Configuration guide

Salia board

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SALIA board

Explanation of the connections
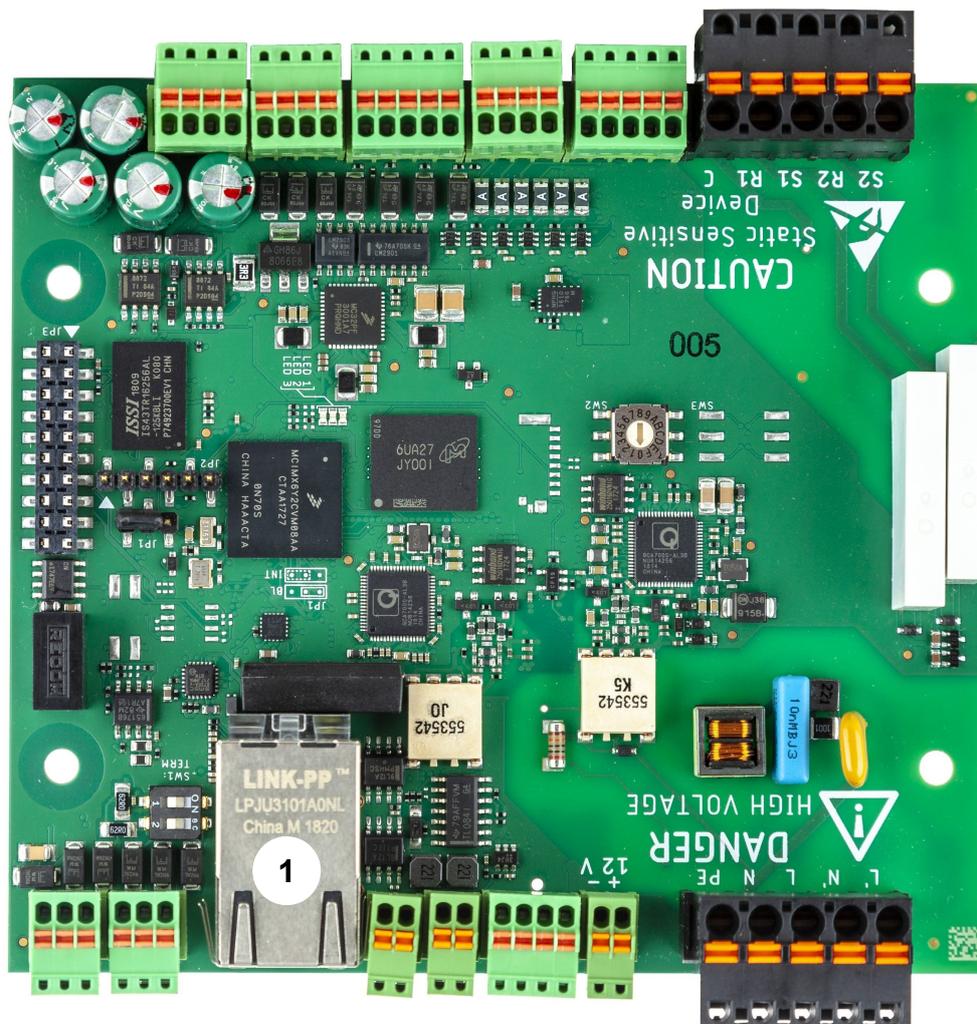
1	Network port and USB port
2	RS485 BUS terminals
3	CP-contact
4	230 V Power supply
5	Status LED lights (in operation left: flashing red, middle: off, right: green)

