



MCharger Easy S 11 kW & 22 kW



Installation and operating manual

About this manual

The installation and operating manual is intended for the electrician who carries out the installation as well as for the persons who are to operate the product.

Read the manual in full before starting to use the product.

Save the manual after reading for future reference.

This installation and operating manual is a part of the product.

If you pass on the product to third parties, please also pass on this manual and the accompanying documents.

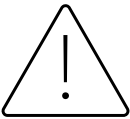
MARKING OF IMPORTANT NOTICES

Particularly important information is marked in this manual as follows:



DANGER!

This warning alerts you of possible dangers in handling or operating the wallbox that may lead to serious injury or death.



WARNING!

Warning alerts you of possible damage that can lead to minor injuries and damage to the wallbox if not avoided.



INFORMATION! Notes for the user



NOTE on an qualified electrician

WARRANTY

Warranty claims can be made within a maximum period of 3 years, calculated from the date of purchase. The warranty is limited to the repair or replacement of the damaged component at our discretion. Our warranty is always free of charge. However, it does not apply if defects other than material and workmanship defects are detected.

We also grant a 12-month warranty on proper functioning. This warranty starts from the date of purchase.

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Introduction

Thank you for choosing our product! We have developed the MCharger together with the company Plastimat with the utmost care and we are of course also available to you after the purchase if you have any questions or problems.

This manual contains all the necessary information for the installation and operation of the wallbox. Please read it carefully to familiarize yourself with the functions of this product.

Safety

General safety instructions

Please read the warnings and notes in this guide.

Local regulations regarding operation, installation and environment must be followed and adhered to.



**DANGER! High electrical voltages are present in the wallbox.
There is a danger to life!**

Store this manual carefully. The safety instructions must be available to every user.



Please note that according to electricity grid operators', energy suppliers' or national requirements a reporting or approval obligation for the installation or the operation of a wallbox may be mandatory.

In Germany, there is a reporting obligation according to §19 NAV.



**Please note that continuously occurring network disturbances can lead to malfunctioning of the wallbox.
It may be necessary to restart the wallbox.**

Qualification of personnel for installation and maintenance

Only suitably qualified specialist personnel (electrician) may install, commission, and maintain the wallbox.



DANGER! Improper installation or repair of the wallbox can cause severe consequences, such as fire or severe or fatal injuries!

User's qualification

Only adults are allowed to use this wallbox. They must familiarize themselves with the operation beforehand by studying these instructions.



DANGER! The covers may only be opened by an electrician as the covers protect the user from access to high electrical voltages!



DANGER! If the wallbox is visibly damaged, it must not be used. Please contact the installer or supplier. Do not carry out any unauthorized changes or repairs!

Intended use

The wallbox is suitable for AC charging (mode 3) of an electric vehicle. A ventilation requirement, such as that required for charging lead-acid batteries, is recognized by the wallbox, charging does not take place in these cases.



WARNING! No extension cables or adapters may be used.



DANGER! High electrical voltages are present in the wallbox. There is a danger to life!

Service

For technical service, please first contact the electrician who carried out the installation of the wallbox.

Nameplate

The nameplate on the bottom of the MCharger wallbox shows all relevant data. Here you will find e.g., type designation, serial number, date of manufacture (month/year), as well as the operating parameters of the charging station.



The nameplate may differ from the representation shown here.

Scope of delivery

The wallbox is delivered in a custom-fit box. When unpacking, please make sure that you remove all parts from the box. If something is unexpectedly missing, please contact the supplier from whom you bought the wallbox immediately.



**NOTE: Check all parts for damage before the assembly.
Damaged parts may not be installed!**

1 x Housing with pre-assembled lower cover and pre-assembled charging socket

1 x Top cover, not screwed

1 x Installation and operating manual in German

1 x Installation and operating manual in English

1 x Bag with

1 x Installation rail

5 x Screw 6 x 50 T30

5 x Dowel 8 mm

2 x Screw for top cover 3.5 x 12 T15

1 x Strain relief large

1 x Strain relief small

2 x Screw for strain relief 3.5 x 28 T15

1 x Rubber grommet black small

2 x Rubber grommet grey

Please keep the packaging during the warranty period.

Installation

Installation site requirements

Please check if the installation location:

- is freely accessible and the wallbox display is easy to read even in incident light;
- provides a flat mounting surface;
- provides a sufficient load capacity;
- provides a sufficiently dimensioned mounting surface;
- is not exposed to direct sunlight and the prescribed temperature range can be maintained;
- protects the wallbox from moisture and direct rain;
- is taking into account the minimum distances to other systems, namely sufficient space for the socket (>40 cm on the right side), as well as the legal requirements for electrical installations, fire protection, safety regulations and escape routes;
- does not pose a risk from flammable gases or vaporizing and/or flammable substances, as well as fuels or other flammable or explosive materials;
- does not expose the wallbox to vibrations;
- is not blocking any escape routes, or creating possible tripping points due to the charging cable lying around;
- is below an altitude of 2000 m;
- offers sufficient space for a safe passage between the vehicle and the wallbox.

If there is no electrical supply line for the building distribution at the desired installation location, it must be prepared by an electrician considering all the necessary parameters.

No items may be placed on the wallbox.



WARNING! The wallbox may not be mounted or operated on ships.

Required tools

- Screwdriver T15 (for the cover and strain relief screws);
- Screwdriver T30 (for the wall screws);
- Flat-blade screwdriver (for breakthrough openings in the housing);
- Spirit level;
- Drilling machine;
- Drill bit 8 mm;
- Pencil;
- Combination pliers (for breakthrough opening at the top of the housing);
- Hammer (for breakthrough openings in the housing);
- Wire stripper.


