

Webasto Unite

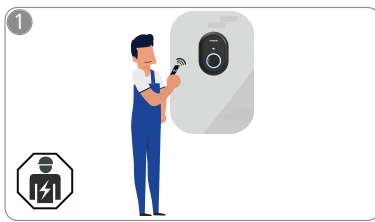
Webasto Charging Solutions



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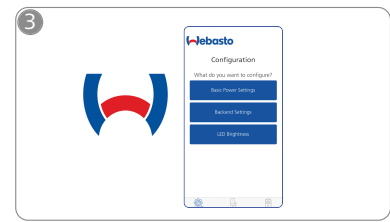
1 Quick Start Guide for App Solutions



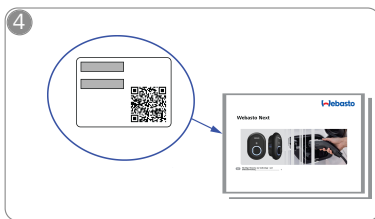
- ✓ The Webasto Unite must be installed by a qualified electrician.



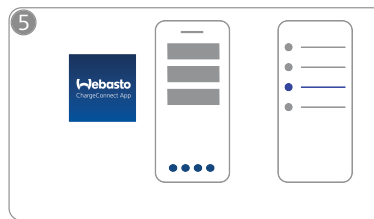
- Download the required Apps:
- 1) For installation: Webasto Charger Setup
 - 2) For operation: Webasto ChargeConnect



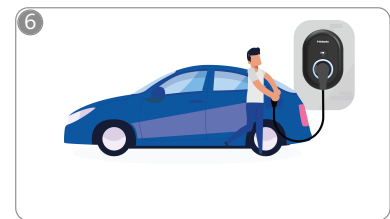
- Open the Webasto Charger Setup app and configure your charging station.



- Scan the QR code on the label in the Quick Start Guide or type in the Wi-Fi password manually.



- Open the ChargeConnect app and follow the steps to connect the charging station to the ChargeConnect Cloud.



- Plug in and enjoy exploring your charging station's capabilities.

2 General Information

2.1 Purpose of the document

These operating and installation instructions are part of the product and contain information for the user to ensure safe operation and for the electrician to carry out safe installation of the Webasto Unite charging station. In addition to the "Important Information on Operating and Installation Instructions", a printed version of which is enclosed with your product, this document also contains detailed information about operating the product.

2.2 Using this document

- ▶ Carefully read these operating and installation instructions for safe operation and installation of the Webasto Unite.
- ▶ Keep these instructions ready to hand.
- ▶ Hand this document on to the following owner or user of the charging station.

Your "Important Information on Operating and Installation Instructions", a printed version of which is enclosed with your product, includes introductory information and information relevant to safety and installation. This document additionally includes further information on the operation of the charging station.

NOTE

We would draw your attention to the fact that, as part of a professional installation, an installation log should be drawn up by the installer. We also request that you fill in our Check list for the installation of the Webasto charging station.

NOTE

Individuals with deficiency in their colour vision require support in the allocation of all fault indicators.

2.3 Intended use

The Webasto Unite charging station is designed for charging electric vehicles in accordance with IEC 61851-1, charge mode 3.

In this charge mode, the charging station ensures:

- The voltage is not applied before the vehicle has been connected correctly.
- The maximum power is calibrated.

2.4 Use of symbols and highlighting

DANGER

This signal word denotes a hazard with a **high** degree of risk which, if not avoided, may lead to death or serious injury.

WARNING

This signal word denotes a hazard with a **moderate** degree of risk which, if not avoided, may lead to minor or moderate injury.

CAUTION

This signal word denotes a hazard with a **low** degree of risk which, if not avoided, may lead to minor or moderate injury.

NOTE

This symbol denotes a special technical feature or (if not observed) potential damage to the product.



This symbol refers to separate documents which may be enclosed or can be requested from Webasto.

2.5 Warranty and liability

Webasto shall not assume liability for defects or damage that are the result of the installation and operating instructions being disregarded. This liability exclusion particularly applies for:

- Improper use.
- Repairs carried out by an electrician not contracted by Webasto.
- Use of non-original spare parts.
- Unauthorised conversion of the unit without permission from Webasto.
- Installation and commissioning by unqualified staff (not an electrician).
- Improper disposal after decommissioning.



NOTE

In case of any claims, defects or damage to your project, you must contact your direct contractual partner, installation partner or dealer.



WARNING

Installation and connection of the charging station must only be carried out by a qualified electrician.



The symbol of a bin with a line through it means that the instructions in the chapter on Disposal must be followed.

3 Safety

3.1 General information

The device must only be used in a technically faultless condition. Any malfunctions that adversely affect the safety of persons or of the device must be immediately rectified by a qualified electrician in accordance with nationally applicable regulations.

3.2 General safety information



WARNING

- Hazardous voltages are present within the casing.
- The charging station does not have its own main ON/OFF switch. The protective devices installed in the power supply system are therefore also used to disconnect the power supply.
- Check charging station for visual damage before use. Do not use the charging station if damaged.
- Installation, electrical connection and initial operation of the charging station must only be carried out by an electrician.
- Do not remove the cover of the installation area whilst in operation.
- Do not remove markings, warning symbols and the type label from the charging station.
- It is strictly prohibited to connect other equipment/devices to the charging station.
- Make sure that the charging cable and coupling cannot be driven over, trapped and are protected from any other hazards.
- Immediately notify Webasto Customer Service if the charging station, charging cable or the charging coupling are damaged. Do not continue using the charging station.

- Prevent the charging cable and coupling from coming in contact with external heat sources, water, dirt and chemicals.
- Do not attach extension cables or adapters to the charging cable.
- Remove the charging cable by pulling on the charging coupling only.
- Never clean the charging station with a high-pressure cleaner or similar device or using a garden hose.
- Switch off the power supply before cleaning the charging sockets.
- The charging cable must not be subjected to any strain during use.
- Ensure only persons who have read these operating instructions have access to the charging station.

**WARNING**

- When not in use, store the charging cable in the designated holder and lock the charging coupling in the remote dock. Loosely wind the charging cable around the remote dock making sure the cable does not touch the floor.
- You must make sure that the charging cable and coupling cannot be driven over, trapped and are protected from all other hazards.

3.3 Safety information for installation

**WARNING**

- The instructions in this document must be followed for safe installation.
- Installation and connection of the charging station must only be carried out by a qualified electrician.
- You must comply with the locally applicable requirements regarding electrical installations, fire protection, safety regulations, and escape routes at the intended installation location.
- Only use the supplied installation material.
- When open, ESD (electrostatic discharge) precautions must be taken properly to avoid electrostatic discharge.
- When handling electrostatically sensitive boards, wear grounded antistatic wrist straps and properly observe ESD safety precautions. Wrist straps must only be used when mounting and connecting the loading unit. Wrist straps must never be worn on a live Webasto Unite.
- Electricians must be properly grounded during installation of the Webasto Unite.
- Do not install the Webasto Unite in an explosion sensitive area (Ex Zone).
- Install the Webasto Unite in such a way that the charging cable does not block any passageways.
- Do not install the Webasto Unite in areas subject to ammonia or air containing ammonia.
- Do not install the Webasto Unite in a location where falling objects may damage it.
- The Webasto Unite is suitable for use indoors as well as outdoors.
- Do not install the Webasto Unite in the vicinity of water jets, such as car-wash installations, high-pressure cleaners or garden hoses.
- Protect the Webasto Unite against damage caused by sub-zero temperatures, hail or similar. We would like to refer you to our IP protection class at this juncture (IP54).

- The Webasto Unite is suitable for use in areas without access restrictions.
- Protect the Webasto Unite from direct sunlight. The charging current may be reduced at high temperatures, or charging may be disabled completely. The operating temperature is -35°C to +55°C.
- The installation location of the Webasto Unite should ensure that vehicles cannot inadvertently collide with it. Protective measures must be implemented if the possibility of damage cannot be ruled out.
- Do not put the Webasto Unite into operation if it has been damaged during installation; a replacement will be required.

3.4 Safety information for electrical connection

**WARNING**

- Each charging station must be protected with its own line circuit breaker and residual current circuit breaker. See Requirements installation space.
- Make sure that the electrical connections are de-energised before connecting the charging station to the power supply.
- Make sure that the correct supply cable is used for the power connection.
- Do not leave the charging station unattended with the cover open.
- Change DIP-switch settings only with the power off.
- Register with the power supply company as required.

3.5 Safety information for initial start-up

**WARNING**

- Initial start-up of the charging station must be carried out only by an electrician.
- Prior to initial start-up, the electrician must check that the charging station has been connected correctly.
- Do not connect a vehicle during initial start-up of the charging station.
- Before starting-up the charging station, check the charging cable, charging coupling and the charging station for visible damage. The charging station must not be started up if it is damaged or if the charging cable/charging coupling is damaged.

3.6 Safety information for cleaning

**DANGER****High voltages.**

Danger of fatal electric shock. Do not clean the charging station with running water.

Details on maintenance, cleaning and repair can be found in the manual.

3.7 Safety information for replacing the charging cable

**DANGER****Risk of fatal electric shock.**

- ▶ Switch off and secure the power supply to the charging station.

**NOTE**

Only use genuine Webasto parts.

4 Scope of delivery

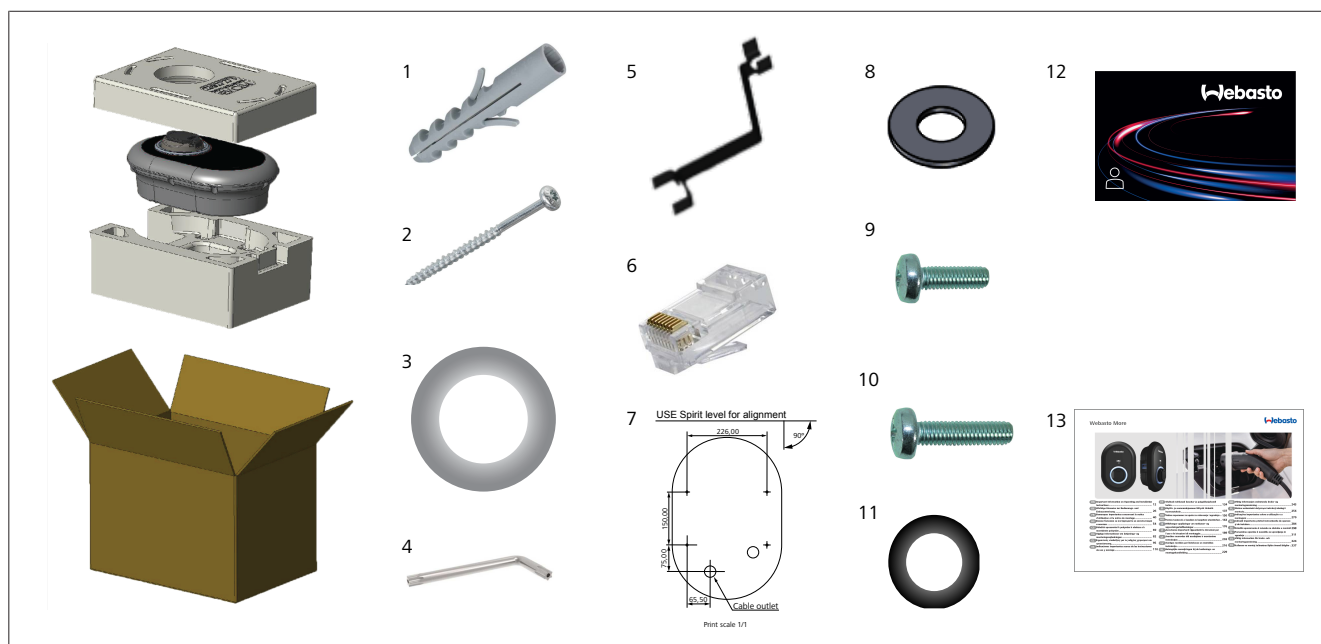













Fig. 1

Pos.	Item(s)	Usage	Quantity
1	Dowels (M8 x 50, plastic)	To mount the charging station on the wall.	4
2	Torx T25 security screw (M6 x 75)	To mount the charging station on the wall.	4
3	Gasket for screw (6 x 75)	To mount the charging station on the wall with the correct IP.	4
4	Torx T20 security L-wrench	Wrench for screws to mount the charging station on the wall with the correct IP.	1
5	Wrench	To fasten and unfastening the cable glands.	1
6	RJ45 Male connector	LAN cable connection (optional).	1
7	Mounting template	To mount the charging station to a wall.	1
8	O-ring	To mount the charging station to a pole.	3
9	Screw (M6 x 20)	To mount the charging station to a pole.	3
10	Screw (M6 x 30)	To mount the charging station, and providing earth continuity for chargers mounted on a metal surface. This screw must be inserted into the bottom hole of charging station on the wall. Place a rubber ring (11) below this screw to fix the ground cable.	1
11	IP Rubber	To fix the ground cable with the M6 x 30 screw. This rubber ring must be placed right-down the wall-mount hole of charging station, under the ground cable and the M6 x 30 screw.	1
12	User RFID Card	To start and stop charging.	2
13	ISI Webasto Unite	To install the charging station safely and adequately.	1

5 Required tools

	8 mm drill bit
	Impact drill
	Smartphone or computer
	Voltage indicator
	Torx T25 security screwdriver
	Spirit level
	Flathead screwdriver (tip width: 2.0 - 2.5 mm)
	Pointed spudger
	Right-angle screwdriver adapter / Torx T20 security bit
	RJ45 crimping tool
	CAT5e or CAT6 Ethernet cable

6 Installation and electrical connection



ATTENTION

High voltages

Danger of fatal electric shock.

The Webasto Unite must be installed by a qualified electrician.

Charging station installation steps

- Installation and connection of the charging station must only be carried out by a qualified electrician.
- Make sure that the ground resistance of the installation is less than 100 ohms.
- Read these instructions before mounting your charging station.
- Do not mount your charging station on the ceiling or on a sloping wall.
- Use the specified wall mounting screws and other accessories.
- This charging station is classified as *indoor* and is *outdoor* installation compatible.
If the charging station is installed outside a building, the hardware that is used to connect the cables to the charger

must be compatible with *outdoor* use, and the charging station must be mounted accordingly to preserve the charger's IP rate.

6.1 Opening the charging station cover



DANGER

Danger of fatal electric shock.

- Switch off and secure the power supply to the charging station.

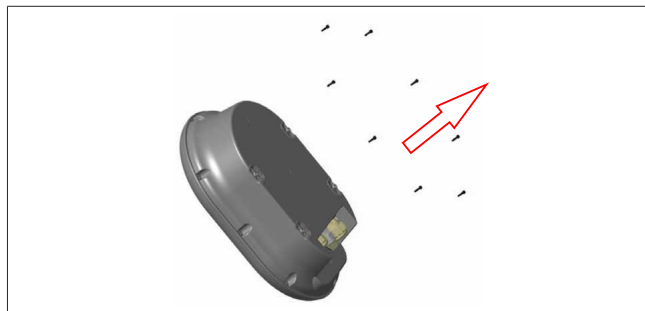


Fig. 2

1. Remove the cover screws using a Torx T20 security L-wrench, or with a right-angle screwdriver adapter with a Torx T20 security bit.

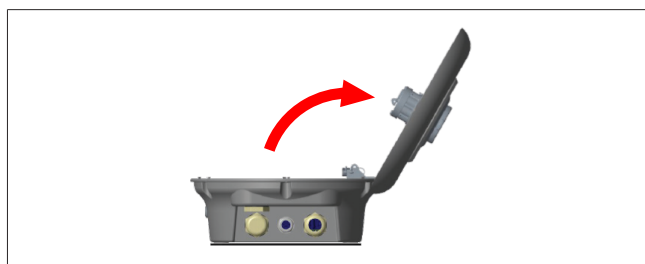


Fig. 3

2. Open the cover.

6.2 Wall mounting the charging station

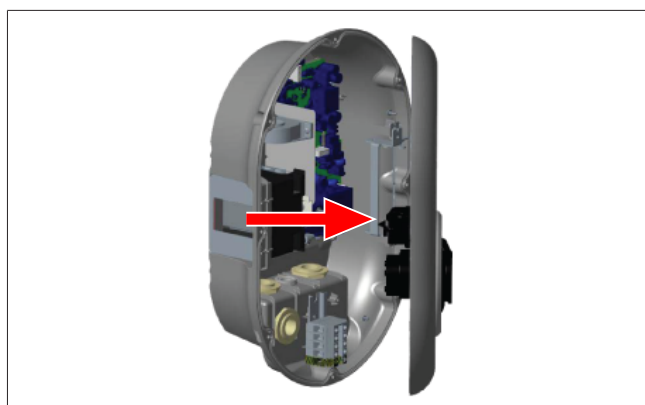


Fig. 4

1. Open the charging station's front cover (See chapter 6.1, "Opening the charging station cover" on page 7).

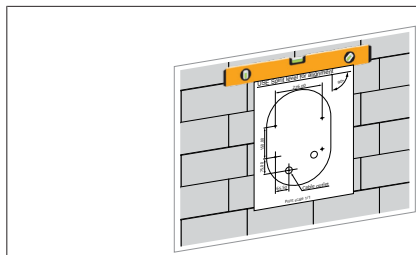


Fig. 5

- Position the charging station on the wall by using the mounting template, and then mark the drill positions.