Technical connection of the Salia board

To configure the Salia board you need a CAT 7 network cable with RJ-45 connector.
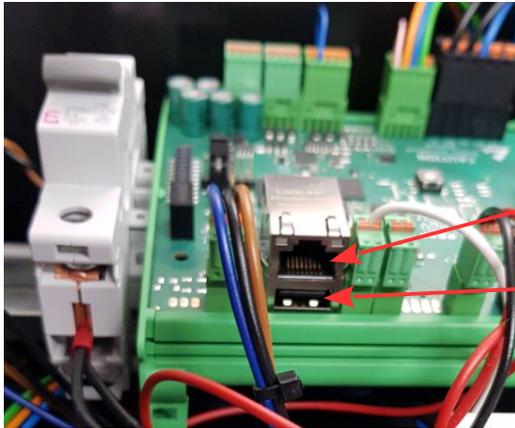
**RJ45 Socket
(10/100 Mbit/s,
network connection)**

USB-Port

1. Plug the network cable into the network port of the Salia board.
2. Plug the other end into the network port on your laptop.

3. Open your web browser to access the web interface. To do this, enter the following IP address: **169.254.12.53**

If you encounter problems at step 3, proceed as follows:

1. Open Control Panel on your PC and then "Network and Sharing Center".
2. Click LAN Connection or Ethernet.

3. in the newly opened window click Properties
4. In the new window, double-click on "Internet Protocol Version 4 (TCP/IPv4)" (see graphic). Alternatively, select "Internet Protocol Version 4 (TCP/IPv4)" in the open window and then click "Properties".

Double click
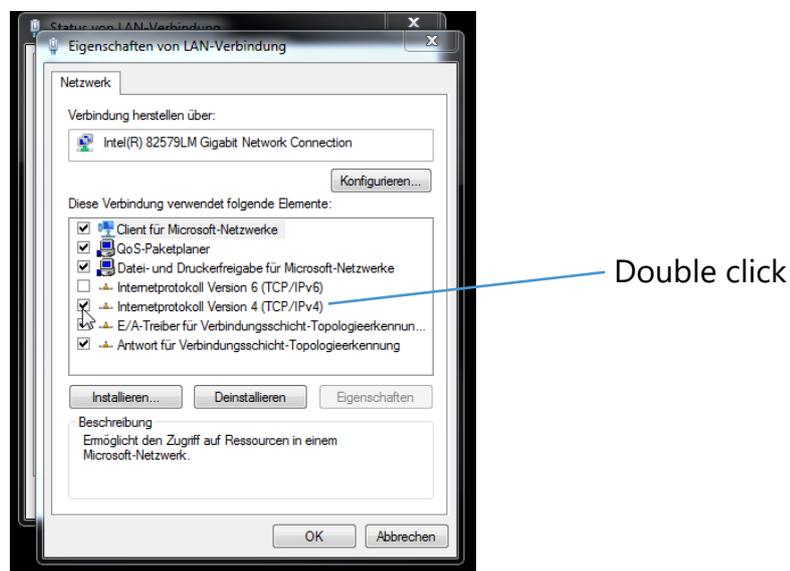
5. In the next window, select the "Use the following IP address" item to enter the IP address IP address: **169.254.12.1** and the subnet mask: **255.255.255.0** as shown in the picture below.
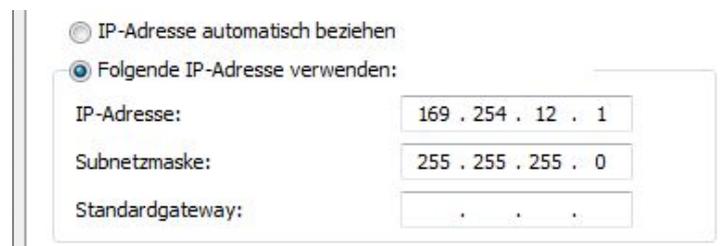
6. Confirm the entries. Then switch the charging station off once, wait a few seconds and let the charging station reboot.

