

The smart charging pole

**cPP2**

## Installation and operating manual



English

## Contact Details

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## Important information

### Safety instructions in this manual

This instruction manual contains important information for installation and putting into operation of all charging stations of type **cPP2**. Please make sure to read and follow the provided safety notices in any circumstances.

In particular, the warnings and safety measures clearly marked in this manual must be followed. The associated symbols carry the following meanings:



#### **Danger!**

Life-threatening electrical voltages occur. Actions marked with this symbol **MUST NEVER** be performed.



#### **Caution!**

Sections marked with this symbol indicate additional hazards that may result in damage to the device or other consumers. Actions marked with this symbol must be performed by **qualified personnel** and with **SPECIAL CARE**.



#### **Notice!**

Sections marked with this symbol indicate important information and particularities which are necessary for a proper functioning device.

## Safety instructions on the device

Additional safety and operating instructions are attached to and inside the charging station. These symbols have the following meaning:



### Attention!

The cPP2 charging station may only be opened by **qualified personnel** who are familiar with the instruction manual (this document).



### Attention!

**Life-threatening** electrical voltages occur inside the housing.

## General safety notices

Before using the cPP2 charging station, read these operating instructions carefully and follow all instructions and warnings.

Installation, commissioning, maintenance and repair of the charging station must only be carried out by **qualified personnel**.

The **eCharge Hardy Barth GmbH** does not assume liability for any damage of property or physical injuries caused by non compliance of the assembly and manual instructions, by usage of non-authorized replacement parts or accessories or by deploying non-qualified professional staff.

This charging station corresponds to the current state of the art and complies with all current safety requirements, guidelines and standards. The safety instructions in this manual are intended to ensure proper installation at the place of use and safe operation.

**Non-compliance or failure to comply with the safety information and instructions in these installation instructions may result in electric shock, fire or serious injury.**

Usage of the charging station is only allowed if the installation has been carried out flawlessly and professional staff has taken it into operation. Malfunctions which threaten the safety of persons, connected users or the device itself must be removed by qualified or authorized staff only.

In case of a substandard installation or a malfunction caused by substandard installation, please contact first the company that has carried out the installation. If the errors still cannot be rectified, please contact the technical support of **eCharge**.

Via Mail [support@echarge.de](mailto:support@echarge.de)

Via phone +49 (0) 9666 – 188 00 50

Please make sure to store this manual in a safe and always accessible place.

### **The service case occurs when...**

- ...the housing has been mechanically damaged
- ...the housing cover has been removed or can no longer be closed or locked.
- ...adequate protection against splash water and/or foreign bodies no longer seems to be provided.
- ...the charging sockets and/or the external charging cables have been functionally or visibly damaged.
- ...the charging station does not function properly or has been damaged in some other way.

### **Also note the following:**

- The cPP2 is protected against spray and splash water according to IP 44. However, it should not be installed in the immediate vicinity of flowing or jet water.
- The cPP2 charging pole must not be installed in an explosive environment (EX area).
- The cPP2 charging pole must not be installed in areas subject to flooding.
- Please note that the cPP2 charging pole must never be mounted directly on asphalt: for safe and proper mechanical installation, a concrete foundation must be provided in any case, the specifications of which must comply with the requirements stated on page 16.
- The charging pole must be mounted on a suitable pedestal: The pedestal is offered by **eCharge** in three sizes as optional accessories (see page 12).
- Note that additional overvoltage protection may be required by a connected vehicle and/or by national regulations.
- Please note that in some countries (other than Germany) and/or due to various vehicle manufacturers, tripping characteristics of the fault-current circuit breaker (type B) can be required. Please contact your distributor to learn about the requirements.

## Instructions for use / Maintenance

Observe the following instructions for use or maintenance of your charging station:

- This device must **ALWAYS** be connected to the protective conductor of the power supply!
- Ensure that the rated voltage and current of the device comply with the specifications for your local power grid and that the rated power is not exceeded during charging operation.
- At all times, observe the locally applicable safety regulations for the country in which you are operating the charging station.
- To disconnect the charging station completely from the mains, the supply line must always be interrupted via the upstream circuit breaker(s).
- Never install and operate the charging station in confined spaces. In particular, it must be ensured that vehicles can be parked at the prescribed distance from the charging station for charging operation and can be connected to the charging cable without tension.
- Make sure that the front door of the charging pole is always locked to prevent unauthorized opening of the housing. Keep the key for opening the door in a place known only to authorized users.
- **NEVER** make any modifications to the housing or the internal circuitry of the device: Violation is a fundamental breach of the warranty fundamentally violates the terms of the warranty and voids the warranty with immediate effect.
- There are no maintenance parts in the device for the user.
- Have the device repaired and/or installed by qualified personnel only.



