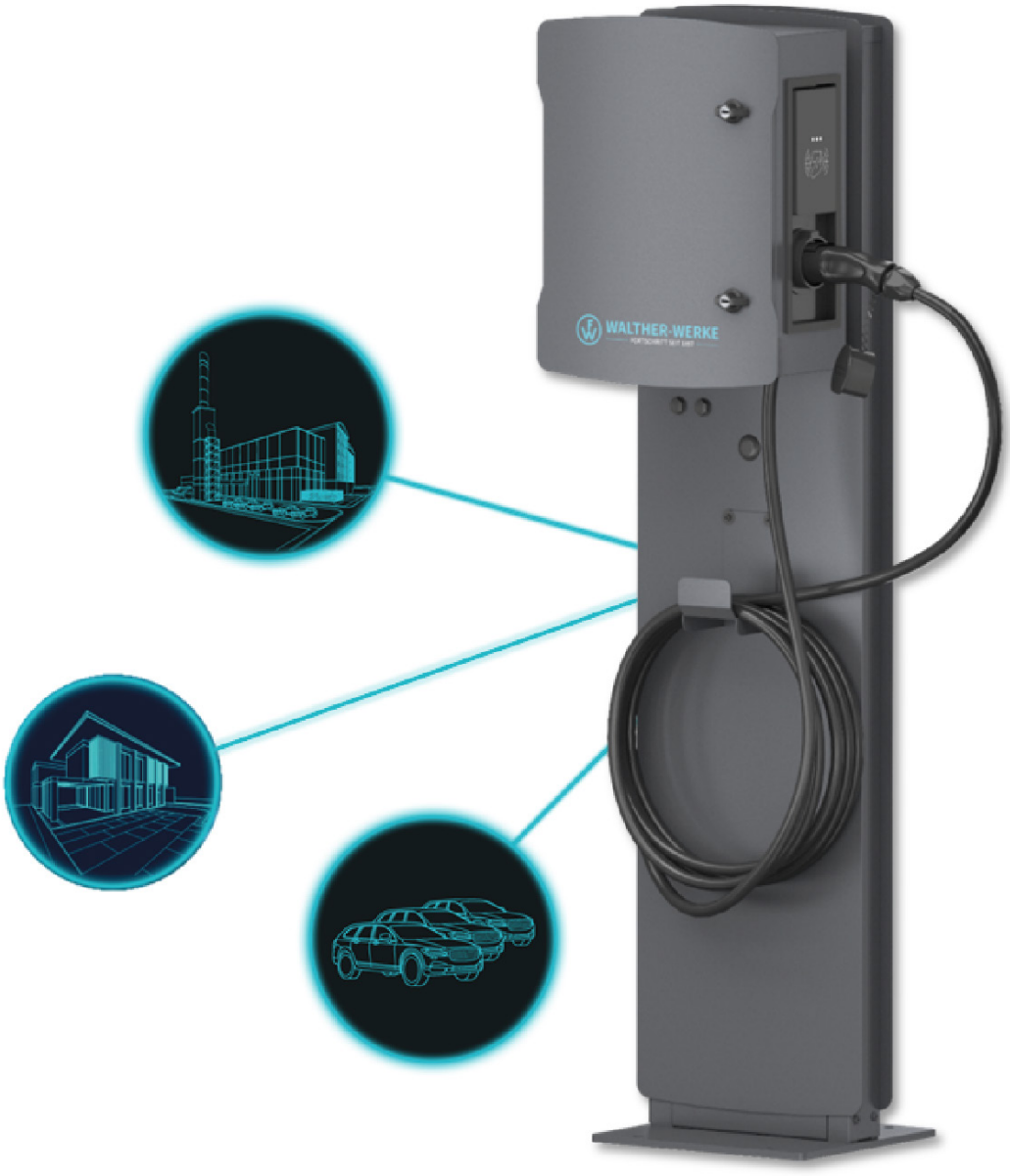
WALTHER-WERKE
FORTSCHRITT SEIT 1897

CHARGERS smartEVO / smartECO
CONFIGURATION INSTRUCTIONS



Imprint

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Inhaltsverzeichnis

1 About these instructions

These configuration instructions are a supplementary document to the operating instructions for the smart charger product family. They describe the configuration options within charging infrastructure systems and the setting options in the user interface, for example for load management, and primarily apply for initial installation.
These configuration instructions are intended for operators and installers of charging infrastructure systems. They are valid from firmware 5.20 of the charge controller.

	These configuration instructions describe a selection of configuration options. For more information on configuring the charge controller, visit the following URL: https://office.elinc.de/doku.php?id=start

1.1 Associated documents

- Operating instructions for the smart charger product family
- All safety instructions for the product as well as installation instructions from the network operator.

1.2 Symbols used

▶ Handling instruction.
When multiple steps are required, always follow the given order.
- Bulleted list, 1st level
  – Bulleted list, 2nd level

1.2.1 Structure of warning notices

SIGNAL WORD
Type, source and consequence of hazard
▶ Measures to avoid the hazard.

1.2.2 Danger levels in warning notices

Symbol	Warning word	Consequences of non-compliance
	**DANGER**	Imminent danger that will result in death or serious injury if not avoided.
	WARNING	Possible imminent danger that may result in death or serious injury if not avoided.
	CAUTION	Possible imminent danger that may result in minor injury if not avoided.
–	**CAUTION**	Possible imminent danger that may result in property damage if not avoided.

1.3 Relevant directives and standards

- IEC 61851
- ISO 15118
- DIN VDE 0100-600
- DIN VDE 0105-100
- DIN VDE 0100-722

2 Access to the service portal

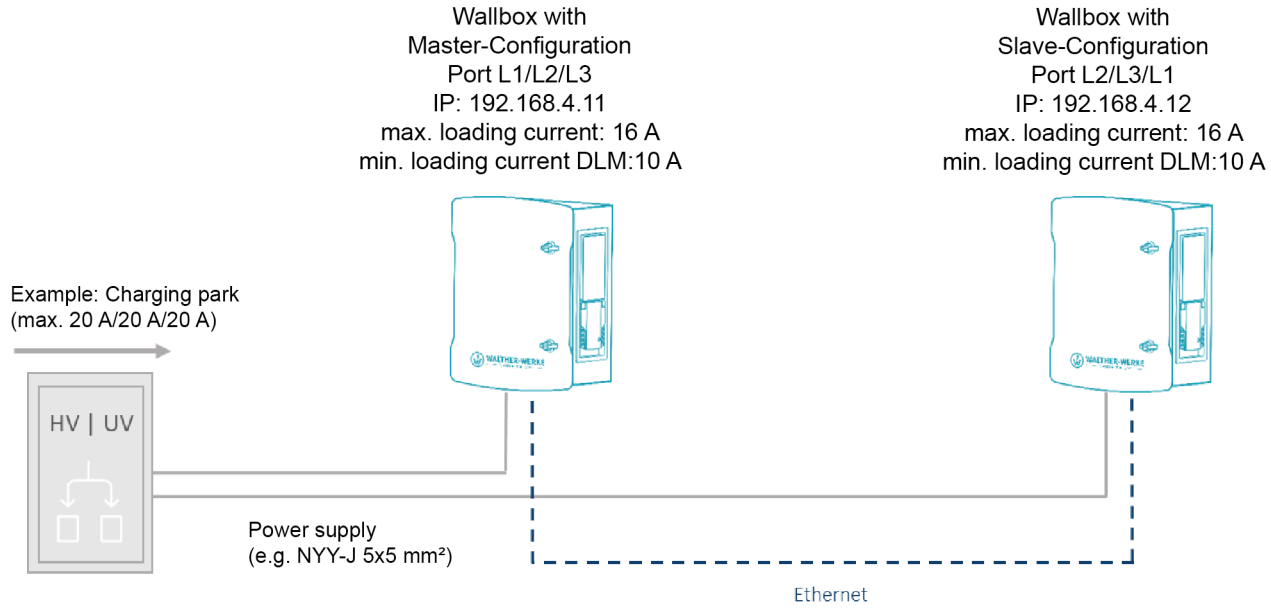
i	Configuration must always be carried out in consultation with the installer and, if necessary, in consultation with the network operator. Registration is required to log in to the service portal.

Current downloads, such as software updates, installation and operating instructions, etc., are available on the WALTHER-WERKE service portal.

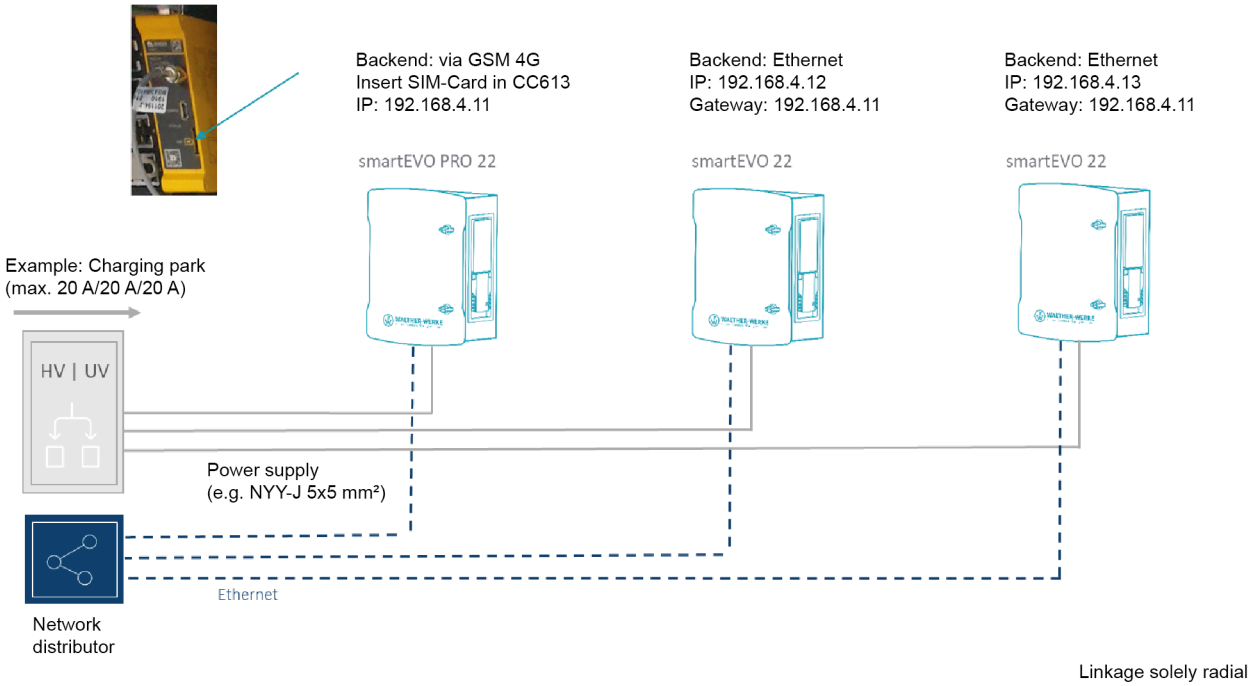
Link to the service portal: https://www.walther-werke.de/serviceportal
QR code to the service portal:

3 Examples of charging system configuration setups

3.1 Connection example of 2 chargers in a network without external network access

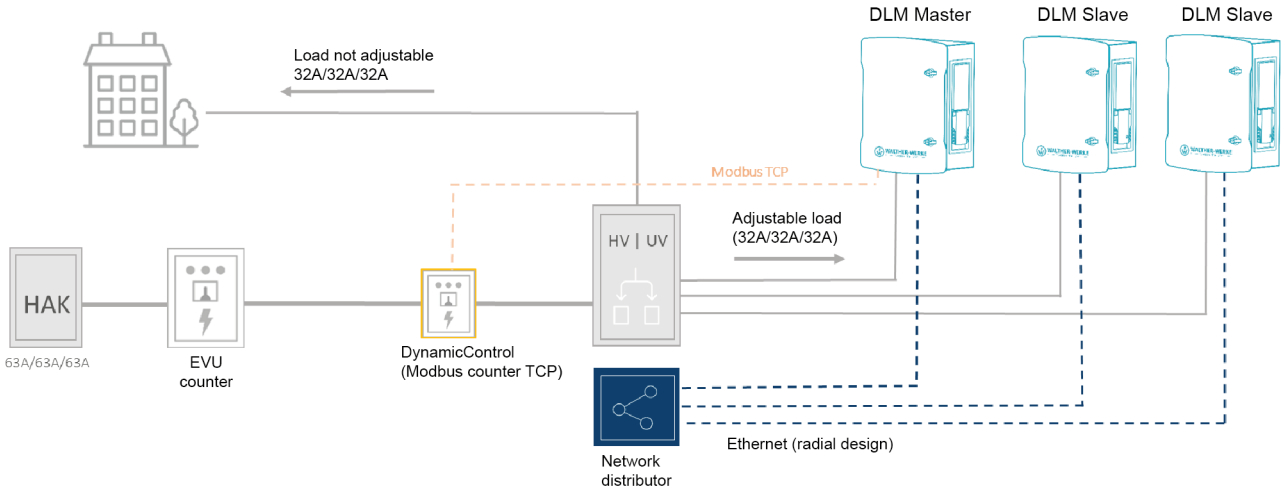


3.2 Connection example of 3 chargers in a network with backend

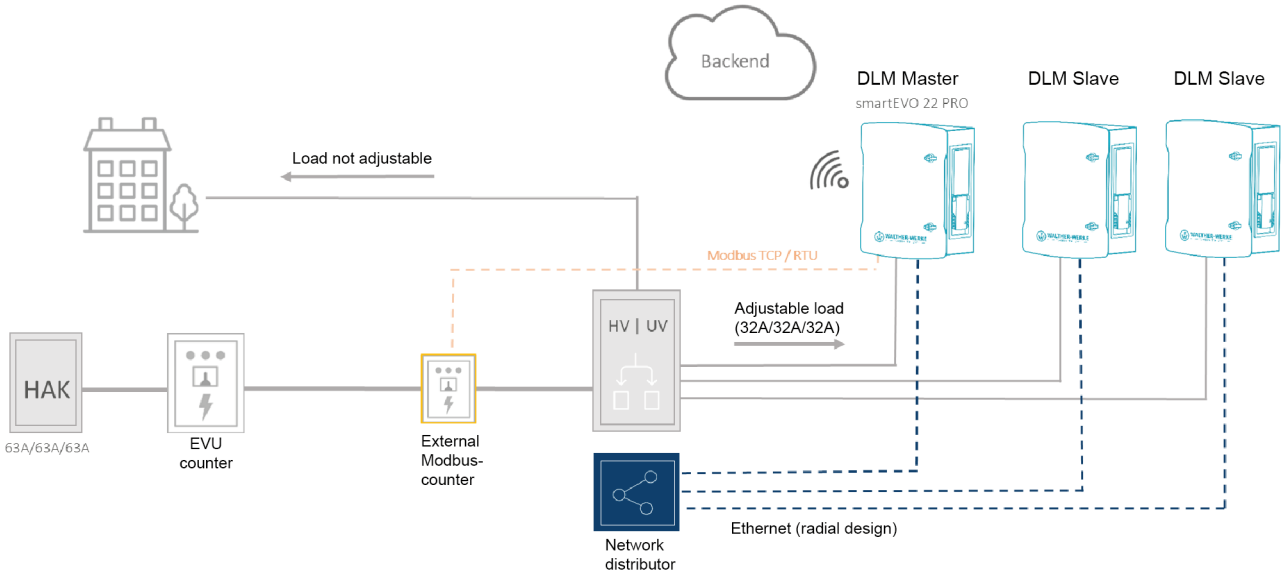


Linkage solely radial

3.3 Connection example dynamic load management with external load control



3.4 Connection example dynamic load management with external load control and backend



4 Configure charger

i	The user settings described here apply to chargers of the smart product range, PRO version, from firmware 5.20 of the charge controller.

Requirements

→ Charger is installed in accordance with the applicable standards and regulations.
→ Function was tested during commissioning using a suitable vehicle simulation tester (e.g. EV tester).
→ Charger has been commissioned in accordance with DIN VDE 0100-600 and is ready for operation.
→ Safety instructions and operating instructions have been read and observed.
→ USB cable MicroUSB to USB type A is ready.

4.1 Connecting the charge controller (Bender CC613)

4.1.1 Connect the charge controller to the PC

i	When connecting to a Windows, Linux or Mac computer, the USB configuration interface [CONFIG] emulates an RNDIS (Remote Network Driver Interface Specification) network. Starting with Windows 10, and on Linux and Mac operating systems, this virtual network is automatically recognised. A driver is not necessary. On a Windows host machine with a different Windows operating system, the driver for the RNDIS network adapter must be selected manually.

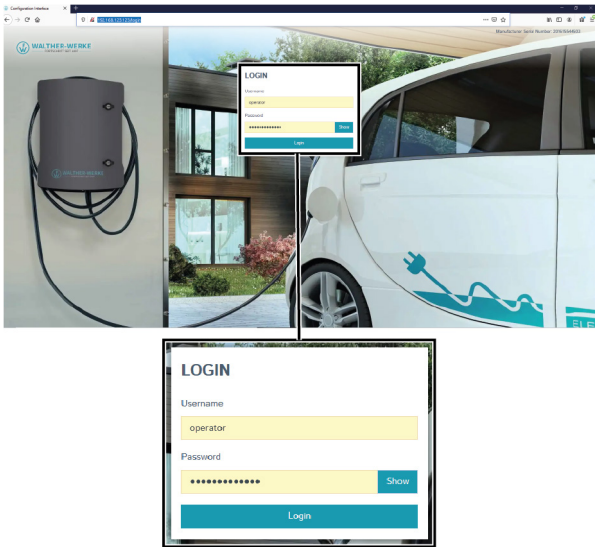
▶ Connect the charge controller to the PC using the USB cable.
Status LED flashes green.

Perform the following steps only when using a Windows host machine with a different Windows operating system:

▶ Open the Device Manager in the Control Panel.
▶ Under [Other Devices], right-click [RNDIS/Ethernet Gadget] and select [Update Driver Software...].
▶ Select [Find driver software on the computer].
A list opens.
▶ Select [Select from a list of device drivers on the computer].
▶ Select the [Network Adapter] category.
A window opens.
▶ Select [Microsoft Corporation] as the manufacturer and [Remote NDIS-compatible device] as the network adapter.
The device driver is installed and the system recognises the charge controller as a network adapter.
▶ Open the web interface for configuration with a standard browser.
The charge controller uses the local IP address 192.168.123.123 with the subnet mask 255.255.255.0 via the USB configuration interface.

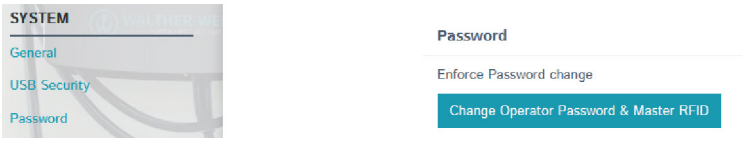
The connected device is automatically assigned a corresponding IP address via the Dynamic Host Configuration Protocol (DHCP) after the connection is established. Communication with the charging system is based on this IP address.
When connecting via Ethernet, the web interface can be reached via the set IP address of the respective charger (192.168.4.11 on delivery).

4.1.2 Connecting to the web interface of the charge controller

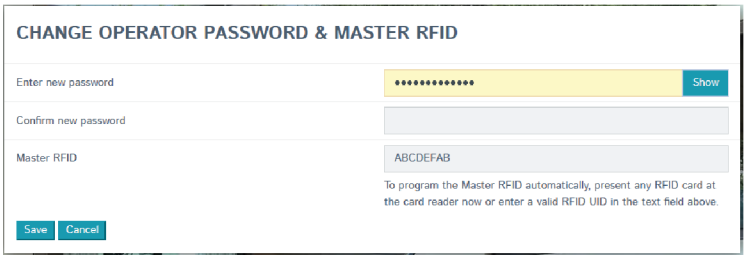


- To access the web interface of the charge controller, enter the following address in the browser: 192,168,123,123.
- Log in to the login field with the factory default login data. We recommend changing the password during your first session (see „Changing the password“ on page 9).
  Factory default login data:
  - **User name: operator**
  - **Password: service.kraft**

4.1.3 Changing the password



- Select the entry [Password] in the navigation area.
- In the [Password] area, select the entry [Change Operator Password & Master RFID].
  The [Change Operator Password & Master RFID] window opens.



- In the [Change Operator Password & Master RFID] window, change the password.
- Save the password change with the [Save] button.
  Password is changed.