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SALIA User interface

Home

Overview user interface

Menu tab

Status bar

am
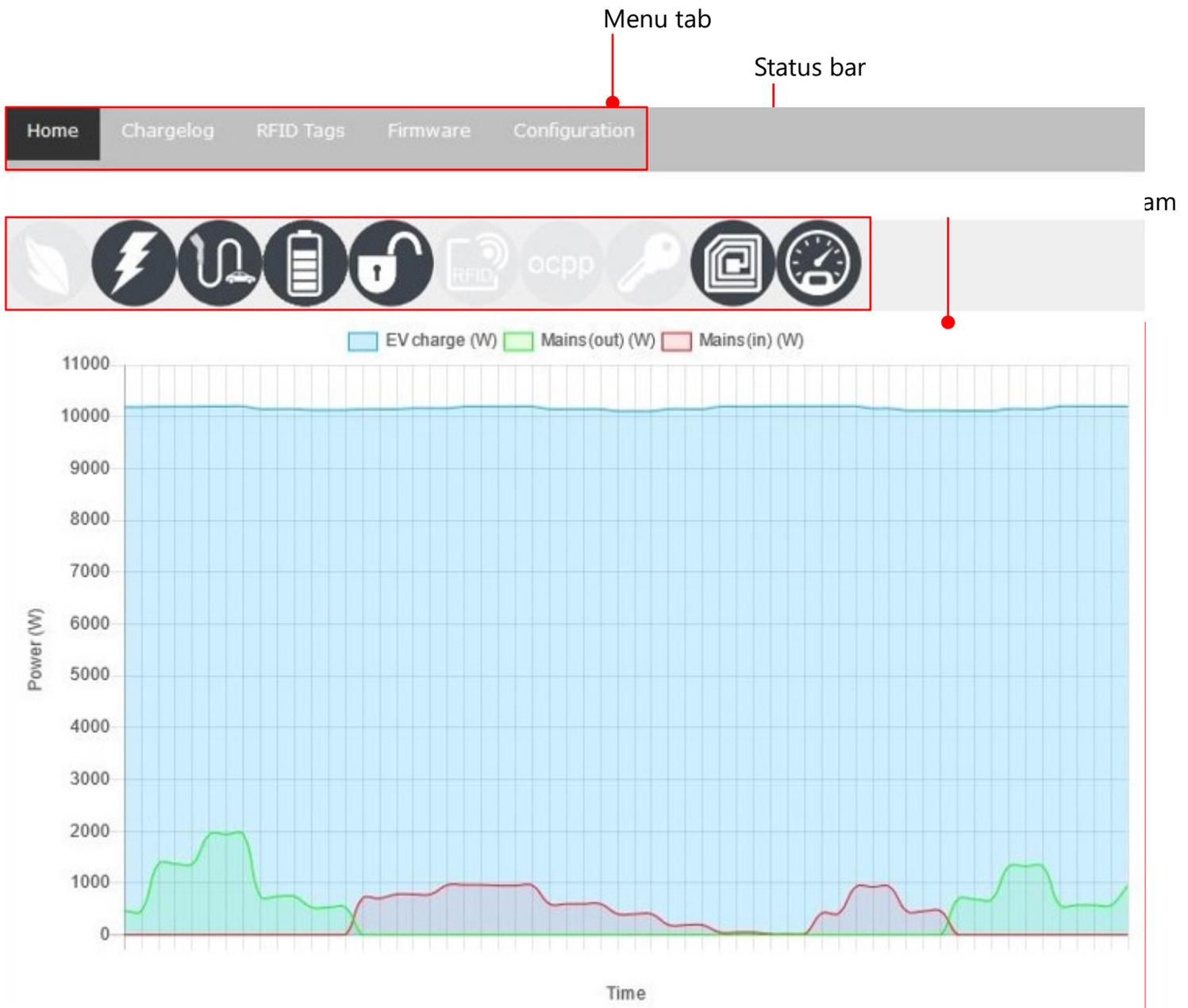
Status bar

Charging mode:		
	Fast charge active	
	ECO charge active	
	ECO+ charge active (it is charged exclusively with PV surplus)	
Charge status:		
/	Vehicle not charging / Vehicle charging	
/	Car not connected / Car connected	
Charge unlock:		
	„Free Charging" active[1]	
	Charging activation via RFID-cards[1]	
	Charging activation via OCPP active[1]	
	Charging activation via key switch active[1]	
Charging station components:		
/	RFID module not detected / RFID module detected	
/	MID meter not detected / MID meter detected	

[1]**Note:** Only one charge release mode can be active at a time!

