



SMARTFOX

ENERGY METER 3-ph

Drehstromzähler (80A) mit RS485 & S0 Schnittstelle

Integration of SMARTFOX Energy Meter

The following instructions explain how to connect and parameterise the SMARTFOX Energy Meter with the SMARTFOX Pro system.

To create a comprehensive building monitoring system, the meter can be connected to the SMARTFOX Pro via RS485 (Modbus RTU) or S0 interface. In this way, generation systems (PV inverters, hydroelectric power plants...) as well as consumers (heat pumps, charging stations, flats...) can be connected to the my.smartfox.at monitoring system.

Items needed:

- SMARTFOX Pro / Pro 2 inkl. Stromwandler 80A
Softwarestand EM2 00.01.03.18 oder höher (Pro)
Softwarestand EM3 00.01.03.18 oder höher (Pro 2)
Art. Nr. 0791732486575
Art. Nr. 0767523866383



- SMARTFOX Pro / Pro 2 inkl. Stromwandler 100A
Softwarestand EM2 00.01.03.18 oder höher (Pro)
Softwarestand EM3 00.01.03.18 oder höher (Pro 2)
Art. Nr. 0791732486698
Art. Nr. 0767523866390



"SMARTFOX Energy Meter

Art. No. 0767523866321



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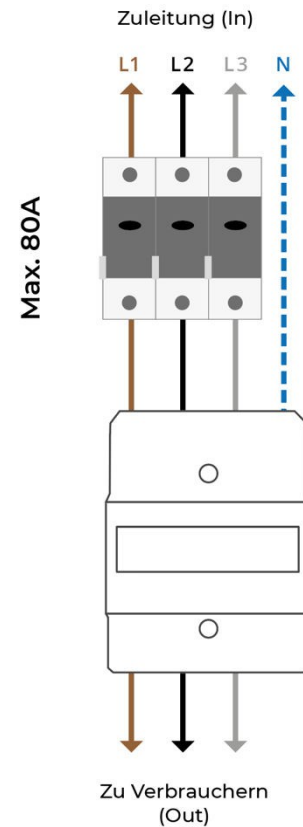
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1 Connection

1.1 AC connection

Connect the phases to be measured L1, L2, L3 & N to the corresponding terminals on the meter (Fig. right).

Pay attention to the input and output side.



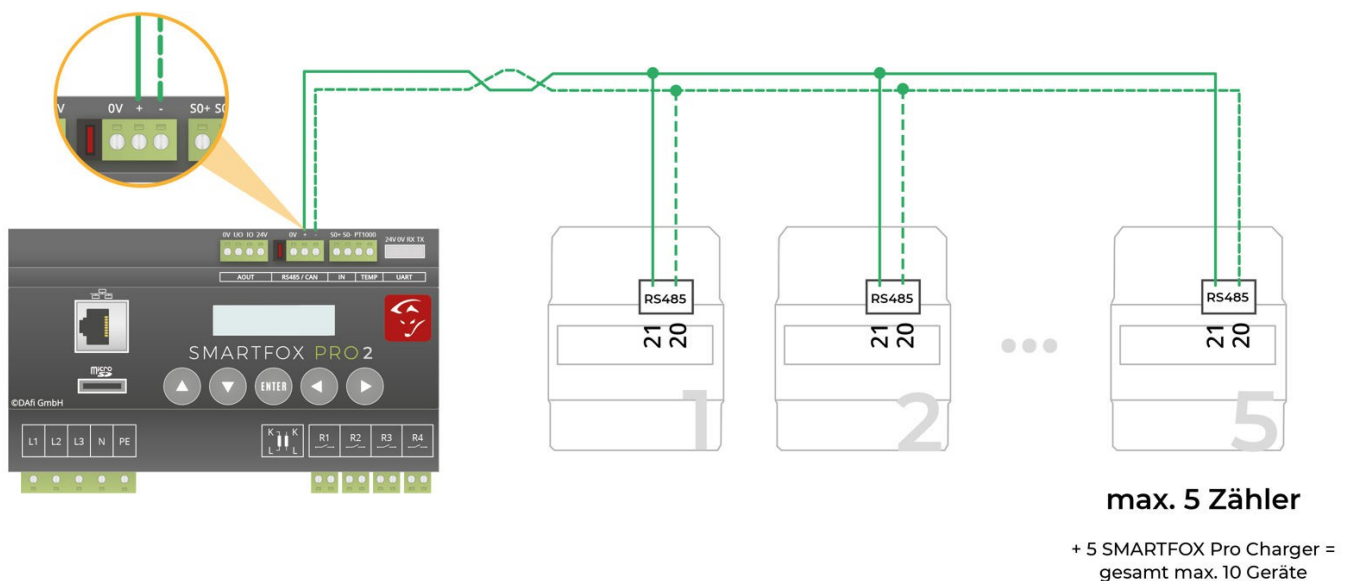
1.2 Communication

Two interfaces are available on the meter for communication (RS485 or S0 signal). In general, the use of the RS485 interface is recommended in order to be able to display the data in real time in the portal.

The S0 signal transmits the energy values in pulses. The corresponding power value is calculated via a minute average.

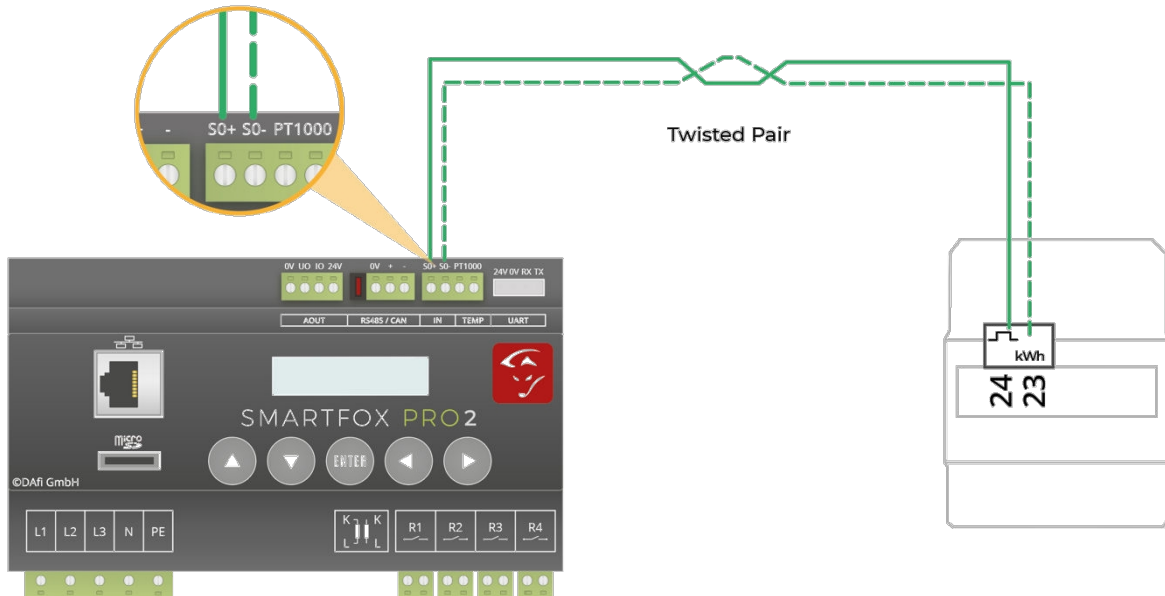
1.2.1 Connection via RS485 (Modbus RTU)

Up to 5 SMARTFOX Energy Meters can be added to the bus. In addition, up to 5 SMARTFOX Pro Chargers can be operated on the same bus (10 devices in total). For this purpose, use a twisted pair of wires of a shielded cable (e.g. CAT6).



1.2.2 Connection via S0 signal

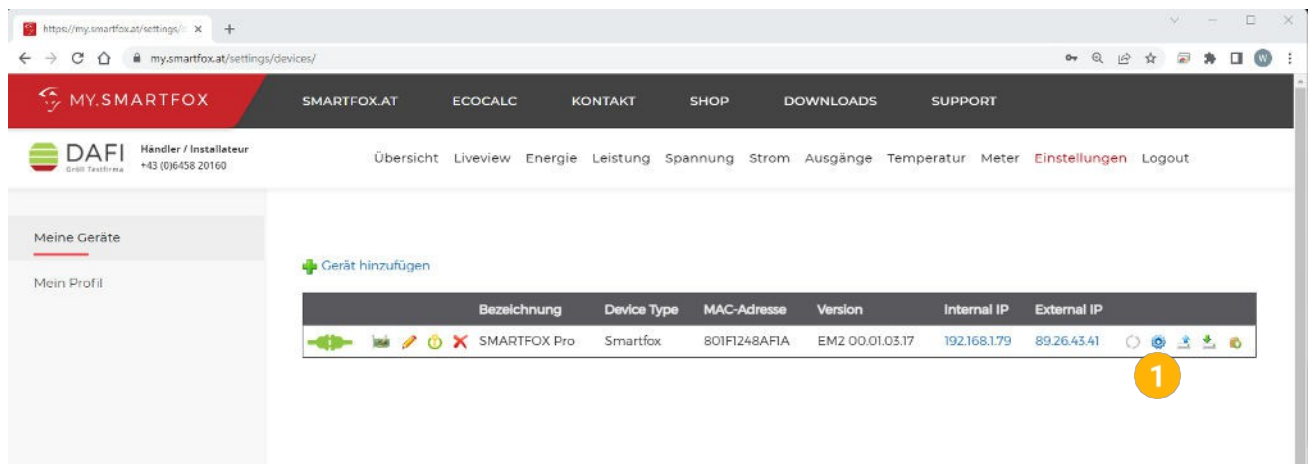
If the RS485 interface of the energy manager is already occupied, a SMARTFOX Energy Meter can be read in via S0 signal. For this purpose, use a twisted pair of wires of a shielded cable (e.g. CAT6).