4.2 Overview of user interface

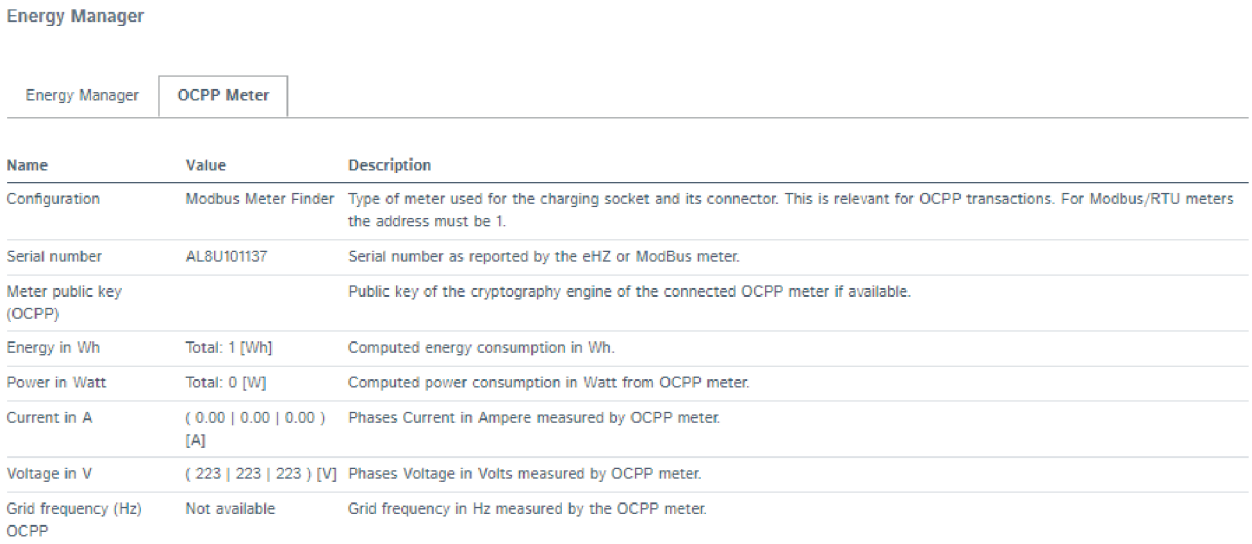
This chapter explains the basic layout of the user interface and the basic functions in the dashboard.

4.2.1 Dashboard

The dashboard provides an overview of the status of the charge controller.

1 Navigation area
2 General information
3 Charging history (for download)
4 Status area
5 System information (software version, language setting, logout)

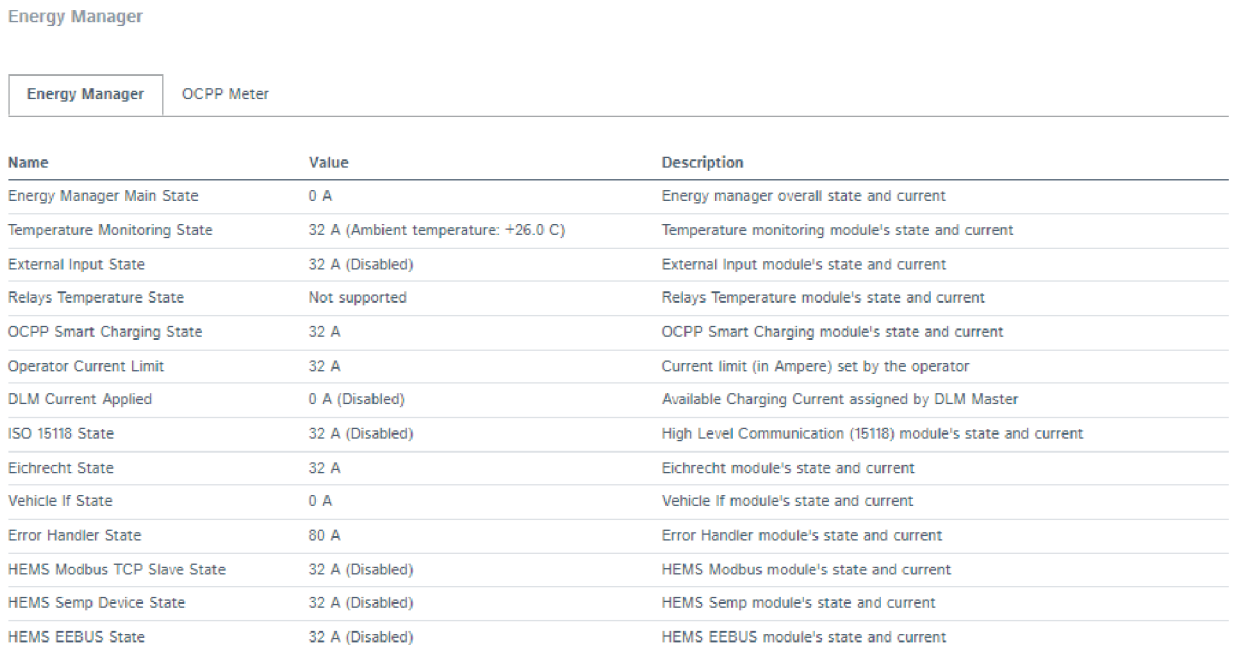
4.2.2 Counter values



The tab for setting the counter values is located in the status area of the dashboard.

On the [OCPP counters] tab, the properties of the counters are displayed together with their respective current value.

4.2.3 Energy Manager



Name	Value	Description
Energy Manager Main State	0 A	Energy manager overall state and current
Temperature Monitoring State	32 A (Ambient temperature: +26.0 C)	Temperature monitoring module's state and current
External Input State	32 A (Disabled)	External Input module's state and current
Relays Temperature State	Not supported	Relays Temperature module's state and current
OCPP Smart Charging State	32 A	OCPP Smart Charging module's state and current
Operator Current Limit	32 A	Current limit (in Ampere) set by the operator
DLM Current Applied	0 A (Disabled)	Available Charging Current assigned by DLM Master
ISO 15118 State	32 A (Disabled)	High Level Communication (15118) module's state and current
Eichrecht State	32 A	Eichrecht module's state and current
Vehicle If State	0 A	Vehicle If module's state and current
Error Handler State	80 A	Error Handler module's state and current
HEMS Modbus TCP Slave State	32 A (Disabled)	HEMS Modbus module's state and current
HEMS Semp Device State	32 A (Disabled)	HEMS Semp module's state and current
HEMS EEBUS State	32 A (Disabled)	HEMS EEBUS module's state and current

The tab for setting the energy-related properties is located in the status area of the dashboard.

On the [Energy Manager] tab, the energy-related properties of the charger are displayed with their respective current value.

4.2.4 DLM live display

The DLM live display is located in the status area of the dashboard.

The DLM live display is only visible if DLM is activated (DLM = dynamic load management).
The DLM live display provides information about the current dynamic load management/energy distribution in the form of a graph.

4.3 Set parameters

We recommend setting the following parameters for initial installation.

4.3.1 Set network

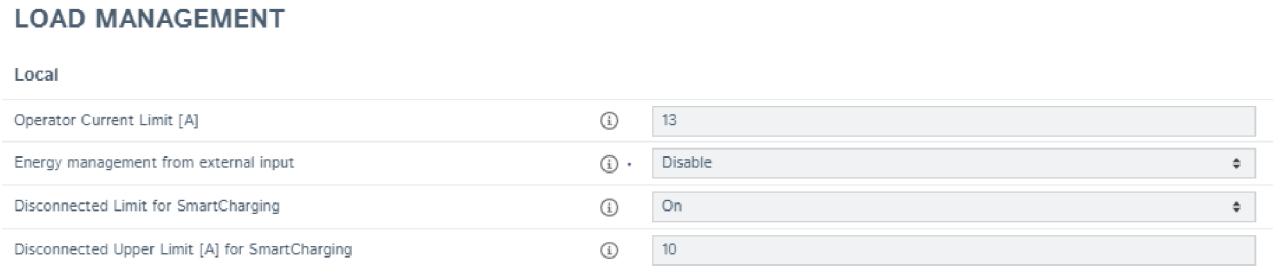
i	The network address settings must be coordinated with your responsible IT administration.

▶ Select the entry [Network] in the navigation area.

The network settings have to be adjusted depending on the configuration setup (the illustration shows the delivery status of the charge controller).

▶ For load management, make sure:
  – that the chargers are on the same network.
  – that the chargers have the same software version.
▶ When connecting several chargers, make sure that the IP address is changed.
  Ex.: In parameter [IP for static network configuration], the IP address "192.168.4.11" is entered for charger 1. Charger 2 must therefore be given a different IP address, for example "192.168.4.12". An IP address must not be assigned more than once.

4.3.2 Set power

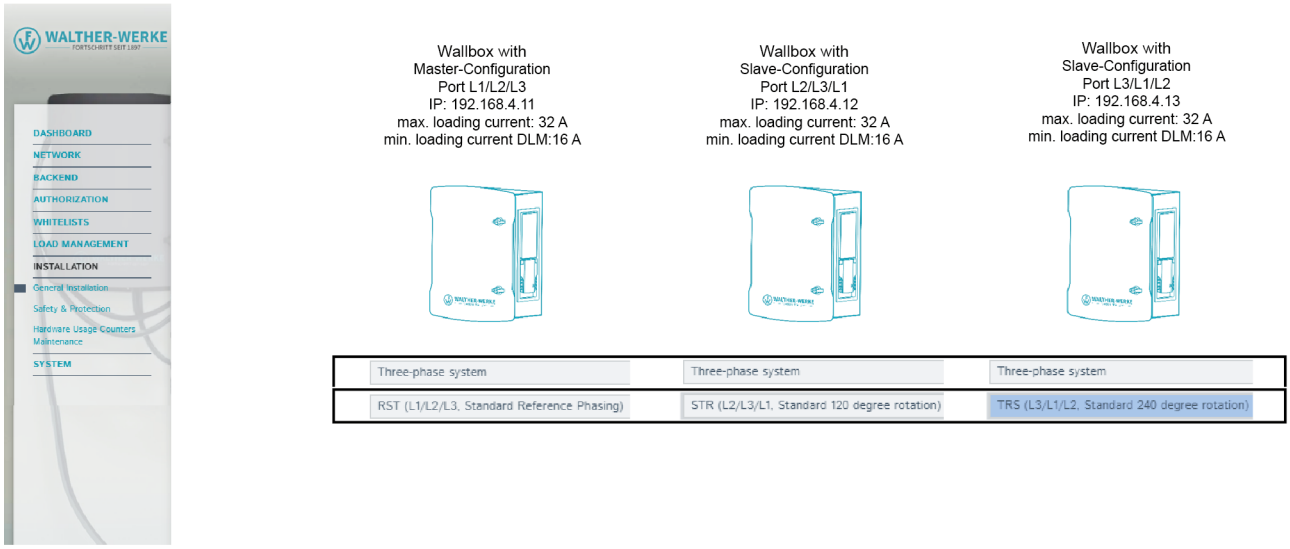


▶ Select the entry [Load Management] in the navigation area.