Performance diagram

The power diagram shows three power curves in watt. The prerequisite for this is that you install a compatible energy meter in your house connection, which communicates the measurement data with the charging station. In addition, your charging station requires an internal or external MID meter installed in the supply line.

Blue curve: Charging power with which the connected vehicle is charged.
Green curve: PV surplus that is fed into the grid.

Red curve: Power drawn from the grid connection.

EVSE status

The EVSE status provides information about the current charging cycle.

Parameter	Value
Control Pilot State	A
Control Pilot Duty Cycle	100%
Cable Current Limit	No cable detected.
Charging time	-
Charging power	-
Charging energy	-
Charging uid	-

Control Pilot State (Charging status)	**A** = Standby **B** = Vehicle detected (Vehicle was detected, no charging process) **C** = Ready (Charging Process is active) **D** = With ventilation (Charging process with ventilation is active) **E** = No power (no power) **F** = Error (Error status)
Control Pilot Duty Cycle (Default charging power)	Percentage of PWM = maximum ampere value that can be transferred to the load e.g 25 % PWM = 16 A und 50% PWM = 32 A Charging current
Cable Current Limit	Maximum permissible charging power of the connected charging cable (for charging socket)
Charging time	Duration of the current charging process
Charging energy	Already charged amount of the current charging process
Charging UID	UID of the RFID card with which the charging process was enabled (only displayed if charging process "RFID" is active)

Infos

The "Info" section provides information about the installed charge controller. Furthermore, you can start/stop the charge as desired.

Infos

Parameter	Value
Model number:	2310007
Serial number:	100811866
Software version (Host processor):	1.50.0
MAC address:	00:01:87:0c:63:5a
02.03.2022 10:57:46	Set date/time
___ A (32 A)	Set current
Start/stop charging	Start Stop

Model number:	Specification of the model number of the charge controller (EVCC)
Serial number:	Specification of the serial number of the charge controller (EVCC)
Software version (Host processor):	Indication of the installed firmware version on the charge controller (EVCC).
MAC address:	Specification of the MAC address of the charge controller (EVCC)
29.04.2021 15:54:49	Specification of the date/time on the board. Updated by clicking on "Set date/time" via NTP.
__ A (32 A)	Setting of the current charging current in amperes possible. (Only possible in ECO mode)
start/stop charging	Start / stop current charging process

Charging process

Fast charging

In Quick Charge mode, the current drawn is controlled by the connected vehicle and is primarily limited only by the mains connection, the maximum charging power of the vehicle and the charging station. As the battery level increases, the vehicle's charging power often decreases.

ECO charging

With ECO charging, the charging is dynamically controlled with the existing PV surplus. If there is a corresponding surplus, the charging station increases or decreases the charging power for the connected vehicle.
Because the PV surplus fluctuates greatly due to weather and connected consumers, there is no constant power value. However, the charging process of electric vehicles is sluggish and cannot be regulated to the available surplus in milliseconds. In the event of short-term power drops, the charging station therefore draws power from the grid connection in order to maintain the existing charging power.
For this purpose, the setting option "ECO reference" in watts is located under the Configuration>Mains options tab. The user specifies how much PV surplus should continue to be fed in during the charging process.
If you do not want to draw power from the grid connection, you should therefore select a larger ECO reference value (e.g. 250 watts) so that the charging station does not have to immediately fall back on the grid connection in the event of a small PV surplus fluctuation. If, on the other hand, you want to ensure that the power from the PV system is fully used for charging the vehicle, you can set a negative value of -250 watts, for example. The charging station then targets a grid connection usage of 250 watts.