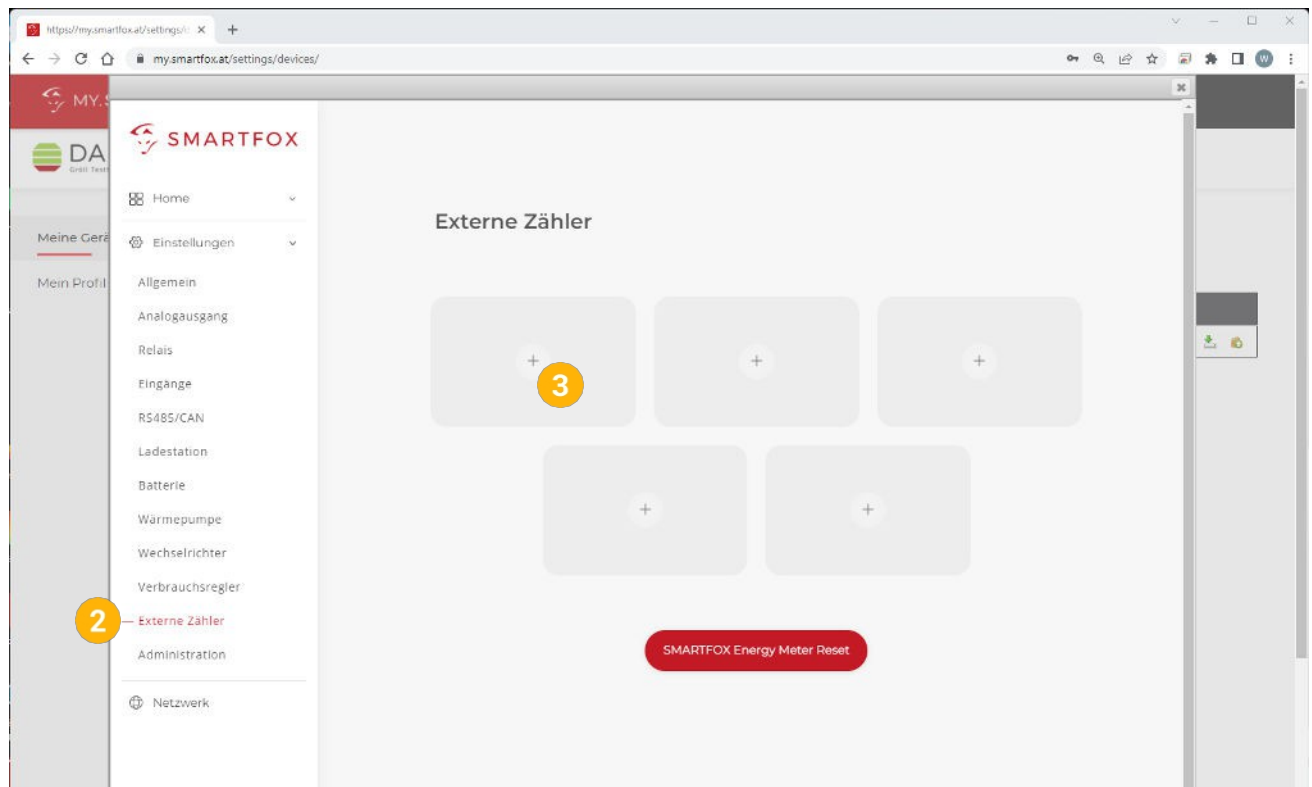
2 Settings on the SMARTFOX Pro (RS485 connection)

1. Call up the web portal "my.smartfox.at" and log in.

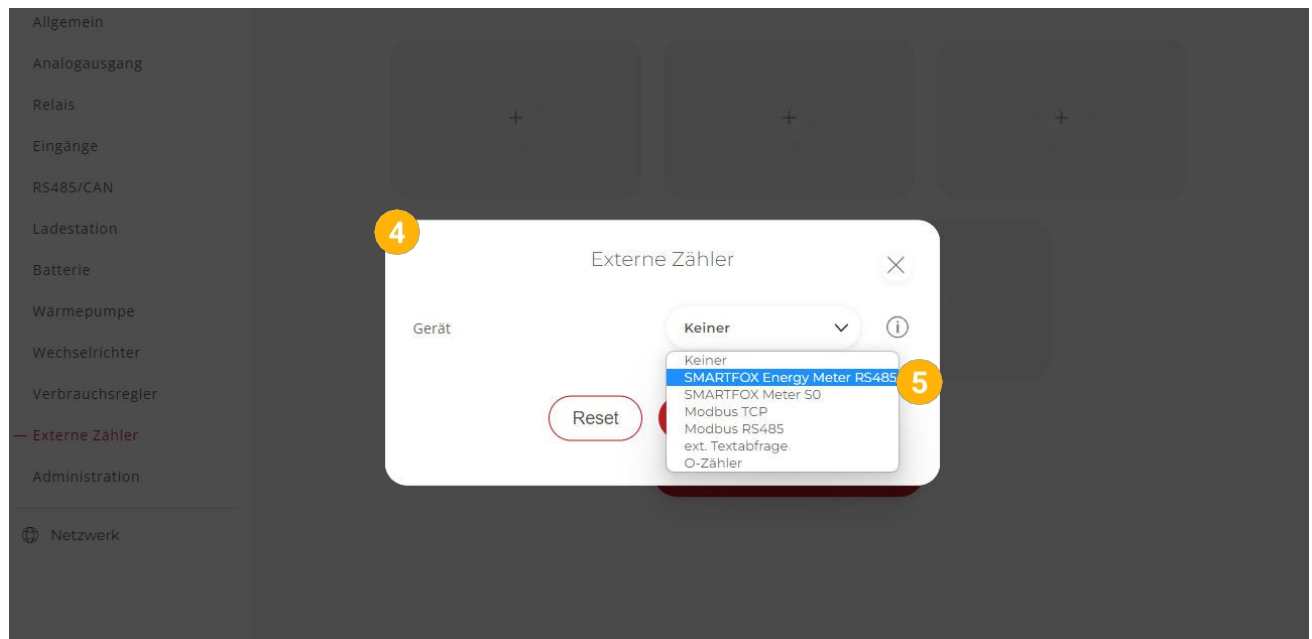
Select the menu "Settings" → "My devices" and open the device parameterisation of the SMARTFOX Pro (cogwheel).



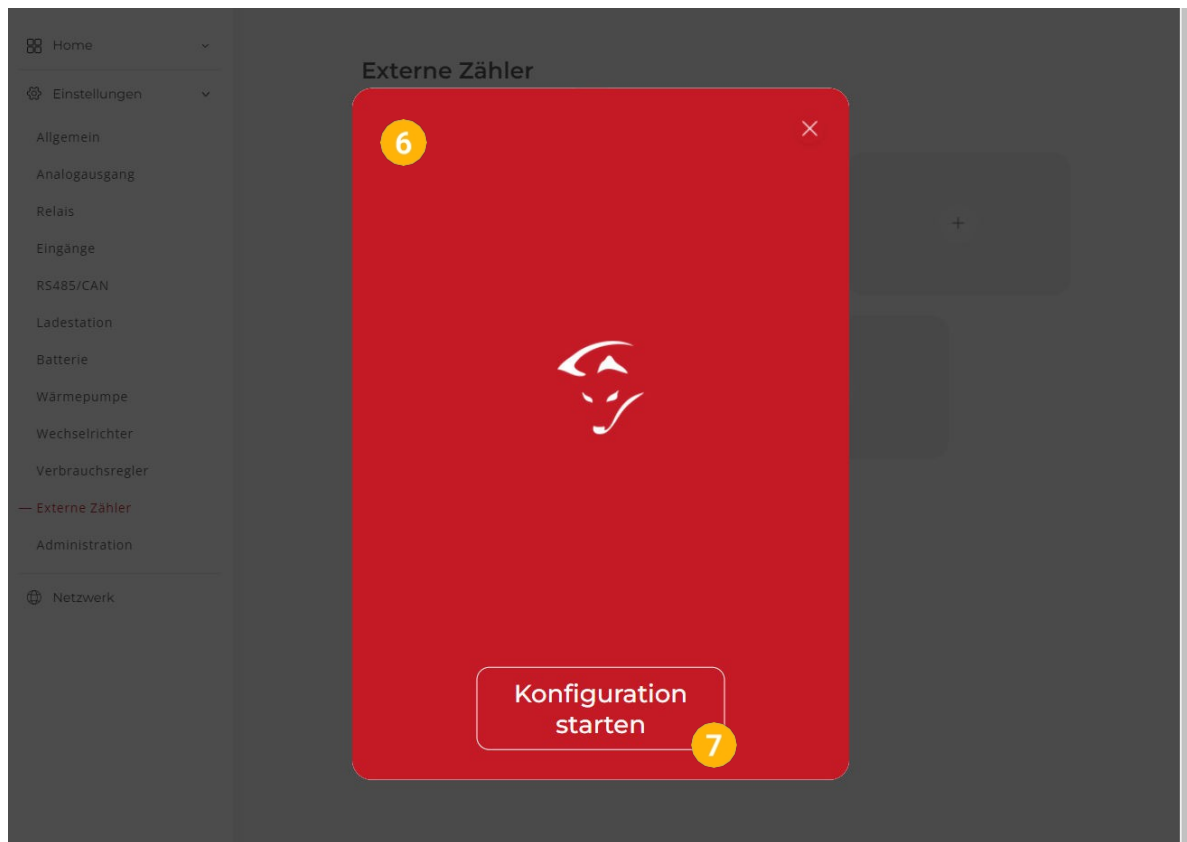
2. Select the submenu "External counters".
3. Select a free field by clicking on it.



4. The pop-up window opens.
5. Select "SMARTFOX Energy Meter RS485" in the drop-down menu.



6. The commissioning wizard is called up.
7. Click on "Start configuration".



8. Enter the current address (ID) of the meter. Factory setting ID=1, no change required.

The counter is automatically assigned a new ID by the configuration. The counter at place 1 receives ID=101, counter 2 ID=102 ... counter 5 ID=105.