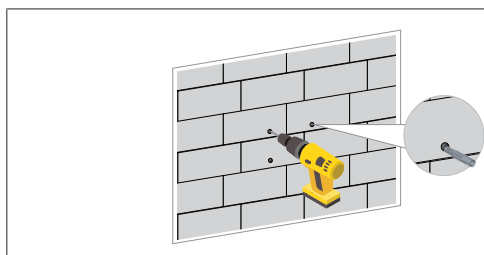


Fig. 6

- Locate the marked drill points on the wall, and then drill the mounting holes, using an impact drill with an 8 mm drill bit.
- Place the dowels into the drill holes.

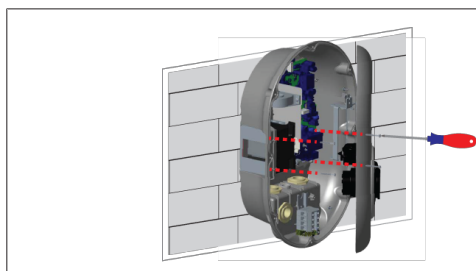


Fig. 7

- Position the unit in line with the inserted dowels, and then secure it with the security screws (6 x 75) using a Torx T25 Security Screwdriver.

6.3 Using a 3-phase AC mains connection

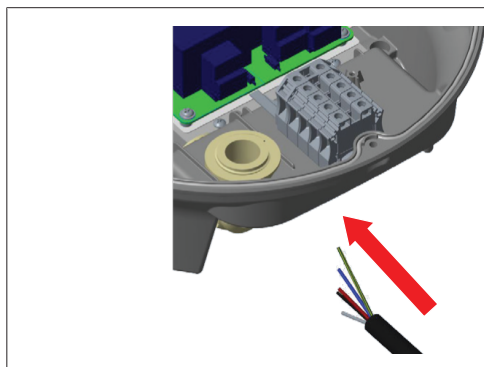


Fig. 8

- Insert the AC mains cable into the charging station from the left cable gland at the bottom of the station.

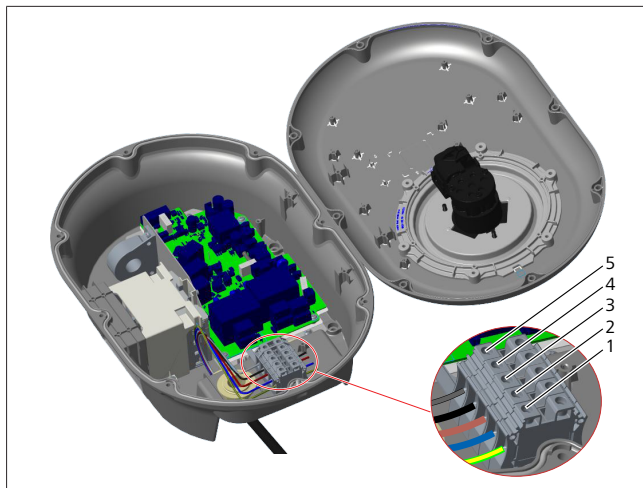


Fig. 9

Terminal	Function	Wire colour
1	Earth	Green-Yellow
2	AC Neutral	Blue
3	AC L1	Brown
4	AC L2	Black
5	AC L3	Grey

- Insert the wires into the terminal block following the colour coding in the legend.
- Tighten the screws on the terminal block with a torque of 2.5 Nm.

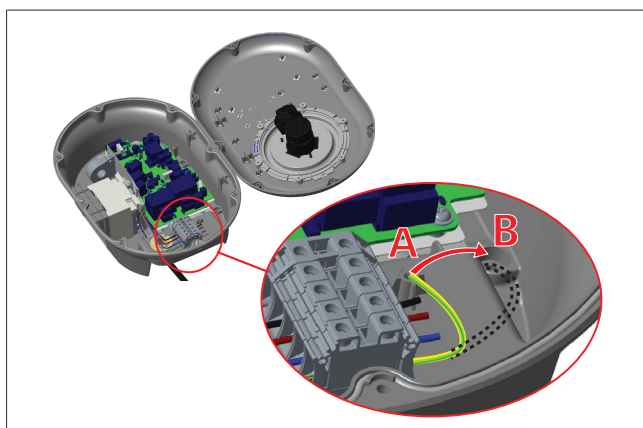


Fig. 10

- If you mount the charging station on a conductive metal surface, such as a metal pole, you must make a connection to the earth using an extension wire for the earth (ground) and the screw at the lower right.
- Change the position of the grounding wire from A to B to ensure grounding.
 - Insert the plastic support (this is the IP rubber supplied in the unit's accessory pack) into the fixing hole (position "B").
 - Secure the grounding cable using an M6 x 30 screw, which is in the artwork pack. This screw also secures the unit to a conductive metal surface (where applicable).
- Tighten the cable glands before closing the charging station cover (See chapter 6.4, "Using the cable glands" on page 9).

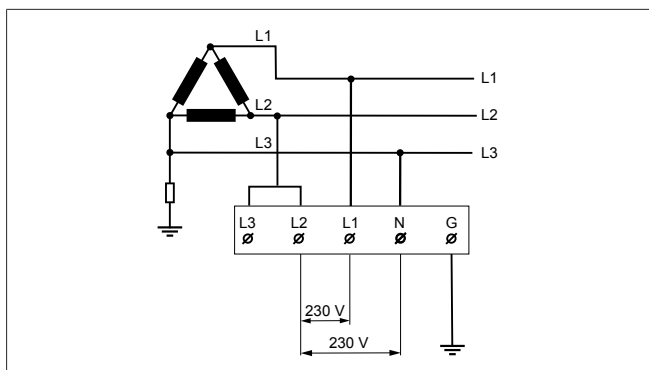


Fig. 11

Wiring diagram (for IT Grid installation only)

**WARNING****for IT Grid Installation only**

A maximum rated voltage of 230 V is permissible between L1 and L2 and between L2 and L3 on the grid side.

1. For three-phase IT Grid installation use this wiring diagram.
2. In the web user interface, set the grounding type to "IT Grid" using the "Installation settings" menu.

6.4 Using the cable glands

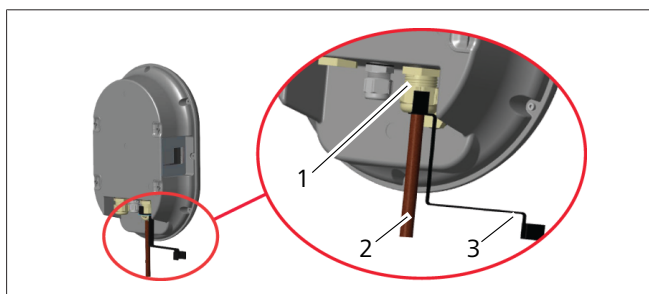


Fig. 12

Pos.	Description
1	AC mains cable gland
2	AC mains cable
3	Wrench

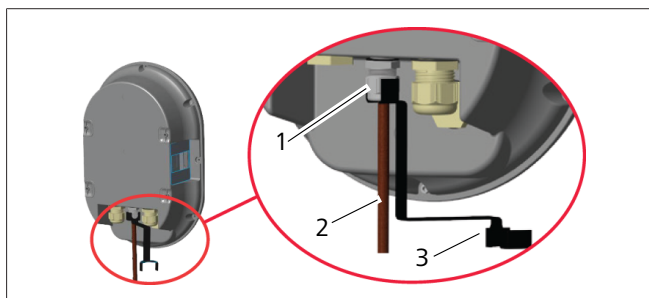


Fig. 13

Pos.	Description
1	Data cable gland
2	Data cable
3	Wrench

Proceed as follows:

1. Insert the cables (2) into the unit.
2. Tighten the cable glands (1) using the wrench (3).

6.5 Adjusting the current limiter

**NOTE****DIP-switch settings**

DIP-switch settings are optional. All settings can be changed by using the Setup App, or the web-based Webasto Unite configuration interface.

- The most recent made setting will always be applied.
- The current setting is shown in the Webasto Unite configuration interface.

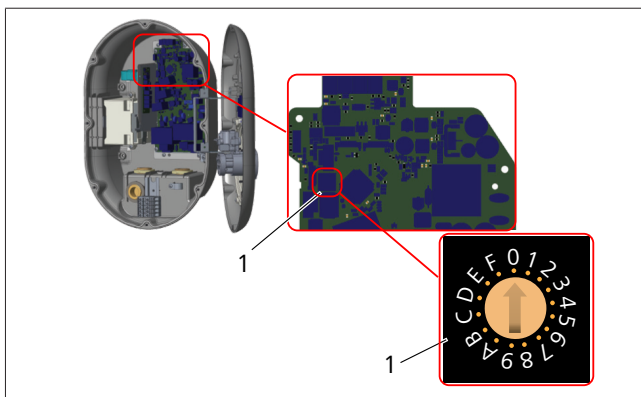


Fig. 14

1 Rotary switch current limiter settings

The charging station has a current limiter (rotary switch) on its mainboard. This switch sets the charging station's current and power limit. To change the settings, use a flathead screwdriver to gently adjust the arrow in the centre of the rotary switch by changing its position to the required-current rate. For rate details, see the table *Current limiter positions*.

Switch position	Phase	Current limit Value (22 kW)
8	3-phase	10 A
9		13 A
A		16 A
B		20 A
C		25 A
D		30 A
E	X	32 A
F		X

Table 1: Current limiter positions

Required circuit breaker on AC mains

Charging Station Current Limiter Setting	C-Curve MCB (miniature circuit breaker)
10 A	13 A
13 A	16 A
16 A	20 A
20 A	25 A
25 A	32 A
30 A	40 A

Table 2: Required circuit breaker on AC mains

6.6 Setting the DIP switches

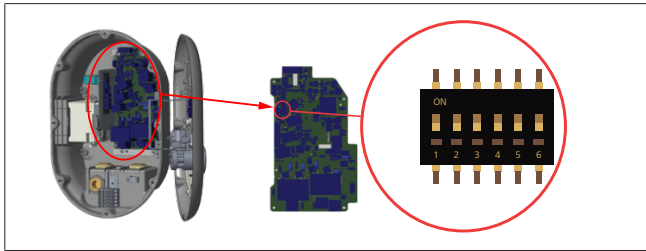


Fig. 15

1	Reserved
2	Enable Potential free contact/Load shedding
3	Locked Cable Function (only for socket models)
4, 5, 6	Power Optimizer (requires optional accessories)



NOTE

DIP-switch settings

DIP-switch settings are optional. All settings can be changed by using the Setup App, or the web-based Webasto Unite configuration interface.

- ▶ The most recent made setting will always be applied.
- ▶ The current setting is shown in the Webasto Unite configuration interface.

6.6.1 Enable Potential free contact/Load shedding

Your charging station can be controlled with external potential-free contacts (on/off function) for integration of the charging station into:

- car park automation systems
- energy supplier ripple control devices
- timer switches
- photovoltaic inverters
- auxiliary load control switches
- external key lock switches
- etc.

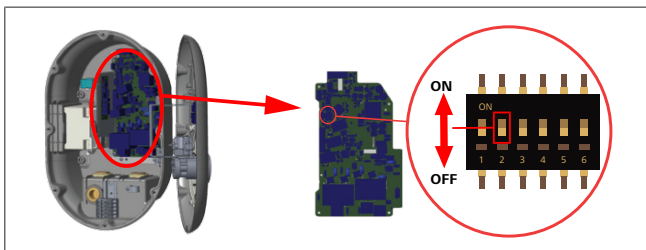


Fig. 16

ON	Enabled	OFF	Disabled
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- Set DIP switch 2 in the **ON** position to **enable** the *external enable* function, or in the **OFF** position to **disable** the *external enable* function.

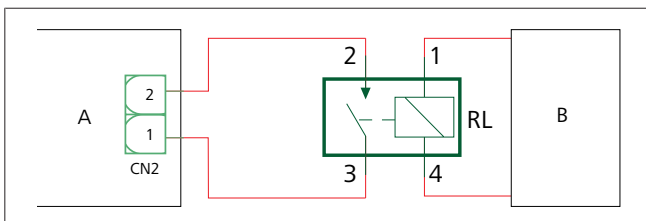


Fig. 17

Pos.	Description
CN2	Connector 2
RL	Relay
A	Main board charging station
B	Car Automation System Control

Pin assignments connector 2

1	Pin 1
2	Pin 2

Pin assignments Relay

1, 2	Potential free contacts
3, 4	Relay coil

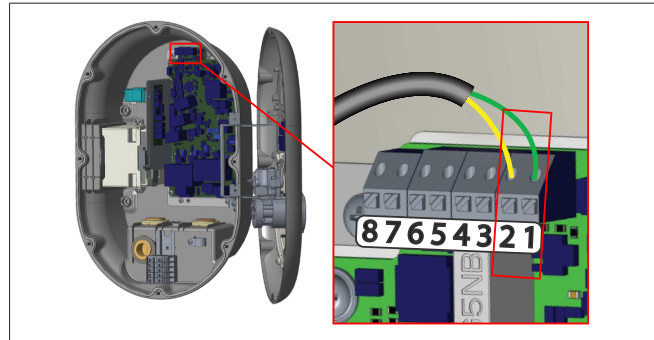


Fig. 18

Terminal	Function
1 (CN2-1)	Potential free contact /Load shedding
2 (CN2-2)	Potential free contact/Load shedding
3 (CN2-3)	Load Shedding Input +
4 (CN2-4)	Load Shedding Input -
5 (CN2-5)	Power optimizer meter B (COM)
6 (CN2-6)	Power optimizer meter A (COM)
7 (CN2-7)	-
8 (CN2-8)	-

- Mount the wiring according to the illustration and table above.
 - Charging is disabled when the external relay contacts are in the **open** position.



NOTE

DIP-switch settings

DIP-switch settings are optional. All settings can be changed by using the Setup App, or the web-based Webasto Unite configuration interface.

- ▶ The most recent made setting will always be applied.
- ▶ The current setting is shown in the Webasto Unite configuration interface.

6.6.2 Data cable connection

Following data connection cables can be inserted through the cable holes:

- External enable input cable
- Power optimizer measurement cable (external meter)
- Ethernet connection cables
- Load shedding triggering signal cable
- Shunt trip module control signal cable for welded relay contact failure

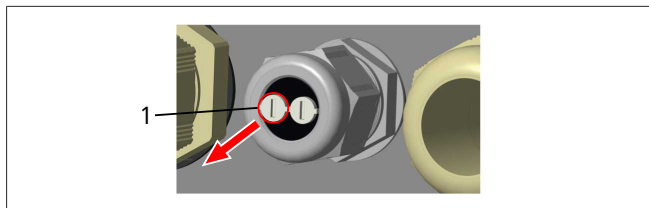


Fig. 19

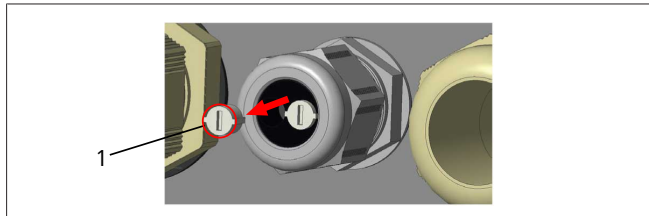


Fig. 20

1. Remove the cork (1) from the cable gland.

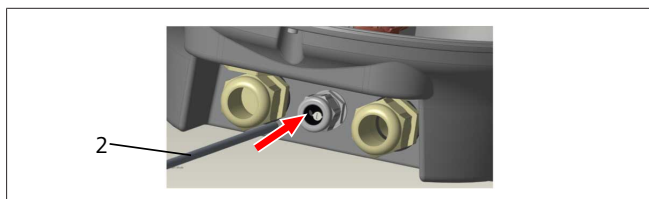


Fig. 21

2. Insert the cable (2) into the cable hole.

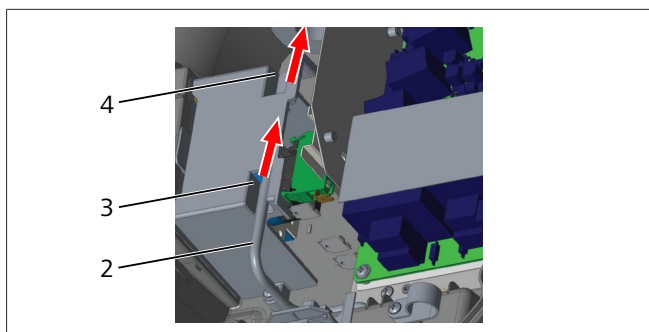


Fig. 22

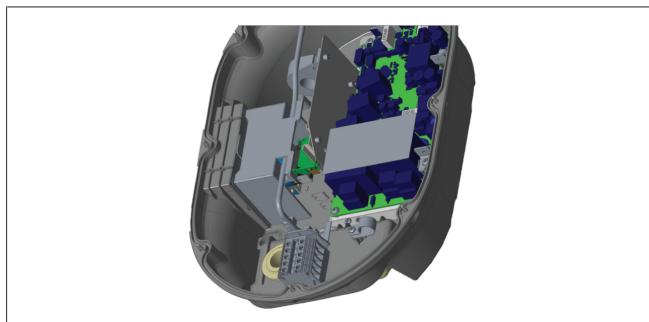


Fig. 23

3. To connect the wires to the mainboard, check the applicable sections depending on the function(s) to be used.

6.6.3 Locked cable function

The cable will be locked and the socket model charging station behaves like an attached cable model.