Note that the charging process is limited at all times by a minimum and maximum charging current. For most electric vehicles, the minimum current is 6 A. Depending on the phases used, this results in a minimum charging power of approx. 1.4 kW 1-phase / 2.8 kW 2-phase / 4.1 kW 3-phase. Please consult your vehicle manufacturer for the minimum charging current.
If the minimum current is not reached, the charging station must fall back on the mains connection or can alternatively pause the charging process. Under Configuration>Mains options, you have the option of activating "Stop charging" under "Overcurrent/Eco". More about this under Configuration 18.

Chargelog

All charging processes that have taken place are stored in the charge log and can be displayed and filtered for a specific period of time.

Start	Start time of the charge
Stop	End time of the charge
Duration	Charging time = period from plugging in to unplugging the vehicle.
Energy	Charged amount of energy in kWh of the charging process
Name	If RFID release is active: Designation of the RFID card with which the load was released (see also section RFID tags).
Tag	If RFID enable is active: UID of the RFID card with which the load was enabled (see also section RFID tags).
CSV / PDF	Exporting the batch log as a CSV or PDF file
From ... to ...	Display the load entries in a given period of time
Transponder ...	View the load entries in a specific time period , filtered by a specific UID.

RFID Tags

Under the RFID tags tab, the taught-in RFID cards are displayed. In addition, certain rights can be assigned to or revoked from the cards and they can be divided into groups. New RFID cards can be taught-in in this tab.

Transponder UID	Specification of UID tags with UID number
Name	Naming of the RFID card
Status	Visibility whether the RFID card is deactivated or activated
Action	Possibilities to delete, activate or deactivate the cards
Group	Possibility to assign the RFID cards to a group.

Teaching new RFID cards

Open the RFID tags tab on the Salia user interface. Then hold the RFID card to be scanned in front of the RFID module. This flashes red briefly. The new RFID card is now automatically stored in the list of existing RFID cards. Select "Allow" if the card is to be authorized to unlock the load. Select "Reject" to remove the ability to unlock the load from existing RFID cards. Select "Delete" to delete entries from the list.

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Firmware

Under the "Firmware" tab, you can update the Charge Controller to the latest firmware version. There are 2 ways to do this.
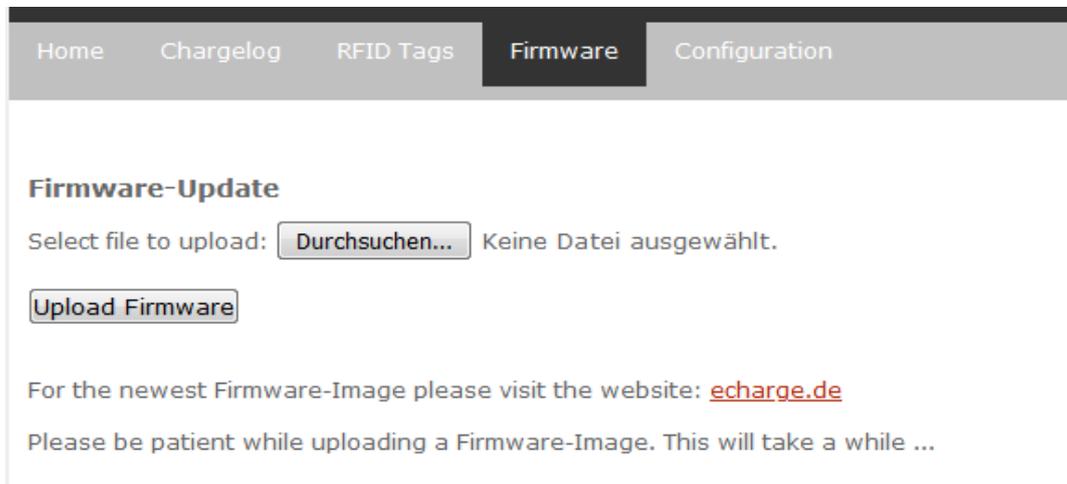
Variant 1: Install firmware update via the Internet

1. select the "Firmware" tab and follow the link
   → **http://salia.echarge.de/firmware/stable**

2. download the latest update and save it to a folder of your choice.