Under [Power/Load Management Local], you can set the maximum charging current to be available for the charging point.
Ex.: The value 13 is entered in [Operator current limit]. Thus, a maximum charging current of 13 A would be available for this charging point.

▶ Select the entry [Installation] in the navigation area.

Depending on the installation, the number of phases and the phase position of the charger must be set or checked before the first charge. This setting must be done by the electrician.

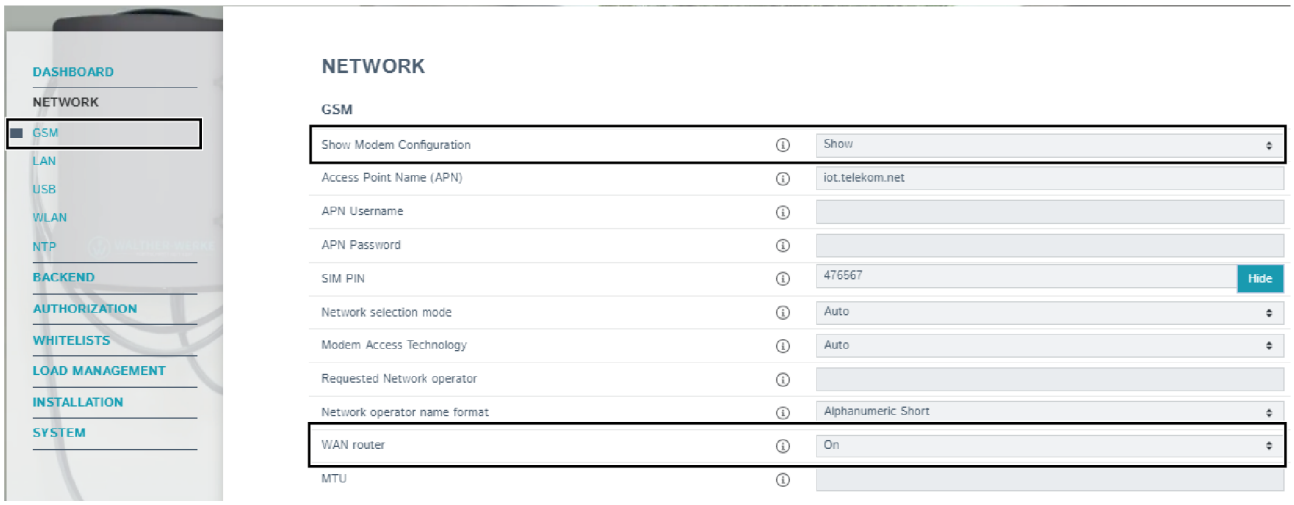


The figure shows an example of the setting for the number of phases and the phase position of the smartEVO 22 chargers in a charging infrastructure system.

4.4 Configure backend

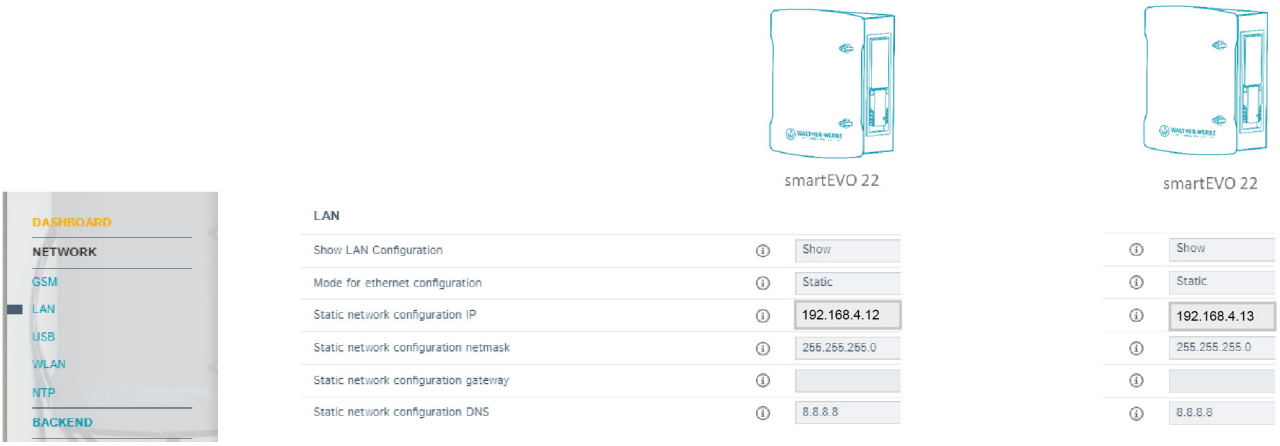
4.4.1 Configure GSM backend connection

i	Settings only valid for chargers of the smart product range, PRO version, and with installed SIM card (gateway).



- ▶ Select the entry [Network] in the navigation area.
- ▶ Under [Network], select the entry [GSM].
- ▶ Change the [Show modem setting] parameter to "Show".
- ▶ Change the parameter [WAN router] to "On" (only necessary if several chargers in the charging network are connected to the backend).

- ▶ Select the entry [Network] in the navigation area.
- ▶ Under [Network], select the entry [LAN].
- ▶ Remove gateway from the [Network mask for static network configuration] parameter (field must be empty).
- ▶ Adjust the parameter [DNS for static network configuration] (entry in figure as an example).



The illustration shows an example setting of the backend connection for the smartEVO 22 charger.

4.4.2 Configure backend

Configure identification for the backend

i	Each charging point requires its own ChargePointID.

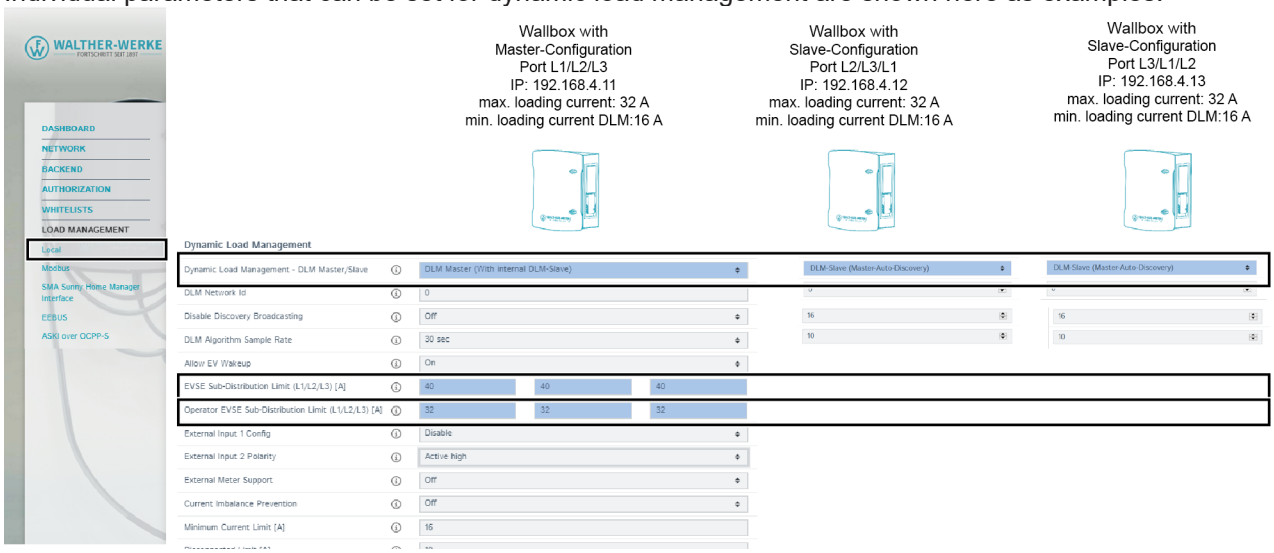
- ▶ Select the entry [Backend] in the navigation area.
- ▶ Under [Backend], select the entry [OCPP].
  The data to be entered is provided by the backend.
- ▶ Enter the ChargePointID provided by the backend for the respective charger.

Check connection to the backend

The overview of the dashboard shows the connection status.

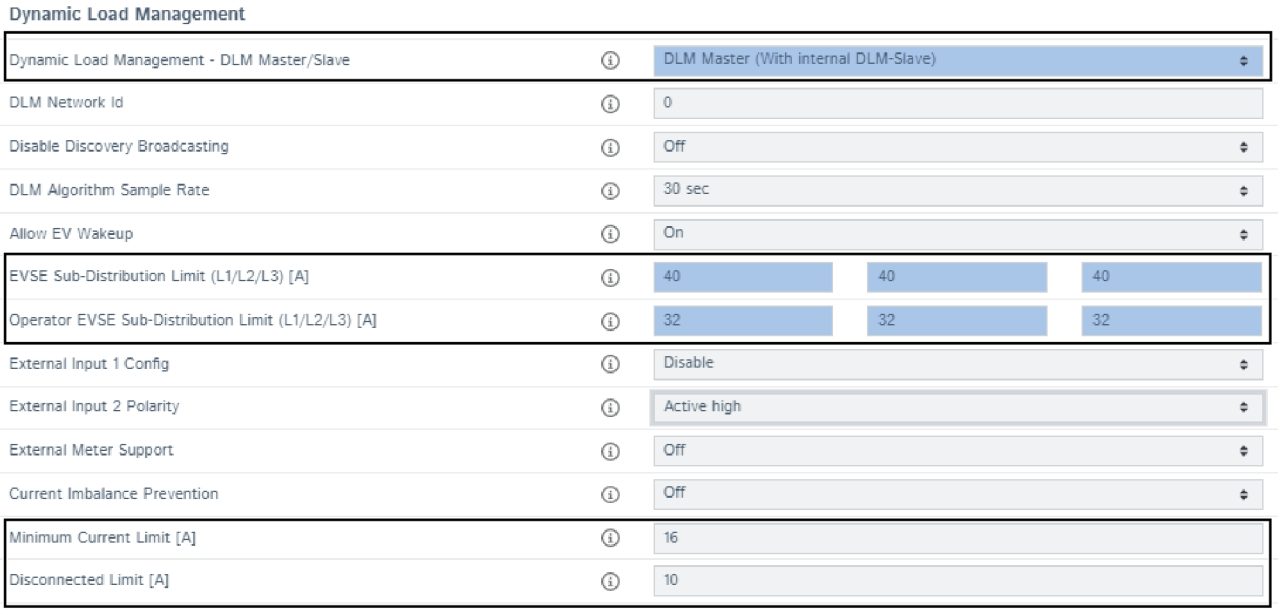
4.5 Set DLM

Individual parameters that can be set for dynamic load management are shown here as examples.