To activate this function:

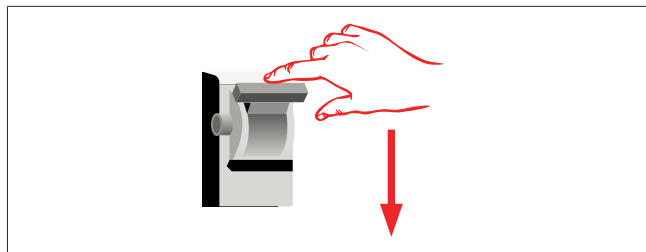


Fig. 24

1. Turn off the power to your charging station.

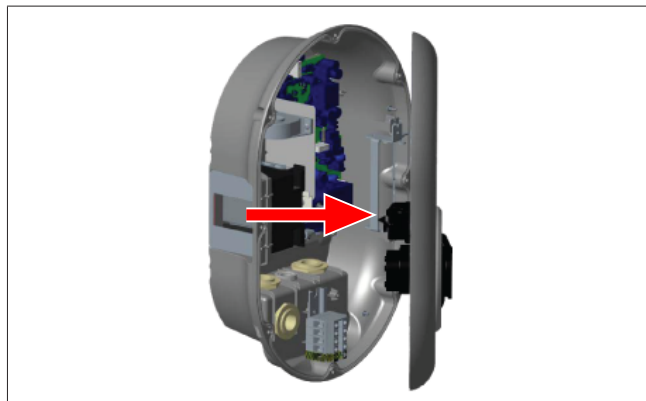


Fig. 25

2. Open the product cover as described in the installation manual.

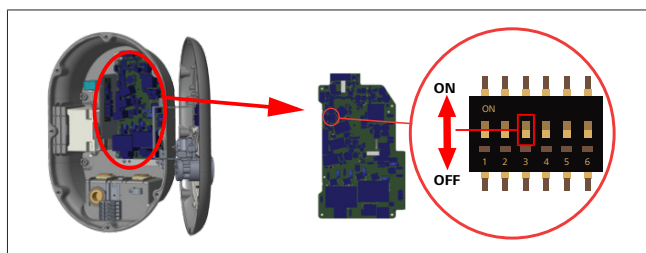


Fig. 26

ON	Enabled	OFF	Disabled
----	---------	-----	----------

3. To enable the locked cable function, toggle DIP switch 3 into the ON position using a pointed spudger or a similar plastic pointed tool. The DIP switch location is shown in the above figure.



NOTE

DIP-switch settings

DIP-switch settings are optional. All settings can be changed by using the Setup App, or the web-based Webasto Unite configuration interface.

- The most recent made setting will always be applied.
- The current setting is shown in the Webasto Unite configuration interface.

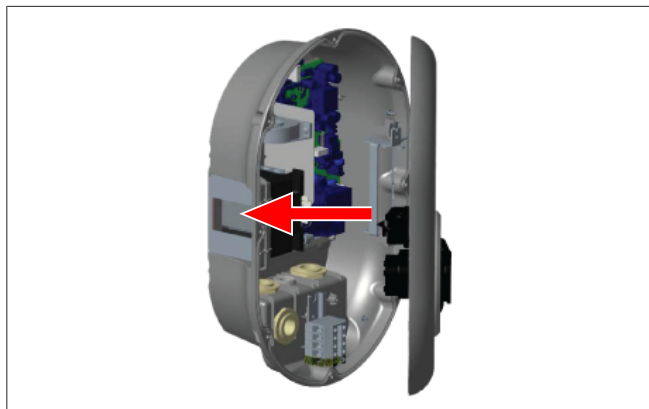


Fig. 27

4. Close the product cover as described in the installation manual.

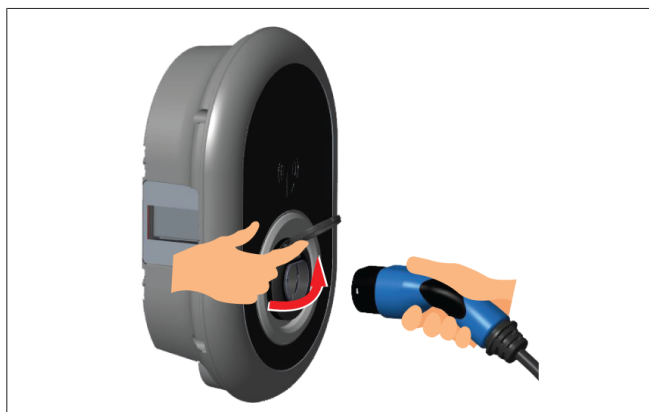


Fig. 28

5. Open the hinged lid of the outlet socket.

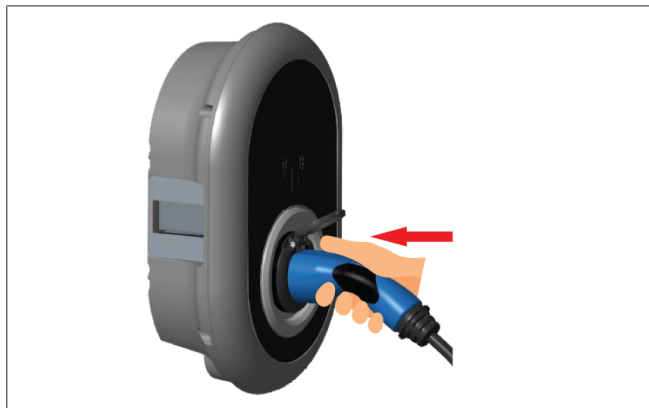


Fig. 29

6. Plug the charging cable plug into the outlet socket.

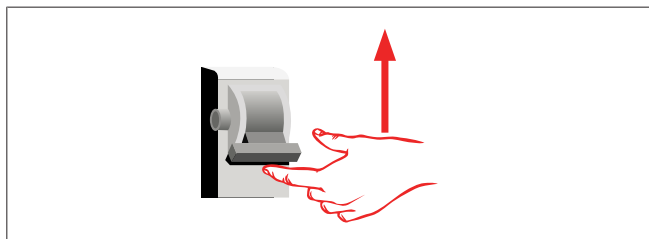


Fig. 30

7. Turn on the power to your charging station. The cable becomes locked and the charging station starts behaving as a cable model.

6.6.4 Power optimizer / external meter (requires optional accessories)

The power optimizer / external meter feature is provided with optional metering accessories which are sold separately.

Compatible external meters

Check the online documentation for compatible external meters.

In power optimizer mode, the total current drawn (by the charging station and other household appliances) from the mains switch of the house is measured with a current sensor integrated into the main power line. The current limit of the system's mains power line is set through the DIP switches inside the charging station according to the limit set by the user. The charging station dynamically adjusts its output charging current according to the measurement of the mains power line.

The current limiter settings determine the maximum permissible current at the grid connection point or at the meter's installation location. The maximum current for the charging station is then dynamically adjusted to not exceed the maximum current at the grid connection point.

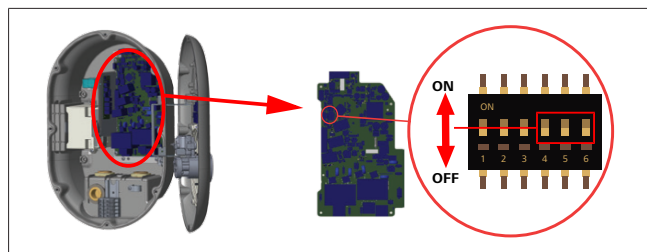


Fig. 31

DIP switch positions 4, 5 and 6 correspond to the binary digits of the maximum current value, as shown in the table below. When DIP switches 4, 5 and 6 are in the **OFF** position, then the power optimizer functionality is **disabled**.

DIP switch 4	DIP switch 5	DIP switch 6	Current limit value
OFF	OFF	OFF	Power optimizer disabled
OFF	OFF	ON	16
OFF	ON	OFF	20
OFF	ON	ON	25
ON	OFF	OFF	32
ON	OFF	ON	40
ON	ON	OFF	63
ON	ON	ON	80

Table 3: DIP Switch Positions



NOTE

DIP-switch settings

DIP-switch settings are optional. All settings can be changed by using the Setup App, or the web-based Webasto Unite configuration interface.

- ▶ The most recent made setting will always be applied.
- ▶ The current setting is shown in the Webasto Unite configuration interface.

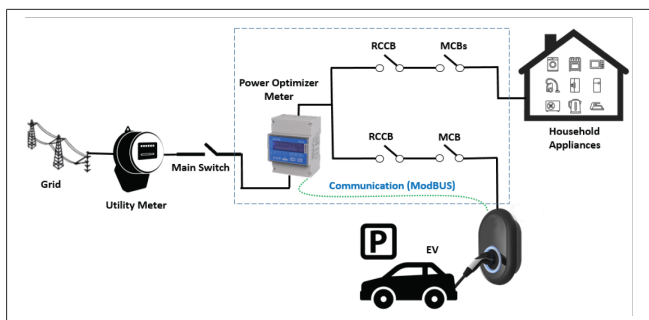


Fig. 32

The power optimizer meter must be installed just *after* the mains switch of the house, as shown in the illustration above.

1. Install the power optimizer meter
2. Install the wiring according to the figure and table below.

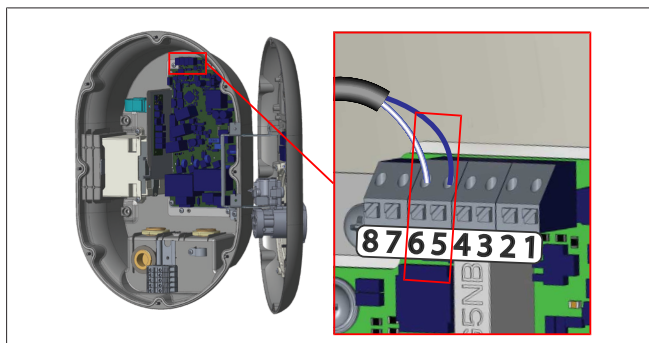


Fig. 33

Terminal	Description
5 (CN20-1)	B (COM)
6 (CN20-2)	A (COM)

6.7 Using the Mode selection switch

The Webasto Unite has the following modes:

- **Operation Mode 1** (Standard Charging): This mode is the factory default setting.
- **Operation Mode 2** No function
- **Operation Mode 3** No function

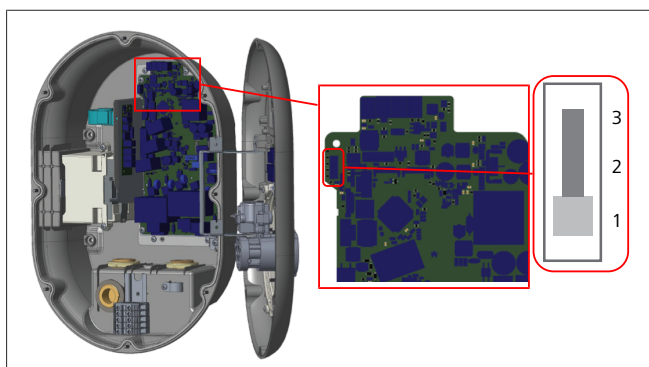


Fig. 34

- The mode selection switch must be in position 1.

6.8 Setting up Load shedding / Potential-free contact

The Webasto Unite supports load shedding. Load shedding provides immediate charging-current reduction in case of limited supply. Load shedding can be used in any mode, including *Standalone* and *OCPP-connected* modes. The load-shedding

triggering signal is a dry contact, (potential free) signal. This signal must be provided externally, and must be connected to terminals 3 and 4 on the power board.

- When load shedding is activated by closing the contacts with an external device (such as ripple control receivers), then the charging current is reduced to 8 A.
- When load shedding is deactivated by opening the contacts, then the charging process continues at the maximum available current.
- In a normal state, when there is no signal connected to the load shedding input (contacts open between terminal 3 and 4), the charging station supplies the maximum available current.

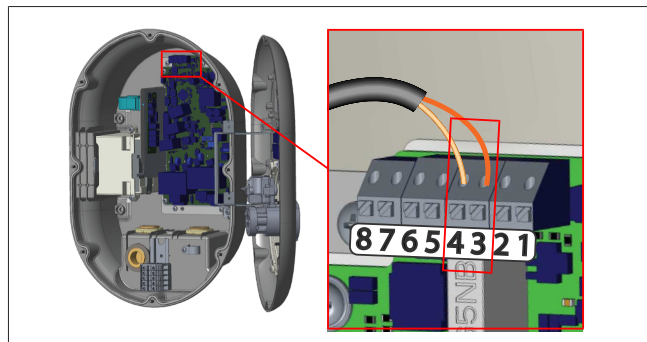


Fig. 35

Terminal	Input
3	Load Shedding Input +
4	Load Shedding Input -

Load Shedding Input State	Behaviour
Open Contact	Charge with maximum available current.
Closed Contact	Charge with 8 A.

- Connect the potential free contact load-shedding signal.

6.9 Monitoring welded relay contact failures

In accordance with IEC 61851-1 and EV/ZE Ready requirements, the Webasto Unite has a welded contact sensing function. If a welded contact occurs, then the main board provides a shunt trip 230 V signal. Note that the CN33 connector output terminals must be used to detect welded contact failure for the relays. In case of a welded contact for the relays, the CN33 connector output will be 230 V AC. The output which has 230V AC must be connected to a shunt trip for RCCB triggering as shown below.

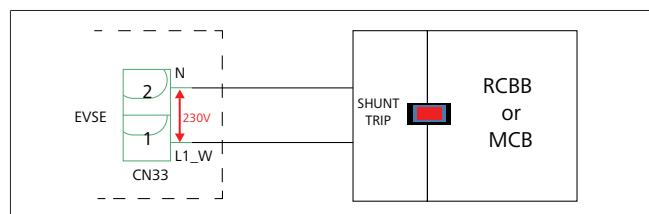


Fig. 36

The cabling must be done as shown below. The connector (CN33) terminals must be connected to a shunt trip module. The shunt Trip module is mechanically coupled to an RCCB (or MCB) at the fuse box of the charging station.

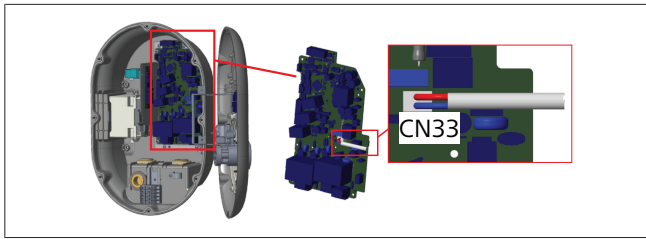


Fig. 37

Connect the shunt trip module to the charging station

6.10 Configuring a charging station's Ethernet port

This section explains how to set the Ethernet port of your charging station to a static IP address in standalone usage mode.

The factory default setting for your charging station is DHCP mode. If you have to connect to the charging station's web configuration interface directly by using a computer (instead of using your router's DHCP server), then follow the steps below:

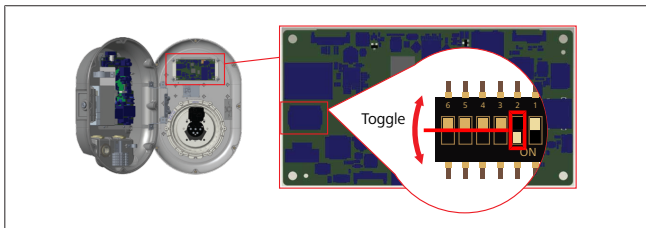


Fig. 38

1. Switch off the charging station.
2. Open the charging station's front cover.
3. Toggle DIP switch number 2.
4. Close the charging station's front cover.
5. Switch on the charging station again.
6. The charging station now sets its Ethernet port to:
 - Static address: 192.168.0.100
 - Subnet mask: 255.255.255.0

If the charger's LAN (Local Area Network) interface has to be changed back to DHCP mode again, then you can do this from the web-based Webasto Unite Configuration Interface.