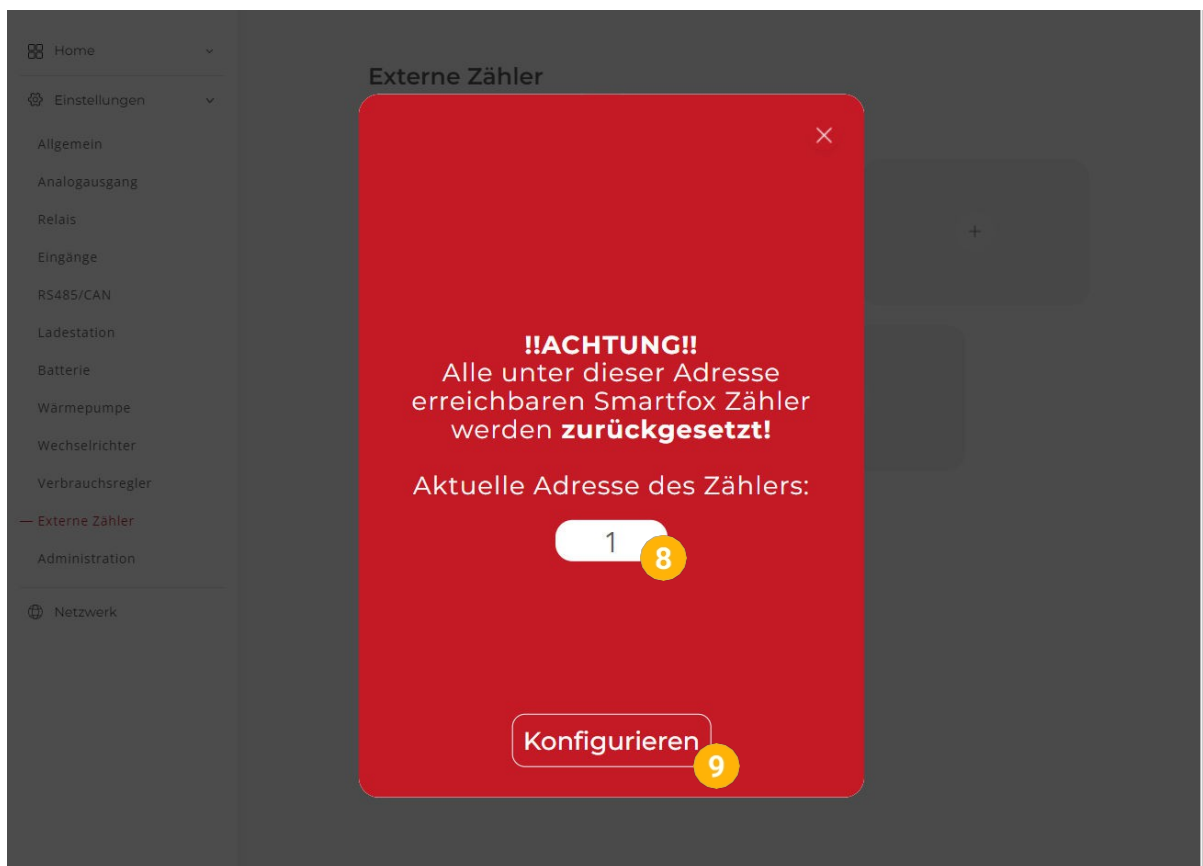
If the meter was already in operation, the current ID can be read on the display. By means of touch-sensitive keys (fig. right: green arrows), you can navigate through the menu until the ID is displayed.



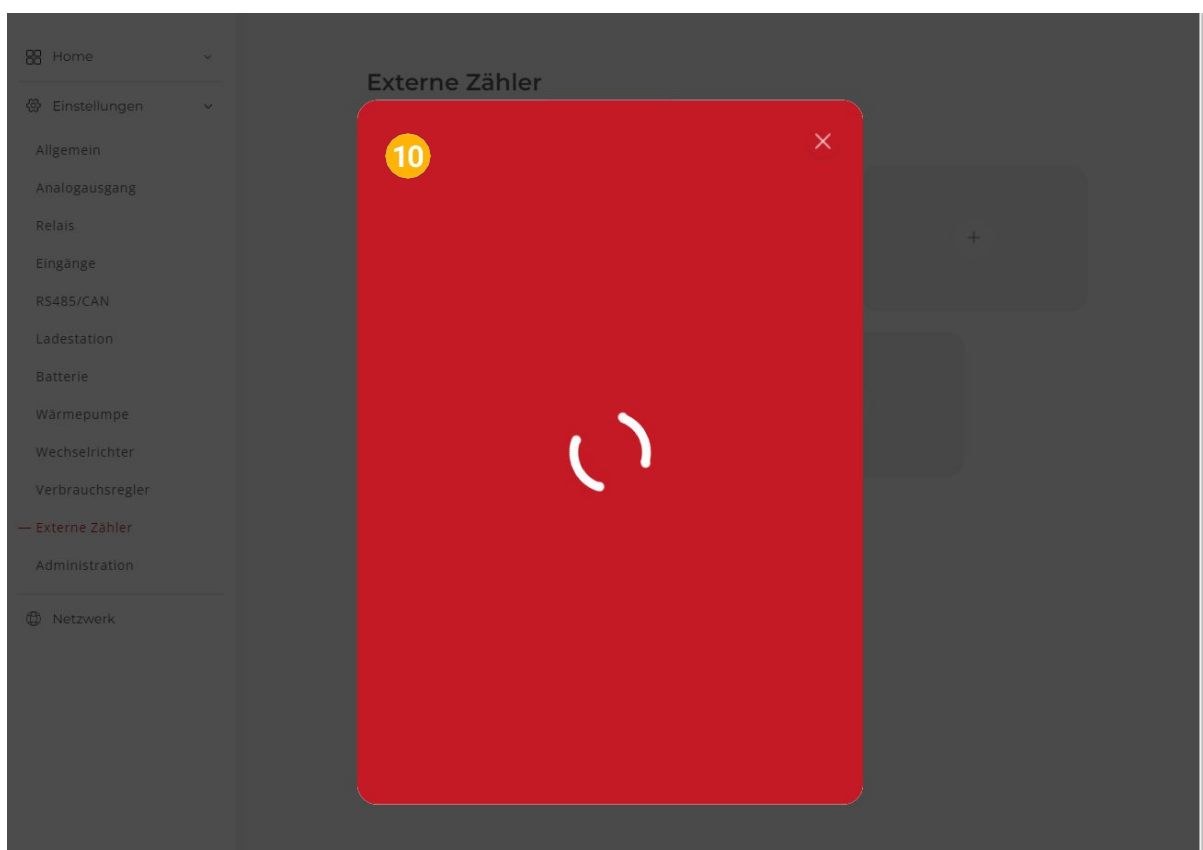
Note! If several participants are connected to the bus, make sure that only the participant to be parameterised is switched on before starting the configuration. Once the first participant has been configured, switch it off and switch on the next participant.

Start the configurator for the additional meter or charging station and repeat the steps until all participants have been integrated. After configuration, all participants can be switched on.

9. Click on "Configure".



10. The counter is configured.



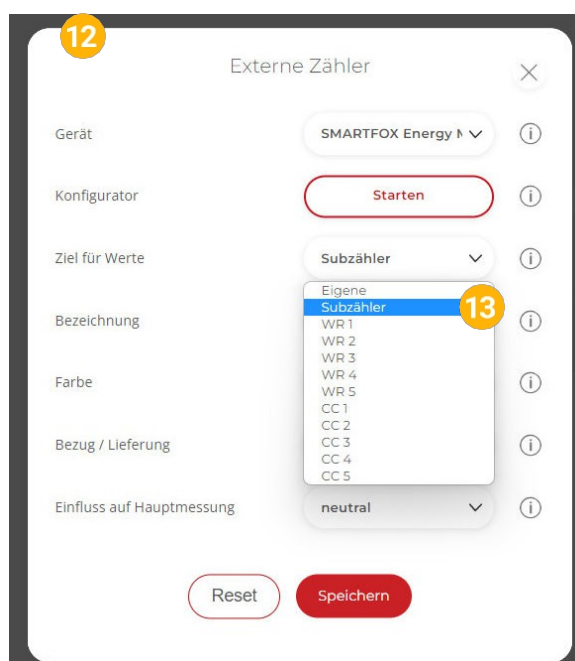
11. After the configuration is complete, the ID can be checked on the meter.



Hint! If the configuration could not be completed, the SMARTFOX issues an error message. Check the RS485 cabling, power supply of the participant and repeat the steps.

12. If the configuration of the bus address (ID) was successful, the other settings can be made.

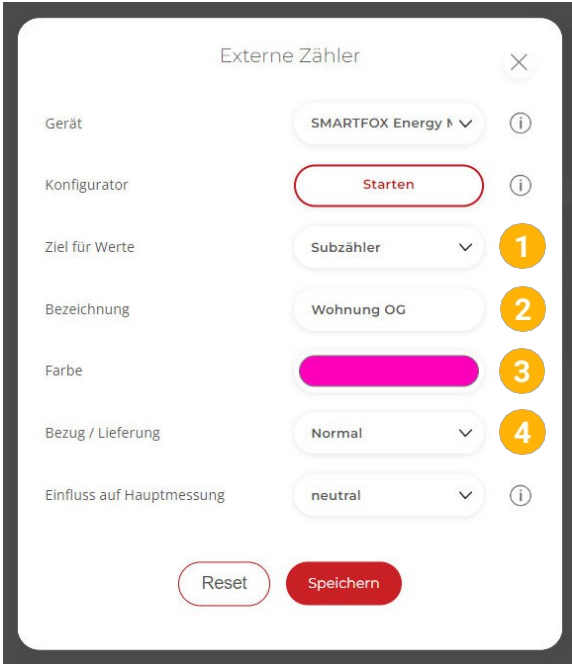
13. Under "Target for values" the function of the counter can be defined. The individual functions are described in points 2.1 to 2.4.



2.1 Function subcounter

The "Sub-meter" function can be selected to connect various consumers to the monitoring (e.g. flat meter, heat pump meter, general consumer...).