The figure shows an example of the settings for dynamic load management of the smartEVO 22 chargers in a charging infrastructure system.

4.5.1 Set DLM master



▶ Select the entry [Load Management] in the navigation area.

Depending on the configuration setup, various settings for distribution between the individual chargers can be made under [Dynamic Load Management].

▶ Configure the following parameters for initial installation:

- Set the current to be distributed:
  - [Set Charger Subdistribution Current Limit (L1/L2/L3) [A]]
  - [Set Operator Subdistribution Current Limit (L1/L2/L3) [A]]
- Set the minimum current:
  - [Minimum Current Limit [A]]
- Set current in case of lost connection
  - [Current limit in the event of connection failure [A]]

After the parameters have been configured:

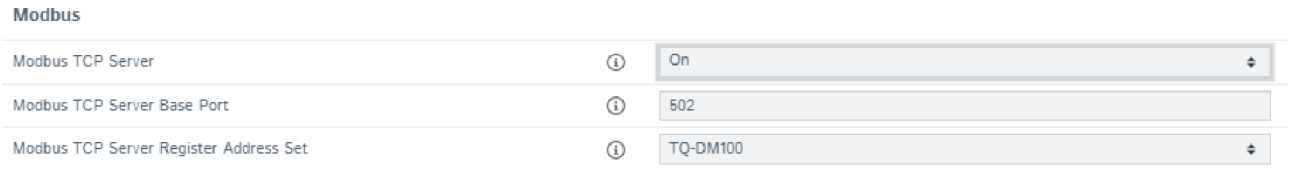
- ▶ Save changes with the [Save] button.
- ▶ Restart the charge controller with the [Restart] button.

4.5.2 Set EEBUS

- ▶ Select the entry [Load Management] in the navigation area.

The settings for the EEBUS have to be adjusted depending on the configuration setup.

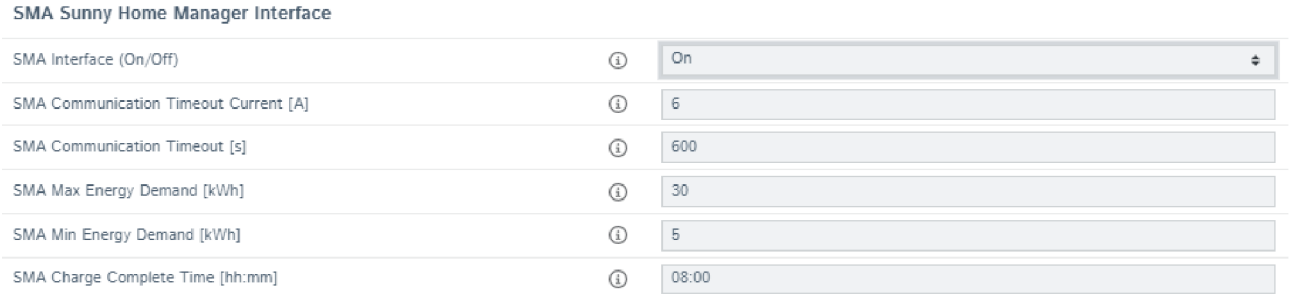
4.5.3 Set EMS/Modbus



- ▶ Select the entry [Load Management] in the navigation area.

The settings for the Modbus have to be adjusted depending on the configuration setup.

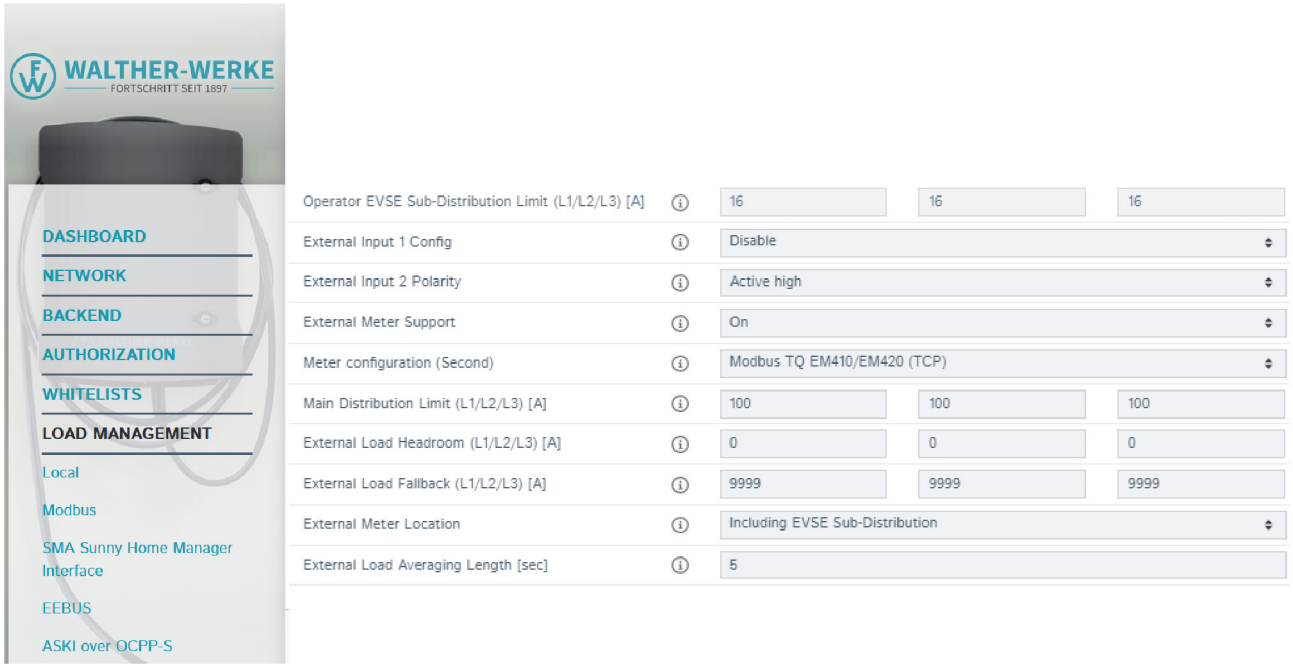
4.5.4 Set SMA



- ▶ Select the entry [Load Management] in the navigation area.

The settings for SMA have to be adjusted depending on the configuration setup.

4.5.5 Set external counter support



Select the entry [Load Management] in the navigation area.

The external counter support can be activated here. Depending on the configuration setup, settings for external counters can be made, e.g.:

- Modbus RTU counter (e.g. dynamicControl - CarloGavazzi EM210) - only for chargers with PRO version
  Setting on the counter (Modbus RTU)
  Modbus address: 2
  Baud rate: 9600
- Modbus TCP counter (e.g. dynamicControl TCP JANITZA PA 96+ or TQ EM410/420)

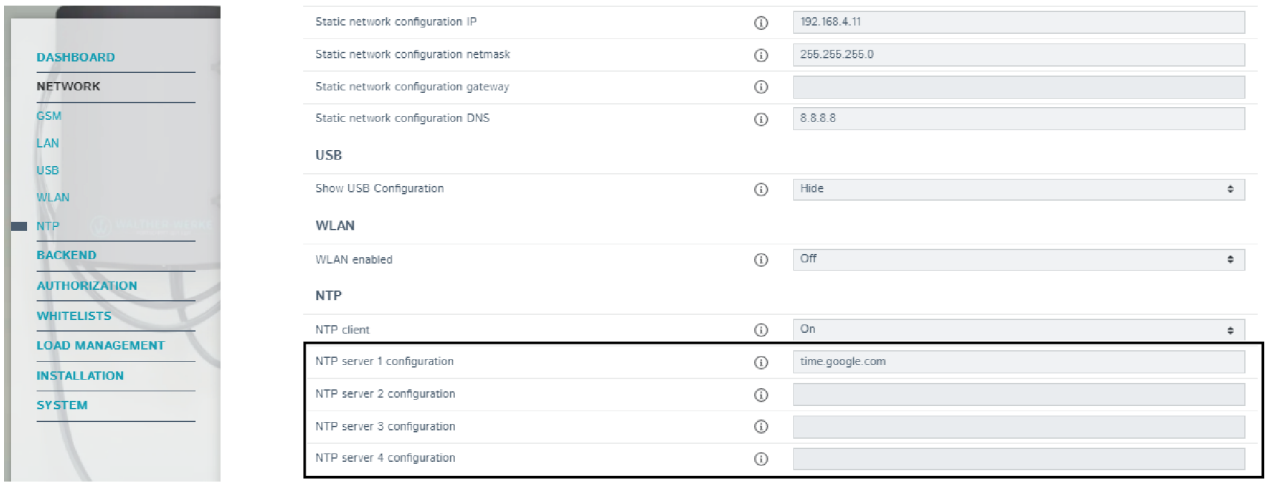
Energy Manager | OCPP Meter | **Second Meter**

Name	Value	Description
Meter configuration (Second)	Modbus TQ EM410/EM420 (TCP)	Energy Management: the type of second meter used only for input to manage the current on the grid. For Modbus/RTU meters the address must be 2.
Meter serial number (Second)	No Id read yet	Serial number as reported by the eHZ or ModBus meter
Energy in Wh (Second)	Not available	Computed energy consumption in Wh from second meter.
Power in Watt (Second)	Not available	Computed power consumption in Watt from second meter
Current in A (Second)	Not available	Phases current in Ampere measured by second meter.
Voltage in V (Second)	Not available	Phases voltage in Volts measured by second meter
Grid frequency (Hz) (Second)	Not available	Grid frequency in Hz measured by the second meter.

In the dashboard, you can check whether the counter is active on the [External counter] tab.

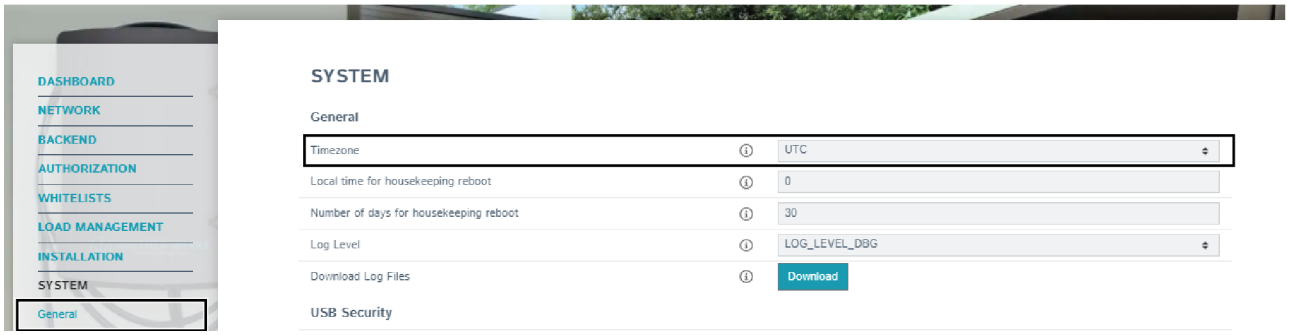
4.5.6 Set NTP usage

i	To use NTP, the charger must be connected to the Internet. The NTP server is set to ntp.elinc.de. This server is operated by ebee. You can also select a different NTP server.