3. Important: Make sure the date is up to date before updating. Time zones and dates that are not updated will result in an update error.

4. Using the "Browse" function, select the file you just downloaded and upload it to the web interface. This can take up to 10 minutes.

5. The import and overwrite process may take some time. Please **do not** disconnect the charging station from the power supply during the update process.
   Do not switch it off!

Variant 2: Install firmware update via USB stick

1. download the latest firmware update from this link
    → **http://moon.echarge.de/firmware/stable**

2. Save the file to a USB stick. Please make sure that there is no other document of the same file format on the USB stick. This way, collisions can be avoided. We recommend an empty USB stick for this process.

3. Important: Make sure the date is up to date before updating. Time zones and dates that are not updated will result in an update error.

4. Carefully insert the USB stick into the USB port of the Salia board. Alternatively, you can use the extension cable supplied. The middle LED will light up yellow continuously and the update will be carried out automatically.

5. **Do not** disconnect the charging station from the mains during the update. The process may take about 5-10 minutes as the update is copied, verified and then applied.

6. After the update is complete, the charging station restarts and the yellow LED light turns off.

Configuration

In the "Configuration" tab, you can make settings for the operation of the charging station.

⚠️ **Attention! Incorrect settings in the "Configuration" tab can impair the function of the charging station and lead to malfunctions.**

Global Options

Wallbox Type	Indication whether charging station is equipped with permanently attached cable or socket
Timezone	-
Location/Name	Designation of the charging station *(freely selectable)*
Auth. Mode	Setting how charge release should be done (Free Charging, RFID, OCPP or key switch).
Min./Max. Current	Indication of the control range of the charging station (minimum/maximum charging current in amperes). **Note:** The minimum charging current couldn't < 6A (legal requirement).
External control	Activate control of the charging station via an external controller
aWATTar	-

Mains options

Mains type	Select the measuring device at the feed point or house connection.
IP adress	Enter IP address of the device at the feed point
Serial	Enter the serial number of the device at the feed point
Mains fuse	Maximum permissible current of the back-up fuse at the feed point
Overcurrent/ Eco	**Activated:** Charging station stops charging when the set current or power limit is exceeded in the house connection. **(local overload protection)** If power is drawn from the grid for 10 seconds during an Eco charge to enable the minimum charge current, charging pauses and resumes as soon as there is sufficient PV surplus for charging for 10 seconds. **Deactivated:** Charging station reduces the charging current to the set minimum, usually 6A, when the set current or power limit is exceeded.
Peak shave	Power limit value at the feed point
ECO reference	Reference value ECO charge

Network options

DHCP	If enabled: Automatic assignment of an IP address via DHCP
IP adress	Assignment of a static IP address *(only if DHCP is deactivated)*
Subnetzmask	Specification of the corresponding subnet mask *(only if DHCP is deactivated)*
Gateway	Specification of the corresponding gateway *(only if DHCP is deactivated)*
DNS	Specification of the corresponding DNS server *(only if DHCP is deactivated)*
NTP	Specification of an NTP time server

Special case: Changing the IP address / DHCP

In the case that you have a charging station with two or more charging points, you must follow the steps below when changing the factory-set IP address:

To offer you the greatest flexibility in the configuration of the charging station, each charging point has its own Salia board, which has its own completely independent setting options. A charging station with multiple charging ports therefore always has one master and one to three slave boards.

The master board communicates with the slave boards via Ethernet. For this reason, the IP addresses of the slave and master board must **always** be stored. If the IP address is changed, e.g. by activating DHCP or manually entering a new IP address, the IP addresses must be adjusted subsequently.