1. Select "Sub-counter" under Destination for values.
2. Under Designation, the name is given with which the meter is displayed in the portal.
3. The counter is displayed with the selected colour in the portal.
4. The "Supply / Delivery" setting can be used to change the counting direction if the input and output have been reversed when connecting the meter.



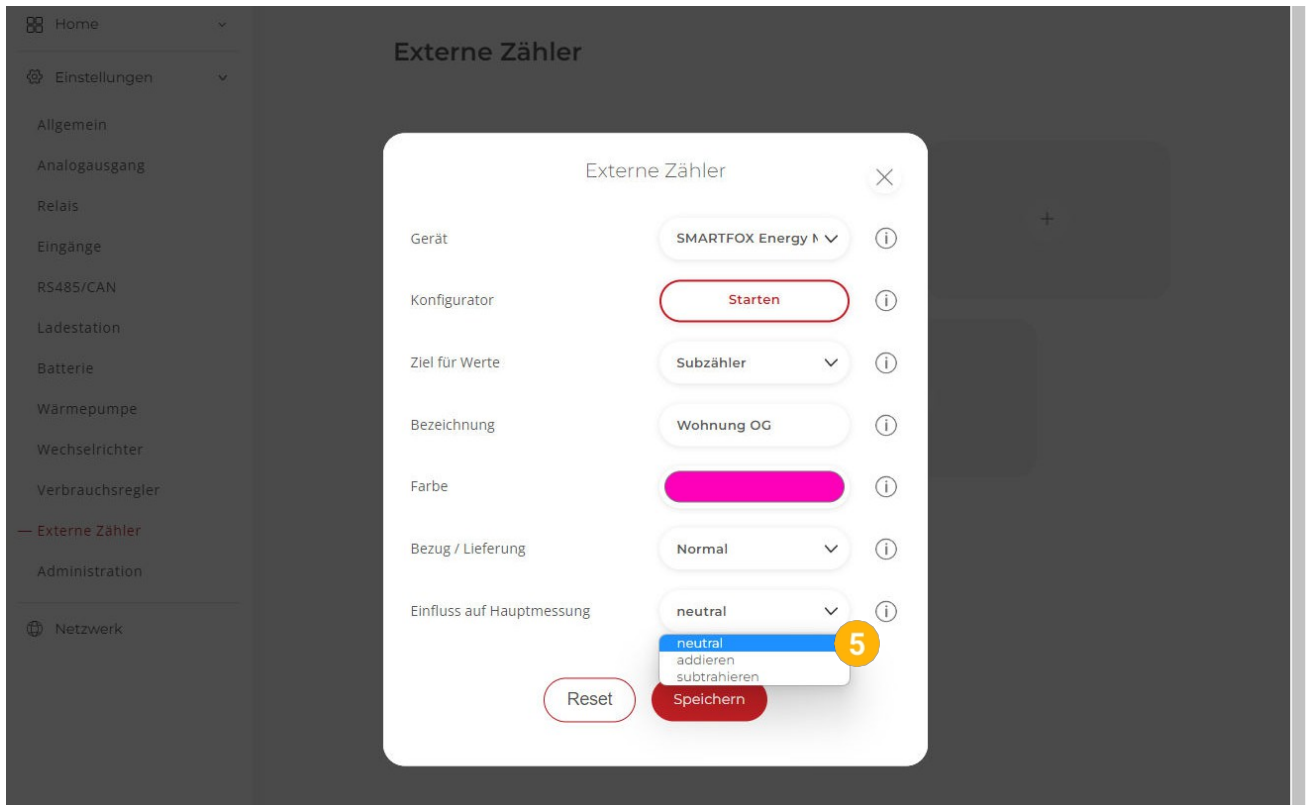
Externe Zähler
✕

Gerät	SMARTFOX Energy ▾	(i)	
Konfigurator	Starten	(i)	
Ziel für Werte	Subzähler ▾	1	
Bezeichnung	Wohnung OG	2	
Farbe		3	
Bezug / Lieferung	Normal ▾	4	
Einfluss auf Hauptmessung	neutral ▾	(i)	

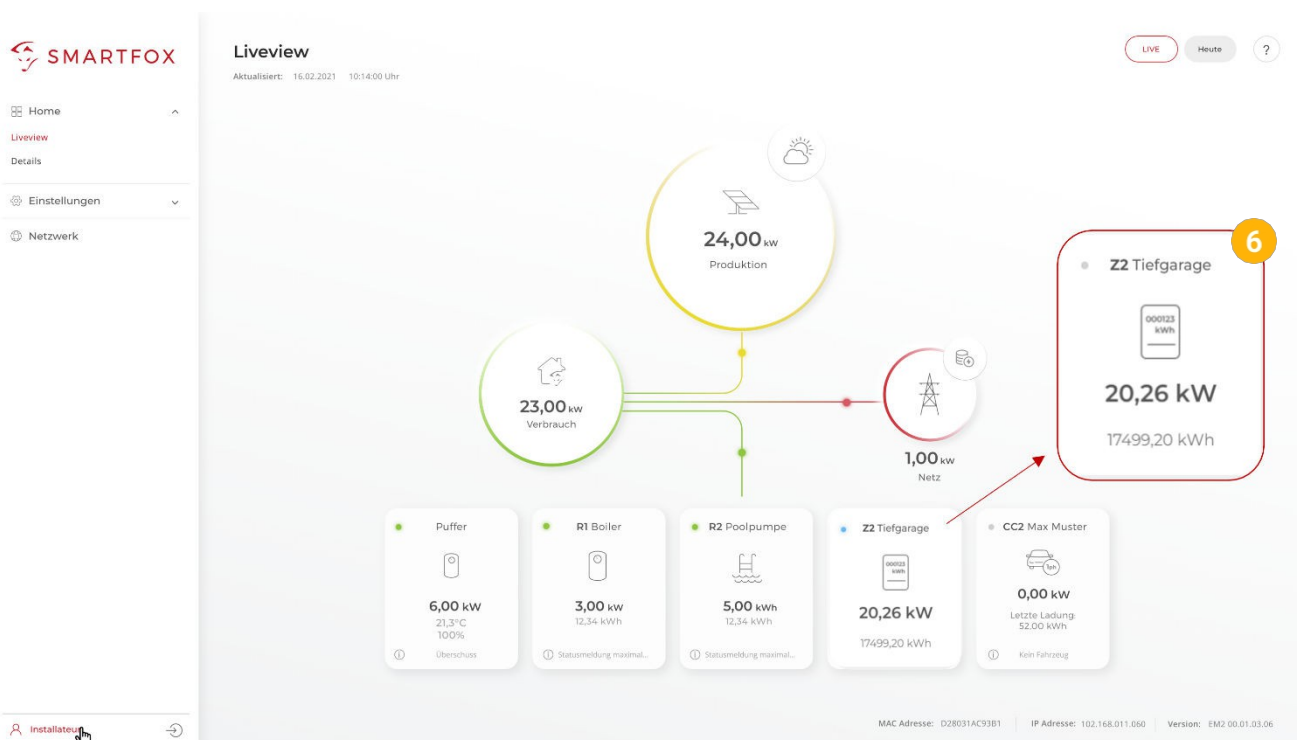
Reset
Speichern

5. This setting can be used to define the influence of the counter on the main measurement.

- Neutral:** The power value of the meter has no influence on the main measurement.
- Add:** The power value of the meter is added to the main measurement.
- Subtract:** The power value of the meter is subtracted from the main measurement.