If the backend connection is set to "No backend" and restarted, NTP is active.

- ▶ Select the entry [Network] in the navigation area.
- ▶ Under [Network], select the entry [NTP].
- ▶ In the parameters [Configuration of NTP server 1/2/3/4], set the backup server(s) (either as host name or IP address).

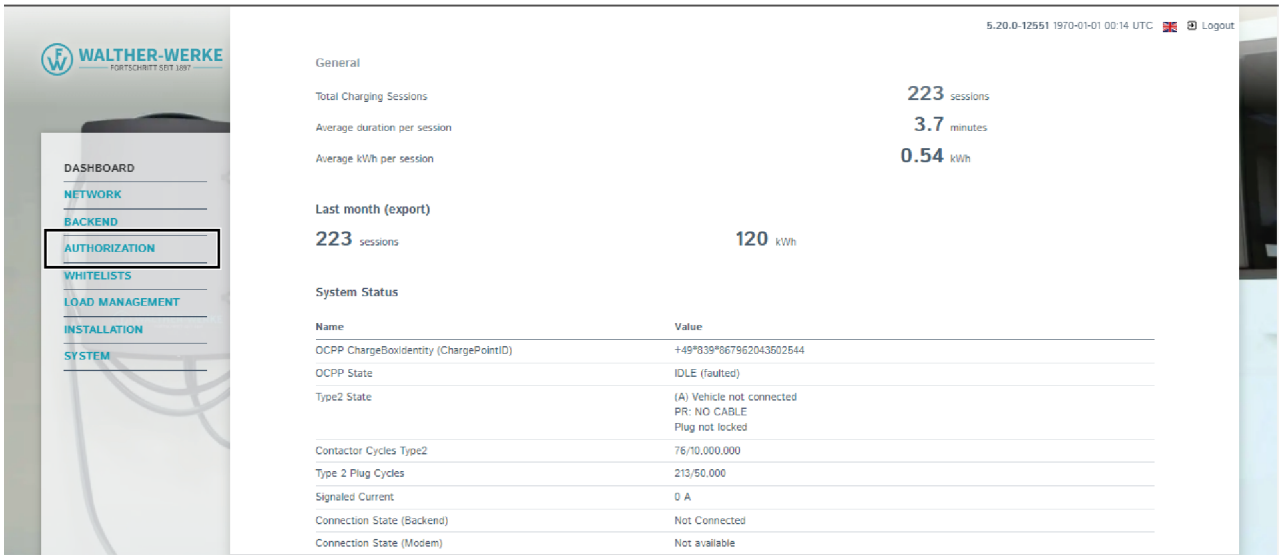


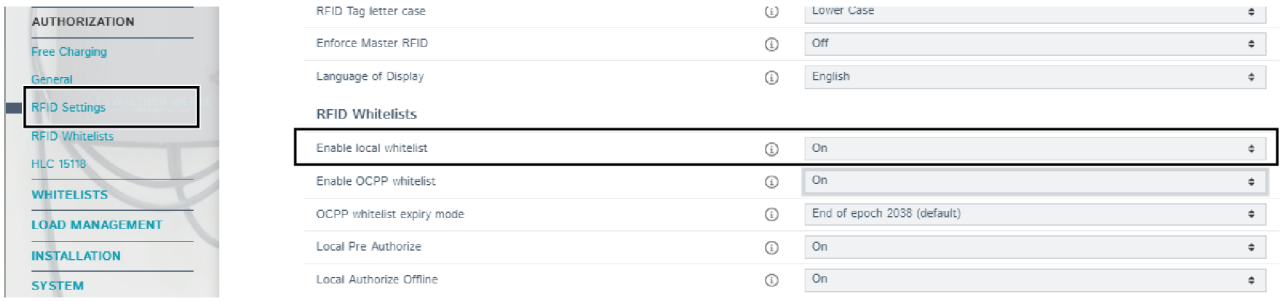
- ▶ Select the entry [System] in the navigation area.
- ▶ Under [System], select the entry [General].
- ▶ Use the [Time Zone] parameter to configure the local time zone (e.g. to Berlin for Germany). The time is then automatically switched from summer to winter time.

i	If the law regarding daylight saving time is changed, an update will be necessary.

4.6 RFID management

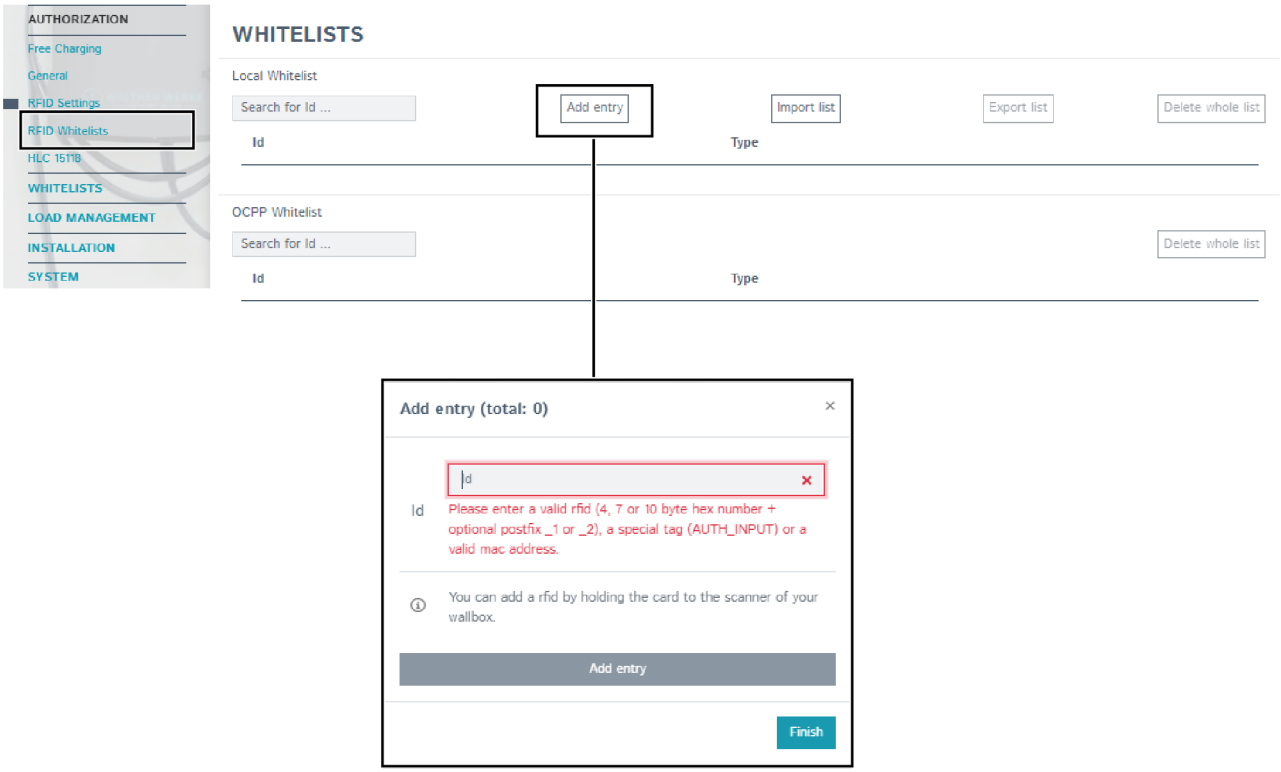
4.6.1 Read RFID cards





To read new RFID cards:

- ▶ Select the entry [Authorisation] in the navigation area.
- ▶ Under [Authorisation], select the entry [RFID Settings].
- ▶ Change the [Enable Local Whitelist] parameter to "On".



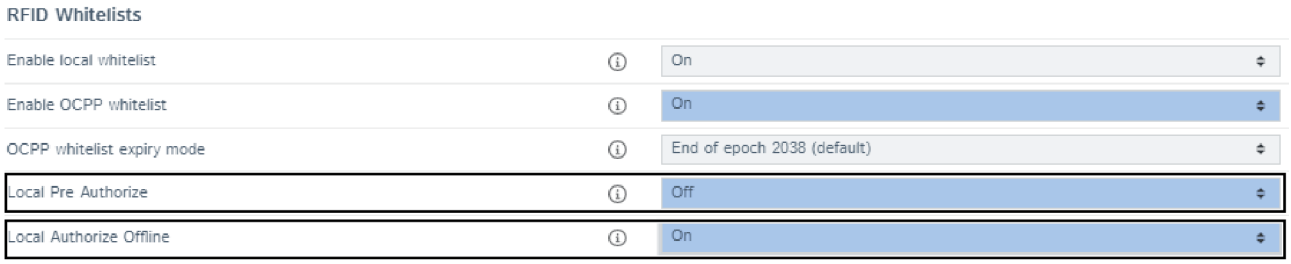
- ▶ Select the entry [Authorisation] in the navigation area.
- ▶ Under [Authorisation], select the entry [RFID Whitelists].
- ▶ Select the [Add Entry] button to open the [Add Entry] window.
- ▶ On the RFID card reader of the charger: When the LED of the RFID card reader lights up green, hold the RFID card up to the card reader (card symbol).
  The LED of the RFID card reader lights up blue.
  The RFID card is read.
  The respective RFID number is entered in the [Add Entry] window.
- ▶ Confirm the RFID number with the button [Add entry].
- ▶ If desired, repeat the process for additional RFID cards.