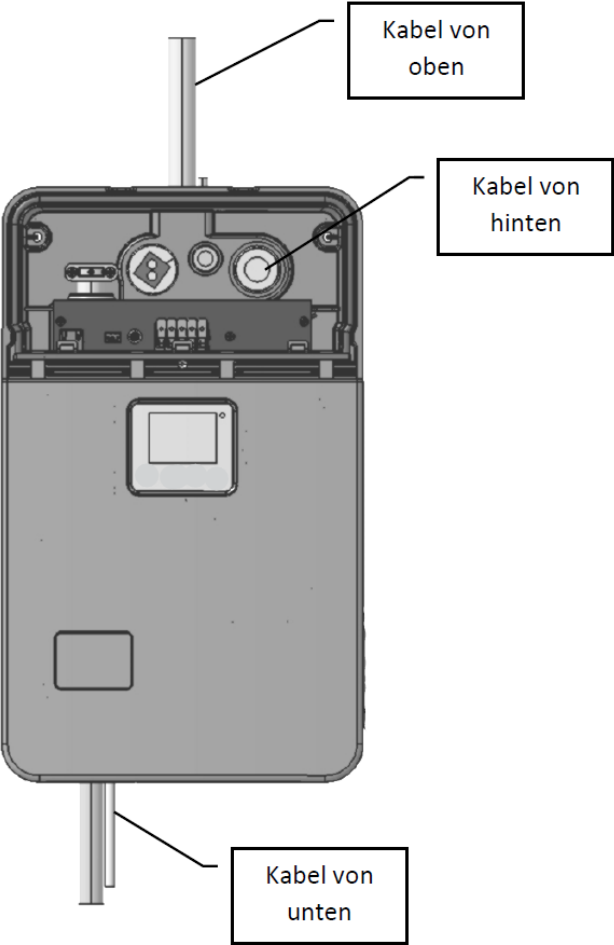
Installation of the wallbox



WARNING! Only appropriately qualified specialists (electricians) may install the wallbox.

The following steps show where special attention should be paid to when mounting on the wall. All length measures are shown in millimetres.

If the wallbox is not attached to a wall, please follow the instructions in the installation manual of the accessory.

Preparation	
<p>Remove the top front panel by lifting the two tabs with a screwdriver.</p>	
<p>Select the cable entry according to the type of installation from:</p> <ul style="list-style-type: none">• top• bottom• rear	

An additional cable of CAN interface can be inserted through the middle opening.

Break out the opening with the screwdriver and hammer, then deburr the area with a knife.

Use the *small black rubber grommet* for sealing.



Cable from the bottom

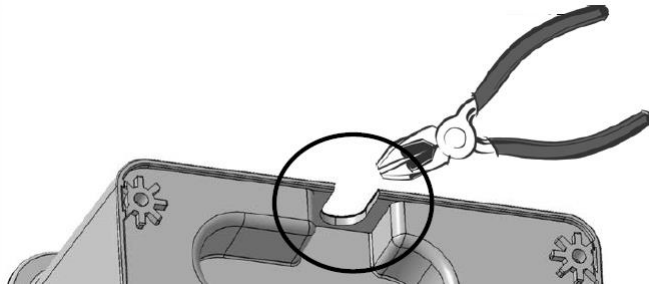
The required opening is provided in the housing.

Use one of the two *grey rubber grommets*.



Cable from the top

Break out the opening on the top of the housing with the pliers and deburr it with a knife.

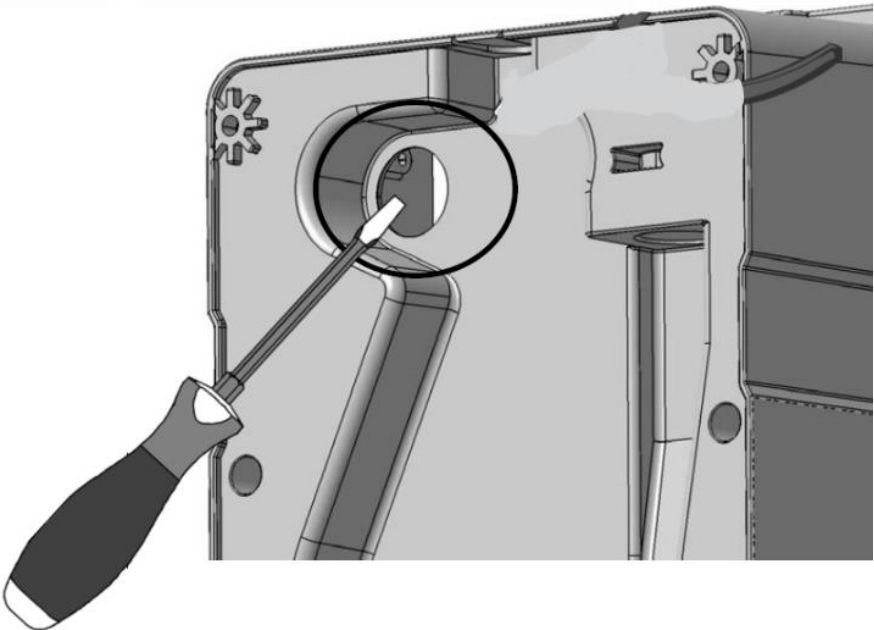


Use the free space to lay a drip loop.

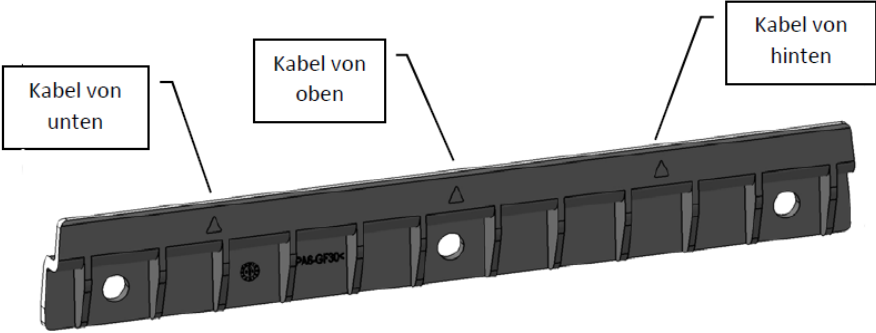


Cable from the rear

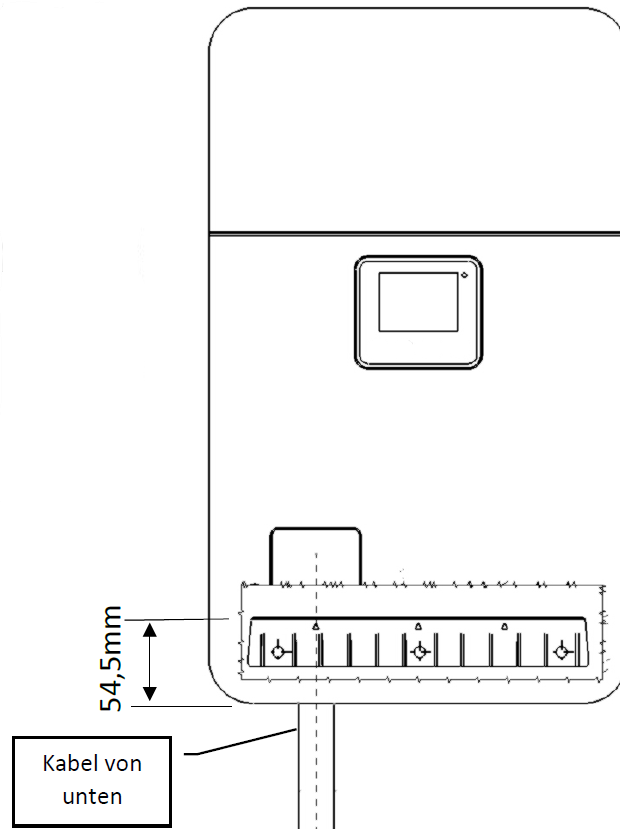
Break out the opening on the back of the housing with a screwdriver and a hammer and then deburr it with a knife.