6. The measured values can now be read in LiveView, power charts, energy charts,

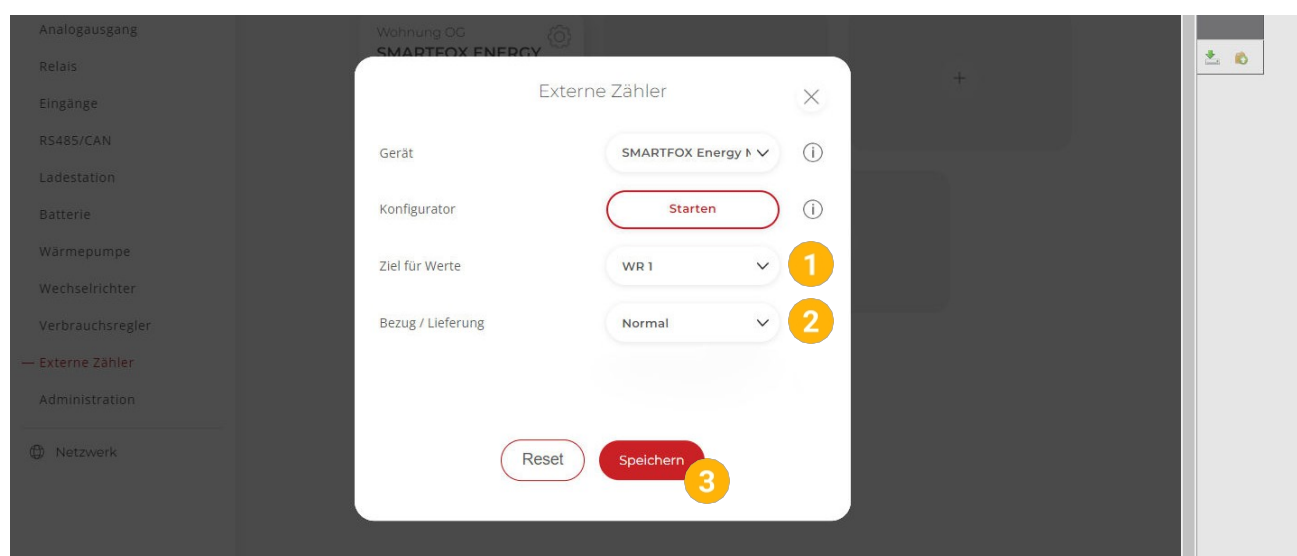


2.2 Function WR1 - WR5

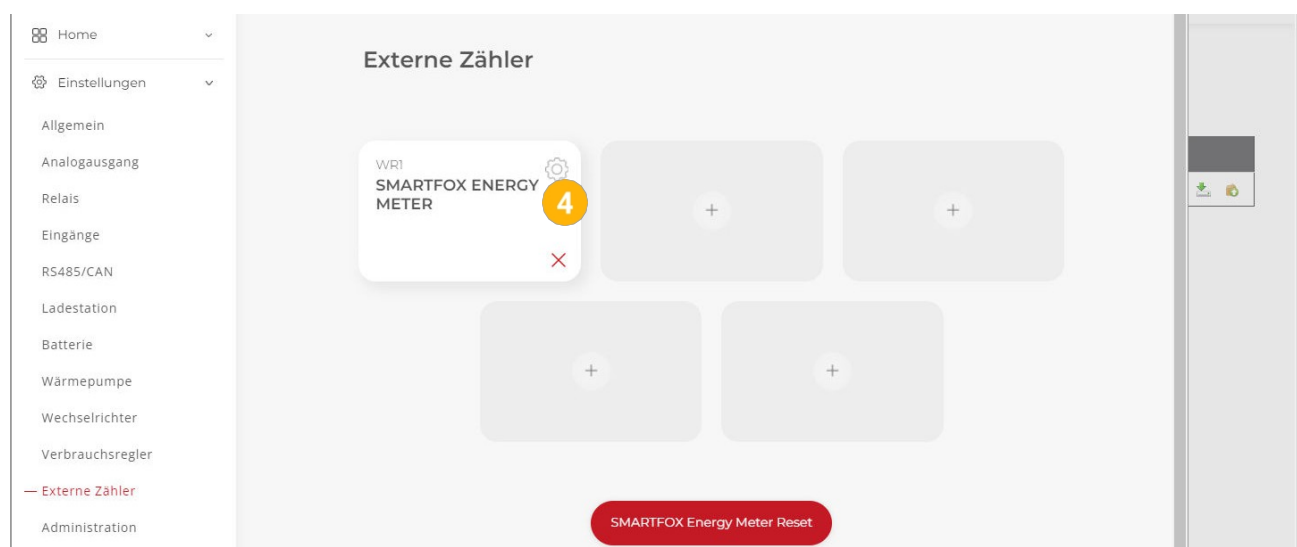
The function "WR1 - WR5" can be selected to connect the meter as a generation plant (PV) in the monitoring. This means that inverters without a communication interface can also be integrated.

Note! No licences are required for integrating the inverters via SMARTFOX Energy Meter.

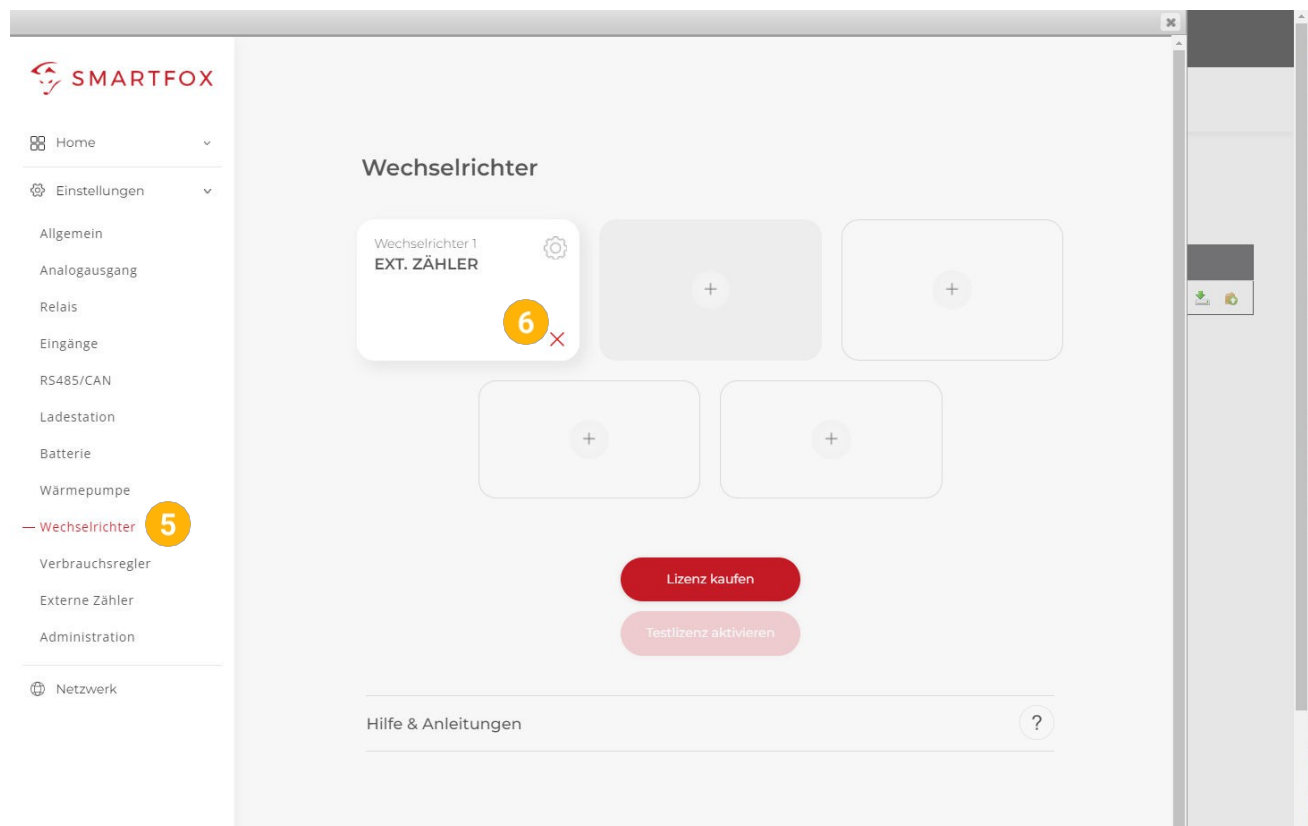
1. Select "WR1 - WR5" under Destination for values.
2. The "Supply / Delivery" setting can be used to change the counting direction if the input and output have been reversed when connecting the meter.
3. Click on "Save".



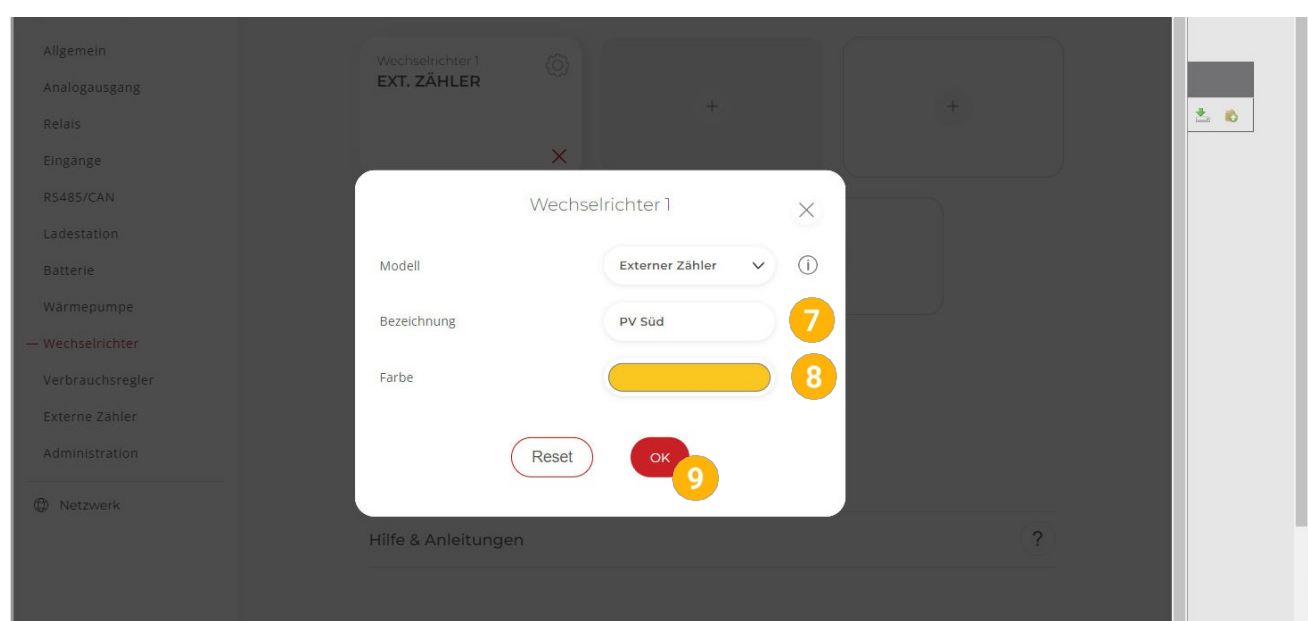
4. The counter is now defined as WR1.



5. In the "Inverter" submenu, the counter is automatically assigned to the corresponding field.
6. Click on the corresponding field to open the settings pop-up.



7. Under Designation, a name can be assigned with which the generating plant is to be displayed in the portal.
8. A colour can be selected with which the generating plant is displayed in the portal.
9. Confirm with "OK".