To change the necessary data of the master board, you have to open the advanced settings. To do this, click on the gearwheel in front of "System configuration" under the Configuration tab.

Adjust the IP address in the "Internal Load Management" area accordingly in the "Slave IP 1" input field.

If you are using an RFID module, also enter the IP address of the slave in the "Advanced Options" area under RFID reader. For a charging station with several slave boards, all IP addresses must be entered accordingly. The "global" and "internal" checkboxes under Load Management must be activated. Save the settings by clicking "Save and reboot". **Other settings must not be changed**!

Important: These settings are to be made only on the **master board**.

Proceed as follows to adjust the slave boards: Open the interface of the respective slave, click on the gearwheel in front of "System configuration" under the Configuration tab and then on the gearwheel in front of "Advanced Options".

Now enter the master IP address.

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OCPP

To connect the charging station to a backend via OCPP, the supplied Huawei LTE surfstick must first be configured. To do this, insert the SIM card into the Huawei surfstick (see p. 4). You can obtain the SIM card either from your back-end operator or alternatively from a telephone service provider of your choice.

Now connect the LTE surfstick to your PC. As soon as the surfstick is connected to the PC, it starts to flash green. The login page of the surfstick will now open automatically in a browser window.

If this is not the case, try to access the surfstick via the IP address 192.168.8.1. For the access you need the **device password "echarge1"**.
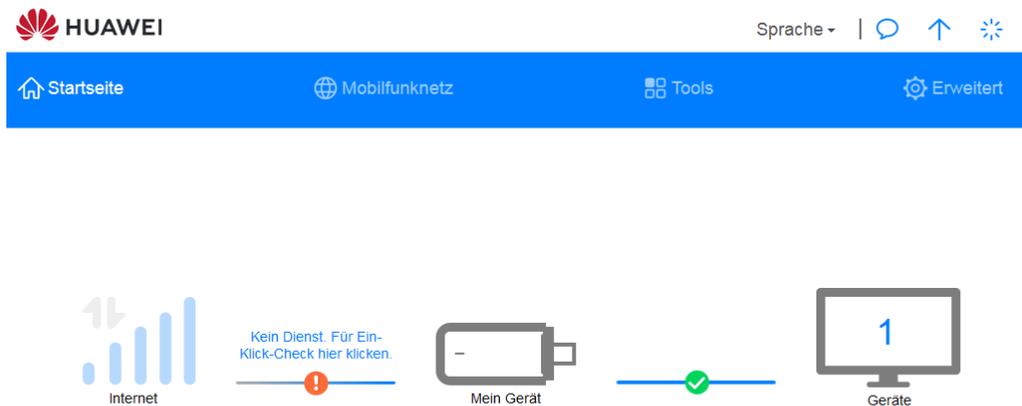
Homepage Huawei Surfstick