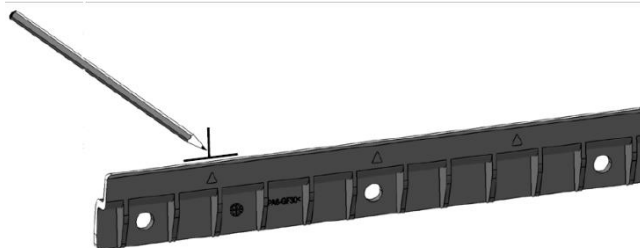
After entering the cable, use the appropriate marking (small triangle) on the installation rail for the orientation.



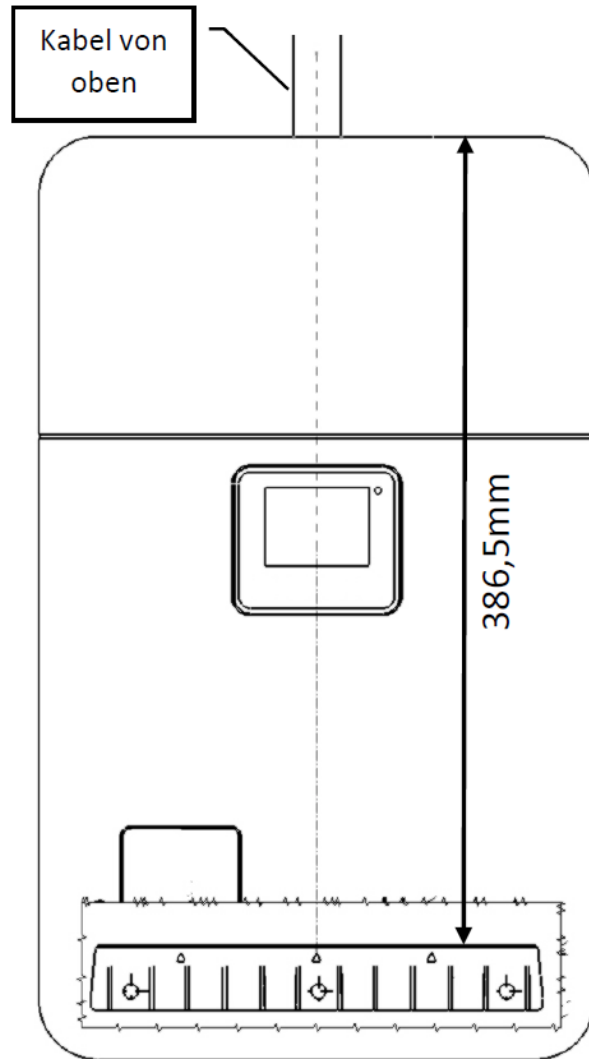
For the installation from the bottom, use the left side mark on the installation rail.



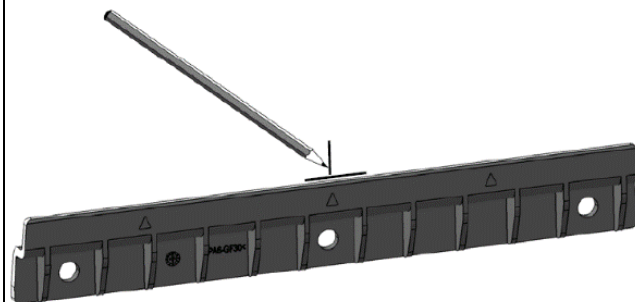
Draw the left mark.



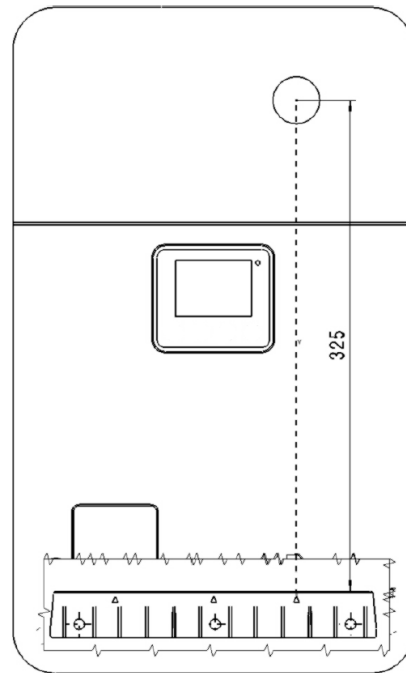
For the installation from the top, use the mark in the middle of the installation rail.



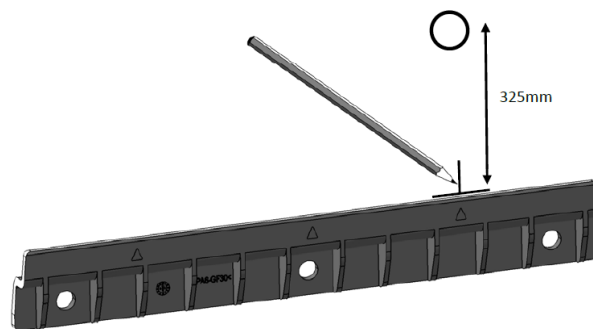
Draw the middle mark.



For the installation from the rear,
use the right side mark on the
installation rail.