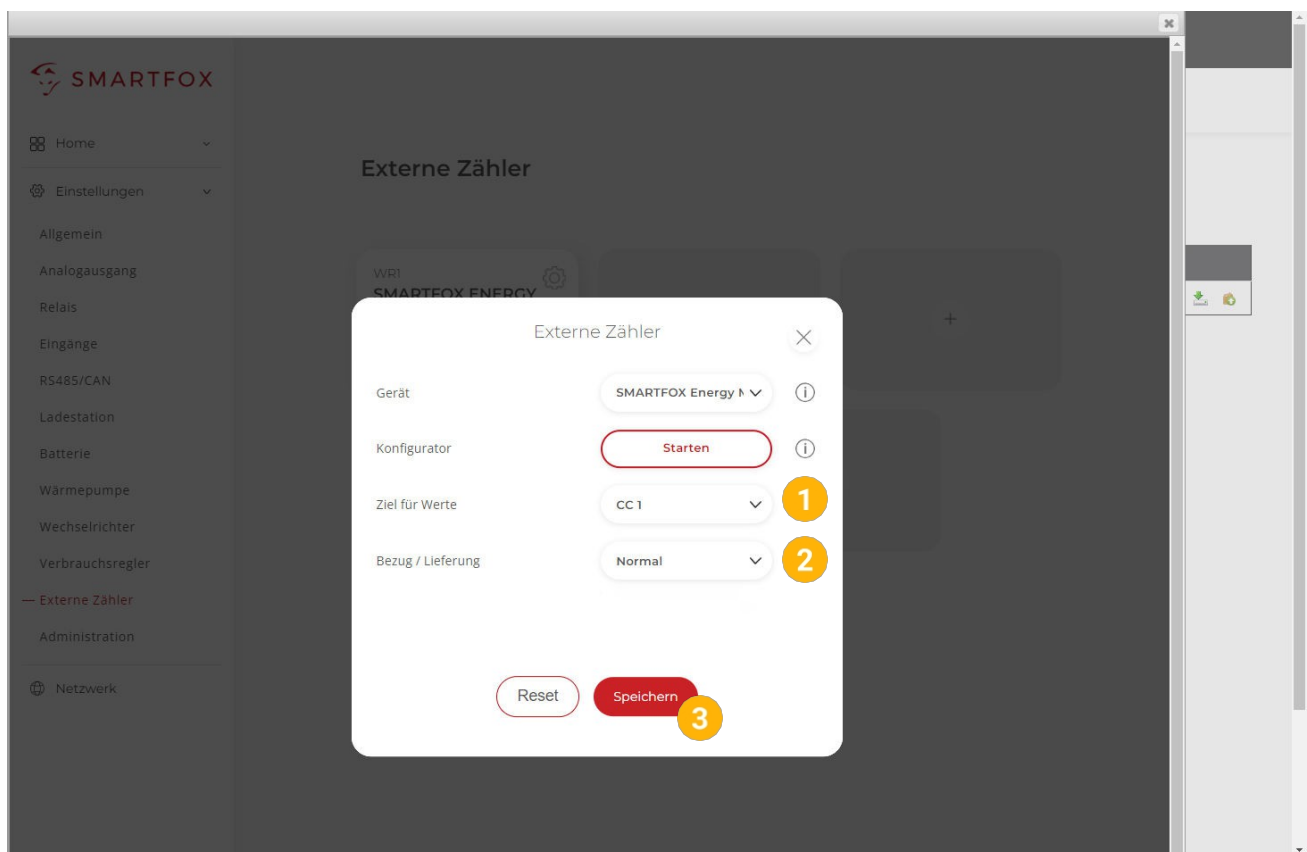
10. The measured values can now be read in LiveView, power charts, energy charts, etc.



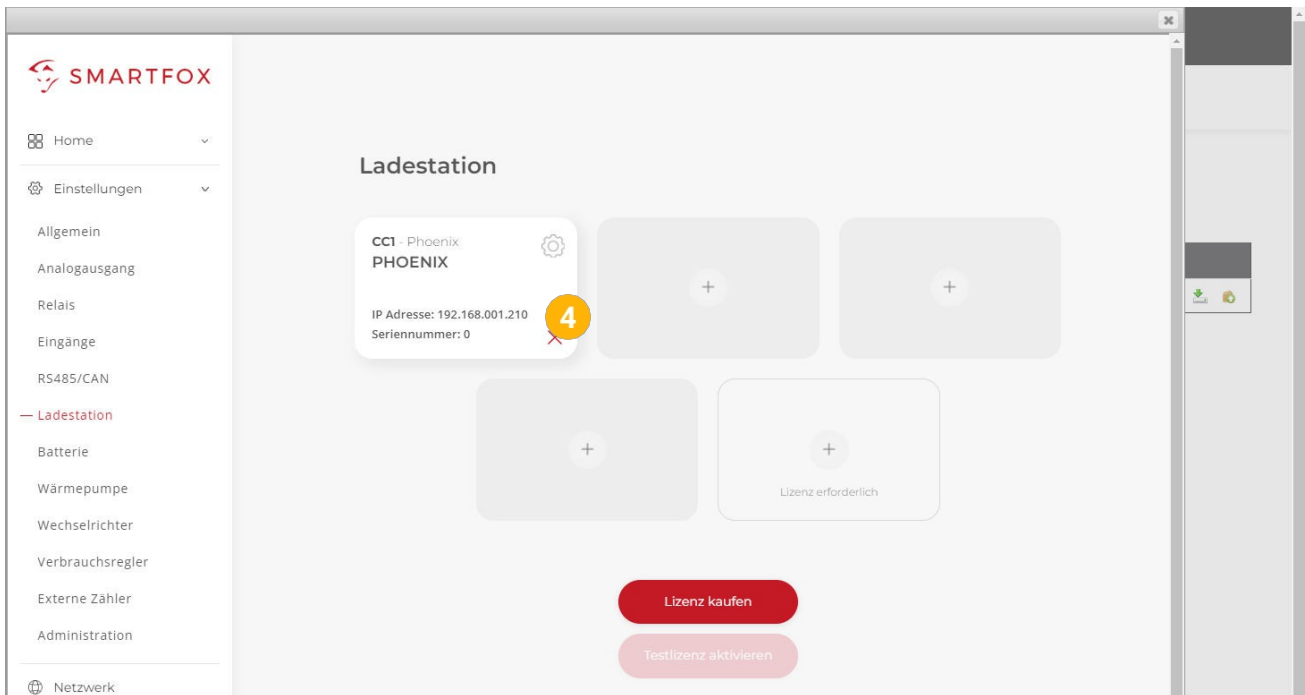
2.3 Function CC1 - CC5

The function "CC1 - CC5" can be selected to obtain the readings of a compatible charging station without an integrated meter.

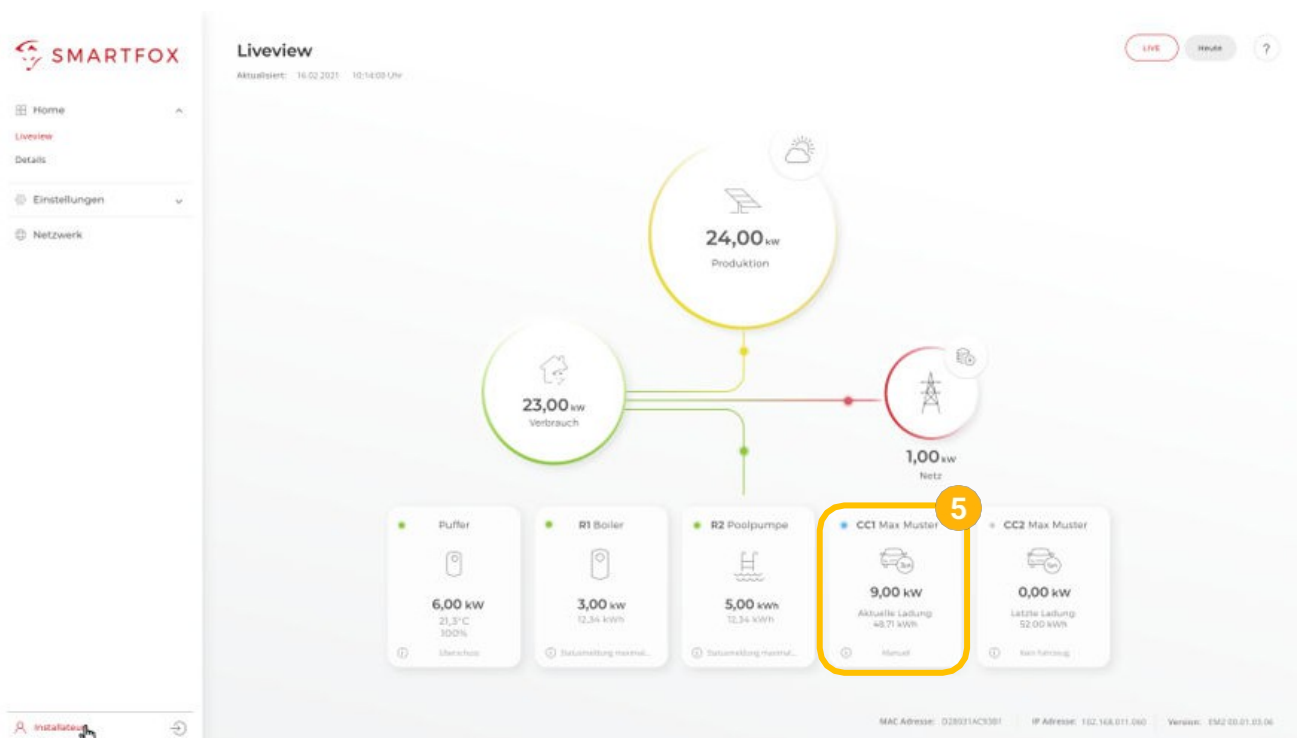
1. Select "CC1 - CC5" under Destination for values.
2. The "Supply / Delivery" setting can be used to change the counting direction if the input and output have been reversed when connecting the meter.
3. Click on "Save".