NOTE

You can also use the factory reset function to set the LAN interface back to DHCP mode. Note however that **all other parameters** will also be reset to factory default.

6.11 Enabling and disabling the web configuration interface

To enable or disable the Web Configuration Interface:

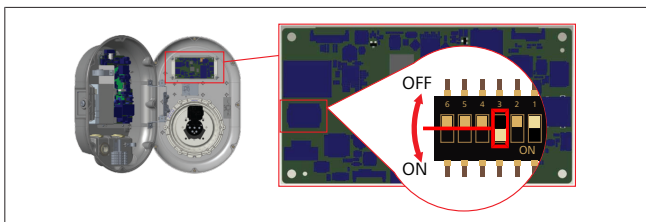


Fig. 39



ATTENTION

Setting of DIP switch number 3

The web configuration interface is:

- ▶ disabled in the **ON** position.
- ▶ enabled in the **OFF** position.

1. Put DIP switch number 3

- in the **ON** position to **disable** the web configuration interface.
- in the **OFF** position to **enable** the web configuration interface.

6.12 Charger Construction Overview

The measurement blocks of the charging stations have been fitted with seals during the manufacturing process. This is illustrated below with images (see Fig. 40 and Fig. 41) of the inside front- and the inside back cover of the Webasto Unite.



Fig. 40 Locations of the seals inside the front cover

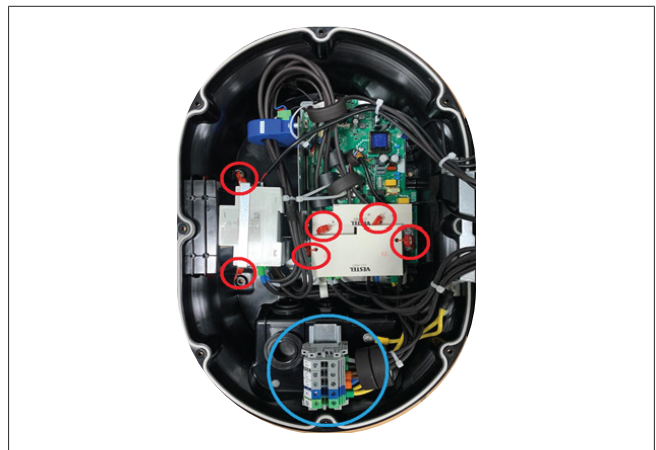


Fig. 41 Locations of the seals inside the back cover

The red circles indicate the different manufacturer seals.

The blue circle indicates the operator seal.

We recommend that you seal the input terminal after connecting the cable when installing the charging station.

6.12.1 Operator Seal

The recommended location for the operator seal is shown in the image below (Fig. 42).



Fig. 42 Recommended location for operator seal

6.12.2 Manufacturer Seals

- The cables fit into the socket as shown in the picture below (see Fig. 43).



Fig. 43 Socket with cables and sealing stickers

- The cables are sealed in such a way that they cannot be removed from the socket.
- Sealing stickers are used for this purpose. Fig. 44 and Fig. 45 show these stickers.

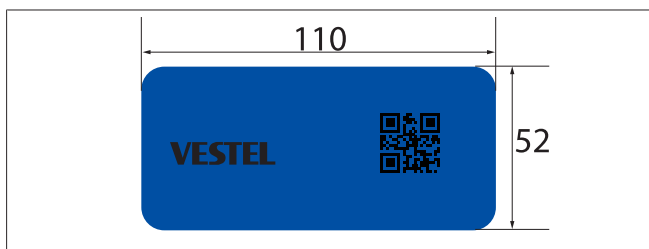


Fig. 44 Sealing sticker (size 110 x 52)



Fig. 45 Sealing sticker (size 80 x 25)

- As shown in the image above (see Fig. 43), the two sticker seals shown are attached to the socket on the right- and the left side to wrap around the socket.
- The places where the meter communicates data are sealed for the security of the MID meter.
- Two seals (see Fig. 46) are used for this purpose.

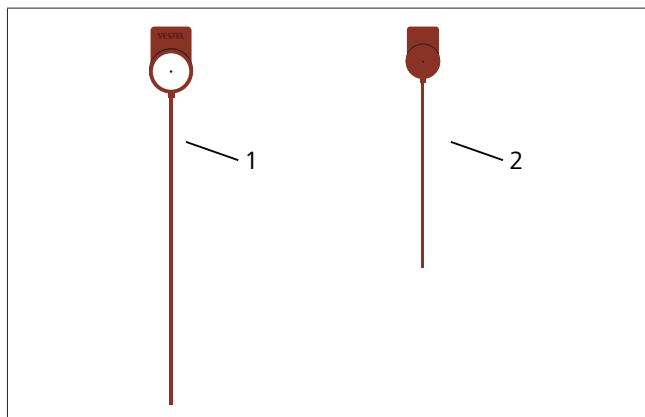


Fig. 46 Seals (front and back view)

1 Front	2 Back
---------	--------

- These seals are attached as shown in the image below (See Fig. 47).



Fig. 47 Sealing the MID meter

- There are also terminals in and out of the ACPW board. These terminals are each sealed for the security of the board, as shown in the image below (see Fig. 48).



Fig. 48 Sealing the ACPW board

6.13 Final step

After completing all relevant installation and configuration steps and **before powering up the charging station**, you must close the front cover.

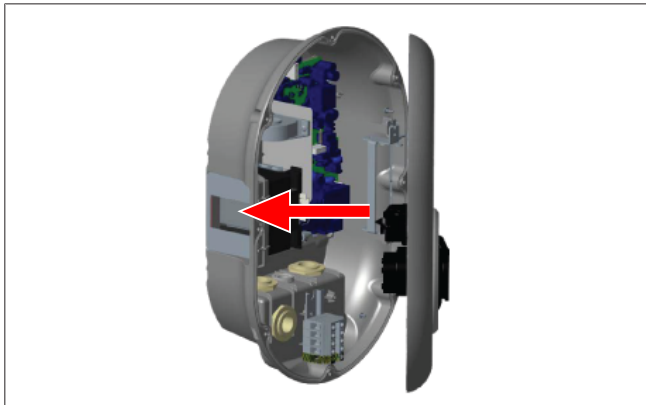


Fig. 49

1. Close the charging station cover.
2. Mount all 8 cover screws (which were removed at the beginning of the installation).
 - Tighten all cover screws, using a Torx T20 Security L-wrench or a right-angle screwdriver adapter with a Torx T20 Security bit.

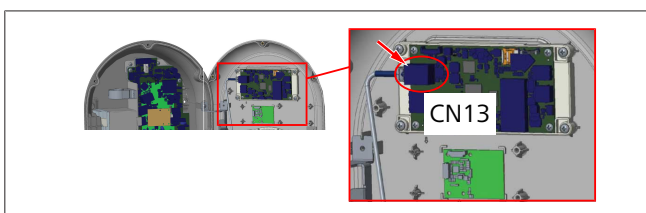
7 Commissioning the charging station

You can connect your computer to the charging station to access the web configuration interface in the following ways:

- **Indirectly** by using a router with a DHCP server.
 - Using this option, you must connect the charging station as well as the computer to the router. You must check your router's IP address because you need this to make a connection.
 - **Directly** via an Ethernet patch cable
 - Connect your computer directly to the charging station using an Ethernet patch cable.
- In this case, make sure that:
- you have configured the charging station's LAN interface to a static IP. See chapter 6.10, "Configuring a charging station's Ethernet port" on page 14.
 - you have enabled your charging station's web configuration interface via a DIP switch setting. The web configuration interface is enabled by default. See chapter 6.11, "Enabling and disabling the web configuration interface" on page 14.

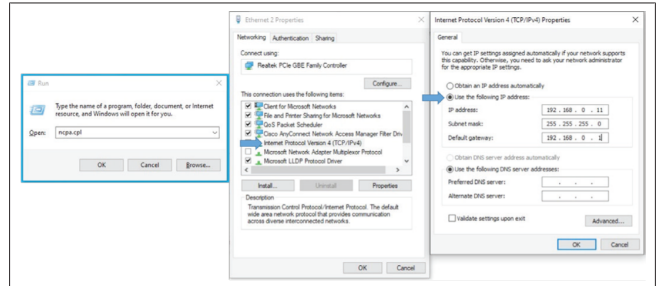
7.1 Connecting your computer and your smart board to the same network

To access the web configuration interface, first connect your computer and charging station to the same Ethernet switch or router.



- Alternatively, connect the charging station to your computer directly.

The default IP address of the HMI board is 192.168.0.100. This is why you must assign a static IP address to your computer, which must also be in the same network as the HMI (Human Machine Interface) board. To assign a static IP address in the 192.168.0.254 network to your computer, the IP address must be in the 192.168.0.1 - 192.168.0.254 range.



7.2 Accessing the Webasto Unite configuration interface using a web browser

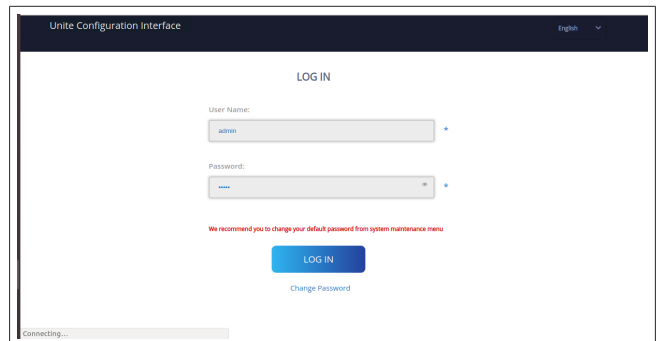
Open your web browser, and in the address bar enter the IP address (**192.168.0.100**) of the smart board. Press Enter to open the login page in your browser.

When accessing the web configuration interface for the first time, you will see the warning:

"We recommend you change your default password from System maintenance menu".

Your default login credentials are at the front of this document on a 'blank' page with a sticker showing your *username* and *password*.

Click the **Change Password** Button on the login page, or the "Administration Password" section under the "System Maintenance" menu, to change your password.



NOTE: In case of accessibility problems when using the web configuration interface, note that web browsers usually save access information from websites in the form of cache and cookies. Forcing a refresh (by pressing **F5**) or a clean (depending on your operating system and browser) often fixes problems surrounding page loading and formatting.

Should problems persist, please google: *clearing browser cache*.

7.3 Accessing the Webasto Unite configuration interface via Wi-Fi hotspot

After connecting to the "Wi-Fi Hotspot" network, open the web browser on your computer or mobile device, and then enter the charging station's IP address (**172.20.0.1**).

- For **Android** mobile devices, configure your Chrome browser to download and display the **desktop** site. Click the 'more' menu (⋮) in the upper right corner of your screen, and then click **Desktop site**.
- For **iOS** mobile devices, configure your Safari browser to download and display the **desktop** site. Click the 'aa' menu in the upper left corner of your screen, and then click **Request Desktop Website**. To set the text size to 50% click the smaller **A** at the top left of the 'aa' menu.

Enter your user credentials for connection, to access the login page of the web configuration interface in your browser. See also the below example.

Your default login credentials are at the front of this document on a 'blank' page with a sticker showing your *username* and *password*.



NOTE

Wi-Fi hotspot limitations

- ▶ The web configuration interface via Wi-Fi hotspot is limited to a maximum of 3 users.
- ▶ The web configuration interface via Wi-Fi hotspot only works on the 2.4 GHz band.

8 Webasto Unite Configuration Interface

The Webasto Unite Configuration Interface has a horizontal top menu bar which provides the following functions:

- **Logout**
The **Log out** button on the upper right corner of the screen enables you to exit the User Configuration Interface. log out.
- **Change password**
- **Display language**
The drop-down list on the left of the **Log out** button enables you to change the web configuration interface language.

Available languages are: Czech, Danish, English, French, German, Hungarian, Italian, Norwegian, Polish, Romanian, Slovakian, Spanish, Swedish, Turkish.

The boxes are configured in English by default.

The top bar also provides access to the following pages:

- Main Page – see also: chapter 8.1, "Main page" on page 17.
- General Settings – see also: chapter 8.2, "General Settings" on page 17.
- Installation Settings – see also: chapter 8.3, "Installation Settings" on page 18.
- OCPP Settings – see also: chapter 8.4, "OCPP Settings" on page 19.

- Network Interfaces – see also: chapter 8.5, "Network In-terfaces" on page 19.
- Local Load Management – see also chapter 8.6, "Local Load Management" on page 20.
- System Maintenance – see also: chapter 8.7, "System Maintenance" on page 21.
- Firmware Update Screen Flow.

8.1 Main page

After logging in successfully, you are directed to the main page.

The main page shows general information about the device such as **software versions**, **connection interface** and **IDs**.

8.2 General Settings

8.2.1 Setting the LED dimmer

To adjust the brightness level of the LED ring, select the desired option in the drop-down list.

If you select the LED dimming level as "Time Based", then the options "Sunrise Time" and "Sunset Time" are shown and can be configured. "Sunrise Time" defines the transition time of low to high dimming level. Similarly, "Sunset Time" defines the transition time of high to low dimming level. Sunrise and sunset time-based configuration is a periodic daily setting.

8.2.2 Setting the standby LED behavior

To enable standby LED behaviour, select "On" in the drop-down list. When set to "Off" the LED indicator is not illuminated when in standby. The default setting is "On".

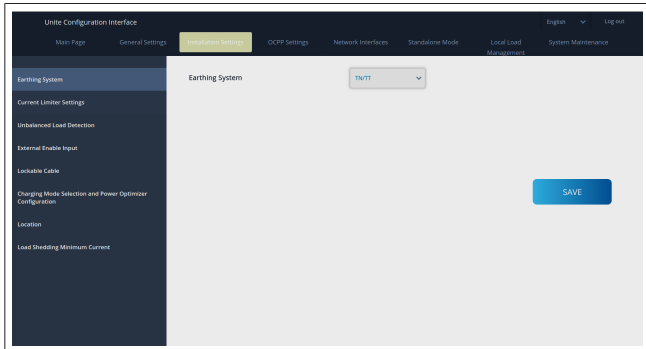
8.3 Installation Settings

8.3.1 Earthing system

Select the **Earthing System** tab from the web configuration interface.

If you select earthing type **IT**, then the protective earth error check is disabled.

The earthing type is set to **TN/TT** by default in the web configuration interface.



8.3.2 Current limiter settings

Here you can set the maximum current limit. The Webasto Unite Eichrecht may only be connected to a 3-phase grid.

For the Webasto Unite Eichrecht, only three phase can be selected for setting the current limiter phase.

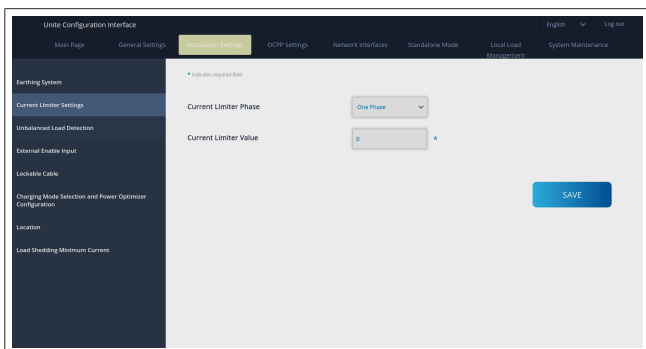


ATTENTION

The Webasto Unite Eichrecht only supports a 3-phase grid connection. A 1-phase grid connection causes the charging station to go into failure mode.

The current limiter value can be manually set between 6 – 32 A. If a value below 6 A is entered, a warning will be shown to enter a minimum of 6 A.

Example: If the charging station's current limiter is set to 16 A in the hardware and it is entered and set to 32 A in the web configuration interface, then the station will take 16 A.



8.3.3 Unbalanced load detection

Unbalanced load detection is disabled in web configuration user interface by default.

The unbalanced load detection function detects if there is an excessive difference in power consumption between phases.

If one phase draws more than 4.6 kW of power (average of the last minute) than the other phases in one minute, the load is unbalanced. Unbalanced load detection detects this situation and the current is limited so that the phases do not exceed the power limit.

For example,

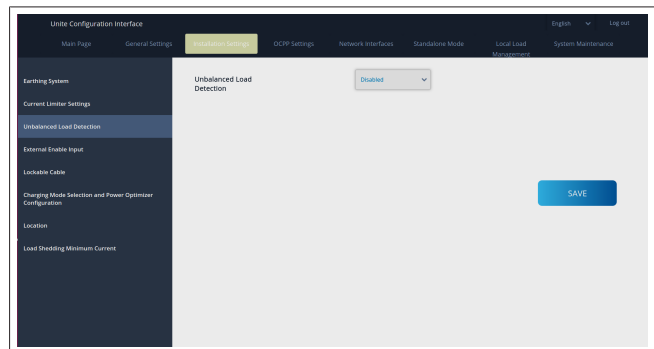
Phase 1 power: 3 kW,
Phase 2 power: 3 kW,
Phase 3 power: 1 kW.