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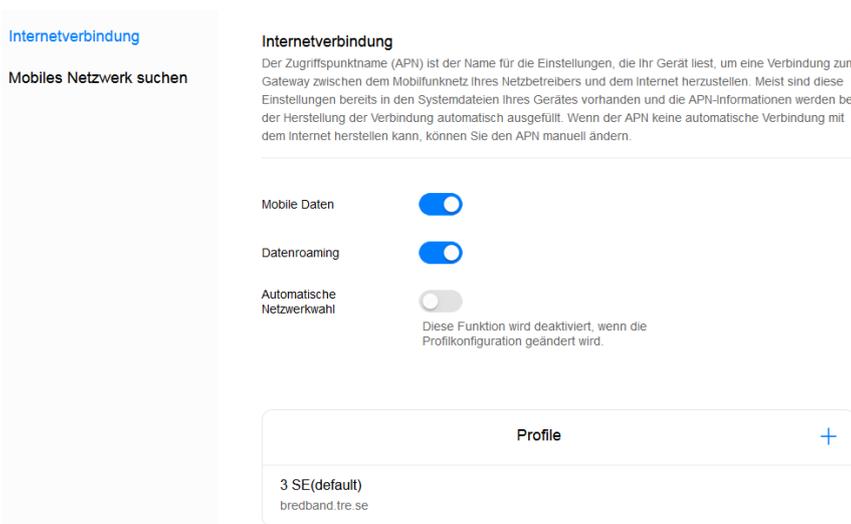
Now click on "Mobile network" and then on the "+" symbol next to "Profiles" to create a new profile.
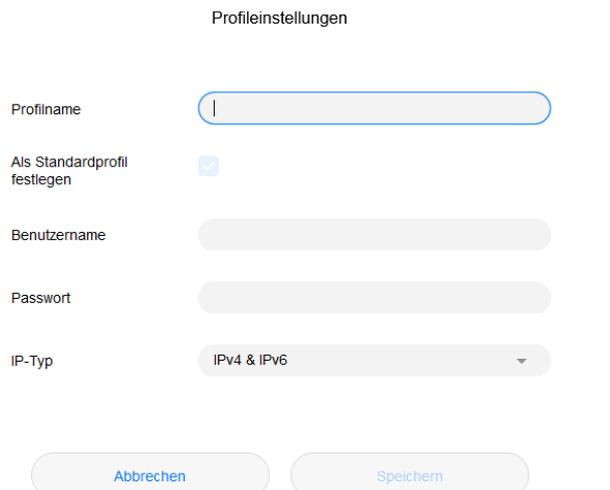
Enter "Charge Control" as the profile name. You can obtain the information for "Username", "Password" and "APN" from your SIM card provider. The LTE surfstick should now have established a connection.

| Startseite | Mobilfunknetz | Tools | Erweitert |

4G Vodafone.de   Profil ungültig   Mein Gerät   1   Geräte

Mobile Daten deaktivieren
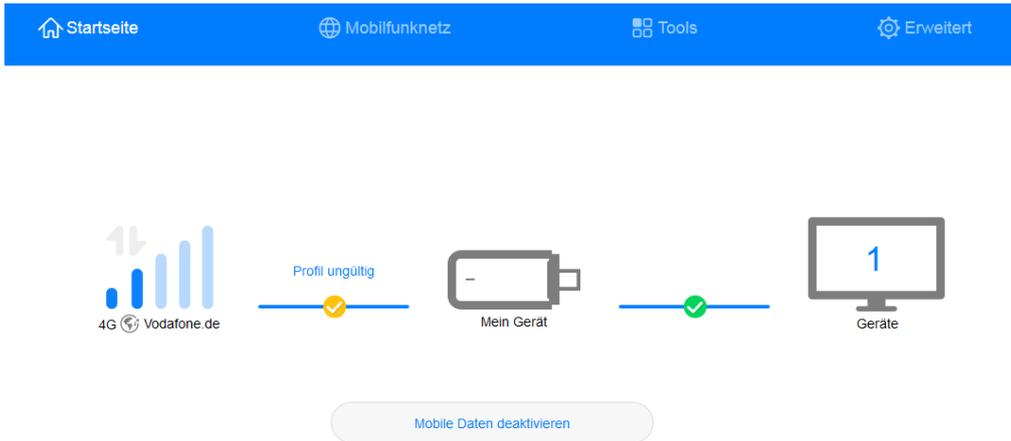
Now remove the LTE surfstick and return to the Salia's user interface.

OCPP options

OCPP	☐ Enable
URI/CPID	ws://
Verify CERT	☐ Enable
APN Name	e.g. egv2.a1.net
APN User	ppp@A1plus.at
APN Pass	PPP

OCPP	Activate if OCPP is used
URI/CPID	Specification of URI and chargepoint ID *(to be requested from backend operator)*
Verify CERT	
APN Name	*Leave field blank, since information has already been entered for surf stick*
APN User	*Leave field blank, since information has already been entered for surf stick*
APN Pass	*Leave field blank, since information has already been entered for surf stick*

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