4. The measured values are assigned to the correspondingly parameterised charging station.



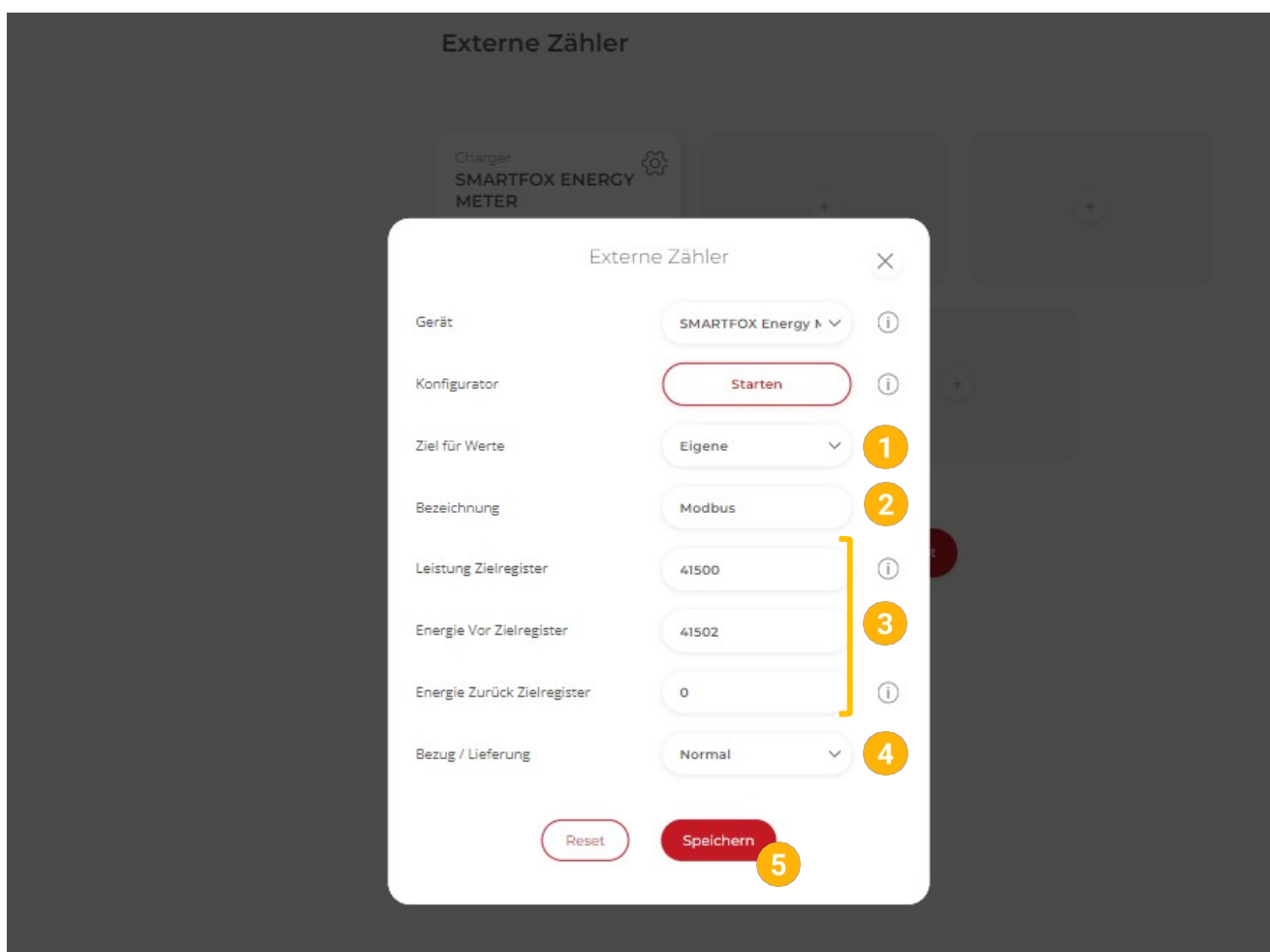
5. The measured values can now be read in LiveView, power, energy charts...



2.4 Own" function

With the "Own" function, the meter's measured values can be individually assigned to a target register of the SMARTFOX Pro. The complete SMARTFOX Modbus table is available at www.smartfox.at/allgemein.

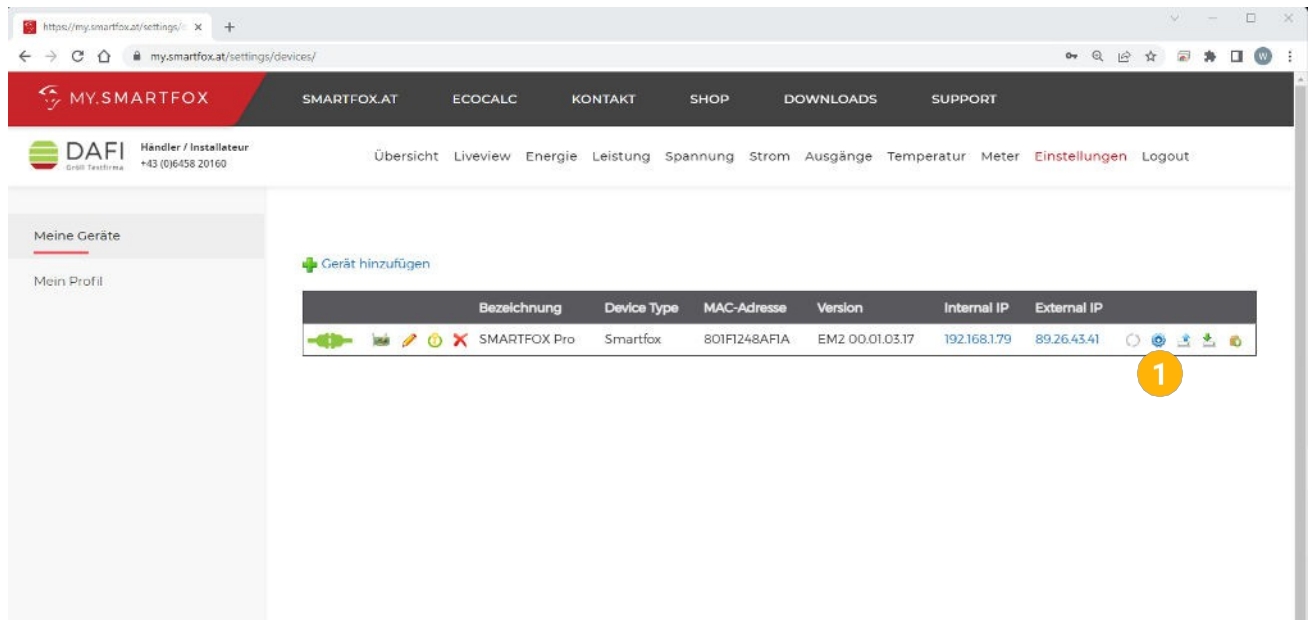
1. Select "Own" under Destination for values.
2. Enter the designation of the meter.
3. Select target register from SMARTFOX Modbus table.
4. The "Supply / Delivery" setting can be used to change the counting direction if the input and output have been reversed when connecting the meter.
5. Click on "Save".



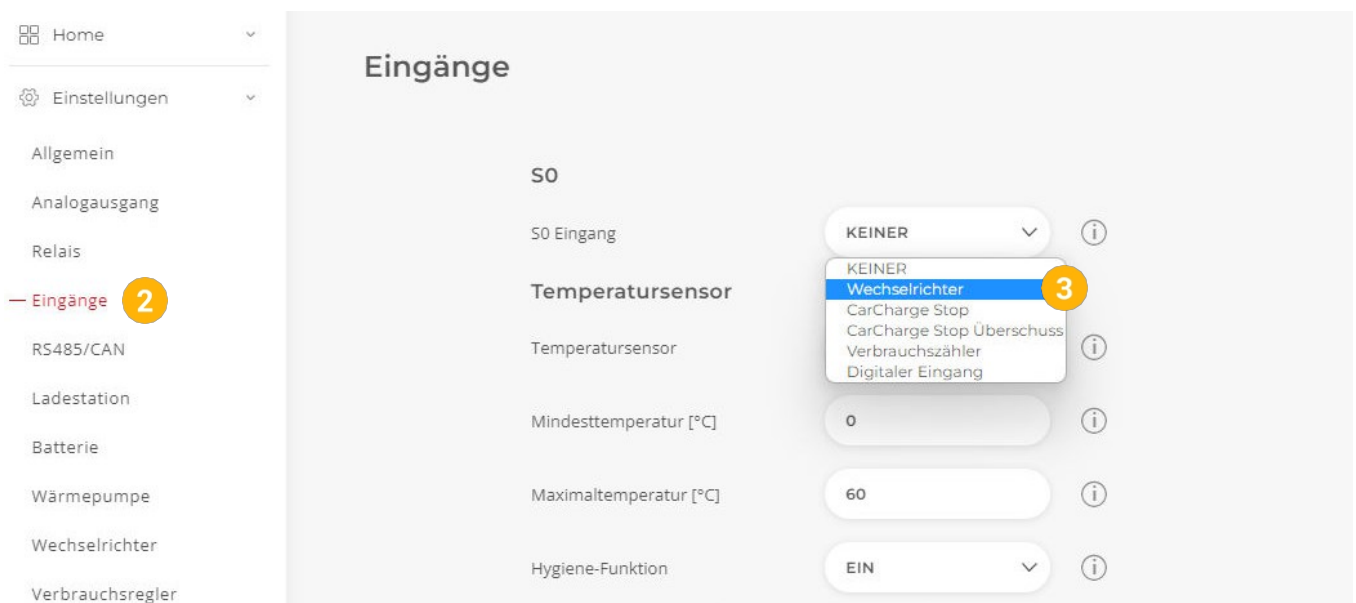
3 Settings on the SMARTFOX Pro (connection S0)

1. Call up the web portal "my.smartfox.at" and log in.

Select the menu "Settings" → "My devices" and open the device parameterisation of the SMARTFOX Pro (cogwheel).



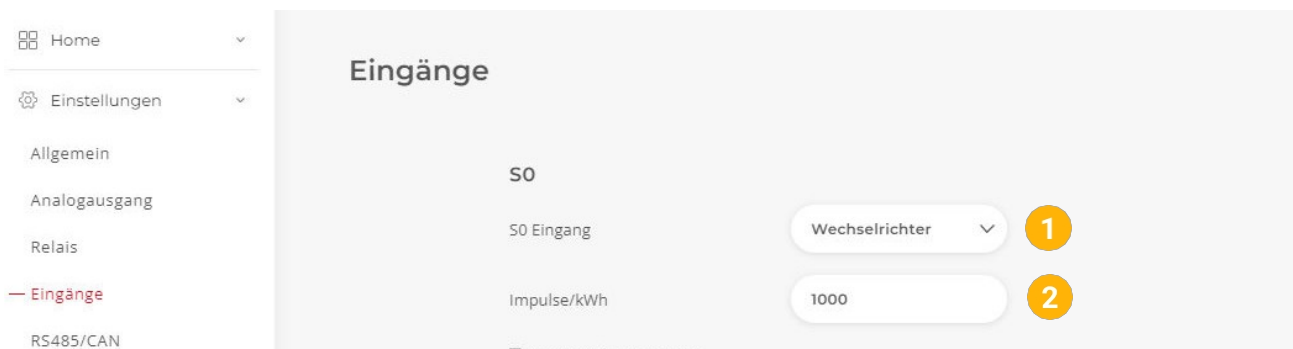
2. Select the "Inputs" submenu.
3. Under S0 Input, you can choose between the functions "Inverter" or "Consumption meter".