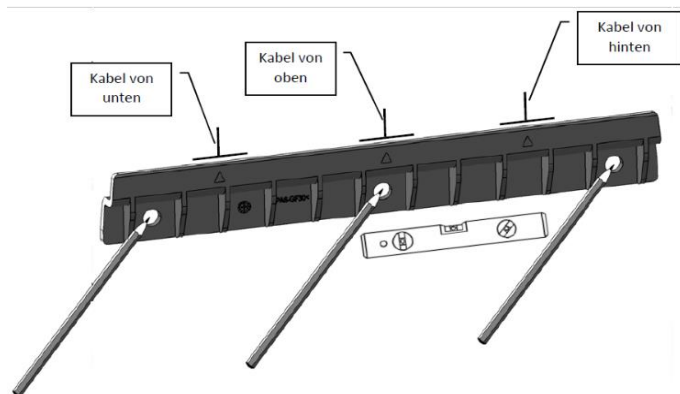


Draw the right mark.



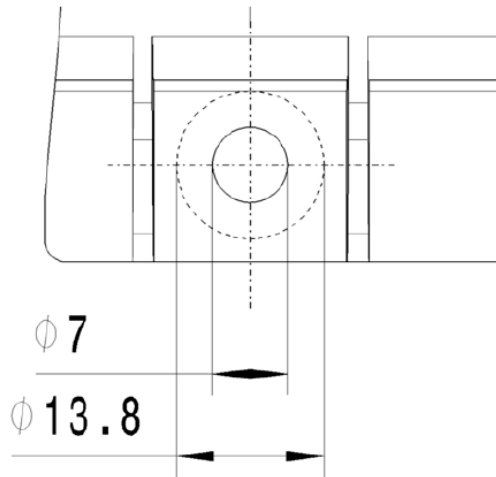
Mark the holes for the
installation rail.

Use a spirit level!



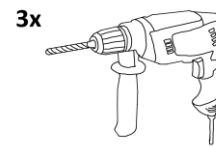
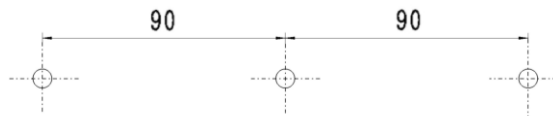
Use the supplied cylinder head screws and dowels.

Use a maximum screw diameter of 6 mm.



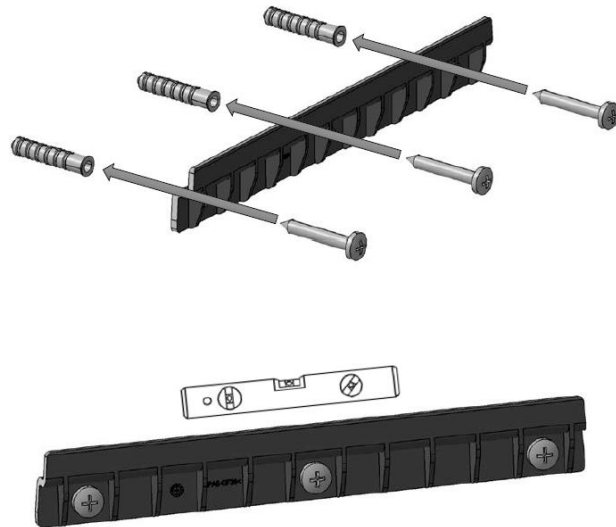
Drill the appropriate holes for the installation rail with a distance of 90 mm.

Use an 8 mm diameter drill bit.

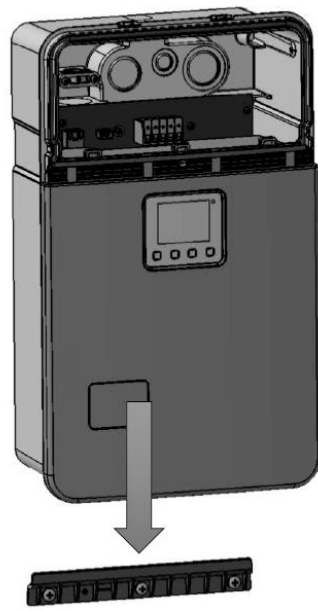


Attach the installation rail to the wall with dowels and screws.

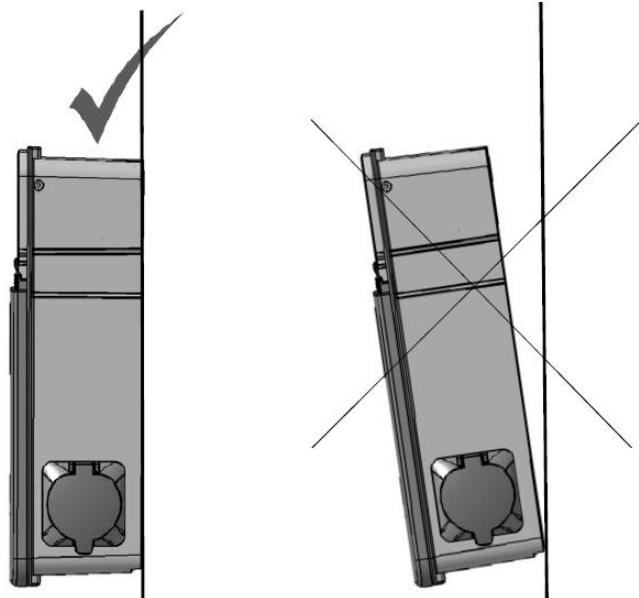
Check the alignment again with the spirit level.



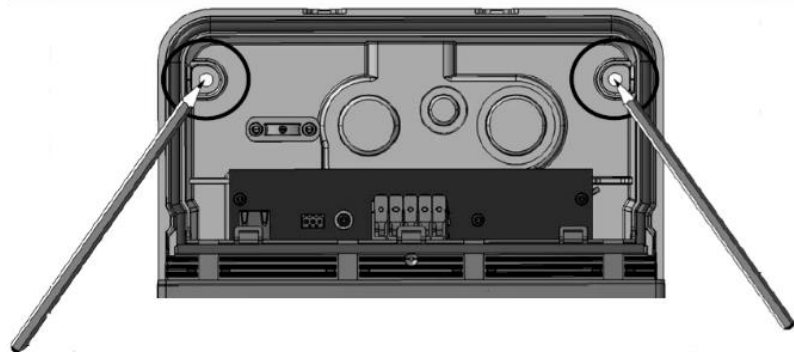
Put the wallbox on the installation rail.



Press the wallbox firmly to the wall.