4.6.2 Activate charging with backend only

To enable charging with backend only:

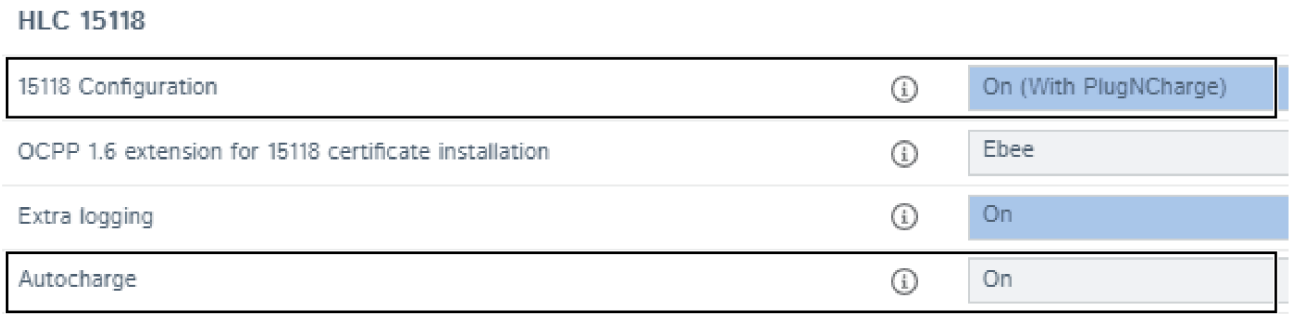
- ▶ Select the entry [Authorisation] in the navigation area.
- ▶ Under [Authorisation], select the entry [RFID Settings].
- ▶ Change the [Local Pre Authorize] parameter to "On".

4.6.3 Activate charging via local whitelist in case of backend failure (OCPP)

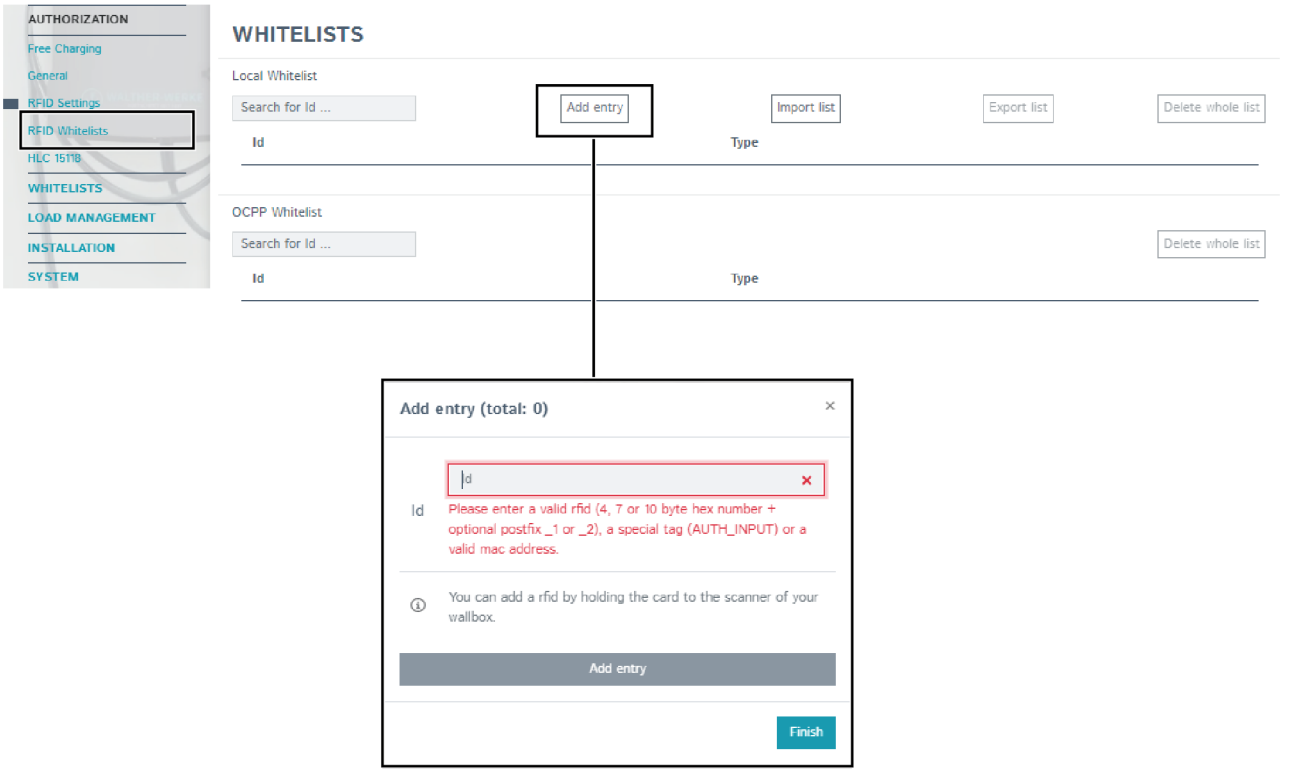


To enable charging via local whitelist in case of backend failure (OCPP):
- ▶ Select the entry [Authorisation] in the navigation area.
- ▶ Under [Authorisation], select the entry [RFID Settings].
- ▶ Change the [Local Pre Authorize] parameter to "Off".
- ▶ Change the [Local Authorize Offline] parameter to "On".

4.6.4 Bidirectional communication: ISO 15118



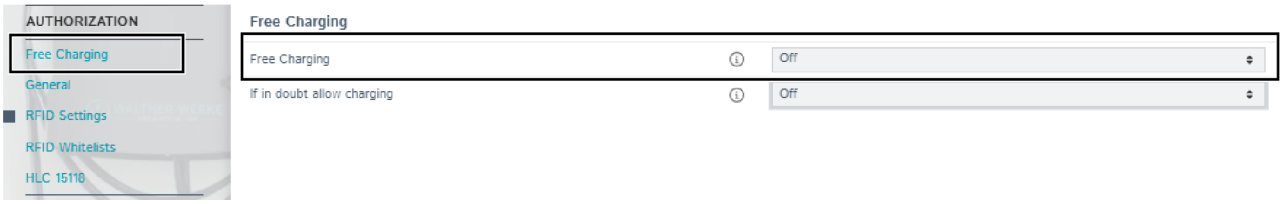
To enable bidirectional communication according to ISO 15118:
- ▶ Select the entry [Authorisation] in the navigation area.
- ▶ Under [Authorisation], select the entry [RFID Settings].
- ▶ Change the parameter [15118 Configuration] to "On".



If desired, the UID of the vehicle can be added automatically via the whitelist. To do so:

- ▶ Change the entry [Autocharge] to "On".
- ▶ Select the entry [Authorisation] in the navigation area.
- ▶ Under [Authorisation], select the entry [RFID Whitelists].
- ▶ Select the [Add Entry] button to open the [Add Entry] window.
- ▶ Plug in the vehicle.
  The vehicle UID is read.
- ▶ Close the window with the [Exit] button.
  The vehicle UID is saved on closing.

4.6.5 Activate free charging



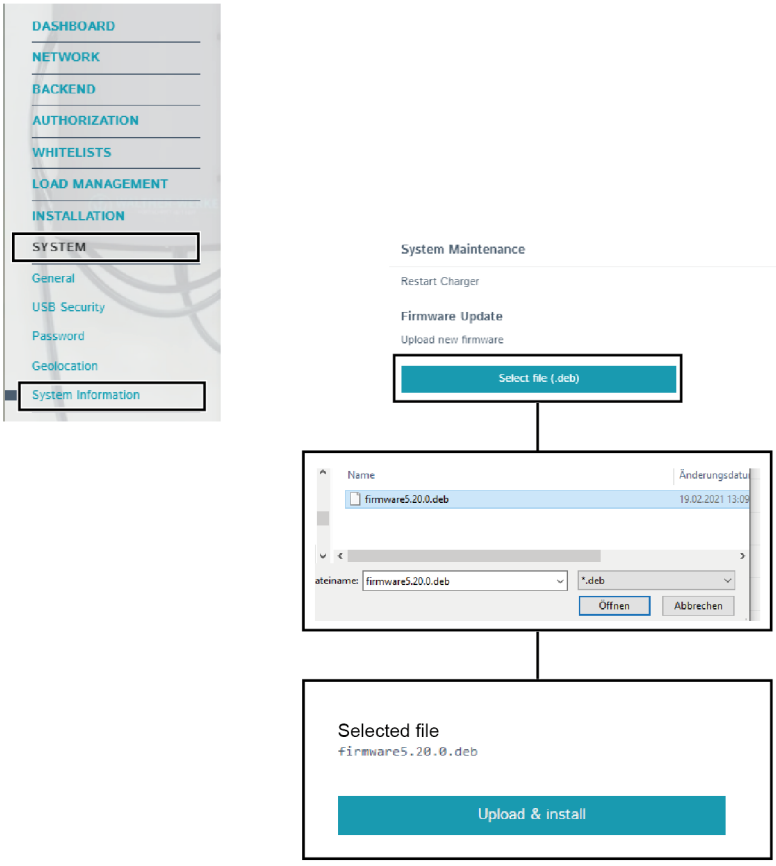
- ▶ Select the entry [Authorisation] in the navigation area.
- ▶ Under [Authorisation], select the entry [Free Charging].
- ▶ Change the [Free Charging] parameter to "On".

4.7 Update firmware

i	Firmware versions within the DLM must match. It is not possible to downgrade the firmware. Registration is required to log in to the service portal.

- ▶ Read the log files before updating the firmware (see “4.8 Read log files” on page 25).

- ▶ To download the firmware, open the service portal at www.walther-werke.de/serviceportal/ or use the QR code on the touch guard.
- ▶ Download and save firmware.



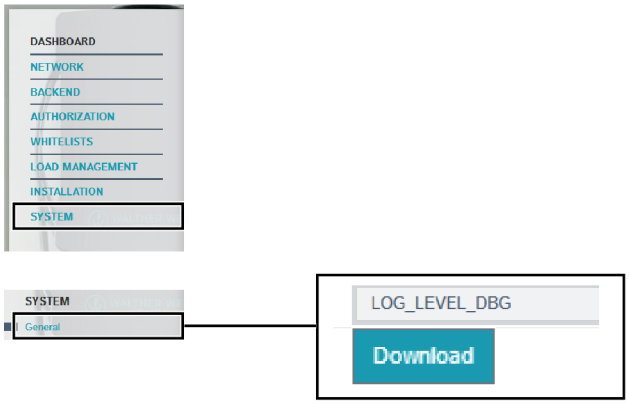
To perform firmware updates:

- ▶ Select the entry [System] in the navigation area.
- ▶ Under [System], select the entry [System Information].
- ▶ Open the window for selecting data via the [Select Data] button.
- ▶ Select and open the downloaded firmware.
- ▶ Install the selected file with the [Upload & Install] button.
- ▶ Wait until the update is finished.

i	During the update, the charge controller CC613 will restart several times. The power supply must not be interrupted during this time.

- ▶ After completing the update, check the configuration settings.

