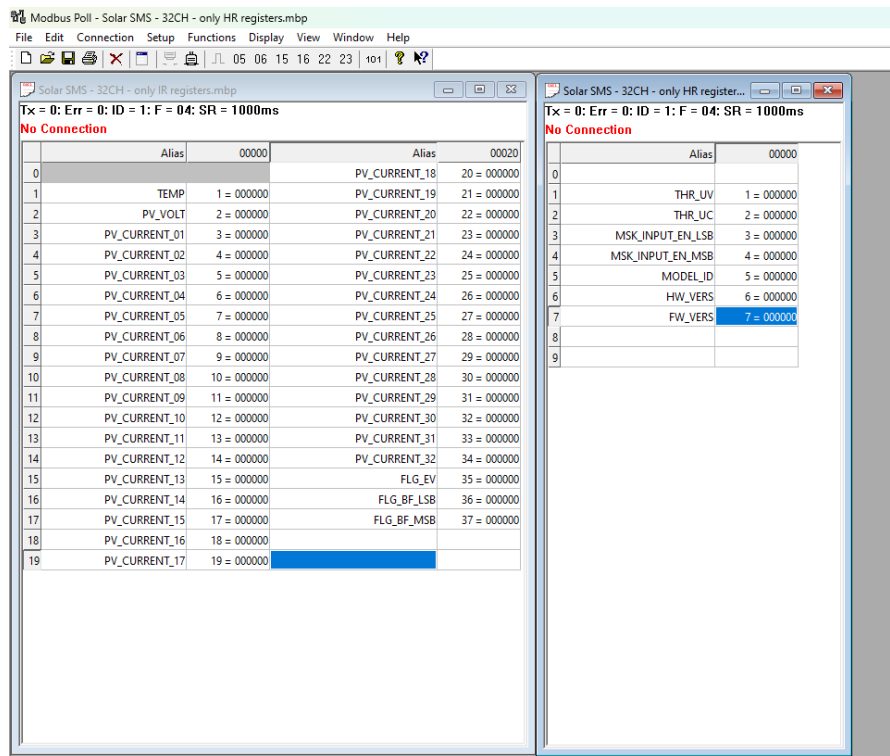
2. MBpoll template

MBpoll does not support the visualization of IR and HR registers in the same window. That is why in the **resources** folder you will find two *.mbp files, the IR registers template and the HR registers template. They can be used simultaneously in the same workspace if you open both (File > Open).

To directly open the two windows, you can use the file **Solar SMS - 32CH - RS485.mbw** which opens a workspace with the two windows already selected. To do so, you must click File > Open Workspace (as shown below) and select the file mentioned.



If the workspace loads correctly, the application window will display the following elements:

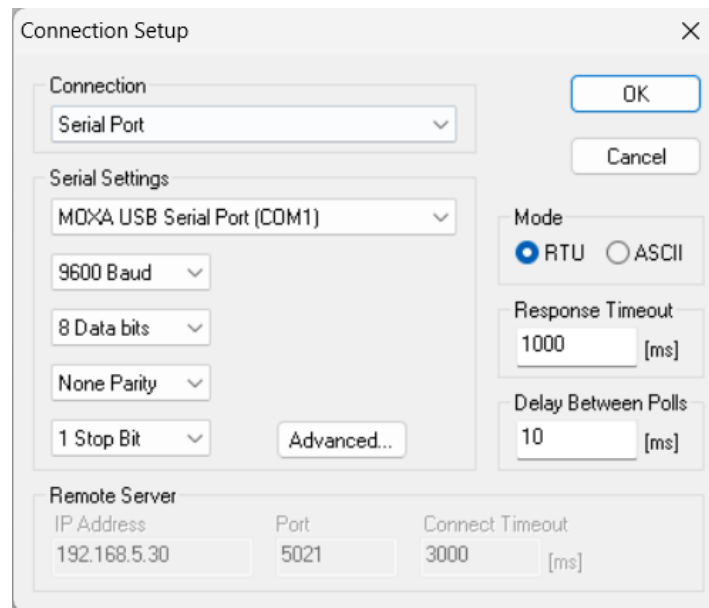


Otherwise, if resources folder is moved or becomes corrupted, MBpoll will be unable to locate the two files required to load the workspace, resulting in an error message. In such cases, the workspace cannot be opened automatically, and each .mbp file stored in the resources folder must be opened manually.

2.1. Connection Setup

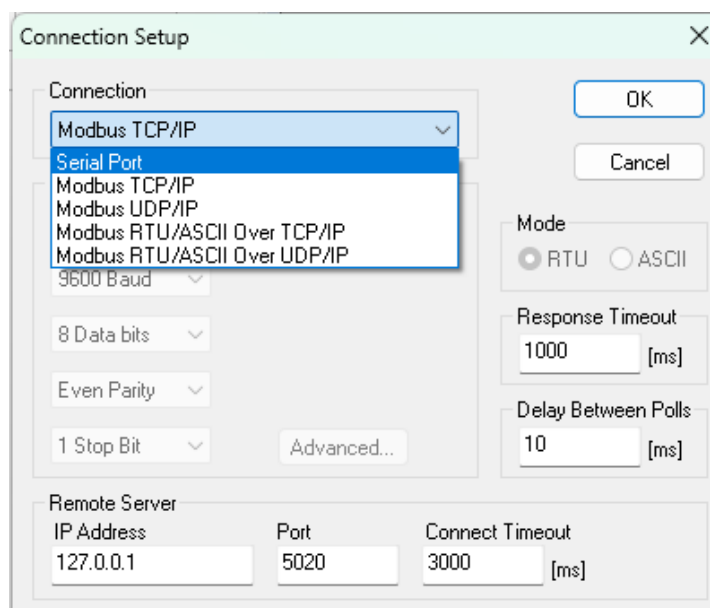
From the top menu bar, select the Connection tab and then click Connect. The configuration window shown in the following image will appear. In this window, the communication parameters must be configured accordingly.

For **Serial Communications** configure it as shown in the following image.



The image shows the 'Connection Setup' dialog box with the 'Serial Port' connection type selected. The 'Serial Settings' section is configured with 'MOXA USB Serial Port (COM1)', '9600 Baud', '8 Data bits', 'None Parity', and '1 Stop Bit'. The 'Mode' is set to 'RTU'. The 'Response Timeout' is 1000 [ms] and the 'Delay Between Polls' is 10 [ms]. The 'Remote Server' section shows 'IP Address' as 192.168.5.30, 'Port' as 5021, and 'Connect Timeout' as 3000 [ms].

For **TCP/IP communications**, simply configure the appropriate **IP address** and **Port**.



The image shows the 'Connection Setup' dialog box with the 'Modbus TCP/IP' connection type selected. The 'Serial Settings' section is configured with '9600 Baud', '8 Data bits', 'Even Parity', and '1 Stop Bit'. The 'Mode' is set to 'RTU'. The 'Response Timeout' is 1000 [ms] and the 'Delay Between Polls' is 10 [ms]. The 'Remote Server' section shows 'IP Address' as 127.0.0.1, 'Port' as 5020, and 'Connect Timeout' as 3000 [ms].