The power limit for phase 1 or phase 2 is 5.6 kW (1 kW + 4.6 kW). If the voltage is 230 V, the current limit is $5600 / 230 = 24$ A.

General formula:

Power limit = (Minimum Power + 4.6) (kW).

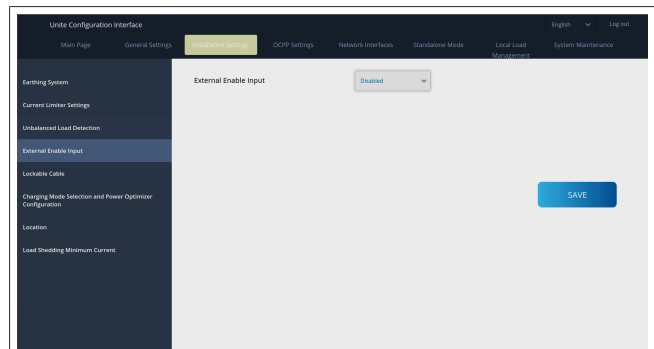
Current limit = Power Limit / Voltage (Amps).



8.3.4 External Input / Dry contact enabled

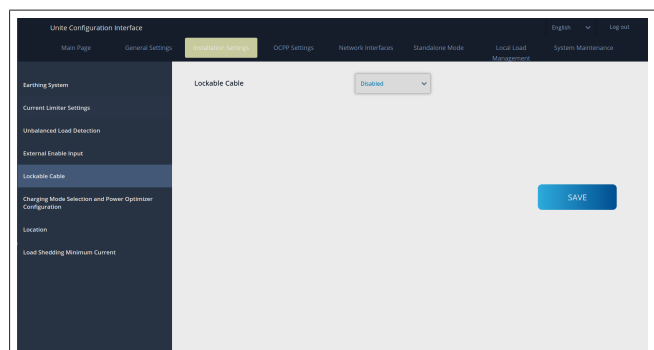
This option is set to “disabled” by default.

If you want to use the external enable input function, then you must change this setting to “enabled”



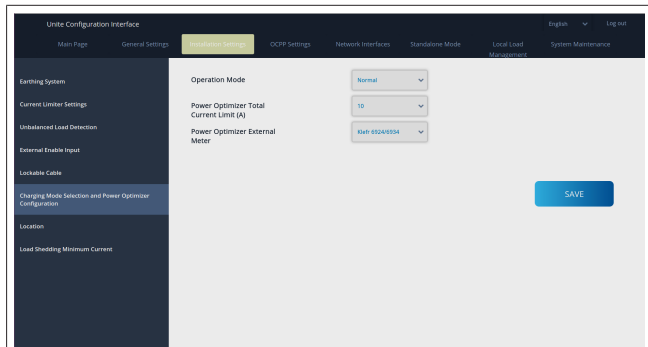
8.3.5 Lockable cable

This option is set to “disabled” in the web configuration user interface. This is the default setting.



8.3.6 Power Optimizer/dynamic load management

For Power Optimizer Total Current Limit, The value mentioned in chapter 6.6.4, "Power optimizer / external meter (requires optional accessories)" on page 12 can be set from web configuration interface as shown in figure below.



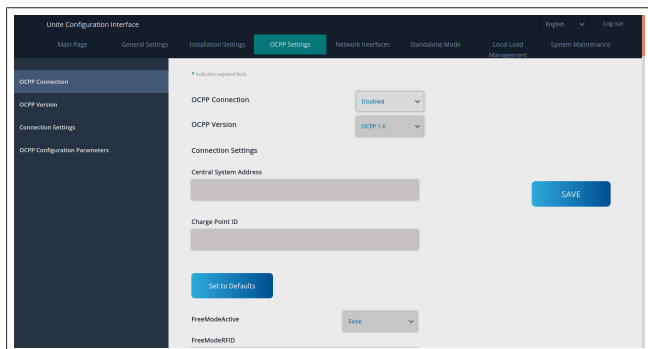
For Power Optimizer External Meter, the installed external smart meter must be selected from the drop down list.

8.4 OCPP Settings

OCPP Connection

If you set the OCPP Connection mode to "Enabled" then you must complete all fields in the connection settings section and enable the configuration parameters sections.

Currently, the only available OCPP version is OCPP 1.6, so this is selected by default.



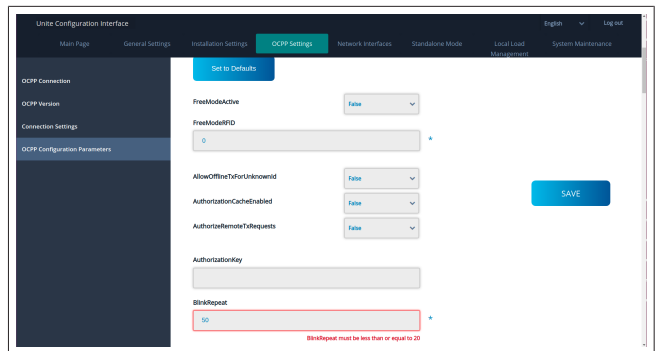
Click the **Set to Defaults** button to reset OCPP configuration parameters.

You can select the following OCPP settings type from the menu on the left of the page:

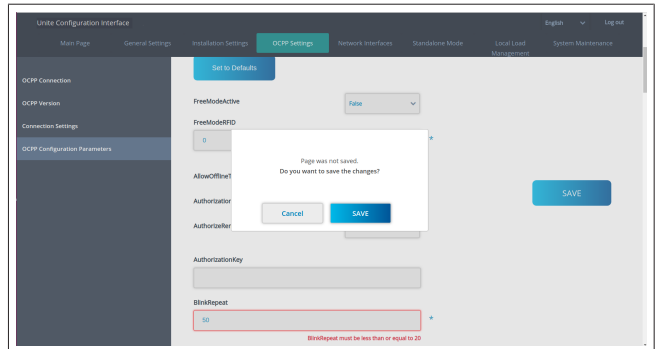
- OCPP Connection
- OCPP Version
- Connection Settings
- OCPP Configuration Parameters.

Click the **Save** button to apply your selection.

Please note that the system does not accept the unsuitable values and will return a warning. In this case, values will not be saved, after which you are then returned to the main page; so check your values.



If you make any changes, and you do not save these before leaving the page, then the below warning will be returned.



8.5 Network Interfaces

You can configure LAN (Ethernet) and WLAN (Wi-Fi) on this page.

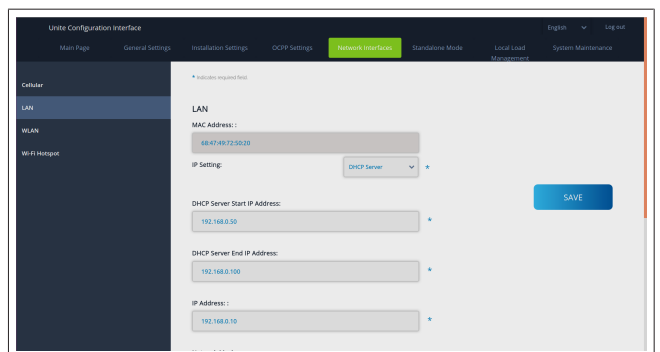
To activate an interface mode, set it to "Enabled".

If you set IP setting to "Static", blank spaces are mandatory for the fields "IP Address", "Network Mask", "Default Gateway" and "Primary DNS".

If you enable Wi-Fi, then "SSID", "Password" and "Security" are mandatory.

Complete all spaces in the suitable format.

LAN



WLAN

Click the **SAVE** button to finish.

Wi-Fi HOTSPOT

For details, see chapter 7.3, "Accessing the Webasto Unite configuration interface via Wi-Fi hotspot" on page 16.



WARNING

If you change the SSID and Password of the Wi-Fi Hotspot, the QR Code for the Webasto Charger Setup App will not work anymore – you must enter the credentials manually after changing these settings.

Here you can configure the behaviour of the Wi-Fi Hotspot: "Turn on during boot" defines the behaviour of the Wi-Fi Hotspot when the charger starts (default is "enabled"). Enabled means that the Wi-Fi Hotspot will be activated when the charger starts, Disabled means that the Wi-Fi Hotspot will not be activated when the charger starts.

"Auto turn off timeout" determines whether the Wi-Fi Hotspot remains active continuously ("Disabled") or turns off after the defined minutes selected in the dropdown menu. The default setting is "Disabled".



NOTE

If the Wi-Fi Hotspot is disabled, you can only access the WebUI via a wired LAN connection, as explained in chapter 7.1, "Connecting your computer and your smart board to the same network" on page 16.

8.6 Local Load Management

The default setting for local load management is "Disabled". Select one of the following options for Local load management from the drop-down list:

- Master/Slave
- Modbus TCP
- Disabled



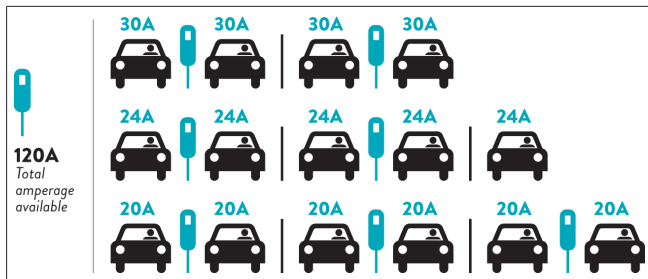
NOTE

To use Local Load Management (Master/Slave or Modbus TCP), the charging stations must be connected via a wired RJ-45 LAN connection in a Star Topology using a DHCP switch or router.

8.6.1 Master/Slave

Load management option Master/Slave is the integrated Local Cluster Load Management functionality. After activation the configuration options become visible.

- "Charge Point Role" defines the role of the charging station within the cluster:
 - "Master" sets it to the controlling unit - if you choose to set up a dynamic load management cluster, the smart meter has to be connected to this unit.
 - "Slave" sets it to the controlled unit, which is regulated by the settings made in the Master charging station.
- "Main Circuit Breaker Current" sets the maximum current of the installed circuit breaker - this is the absolute maximum current that can be selected for the Cluster.
- "DLM Total Current Limit Per Phase" defines the maximum current available to the cluster and the total current limit must be lower or equal to the main circuit breaker current.
- "Supply Type" defines the setting of the cluster (Static or dynamic):
 - "Static" means the cluster is limited to a maximum current which will never be exceeded and the cluster is regulated accordingly.
- "Klefr" means the cluster is limited to the maximum current, but it also takes into account real time data from the externally connected Klefr meter (requires optional accessories) taking into account also other consumers in the installation (schematic see chapter 6.6.4, "Power optimizer / external meter (requires optional accessories)" on page 12).
- "Garo" means the cluster is limited to the maximum current, but it also takes into account real time data from the externally connected Garo meter (requires optional accessories) taking into account also other consumers in the installation (schematic see chapter 6.6.4, "Power optimizer / external meter (requires optional accessories)" on page 12).
- "Load Management Mode" defines the algorithm used to distribute the available current within the cluster:
 - "Equally shared" means the available current is distributed equally within the cluster.



- "FIFO" means first in first out, which means vehicles connected first will receive the maximum available power and later connected vehicles get lower current, depending on the availability.

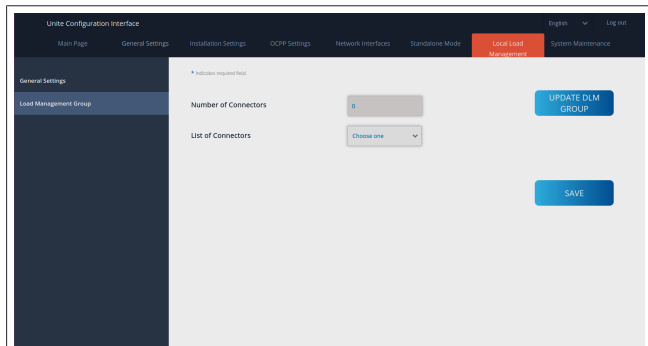
EVSE\T _p	G _M =120A					G _M =80A	
	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇
1	32A	32A	32A	32A	16A	6A	6A
2	32A	32A	32A	32A	32A	32A	32A
3	32A	32A	32A	32A	32A	32A	32A
4	32A	24A	18A	32A	32A	32A	6A
5	32A	24A	6A	6A	8A	24A	6A

* T_p: Time Period, G_M = Maximum Grid allocated for the chargers. Available maximum current for each EVSE in a certain T_p is indicated in black color. Charging current which is drawn by EV is indicated in Blue color. An EV drawing less current is indicated by "!" symbol.

- "Combined" means the vehicles connected first are getting higher current and later connected vehicles are getting the leftover power equally distributed.

F% _{EVSE}	G _M =120A					G _M =80A		G _M =29A		G _M =30A	
	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉	T ₁₀	T ₁₁
1	32A	32A	32A	32A	20A	6A	6A	8A	11A	6A	6A
2	32A	32A	32A	32A	32A	32A	32A	32A	11A	6A	6A
3	32A	32A	32A	32A	32A	32A	26A	28A	6A	6A	6A
4	32A	24A	24A	12A	24A	32A	8A	10A	6A	6A	6A
5	32A	24A	12A	12A	12A	18A	8A	10A	6A	6A	6A

* T_p: Time Period, G_M = Maximum Grid allocated for the chargers. Available maximum current for each EVSE in a certain T_p is indicated in black color. Charging current which is drawn by EV is indicated in Blue color. A EV drawing less current is indicated by "!" symbol.

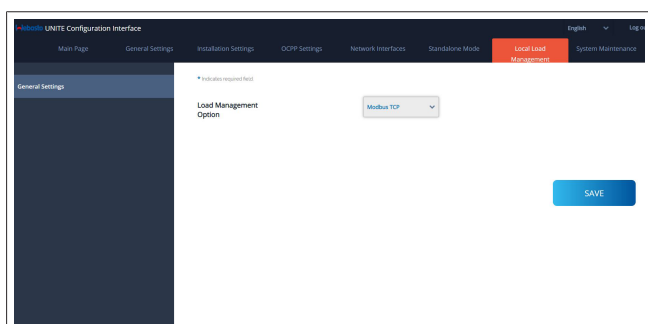


In this section you can update the DLM group via the button and then choose all charging stations that are registered within the cluster.

Various types of data can be shown in this tab.

"Phase connection sequence" defines the order of phases in case a phase rotation is implemented within the cluster.

8.6.2 Modbus TCP (EMS)



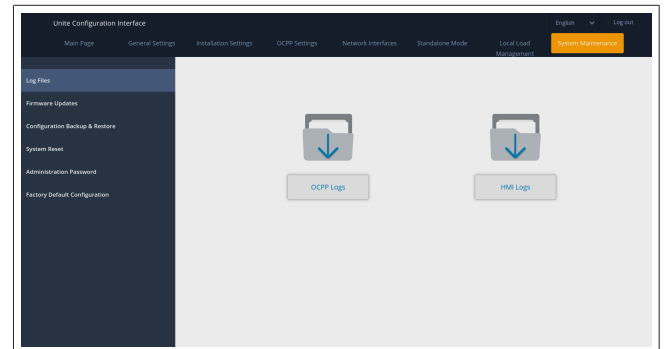
"Modbus TCP" enables the EMS mode. In this mode the charging station can be integrated into a compatible Energy Management System (Check the online documentation for compat-

ible energy management systems). All EMS specific configurations are done via the energy management system and are communicated to the charging station via Modbus TCP.

8.7 System Maintenance

LOG FILES page

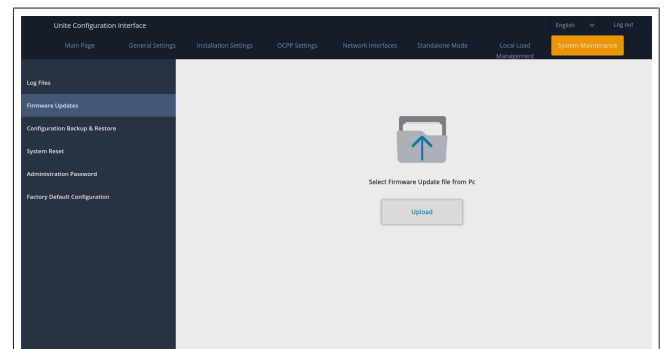
Click the buttons to download OCPP or HMI logs.