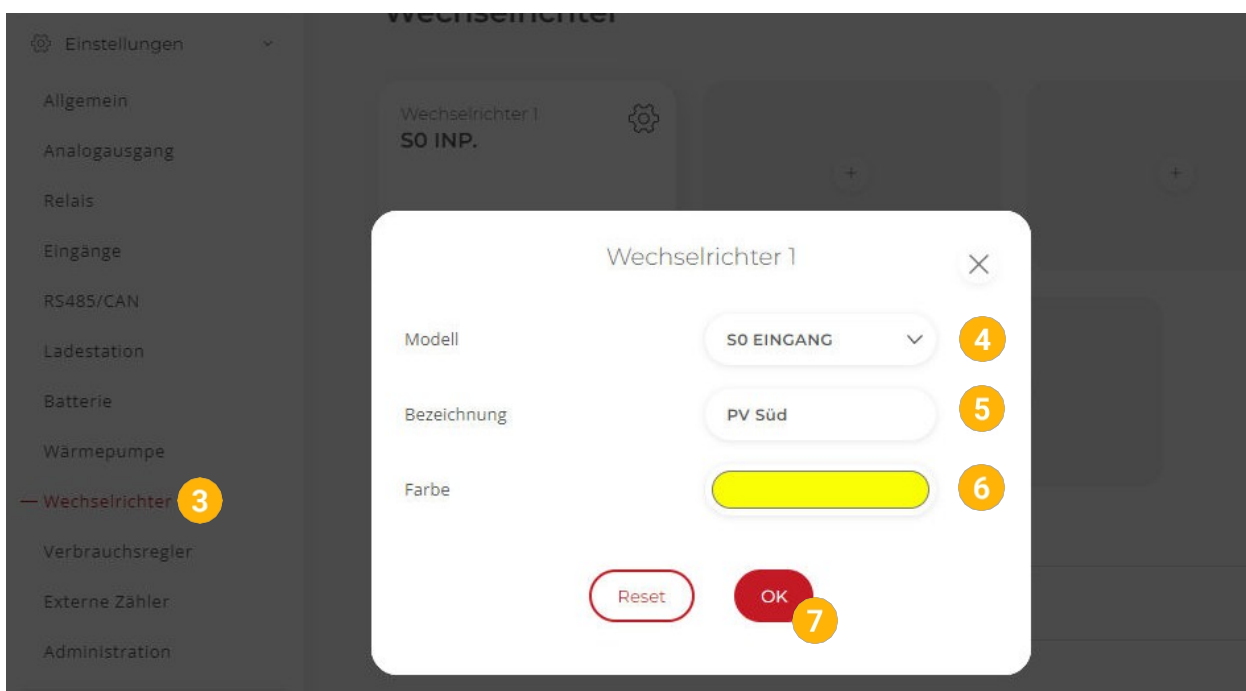
3.1 Inverter function

The function "Inverter" can be selected in order to connect the meter to the monitoring as a generation plant (PV). This means that inverters without a communication interface can also be integrated.

1. S0 Select input function "Inverter".
2. Enter the pulse rate of the meter (SMARTFOX Energy Meter = 1000 pulses/kWh).



3. Select the "Inverter" submenu.
4. Select the "S0 input" model.
5. Under Designation, a name can be assigned with which the generating plant is to be displayed in the portal.
6. Select the colour with which the input is to be displayed in the diagrams / charts.
7. Confirm with "OK".



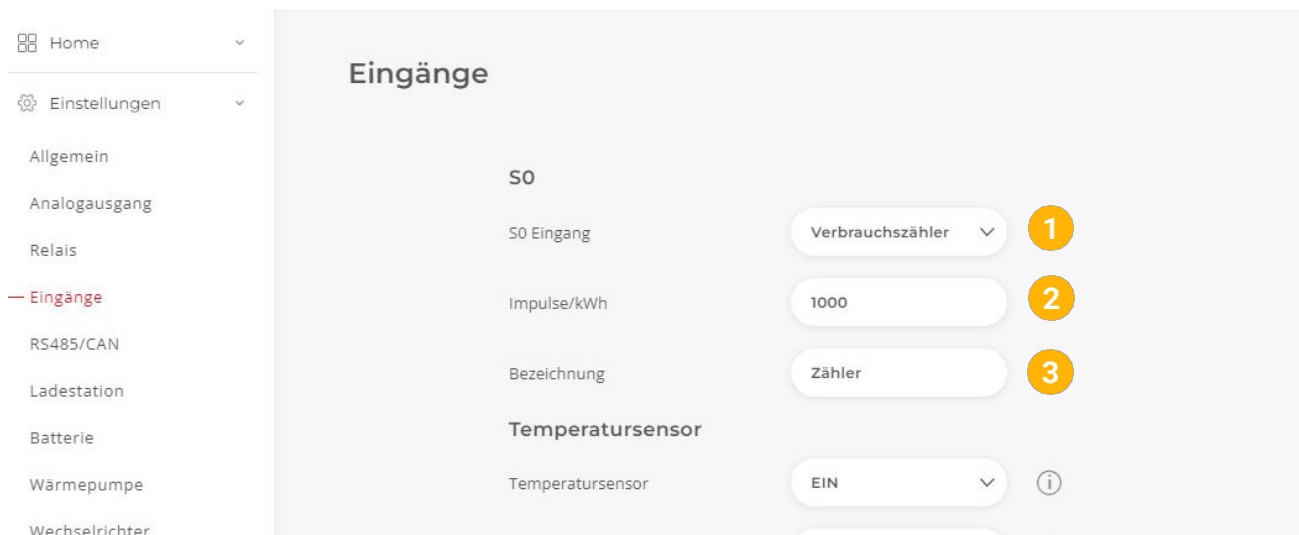
8. The measured values can now be read in LiveView, power charts, energy charts,



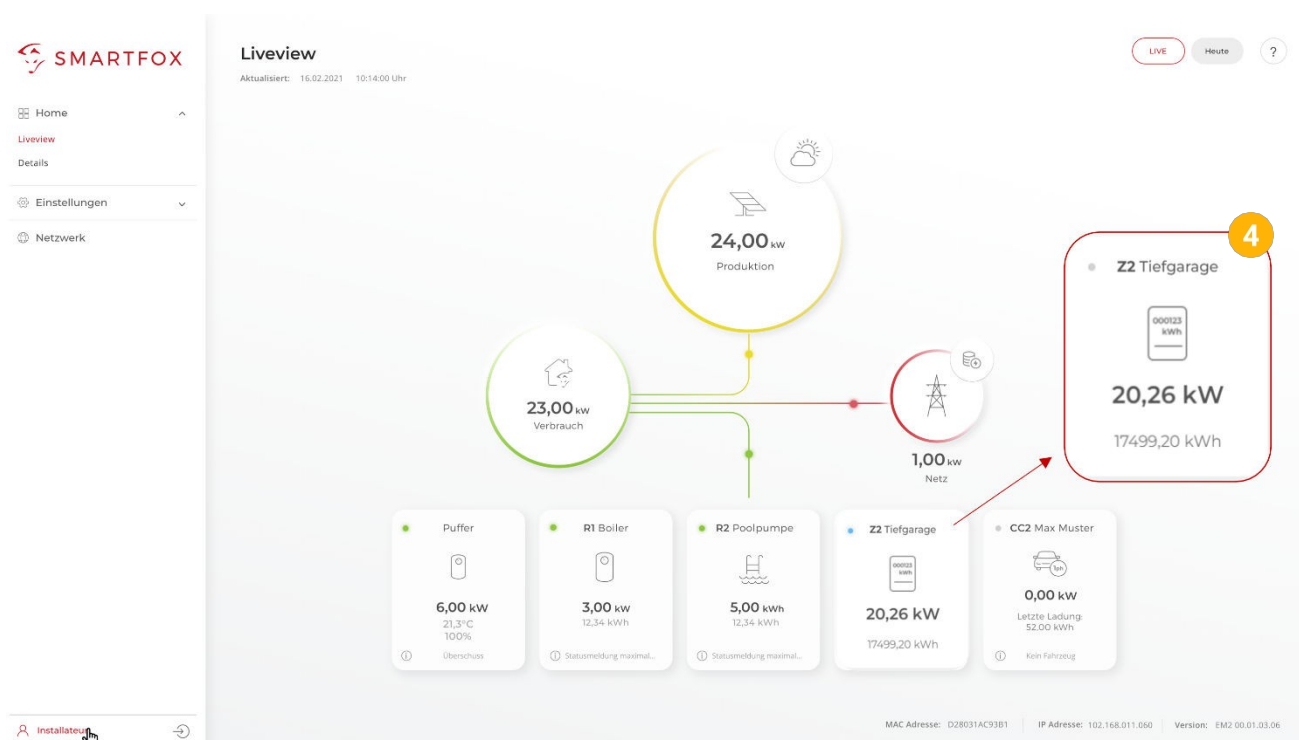
3.2 Function consumption meter

The "Consumption meter" function can be selected to connect various consumers to the monitoring (e.g. flat meter, heat pump meter, general consumers...).

1. S0 Select input function "Consumption meter".
2. Enter the pulse rate of the meter (SMARTFOX Energy Meter = 1000 pulses/kWh).
3. Under Designation, the name is given with which the meter is displayed in the portal.



4. The measured values can now be read in LiveView, power charts, energy charts,





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