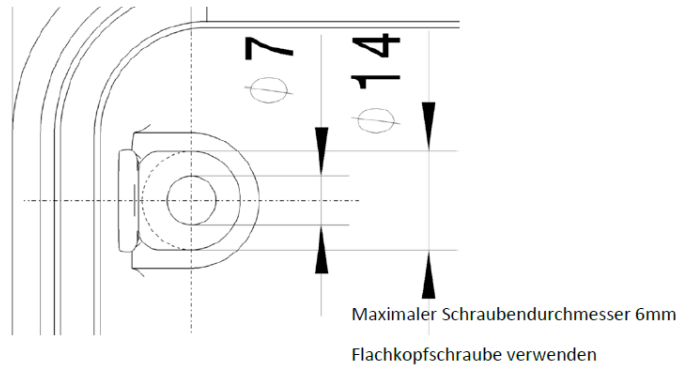


Draw the upper drill marks.

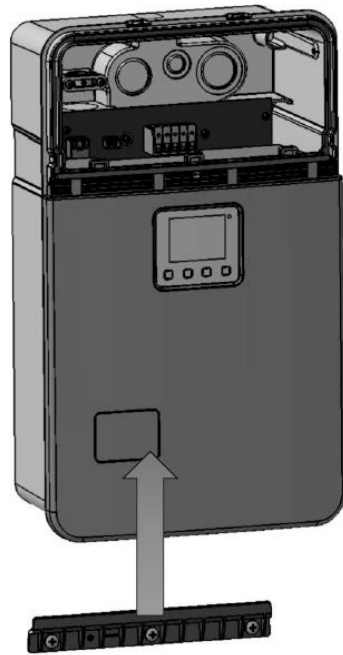


Use the supplied flathead screws and dowels.

Use a maximum screw diameter of 6 mm.

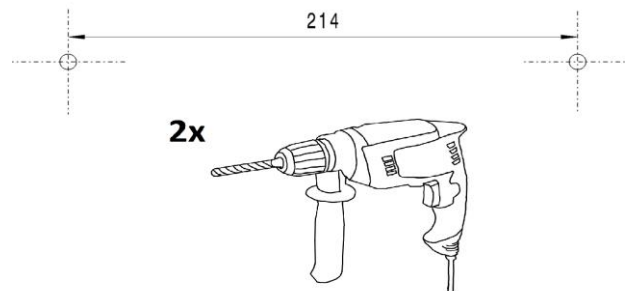


Remove the wallbox from the installation rail again.



Drill the marked holes.

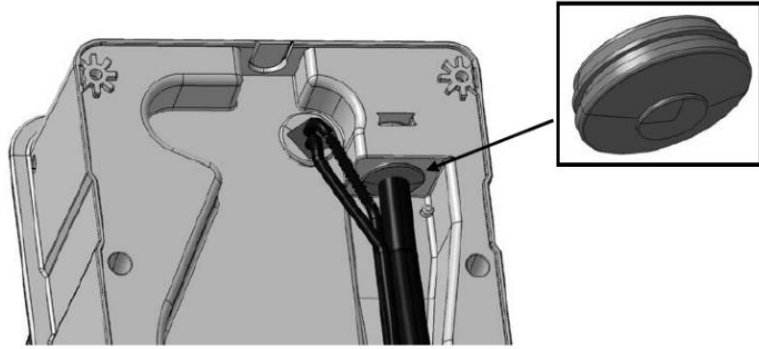
Use an 8 mm diameter drill bit.



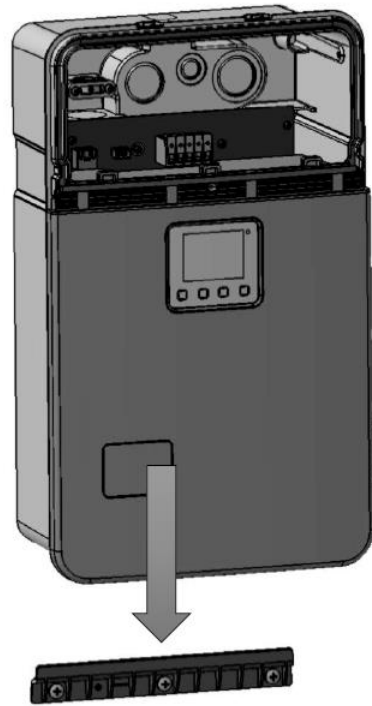
Mount the dowels.



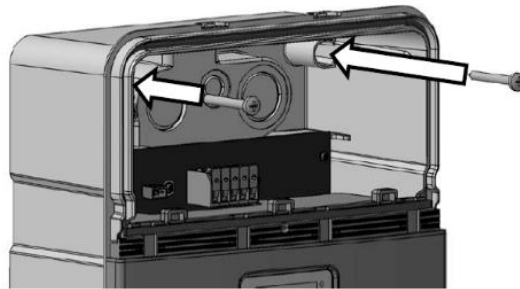
Insert the connection cable into the wallbox and use the appropriate *grey rubber grommet*.



Put the wallbox on the installation rail.

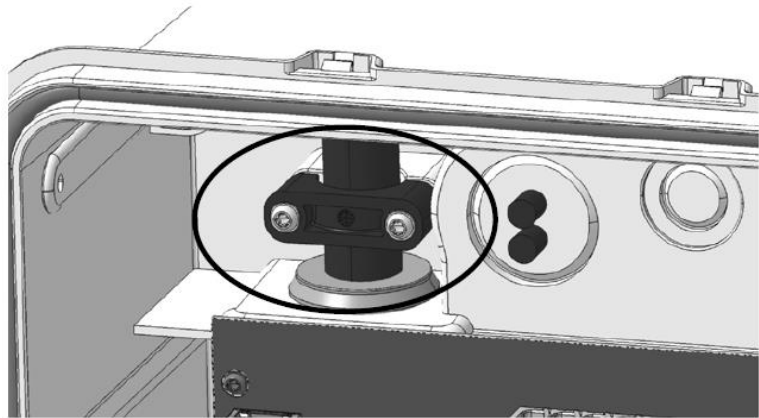


Secure the wallbox with two screws.



Use the *strain relief (small/large)* for the installation type "from the bottom" or "from the top" of the connection cable.

Select the size based on the cable diameter.



Connecting the power cable



WARNING! The installation may only be carried out by a qualified electrician.



WARNING! Make sure again that the connection cable is disconnected from the mains.

The electrical connection to the power grid must be carried out by a qualified electrician. Based on professional training, knowledge of the relevant standards and experience, he/she can assess the installation steps and identify any possible dangers.

On the building side, it is necessary to provide RCD type A circuit breaker (30 mA AC). The wallbox already has an integrated DC residual current detection. The overcurrent protection device of the electrical supply line must also be dimensioned and installed by an electrician.