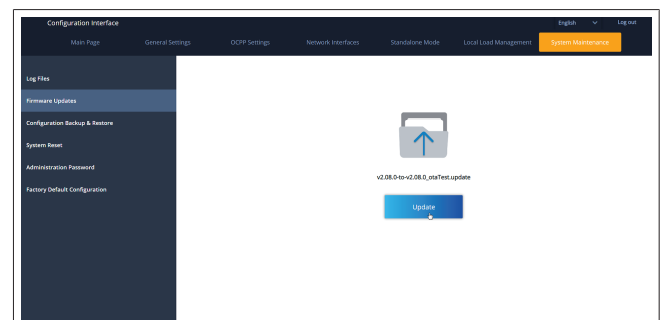
The downloaded log files are shown after a few seconds.

FIRMWARE UPDATE page

Click the **Upload** button to upload a firmware update file from your computer.



After the file is uploaded, click the **Update** button to start the firmware update.

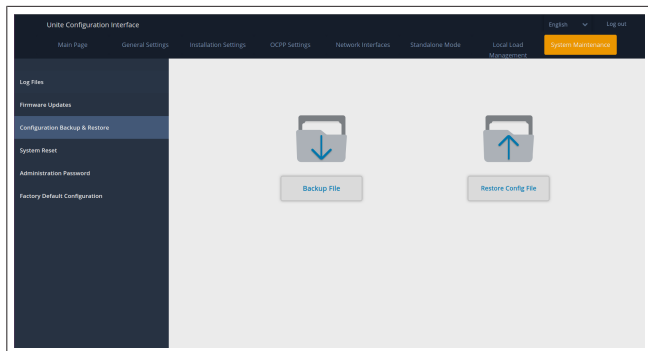


When the update is in progress, the charger's LED indicator continuously lights up in red. After the firmware update is finished, the charger restarts automatically. You can find the latest firmware version of your charger in the webconfig UI on the main page.

CONFIGURATION AND BACKUP page

The CONFIGURATION AND BACKUP page enables you to backup the system.

To start a restore, click the **Restore Config File** button and upload the backup file. The system only accepts the .bak files.

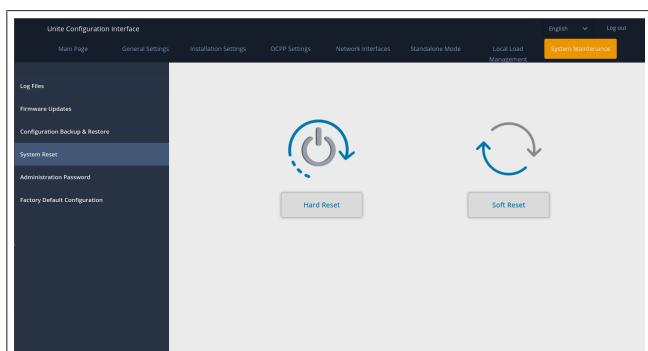


SYSTEM RESET Page

The SYSTEM RESET Page enables you to perform a **Soft Reset** and **Hard Reset** by clicking the relevant buttons.

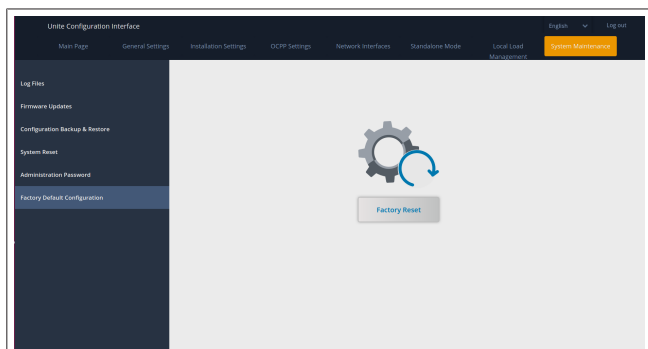
Soft Reset means that the charger is reset as soon as the charger is in its idle state.

Hard Reset means that the charger will reset immediately regardless of the charger's current state.



FACTORY DEFAULT CONFIGURATION page

The FACTORY DEFAULT CONFIGURATION page enables you to apply a **factory reset** to the charger.



9 Setting up charging

9.1 Charging cable plug

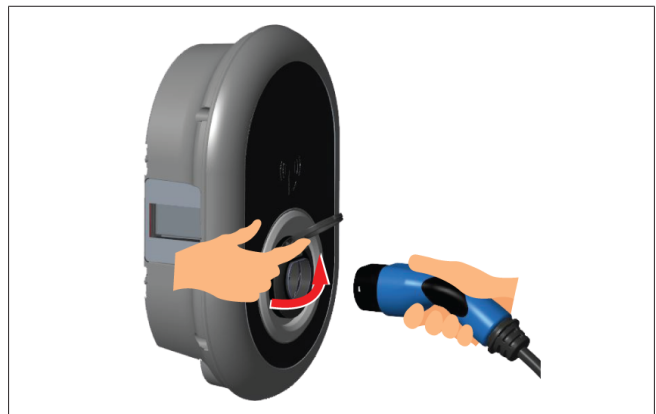


Fig. 50

1. Open the hinged lid of the outlet socket.

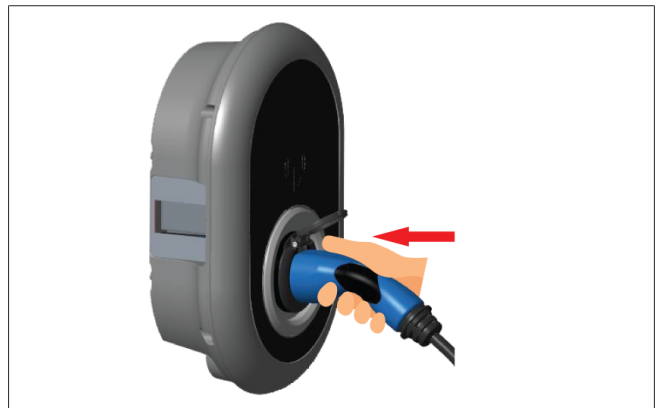


Fig. 51

2. Plug the charging cable plug into the outlet socket.

9.2 Reading the status information LED

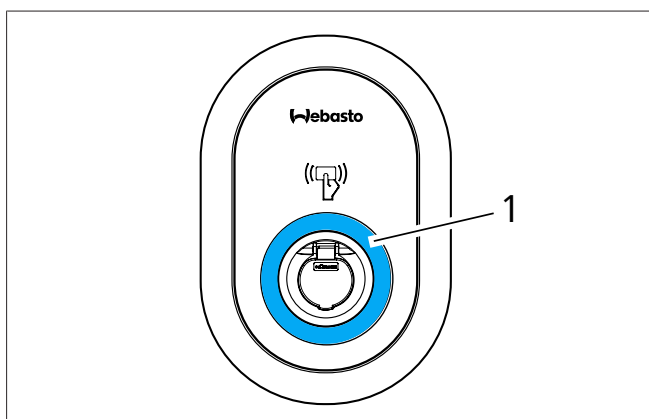


Fig. 52

1	Status information LED
---	------------------------

LED	Description	
	Constant blue (or no LED Indication in power save mode)	The charger is ready to charge. Finished charging with RFID card.
	Blinks blue	Electric Vehicle is connected. Charging Station is waiting for RFID card authorization.
	Green glowing	Charging is authenticated.
	Blue glowing	Charging in progress.
	Constant blue	Charging suspended or finished.
	Constant red	Fault condition
	Blinks red	Ventilation required mode.
	Blinks purple	Charging current limited to 16 A due to over temperature.
	Constant purple	Charging is not possible due to over temperature, or the power optimizer current limit is reached, or the charger is disabled.
	Blinks red and blue	Charging station is reserved. Charging station is waiting for Eco Time interval. Charging station is in Delay Charge Mode.
	Constant red	Firmware update

LED	Description	
	Blinks blue every 2 seconds	Waiting to tap a User RFID card or authentication/start with Webasto ChargeConnect.
	Blinks green 2 times	User RFID Card added to local RFID list.
	Blinks red 2 times	User RFID card removed from local RFID.
	Green glowing	Authorized RFID Card is tapped while the charging cable is connected.
	Glows green for 30 seconds	An authorized RFID Card is tapped while the charging cable is not connected.
	Blinks red 3 times	Start / stop charging attempt with unauthorized RFID card.

9.3 RFID Authorisation mode

The Webasto Unite Eichrecht comes with 2 RFID user cards. User RFID cards are required to start or stop charging sessions. User RFID cards must be registered to your backend system. The registration process is started automatically in Webasto ChargeConnect when setting up the charging station for the first time and can be repeated at any time in the Webasto ChargeConnect App or the Webasto ChargeConnect Portal.



Fig. 53

9.3.1 Adding user RFID cards to a charging station

Before using the charging station for the first time, RFID cards (or virtual identifiers) must be registered to your backend system. The registration process is started automatically in Webasto ChargeConnect when the charging station is set up for the first time, and it is a fully guided process. Maintenance and registration of new identifiers can also be conducted at any time in the Webasto ChargeConnect App or the Webasto ChargeConnect Portal.

9.3.2 Vehicle connecting & charging

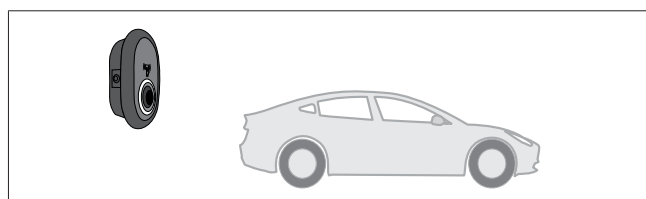


Fig. 54

- Constant blue (or no LED Indication in power save mode)
-

Make sure that your vehicle and the charging station are ready for charging.

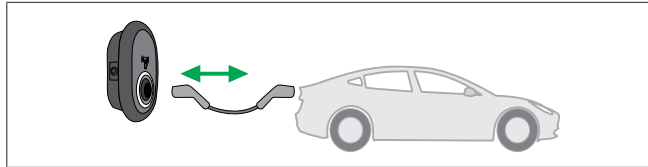



Fig. 55

-  Constant blue (or no LED Indication in power save mode)

Insert the charging plug into the vehicle inlet and the charging station socket outlet.

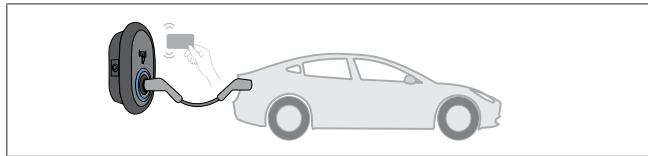


Fig. 56

-  Blinks blue

Tap the user RFID card on the reader.

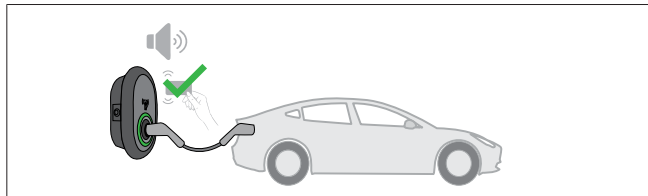


Fig. 57

-  Green glowing

Start charging with a card that has been authorized before.

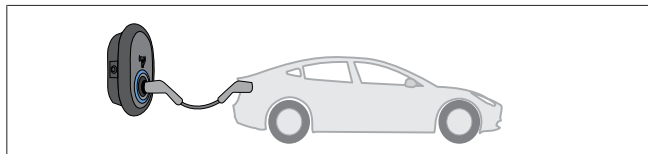


Fig. 58

-  Blue glowing

Charging starts and the status indicator LED glows blue.

NOTE

Charging operation requires an authorized card

Charging operation is rejected by the charging station when you want to start charging with an unauthorized card.

9.3.3 Stop charging

You must only use the following alternative methods to stop charging. Never attempt to unplug the charging cable from its charging station before stopping charging, otherwise the locking mechanism may get damaged.

Method 1

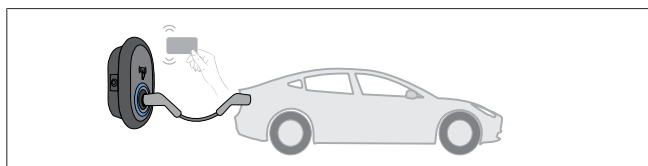


Fig. 59

-  Constant Blue

You can terminate charging by tapping the RFID card that you have used to start charging.

Method 2

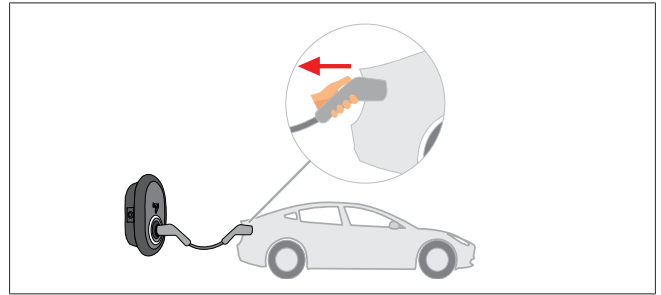



Fig. 60

-  Constant blue (or no LED Indication in power save mode)

Unplug the charging cable from the vehicle first.

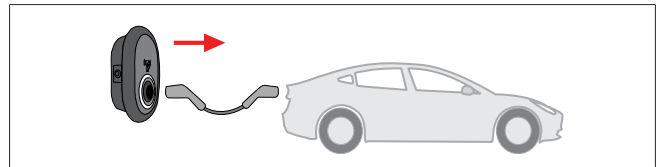


Fig. 61

-  Constant blue (or no LED Indication in power save mode)

Unplug the charging cable from the charging station.

9.4 OCPP Connected mode

LAN (Ethernet) and WLAN (Wi-Fi) use the charging station's OCPP connected mode.

OCPP connected mode is pre-configured, so this mode is used by default. In addition, the charging station is pre-configured to only allow authorized charging. In order to set up authorizations, you must connect the charger to the backend and manage the authorizations for charging. If you use Webasto ChargeConnect you will automatically enter a guided set up for authorizations when you first add the charger to the Webasto ChargeConnect.

9.4.1 Connecting & charging

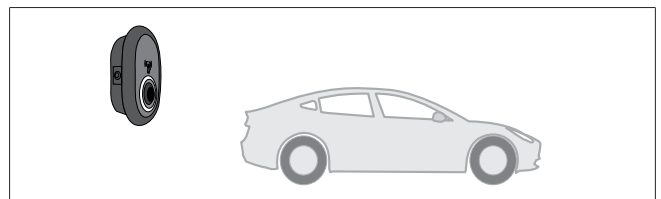



Fig. 62

-  Constant blue (or no LED Indication in power save mode)

Make sure that your vehicle and the charging station are ready for charging.

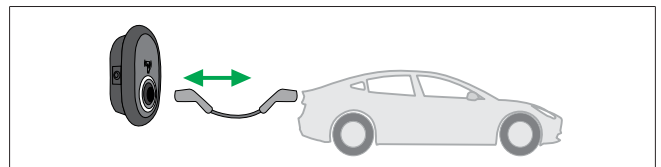


Fig. 63

- Constant blue (or no LED Indication in power save mode)

Insert the charging plug into the vehicle inlet and the charging station socket outlet.

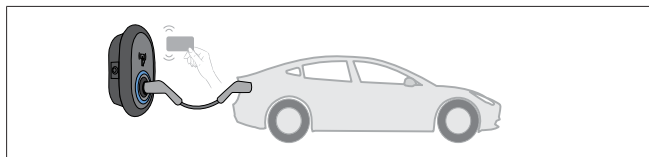


Fig. 64

- Blinks blue

Tap the RFID card on the RFID reader. You may start charging with a card which is registered with your charging operator.

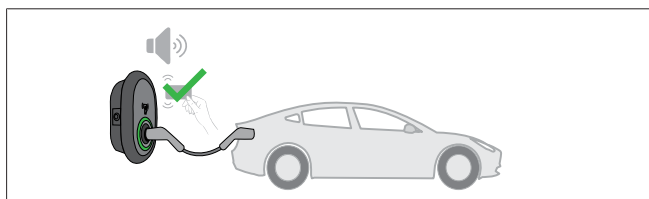


Fig. 65

- Green glowing

You may start charging with a card that has been authorized before. If the RFID Card is authorized by OCPP Central System, charging will start.

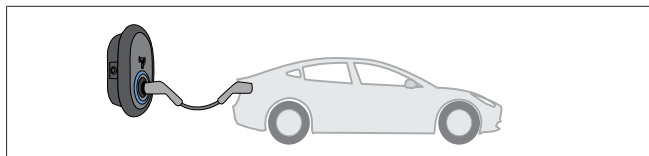


Fig. 66

- Blue glowing

Charging starts and the status indicator LED glows blue.



NOTE

Charging operation requires an authorized card

Charging operation is rejected by the charging station when you want to start charging with an unauthorized card.

9.4.2 Stop charging

You must only use the following alternative methods to stop charging. Never attempt to unplug the charging cable from its charging station before stopping charging, otherwise the locking mechanism may get damaged.