4.8 Read log files

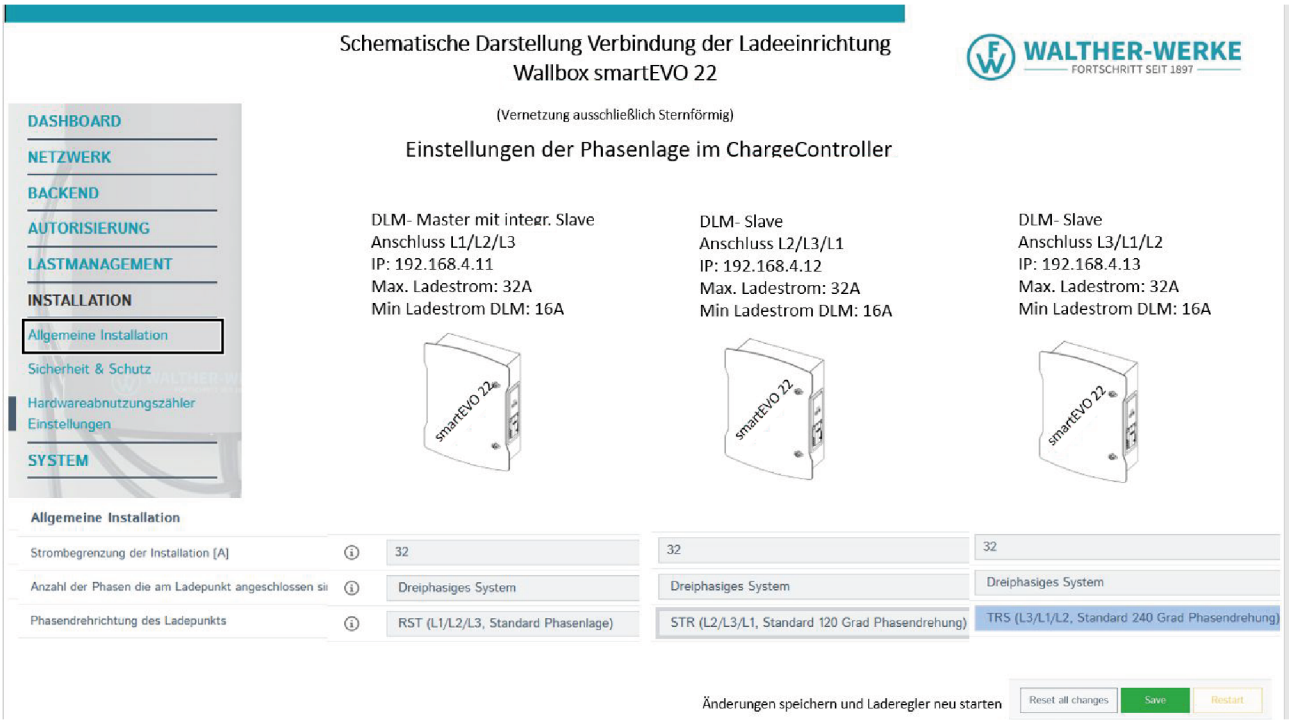


To read the log files (process logs):

- ▶ Select the entry [System] in the navigation area.
- ▶ Under [System], select the entry [General].
- ▶ Download log files via the [Download] button.

5 Setting examples

5.1 Set the phase position in the charge controller

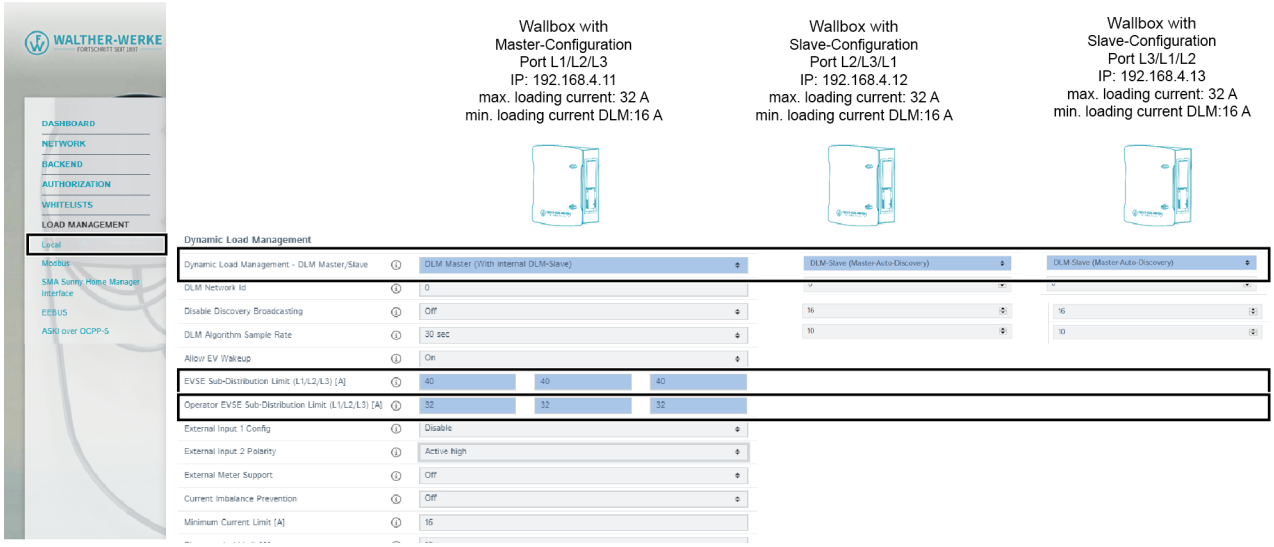


- ▶ Select the entry [Installation] in the navigation area.
- ▶ Under [Installation], select the entry [General Installation].

The following parameters are set under [General Installation]:

- Number of phases connected to the charging point
- Phase rotation direction of the charging point

5.2 Set load management for three chargers

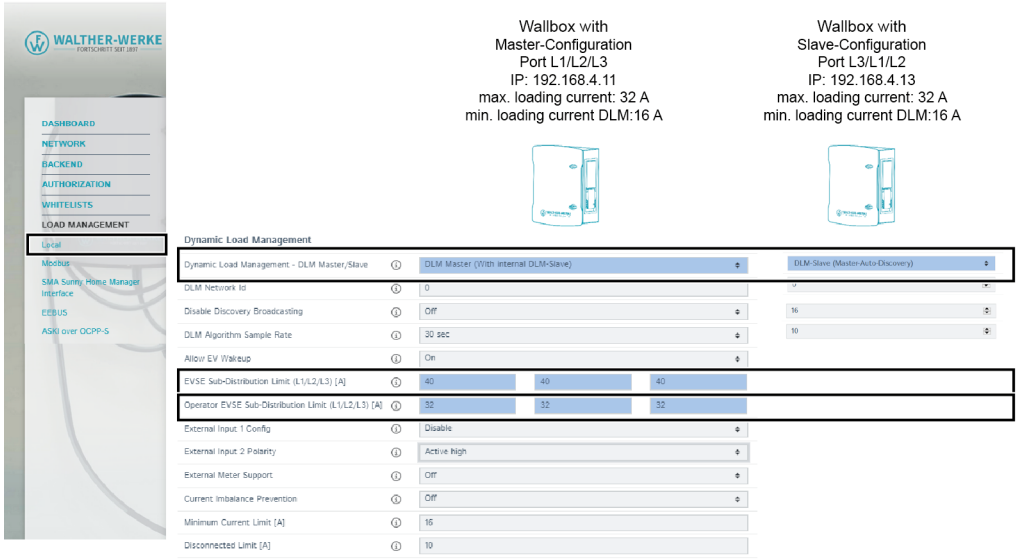


- ▶ Select the entry [Load Management] in the navigation area.
- ▶ Under [Load Management], select the entry [Local].

The following parameters are set under [Local], for example:

- Dynamic Load Management - DLM Master/Slave
- [Set Charger Subdistribution Current Limit (L1/L2/L3) [A]]
- [Set Operator Subdistribution Current Limit (L1/L2/L3) [A]]

5.3 Load management with two chargers in a network (without external network access)

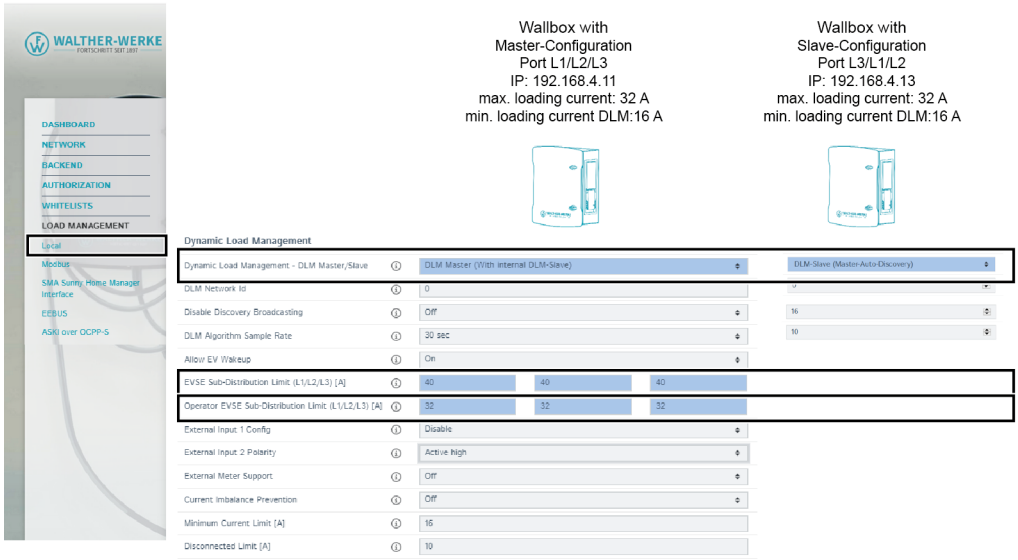


- ▶ Select the entry [Load Management] in the navigation area.
- ▶ Under [Load Management], select the entry [Local].

The following parameters are set under [Local], for example:

- Dynamic Load Management - DLM Master/Slave
- [Set Charger Subdistribution Current Limit (L1/L2/L3) [A]]
- [Set Operator Subdistribution Current Limit (L1/L2/L3) [A]]

5.4 Set power limit



- ▶ Select the entry [Load Management] in the navigation area.
- ▶ Under [Load Management], select the entry [Local].

Under [Local], the power limit can be set with the parameter [Operator Current Limit [A]].
The recommended minimum charging current is 6 A.

i	Further configuration options for the charge controller can be found at the following URL: https://office.elinc.de/doku.php?id=start

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