Observe the 5 safety rules for electrical work:

1. disconnect;
2. secure against being switched on again;
3. determine the absence of voltage;
4. ground and short-circuit;
5. cover or fence off adjacent live parts.



NOTE: After connection or reconnection, the electrotechnical equipment must be tested in accordance with the applicable standards.



NOTE: The operator must provide protection against the lightning.



NOTE: The electrician is responsible for dimensioning the cables according to the building conditions.



DANGER! Voltage! The connection is only to be carried out in a voltage-free state and by a qualified electrician.

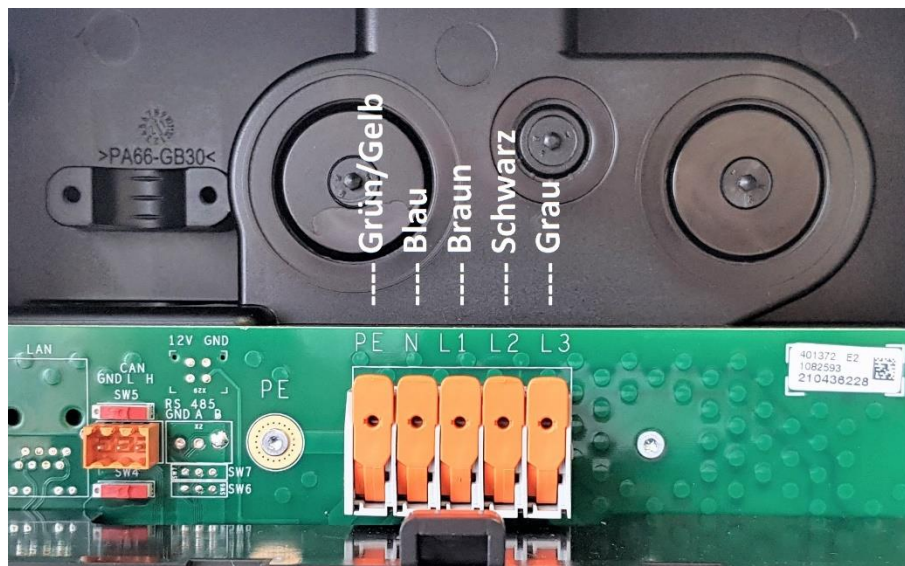
5 connection terminals are provided for connecting the power cable. The corresponding assignment is printed on the circuit board (PE – N – L1 – L2 – L3).

In general, the following colors are set per phase:

Marking	Color	Designation	1/3 phase
PE	Yellow-Green	Protective	1 / 3
N	Blue	Neutral	1 / 3
L1	Brown	Head of Phase 1	1 / 3
L2	Black	Head of Phase 2	3
L3	Grey	Head of Phase 3	3



NOTE: Even if the colors are set this way, it may be different on site. There are also international differences here. Therefore, always check whether the rotation field is correct.



Prepare the connection cable by shortening the individual wires to the correct length and insulate the individual wires with the stripping pliers. The stripping length of the individual wires is 11-13 mm.

Insert the individual wires of the main cable into the associated terminals. To do this, open the orange lever first, insert the wire and close the lever again.

The maximum cross-section per wire and terminal is as follows:

Single-wire conductor	10 mm ² / 8 AWG
Fine wire conductor	10 mm ² / 8 AWG
Fine wire conductor with wire end sleeve with plastic collar	6 mm ²

If the wallbox is connected with one phase, please always occupy L1 and leave L2 and L3 free. This also applies to the connection with two or three phases. In this case, the phase L1 must be connected, and the rotating field observed. Failure to do so displays an error (Error ID-0100).



NOTE: Check that all wires have a firm fit in the terminal block.



NOTE: After connection or reconnection, the wallbox must be tested according to VDE 0105-100.

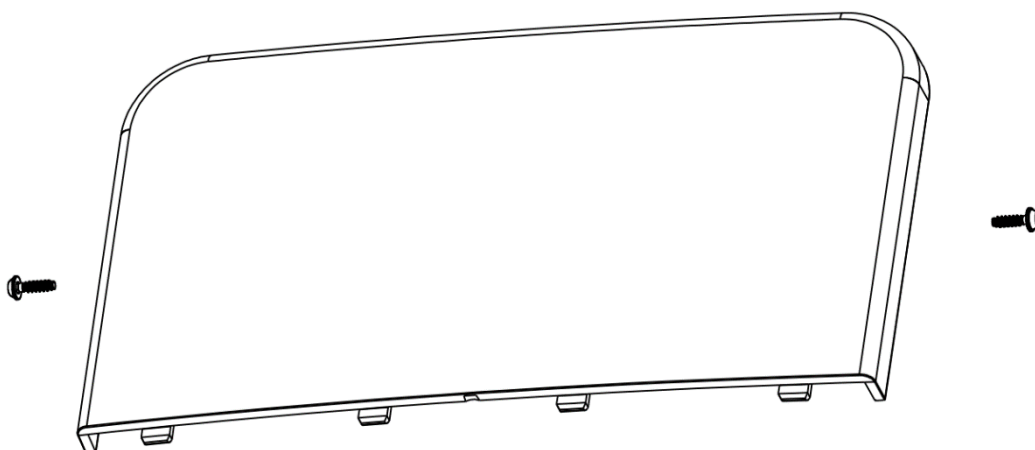
Mounting the top cover

After the wallbox is mounted and connected to the mains, the upper cover must be put on and screwed tight.

Make sure the seal is in the correct fit before placing the cover.

Insert the cover first at the bottom before it can snap into place at the top of the 2 locking positions.

Finally screw in the two screws on the top cover 3.5 x 12 T15 left and right into the holes provided.



Operating instructions

General

Before using the wallbox, the suitability of the vehicle for charging with it must be checked. Park the electric vehicle in such a way that you can easily reach the charging socket on the vehicle and the wallbox with the charging plugs of the charging cable.

i **INFORMATION!** Plug only a matching cable into the socket of the wallbox and the vehicle. Do not use force!

i **INFORMATION!** During the charging process and in standby mode the charging cable must be laid in such a way that it is not a trip hazard and cannot be run over by other vehicles.

Standby mode

After the wallbox is properly assembled and installed according to the instructions, it will start into standby mode.