Method 1

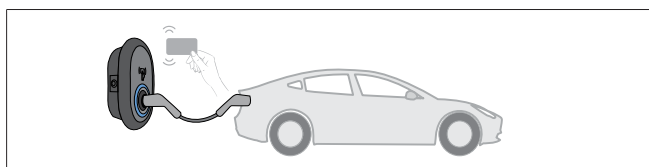


Fig. 67

- Constant Blue

You can terminate charging by tapping the RFID card that you have used to start charging.

Method 2

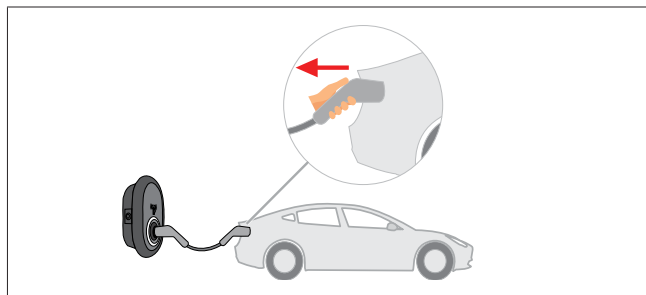


Fig. 68

- Constant blue (or no LED Indication in power save mode)

Unplug the charging cable from the vehicle first.

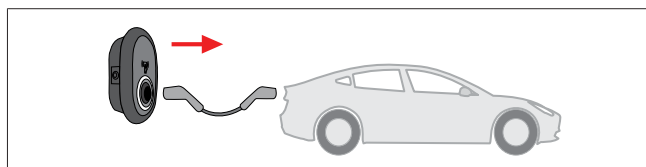


Fig. 69

- Constant blue (or no LED Indication in power save mode)

Unplug the charging cable from the charging station.

9.4.3 OCPP 1.6 JSON additional features

9.4.3.1 Remote charge initiation / termination

This feature is supported by the charging station. If it is also supported by the connected server, then charging process may be initiated/terminated remotely.




9.4.3.2 Hard reset/soft reset

If the charging station is not working properly, the service provider may reset the appliance with this feature. There are two types of resets: Software or hardware reset may be selected.

9.4.3.3 Unlocking the socket

If the charging cable is locked at the charging station, the service provider may unlock the cable via this feature.

10 Troubleshooting

Status Indicator	Problem	Possible Causes	Recommended Solutions
	Constant LED	The AC supply voltage may not be within the range of values in the Operating Instructions, A grounding connection may be absent and / or the phase / neutral connections may have been reversed, or the charging station may have a fault.	Make sure that the voltage is within the specified range and that a grounding connection is in place. If the button is still solid red, please contact your authorized service.
	Even though the status information LED blinks blue every four seconds, you cannot: - start charging the electric vehicle, or to - lock the plug into the charging station,	The charging plug may not be properly connected to the charging device or to the electric vehicle.	Make sure that the charging plug is connected properly on both ends of the cable. Make sure your electric vehicle is in charging mode.
	The status information LED blinks in red.	This error is displayed if your vehicle is equipped with a battery type that requires ventilation.	This charging station is not suitable to charge such battery types.

NOTE

Troubleshooting

If you need further assistance in troubleshooting, please contact your contractual partner for support

NOTE

Wi-Fi connection issues

If you have a Wi-Fi connection issue when controlling the charger, then restart your router and check the connections.

10.1 Resetting to factory defaults

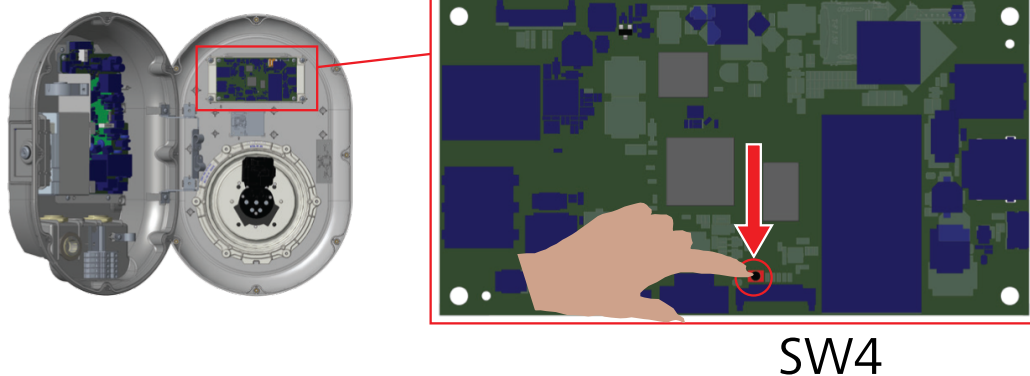
To enable you to restore the charging station to its factory default settings, the HMI board features a reset button.



WARNING

Factory reset of the charging station must only be carried out by a qualified electrician.

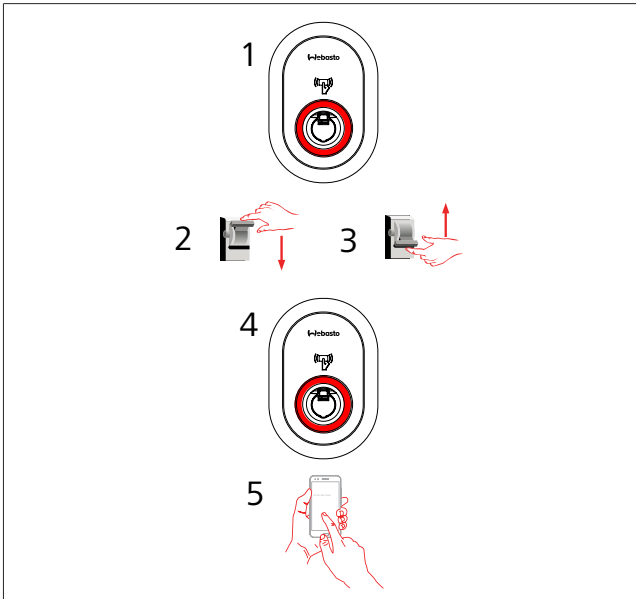
- After a factory reset, all configuration settings must be set again.



SW4

- Press the button for 5 seconds to reset the user configuration to its factory default settings. The OCPP configuration and the network configuration will revert to the factory default settings.

10.2 General error condition



If the status information LED is constantly red (1), then turn off the charging station (2) and turn it on again (3). If the LED is still constantly red (4), then call (5) an authorized service provider.

10.3 DC 6 mA leakage current sensor behavior

This charging station is equipped with a DC leakage current sensor that reacts to DC leakage currents higher than 6 mA.

If the charging station goes into an error state due to DC leakage current, then you must:

- first unplug the charging cable from vehicle, and
- then unplug the charging cable from the charging station

to reset this error.

The 6 mA sensor inside this charging station has daily self-test for proper operation.

11 Legal information

Requirements for the operator of the charging device

The operator of the charging device, in terms of § 31 of the German Measures and Verification Act, is the user of the measurement device.

1. The charger must only be used for legal purposes.
2. When registering charging points with the German Federal Network Agency, the user of this product must also register the PK indicated on the product. Due to calibration laws, the charger cannot be operated properly without this registration.
3. The user must not exceed the validity period for calibrating the charger.
4. The user must (also) store the signed data packets read out from the charging device and must have these records in their possession permanently and without gaps, according to the pagination, on hardware specifically dedicated to this purpose ("dedicated memory"), and keep these available for authorized third parties (duty of storage). "Permanently" means not only that the data must be stored until the conclusion of the business transaction, but also at least until the expiration of any legal periods for appeal for the business transaction. For non-existent data, replacement values must not be created for billing purposes.
5. The user of this product is subject to the duty of disclosure in accordance with § 32 Duty of disclosure of the of the German Measures and Verification Act. The use of new or renewed measurement devices is subject to disclosure to the responsible body in accordance with state law, at the latest six weeks after commissioning.
6. If it is seen as necessary by the authorized bodies, the measurement device user must provide the total contents of the dedicated local memory or memory of the CPO, with all data packets of the billing period.
7. The user of this product must refer to chapter 11.1, "Requirements for the user of measured values from the charging device (EMSP)" on page 28.

11.1 Requirements for the user of measured values from the charging device (EMSP)

The user of measured values must observe § 33 of the MessEG:

§ 33 Requirements for the use of measured values

- (1) *Values for measurands may only be specified or used in commercial or official transactions or in measurements in the public interest if they have been determined by a measurement device that has been used as intended.*
- (2) *Users of measured values shall ensure, within their means, that the measurement device fulfills the legal requirements and have the person using the measurement device confirm that they fulfill their obligations.*
- (3) *Users of measured values shall ensure, that bills based on measured values for the party for whom the bills are intended can be traced by simple means in order to check the stated measured values.*

For the user of measured values, this regulation specifically results in the following duties for measured value use in compliance with calibration law:

1. The contract between EMSP and customers must clearly state that only the delivery of electrical energy, not the duration of charging service, is the object of the contract.
2. The time stamp on the measured values comes from a clock in the charging device that is not certified in accordance with German measurement and calibration law. Therefore, these times shall not be used for rating the measured values.
3. EMSP must ensure that the electro mobility service is distributed based on charging devices that enable the monitoring of the ongoing charging process, provided that there is no corresponding local display on the charging device. At least at the beginning and end of a charging session, the measured values must be available to the customer in a way that is reliable in accordance with calibration law.
4. The EMSP must provide the data packets relevant for billing to the customer as a data file, including signature, at the time of billing, in a manner allowing them to be checked for authenticity using the transparency and display software. The provision can take place over channels not tested in accordance with calibration law.
5. EMSP must provide the transparency and display software belonging to the charging device to the customer in order to check the data packets for authenticity.
6. The EMSP must be able to show, with verifiable evidence, which means of identification was used to initiate the charging process belonging to a certain measured value. This means that they must be able to prove that they have assigned the personal identification data correctly for each business transaction and billed measured value. The EMSP must inform their customers about this obligation in an appropriate form.
7. The EMSP may only use values for billing purposes that exist in dedicated memory, if present, in the charging device and/or in the storage of the charging device operator. Replacement values must not be created for billing purposes.
8. The EMSP must enter corresponding agreements with the operator of the charging device to ensure that the data packets used for billing purposes are saved for a sufficient length of time in order to be able to complete the associated business transactions in full.
9. The EMSP must enable the authentication on the individual models of the product associated with this operating manual being used by the EMSP, by providing suitable means of identification in the case of a justified requirement message for the purpose of performing calibrations, examinations and usage monitoring measures.
10. All of the duties listed above apply to the EMSP as the measured value user in the terms of § 33 MessEG even if they obtain measured values from the charging devices via a roaming service provider.

The following additional requirements apply to the charge point operator:

- Selection of a suitable device variant.
- Integrity of the charging station and associated components such as charging cable, charging plug, or charging socket.
- Correct installation according to the installation instructions in compliance with national and regional regulations.

- Sufficient period of validity of the calibration according to the calibration stamp. The information is visible on the type plate or on the front part when calibrated.
- Correct function of the display and sufficient readability of the relevant information.
- Visibility and readability of the type plate.
- Intact seal on the connection panel cover.
- Sufficient protection of the operator infrastructure.
- Cyclical reading of the signed measurement data in order to keep failures low.

12 Checking the validity of measurement data by using transparency software

This section describes charging, transfer of legally relevant data, and billing of charging process, in accordance with the German Measures and Verification Ordinance (MessEV).

This charging station shows the progress in kWh usage on its display.

What is transparency software?

Transparency software enables you to verify digital signatures. Depending on its technical design, a charging station creates digitally signed meter readings related to the charging procedure that you are carrying out at the charging station. These digital signatures enable you to check the readings with a time delay so that you can make sure that no one has manipulated the readings at any point during their transfer to your invoice.

To use the transparency software:

1. Browse to:
https://www.safe-ev.de/en/transparency_software.php
2. Click the DOWNLOAD SOFTWARE button.
3. This downloads the file:
transparenzsoftware-1.2.0.jar
4. Double-click this file to install and open it.

How does transparency software work?

Using this software, you can verify a digital signature. Depending on its technical setup, a charging station produces digitally signed meter readings that are linked to the charging station from which an EV is charged. The digital signature enables you to verify the measured values with a delay. In this way, you, as a consumer, always can always be sure that the charged kWhs are correct and that the measured values cannot be adjusted when the charged kWhs are invoiced.

Loading digital signature data

To access the meter readings available to you, select File, Open, and then enter the charging station's public key.

Checking the result

Verify the output to see if the results of the digital signature verification match the information on your invoice or on the charging receipt.

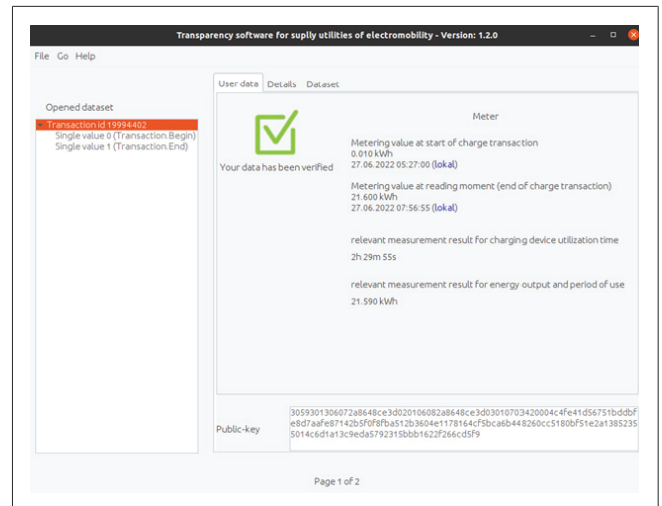


Fig. 70

If you enter the wrong public key, the following error message is displayed.

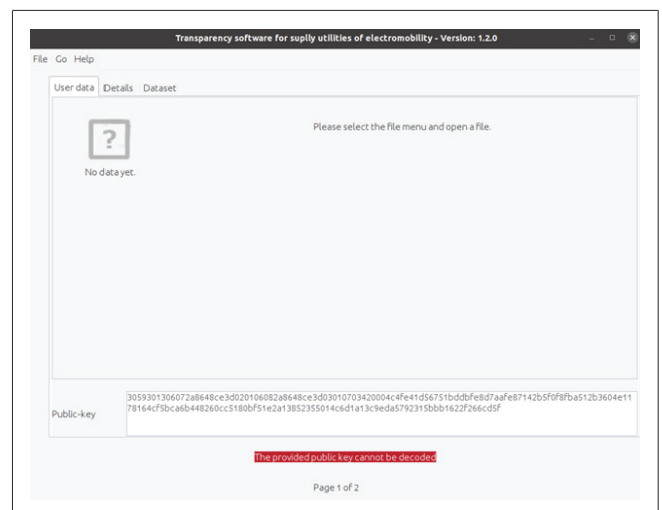


Fig. 71

If the signed data cannot be validated, the following error message is displayed.

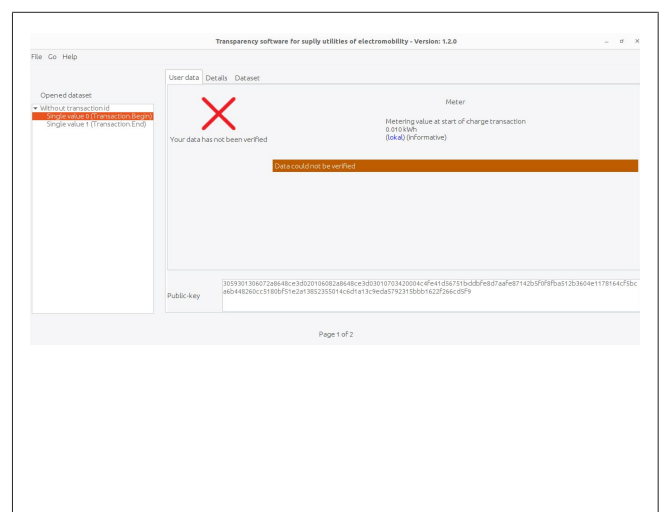


Fig. 72

Remote transmission of metering data to an OCPP backend

At the end of a charging session the corresponding signed measurement data records are automatically provided to the OCPP backend. During this process, a "transactionData" field with four "sampledValues" is sent in "StopTransaction.req". Two of those values are raw values, and two are signed values. Sending four values guarantees compatibility with the different backends.

Signed "sampledValue" elements have the following structure:

```
value = signed OCMF Data
context = "Transaction.Begin | Transaction.End"
format = "SignedData"
```

Forwarding data records to customers

Forwarding data records to customers is the job of the charge point operator and is not within the scope of influence of the charging station manufacturer. After the charging session, signed metering data records are transmitted to an OCPP central system; this data is then available to end users via a web interface, email, smartphone application or similar. Data records are preferably in .xml format. If you need to verify the charging session data by using transparency software, then please request signed measurement data from your charge point operator or from your e-mobility provider.