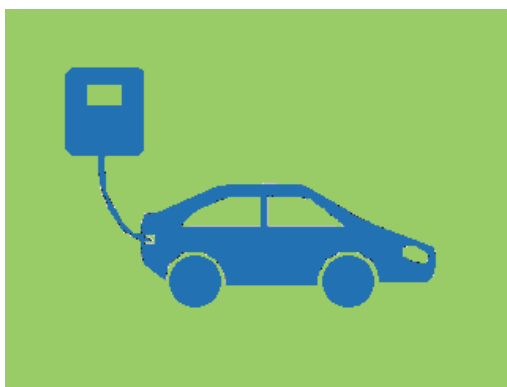
In this mode, the MRS logo is shown on the display and the wallbox is ready for charging.



Vehicle connected

As soon as a vehicle is connected to the charging station, the display changes and shows a vehicle connected to a wallbox. Now the charging process can be started if this has not already happened automatically.

If the charging process is automatically started by the vehicle, this display is only visible for a short time before it switches to the next display mode.

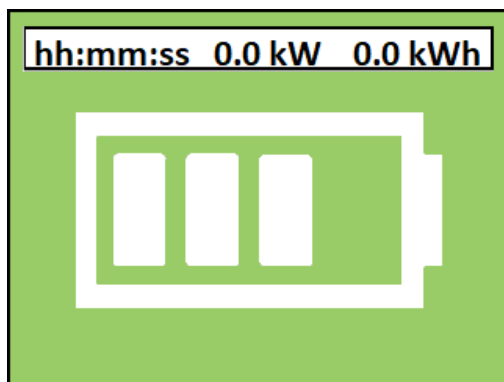


Charging

As soon as the charging process starts, the vehicle and the wallbox lock the respective plug in the socket. This prevents the charging process from being interrupted prematurely by unplugging the charging cable. When the charging process ends, the charging cable is automatically released from the wallbox.

The charging process is started by connecting the vehicle to the wallbox. If the process does not start automatically, please check whether the vehicle has also released the charging process. Some vehicles offer the possibility to start charging at a certain time and do not start charging beforehand.

The four segments of the battery in the display indicate the charging process by means of an animated battery. The individual segments are only exemplary and say nothing about the state of charge of the vehicle battery.



At the top of the display, you will see 3 values that allow you to observe the charging process.

On the left is the time counter, it counts the time from the start of the charging process to its completion. The charging time is maintained if the connection with the vehicle is not broken. If the charging process is stopped from the vehicle in between, the time continues to count as soon as the charging process is resumed. At the end of the charging process, only the entire charging time is displayed. If the cable is unplugged from the car, the time counter is reset.

In the middle there is the power indicator. When the charging process starts, the value will increase until the current charging power is displayed. The total number of all active phases is displayed here. If the vehicle is charged with one phase, the maximum value is one third of the maximum possible charging power and two thirds if charged with two phases. Depending

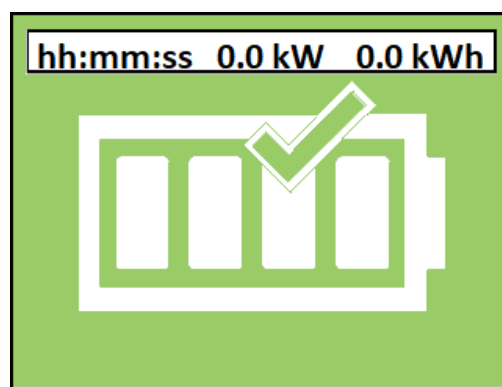
on the quality of the infrastructure and grid fluctuations, there might be deviations from the expected 230 V AC at the connection point of the wallbox.

This affects the readout of the charging power. It will then not exceed the expected value of the corresponding variant (11 kW / 22 kW) but show the real measured consumption. This is not a malfunction.

On the far right, the charged energy during the charging process is displayed. In the beginning, the value is 0 kWh and will then increase slowly or faster depending on the available charging power. Just like the charging time, this value is also maintained when the vehicle has paused charging and continues to count when charging continues. This shows the entire charged energy at the end of the charging process. The value is not reset until the charging cable is unplugged.

End of charging

When the charging process is finished, this is indicated with a check mark in the display. Charging may be terminated when the battery is fully charged or when the vehicle has stopped charging or paused. If the charging process continues after a pause, the display switches back to charging and the values are counted. The values are only reset when the vehicle is unplugged.



Maintenance, troubleshooting and decommissioning

Maintenance

The wallbox is maintenance-free.

Cleaning

Clean the wallbox with a slightly damp cloth. Please do not use abrasive cleaning agents that can damage the surface and the display.



NOTE! Do not use a pressure washer or steam jet for cleaning the wallbox.

Check at regular intervals the function of the residual current circuit breaker, provided on the building side.

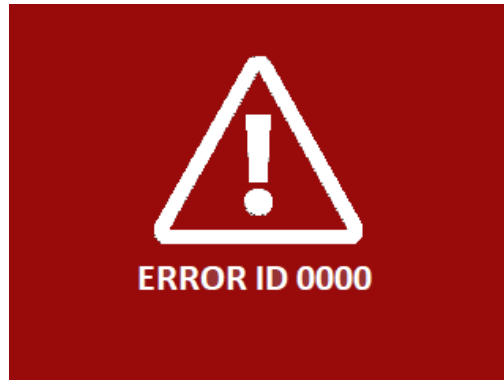
Check at regular intervals if the wall mounting is still strong enough and no parts of the wallbox are damaged (e.g., housing, cables, plugs).






WARNING! If the connection cable, the wallbox or the charging cable show visible damage, you must not continue to use them. Please shut down the wallbox and then consult a qualified electrician.

Error diagnosis

If an error occurs, the wallbox signals it with a beep and a corresponding message on the display. In addition, an error ID is displayed, with the help of which the malfunction can be determined more precisely. The following figure and table provide information on the possible errors and how to fix them:



Error ID	Description	Troubleshooting
0001	A fault current has been detected	 DANGER! Disconnect the power supply to the wallbox and secure it against being switched on again. Then disconnect the charging cable from the vehicle. Contact the electrician who carried out the installation of the wallbox.
0002	Vehicle error detected	The vehicle does not communicate as expected. Check if an error is emitted by the vehicle. If this is not the case, disconnect the charging cable from the vehicle. Restart the charging process. If the error persists, refer to the operating instructions of your vehicle and contact your supplier of the wallbox or the vehicle brand dealership. Provide the corresponding error IDs from the wallbox and the vehicle.
0010	Temperature error	The temperature is outside of the wallbox manufacturer's specification. Check the requirements from the chapter "Installation site requirements" and the temperature range on the nameplate. Let the wallbox cool down and start the charging again. If the error persists, refer to the operating instructions of your vehicle and contact your supplier of the wallbox or the vehicle brand dealership. Provide the corresponding error IDs from the wallbox and the vehicle.
0020	Compatibility error	The connected vehicle has requested ventilation. This operating mode is not supported. See the chapter "Intended use".
0040	Vehicle error detected	The vehicle does not behave as expected and exceeds the permissible charging current.