Verification of measurement data using the transparency and display software

Using transparency and display software, users can verify whether the measurement data comes from a certain charging station and whether its authenticity has been maintained.

The charging station has a public key. This key is openly available and shown on the type plate of the measurement unit of the charging station in the form of a QR code. The charging station creates a measurement data record in the measurement capsule. The charge point operator then uses the signed measurement-data-record to create the bill.

Both the signed measurement data and the public key must be provided on the bill, or in a customer portal, in a format that is compatible with the transparency and with the display software.

After receiving the bill, customers can input the digitally signed measured values, along with the public key, into the transparency and display software. Signature verification enables the customer to verify the validity of the measured values. To do so, the customer compares the values displayed in the transparency and display software with the contents of the bill. If the measurement record is validated by the transparency software, then this confirms that the data record has not been changed and is valid for billing.

The transparency and display software verifies the following data:

- The public key, as the identifier of the charging station. The public key can also be read on the type plate of the measurement unit of the charging station.
- The correct measured energy value.
- The correct User/transaction ID.

Checking the signed measurement data record

To check the measurement data record:

1. Download and install a Java Runtime Environment (available for all operating systems, usually already present, e.g. Oracle).
2. Download the transparency and display software from: https://www.safe-ev.de/en/transparency_software.php
3. Input the following data into the transparency and display software:
 - The signed measurement data record.
 - The selection of the "OCMF" format.
 - The Public key of the corresponding charging station.

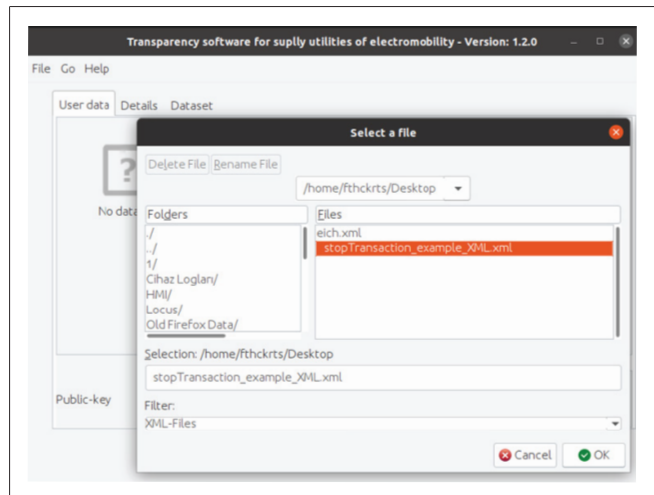


Fig. 73

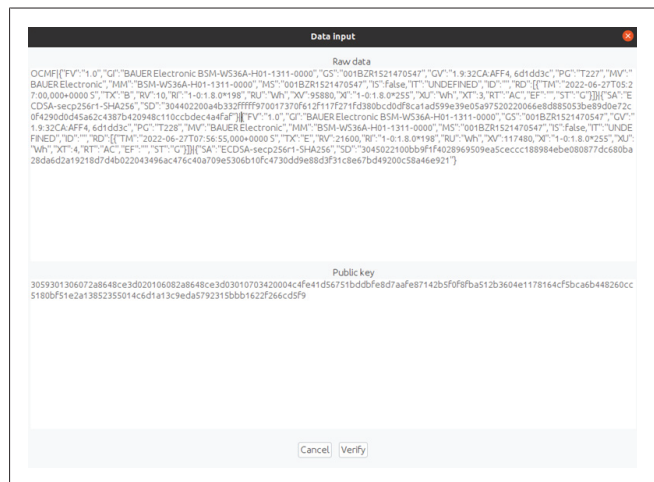


Fig. 74

4. After entering the necessary data, the verification can be started.
5. After the verification is complete, you must make sure that the results of the signature verification match the information on the bill.

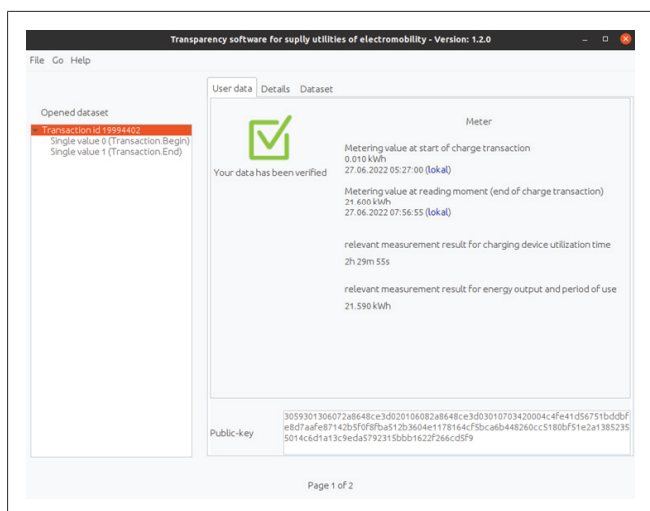


Fig. 75 Checking_the_signed_measurement_data_record_3

13 MID meter models

You can view the total active energy on the display of the MID meter. The location of the MID meter in the product is circled in red below.



Fig. 76 Location of the MID meter

13.1 MID LCD display

This display shows the various measured values and associated units and registers in plain text.

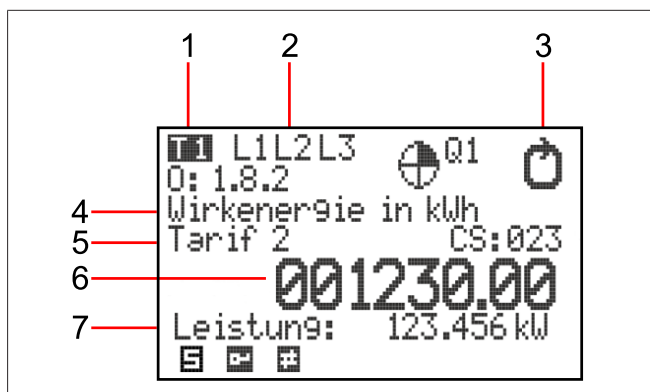


Fig. 77 MID LCD display

1	Shows the currently active tariff
2	Display for connected phases and phase sequence
3	Display of energy direction (clockwise when startup threshold is exceeded)
4	Display of the selected measuring unit

- | | |
|---|---|
| 5 | Display of the corresponding tariff |
| 6 | Eight-digit display of the measured value |
| 7 | Display of the current power value |

14 Public key

The meter of the charging station is located on the left side. The QR code on the type plate of the meter contains the full public key (for the meter capsule).

You can use the QR code to verify the public key.

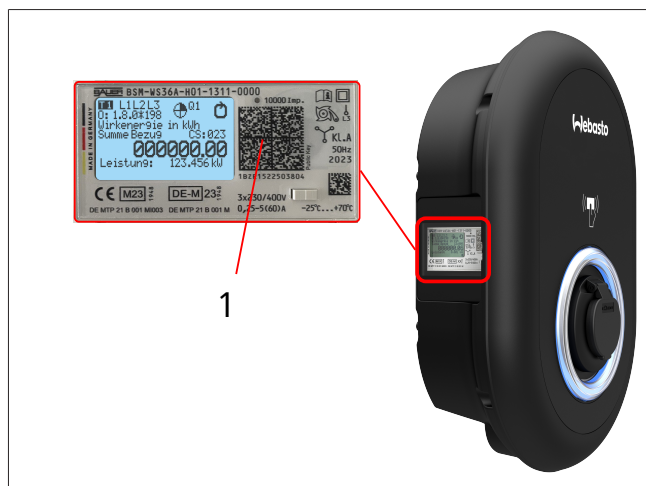


Fig. 78 Public key location

- | | |
|---|---|
| 1 | Location of the QR code containing the public key |
|---|---|

15 Disposal



The symbol of the crossed-out waste bin indicates that this electrical/electronic device must not be disposed of in household waste at the end of its service life. Dispose of the device free of charge at a local collection point for electrical/electronic devices. Addressed can be obtained from your city or local authority. Separate collection of electrical and electronic devices enables re-use, material recycling or other forms of re-utilisation of waste equipment while also avoiding the negative effects of hazardous substances which may be contained in the devices on the environment and for human health.

- Dispose of packaging in corresponding recycling container in accordance with national regulations.

Austria:

The EAG-VO ordinance in Austria incorporated EU law on waste electronic and electrical equipment into national legislation. This ordinance ensures that private households have the opportunity to return waste electronic and electrical equipment (WEEE) to public collection points free of charge. It is no longer permitted to dispose of WEEE in mixed municipal waste; instead, these must be handed in at the designated collection points. This allows functioning equipment to be reused, or valuable constituent parts of broken equipment to be recycled. The aim of this is to contribute to more efficient use of resources and more sustainable development. Moreover, it is only through separate collection that hazardous elements of the equipment (such as CFCs or mercury) can undergo sufficient treatment, thereby avoiding negative impacts on the environment and human health. There are municipal and manufacturer systems available for return and collection of your waste household equipment free of charge. An overview of available collection points can be found on the following website: <https://secure.umweltbundesamt.at/eras/registerabfrageEAGSammelstelleSearch.do>. All household electronic and electrical equipment is marked with the symbol of a

crossed-out wheeled bin. This equipment may be handed in at any collection point listed under the above link, and should not be disposed of with household waste.

16 Declaration of Conformity

The Webasto Unite was developed, manufactured, tested and supplied in accordance with the relevant directives, regulations and standards for safety, EMC and environmental compatibility. Webasto Thermo & Comfort SE hereby declares that the radio equipment type "Charging Station Webasto Unite" is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity can be found at the following web address:

<https://charging.webasto.com/int/products/documentation>

17 Cleaning and maintenance

- Do not clean your EV charging device while charging your vehicle.
- Do not wash the device with water.
- Do not use abrasive cloths and detergents. Microfiber cloth is recommended.

Failure to follow these warnings may result in death and serious injuries. Also, it may cause damage to your device.

18 Technical data

18.1 Model description

Product Type	Electric Vehicle Conductive Charging System (Mode 3 Charging Station)
Model Name	Webasto Unite * * * * *
1st Asterisk (*) : Rated Power AC22: 22 kW (3-phase Supply Equipment)	
2nd Asterisk (*) RFID reader is standard equipment for all model variants: <ul style="list-style-type: none">– SW: Smart Board with Ethernet Port + Wi-Fi module with hotspot	
3rd Asterisk (*) : Can be one of the following: <ul style="list-style-type: none">– 0 : No Display	
4th Asterisk (*) can include combinations of the following: <ul style="list-style-type: none">– EICH: Charging station with Eichrecht meter	
5th Asterisk (*) can be one of the following: <ul style="list-style-type: none">– SO: with normal socket– SH: with shuttered socket	

18.2 Dimensional drawings

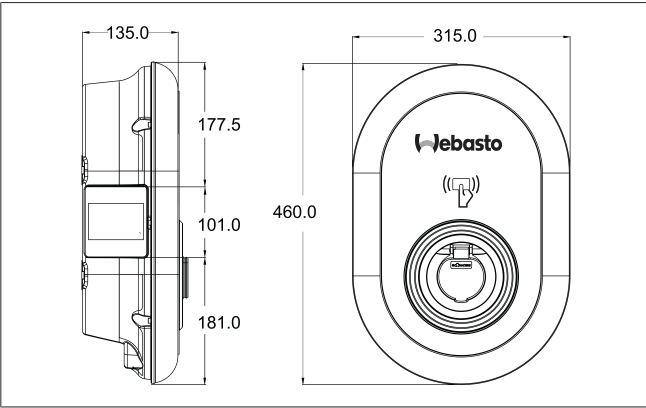


Fig. 79

18.3 Model



Fig. 80

Eichrecht model

1	RFID card reader (Radio Frequency Identification)
2	Status indicator LED
3	Socket outlet with shutter
4	Product label
5	Eichrecht meter display
6	Charging station supply inlet gland nut
7	Charging station communication cable gland nut
8	Charging station communication cable gland nut

18.4 Technical specifications

This product is compliant with IEC61851-1 (Ed3.0) standard for Mode 3 use.

Electrical Characteristics		Webasto Unite Eichrecht
IEC protection class		Class- I
Vehicle inter- face	Socket Model	Socket TYPE 2 (IEC 62196)
Rated voltage (V AC)		400 V, 3-phase
Rated current (A AC)		32 A, 3-phase
Grid frequency (Hz)		50 / 60
Maximum AC charging power (kW)		22 kW, 3-phase
Idle power consumption (W)		3.5 W
Built-in residual current sensing module		6 mA
Required circuit breaker on AC mains		40 A MCB Type-C
Required leakage current relay on AC Mains (for products not equipped with RCCB Type A)		40 A – 30 mA RCCB Type-A
Required AC mains cable	Cross-section of the connecting cable (Cu) taking into account the local requirements and standards (min.-max.)	Rigid: 2.5-10 mm ²
		Flexible: 2.5-10 mm ²
		Flexible with wire end ferrule: 2.5-10 mm ²
	Max. external dimension	Ø 18 – 25 mm

Connectivity

Ethernet	10/100 Mbps Ethernet
Wi-Fi	Wi-Fi 802.11 a/b/g/n/ac

Wi-Fi specifications

2.4 GHz Band				
Standard	802.11b	802.11g	802.11n	802.11n
Modulation	DSS, CKK	OFDM	OFDM	OFDM
Data rate	1, 2, 5.5, 11	6, 9, 12, 18, 24, 36, 48, 54	MCS0 - 7 (HT20)	MCS0 -7 (HT40)
Channel*	CH 1-13	CH 1-13	CH 1-13	CH 1-13
Power (dBm)	13.5	13.5	13.5	13.5
5 GHz Band				
Standard	802.11a	802.11n/ac	802.11n/ac	802.11n/ac
Modulation	DSS, CKK	OFDM	OFDM	OFDM
Data rate	6, 9, 12, 18, 24, 36, 48, 54	MCS0 - 9 (HT20)	MCS0 - 9 (HT40)	MCS0 -9 (HT40)
Channel*	CH 36-64 / CH 100-165	CH 36-64 / CH 100-165	CH 38-62 / CH 100-159	CH 42-58 / CH 100-155
Power (dBm)	14	14	14	14

Other features (Connected models)

Diagnostics	Diagnostics over OCPP WebconfigUI
Software update	Remote software update over OCPP WebconfigUI update Remote software update with server
RFID	ISO-14443A/B and ISO-15693
Material	Plastic
Product size	315 mm (Width) x 460 mm (Height) x 135 mm (Depth)
Dimensions (with package)	400 mm (Width) x 530 mm (Height) x 240 mm (Depth)
Product weight	5 kg
Weight with package	7.1 kg
AC Mains Cable Dimensions	For three-phase models Ø 18 - 25 mm
Cable Inlets	AC Mains / Ethernet / Modbus
Protection class	IP54
Impact protection	IK10
Usage conditions	-35 °C to 55 °C (without direct sunlight) 5% - 95% (relative humidity, non-condensing) 0 - 4,000 m

19 Checklist for the installation of the Webasto charging station

Charging station	Webasto Unite Eichrecht		
Charging power	22 kW <input type="checkbox"/>		
Serial number			
Material number			
System type	TN/TT <input type="checkbox"/>	IT <input type="checkbox"/>	Split phase <input type="checkbox"/>

General:	Applicable/ completed
Installation, electrical connection and initial operation of the charging station must be carried out by an electrician.	<input type="checkbox"/>
The charging station has not been installed in an explosion sensitive area (EX zone).	<input type="checkbox"/>
The charging station has been installed in a location where falling objects cannot damage the charging station.	<input type="checkbox"/>
The charging station has been installed in an area protected from direct sunlight.	<input type="checkbox"/>
Please underline the weather conditions on the installation date: sun, rain, overcast, snow or other _____.	<input type="checkbox"/>
The location of the charging station should be selected such that vehicles cannot inadvertently collide with it.	<input type="checkbox"/>
The legal requirements for electrical installations, fire protection, safety regulations and escape routes have been met.	<input type="checkbox"/>
The customer/user was informed how the Webasto Unite voltage is switched off with the installation-side protective devices.	<input type="checkbox"/>
The cable bushing for the mains lead and signal cable has been installed during installation.	<input type="checkbox"/>
Tools and installation remnants have been removed from the charging station before closing the cover.	<input type="checkbox"/>
The prerequisite of a clockwise phase sequence is met during installation.	<input type="checkbox"/>
The locally applicable test logs should be drawn up during initial start-up and a copy should be given to the customer.	<input type="checkbox"/>

Electrician/contractor:	
Place:	Signature:
Date:	
Place:	Signature:
Date:	

To request this documentation in another language, please locate and contact your local Webasto dealer. You can find your nearest dealer at: <https://dealerlocator.webasto.com/en-int>.
To provide feedback (in English or German), please email: feedback2tdt@webasto.com

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