		Disconnect the charging cable from the vehicle. Restart the charging process. If the error persists, refer to the operating instructions of your vehicle and contact the vehicle brand dealership or your wallbox supplier. Provide the corresponding error IDs from the vehicle and the wallbox.
0080	Internal error detected	Disconnect the charging cable from the vehicle and start the charging process again. If the error persists, refer to the operating instructions of your vehicle and contact your supplier of the wallbox or the vehicle brand dealership. Provide the corresponding error IDs from the wallbox and the vehicle.
0100	Installation error detected	The installation of the wallbox is incorrect.  NOTE: An inspection of the installation by an electrician is required. The right rotating field must be observed!
0200	Internal error detected	Disconnect the charging cable from the vehicle. If necessary, start the charging process again. If the error persists, refer to the operating instructions of your vehicle and contact your supplier of the wallbox or the vehicle brand dealership. Provide the corresponding error IDs from the wallbox and the vehicle.
0400	Connection error of the charging cable	The charging cable could not be locked. Make sure the charging cable plug is fully inserted into the charging socket of the wallbox and that the charging cable is a compatible one. Restart the charging process. If the error persists, refer to the operating instructions of your vehicle and contact your supplier of the wallbox or the vehicle brand dealership. Provide the corresponding error IDs from the wallbox and the vehicle.
0800	Vehicle error detected	An emergency shutdown of the vehicle was detected. This can have different causes. Please refer to the vehicle report or consult the vehicle brand dealership.  NOTE: Please contact your electrician to check the installation.

Errors caused on the connection side can be deleted after restarting the wallbox, provided the error has been fixed. A restart takes place after a brief voltage-free state (switching off the fuse).

Errors that originate from the connection to the vehicle can be reset by unplugging the charging connection to the vehicle.

Decommissioning

Decommissioning of the wallbox is necessary if one of the below happens:

- serious malfunctions;
- visible damage;
- dismantling.



DANGER! The decommissioning may only be carried out by a qualified electrician.

For this purpose, the wallbox must be disconnected from the mains, the corresponding supply line in the building fuse box must be switched off via the circuit breaker and the residual current circuit breaker and secured against being switched on again.

Then remove the wallbox from the wall or the surface by loosening all the screws.

Disposal instructions



The symbol of the crossed-out waste bin means that electrical and electronic equipment including accessories must be disposed separately from general household waste.

The materials are recyclable according to their marking. By reusing or recycling the old equipment, you make an important contribution to the protection of our environment.

CE marking and declaration of conformity


Hersteller Manufacturer	MRS Electronic GmbH & Co. KG Klaus-Gutsch-Straße 7 D-78628 Rottweil Germany
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Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller. This declaration of conformity is issued under the sole responsibility of the manufacturer.

Artikelbezeichnung, Artikel-Nr. Product Name, Number	MCharger Easy S P/N: 1.801.010 (11 kW), 1.801.011 (22 kW) S/N: 401439, 401848, 401694, 401853
Richtlinien Directive	1. 2014/35/EU - LVD Directive 2. 2014/30/EU – EMC Directive 3. 2011/65/EU + 2015/863 – RoHS Directive Status: compliant with exemptions (7.a,7.c-l)
Angewandte harmonisierte Normen, normative Dokumente, Spezifikationen Harmonised standards, normative documents, specifications	<ul style="list-style-type: none"> • DIN EN IEC 61851-1:2019-12 inkl. Berichtigung 1 • IEC 61851-21-2:2018 • EN IEC 61821-21-2:2021 • EN 55032:2015 • EN 61000-3-11:2000 • EN 61000-3-12:2011 • EN 61000-6-1:2007 • EN 61000-6-3:2007 • DIN EN IEC 63000:2019-05; VDE 0042-12:2019-05

Wir erklären hiermit, dass das oben genannte Produkt den einschlägigen Abschnitten der oben genannten Normen und Spezifikationen entspricht und den einschlägigen Harmonisierungsvorschriften der Europäischen Union entspricht. Alle Produktänderungen ohne vorherige schriftliche Zustimmung des Herstellers machen diese Aussage ungültig.

We declare that the product named above has been designed to comply with the relevant sections of the referenced standards and specifications and complies with the relevant European Union harmonization legislation. Any product modifications without prior written approval from the manufacturer will make this statement invalid.

Ort, Datum Place, Date	Name, Funktion Name, function	Unterschrift Signature
Rottweil, den 01.10.2021	Günther Dörgeloh, CEO	

Technical data (11 kW / 22 kW)

Functions	
Charging functionality up to 11 / 22 kW (1-3 ph)	✓
Easy installation	✓
Type 2 charging socket	✓
Status display showing duration, kW and kWh	✓
Acoustic warning buzzer	✓
RCD integrated (6 mA DC failure)*	✓
SW update CAN (wired)	✓
KfW eligible (Germany only)	✓
Electrical characteristics	
Charging mode	3
Nominal current (A)	16 A / 32 A 1-3 phase
Grid network system	TN- TT
Input voltage (V AC)	230 (1 ph) / 400 (3 ph)
Grid frequency (Hz)	50
Overtoltage protection IEC 61010-1	CAT III
IEC 61140 protection class	I
Residual current monitoring	6 mA DC
Mechanical characteristics	
Housing dimensions (W x H x D in mm)	266 x 441 x 137
Weight (kg) including packaging	5.3 kg
IP protection class	IP55
IK protection class	IK08
Connection characteristics	
Charging power	max. 11 kW / 22 kW
Output voltage (V AC)	230 (1 ph) / 400 (3 ph)
Installation cable	≥ 2.5 mm ² / ≥ 6 mm ²
Cable feed	top, bottom, rear
Status display	2.4" color display
Environmental Characteristics	
Operating temperature (°C)	-25 °C to +60°C
Storage temperature (°C)	-40 °C to +80°C
Permissible max. relative humidity (%)	95 %
Max. altitude (m)	2000
Certifications / Standard compliance	
CE	✓
RoHS	✓
REACH	✓
WEEE	✓
IEC 61000-6-1 / 61000-6-3	✓
IEC 61851-1	✓
IEC 62196	✓
IEC 62955	✓

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Contacts / SERVICE

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