### ATTENTION!

This cPP2 charging station is intended for connection and operation on 230V / 400V and 50 Hz mains voltage. The supply line must be fed into the housing via a suitable cable duct or pipe on the underside.

- Use a dry or slightly damp, well-wrung cloth to clean the charging station. Do not use aggressive cleaning agents, waxes or solvents (such as cleaning gasoline or paint thinner), as these can cloud the displays or damage the paintwork.
- **DO NOT** clean the cPP2 charging station with a high-pressure washer or similar device that applies high pressure to the surface of the housing.
- Check the charging sockets of your cPP2 charging station and the optionally available charging cables at regular intervals for any damage. If the optionally available charging cables show any damage, please have them replaced immediately: Further charging is not permitted from this moment on.

**DANGER!**

If you notice any damage to the housing, the charging sockets or the associated charging cables after installation, you must take the charging station out of service immediately. Contact the service department of **eCharge!**

- The respective local regulations for the operation of electrical equipment apply at all times.



## Introduction

Thank you for choosing the cPP2 charging pole from **eCharge Hardy Barth GmbH**! With this charging station you invest in an innovative and future-proof solution for the public sector to charge your electric vehicle reliably and intelligently.

The charging stations of the cPP2 series are delivered pre-configured for a minimum of technical and temporal installation effort, with an appropriately prepared installation site. For a particularly quick and easy installation, eCharge offers you a suitable prefabricated foundation, which has been specially designed for the installation of the cPP2 and is available separately. (page 16 ff)

Our charging stations are subject to permanent further development and comply with the regulations and standards applicable throughout Europe for the charging of electric vehicles. Please also read the section "Standards & Guidelines" on page 32.

## Product description

Your cPP2 charging station allows safe and convenient charging of electric vehicles in accordance with the IEC 61851-1 standard, Mode 3. Depending on the variant in question, the cPP2 is always designed for the fastest possible charging of the connected electric vehicles in terms of circuit design, cable diameter and connections.

Thanks to access control via the Charge Controller, charging operations can be managed easily and in a controlled manner. The versatile setting parameters thus facilitate, for example, the charging operation of several vehicles by limiting the respective charging current.

An integrated MID energy meter provides precise information about the current charging power at each charging point. The determined data on active and past charging operations can then be made available in real time on a smartphone, tablet or PC in the internal network and can be transferred as required.

In combination with a compatible inverter or additional eCB1 MP+, the cPP2 charging station also allows 100% use of solar power from an existing photovoltaic system for charging your electric vehicle. Furthermore, in combination with a compatible smart energy meter, such as our eCB1 MP+, the cPP2 enables dynamic load management, for example, to avoid peak loads or limit the maximum current when using multiple charging points simultaneously.

Via the two status indicators on the top of the housing and the LEDs in the central control panel for charging registration and release, the user is informed at all times about the current status of the charging station and the respective charging point. Should a malfunction occur during operation or registration, the error is displayed via the upper LEDs.

The cPP2 offers charging sockets type 2 according to IEC 62196-2 as standard. **eCharge** offers you charging cables type 2 in various designs and lengths for this purpose. Optionally, the cPP2 is also available with an additional protective contact socket: For more information, please contact your sales partner.

In all our products, we place maximum importance on safety for the user. Therefore, in addition to internal line and residual current circuit breakers, the cPP2 charging station also offers DC residual current detection, which, in combination with the installation's protective devices, ensures careful protection against short circuits, electric shocks and other hazards. Access to the internal switchgear is secured via the swivel handle on the side, and can only be opened by authorized users with a key.

**NOTE!**

A cylinder lock is NOT pre-installed in the double cylinder swivel handle of the charging pole ex works. A corresponding 40 or 45 profile half cylinder must be purchased from a specialist retailer or via **eCharge** and installed in the swivel handle according to the specifications of the respective manufacturer. It is strongly recommended to **NEVER** operate the cPP2 in public areas **WITHOUT** a **CYLINDER LOCK** installed.

The sturdy housing of the cPP2 is prepared for IP44 protection and can be installed in a suitable outdoor installation position using a concrete foundation manufactured by the operator or optionally available from **eCharge**. Information on our accessories can be found on page 12.

## Identification of the product variant

The cPP2 series comprises several variants that differ in terms of charging sockets and charging power and thus serve different application profiles. For identification of the variant, there is a product type plate on the outside and inside of the housing.

**CAUTION:** The charging station may only be opened by qualified personnel.

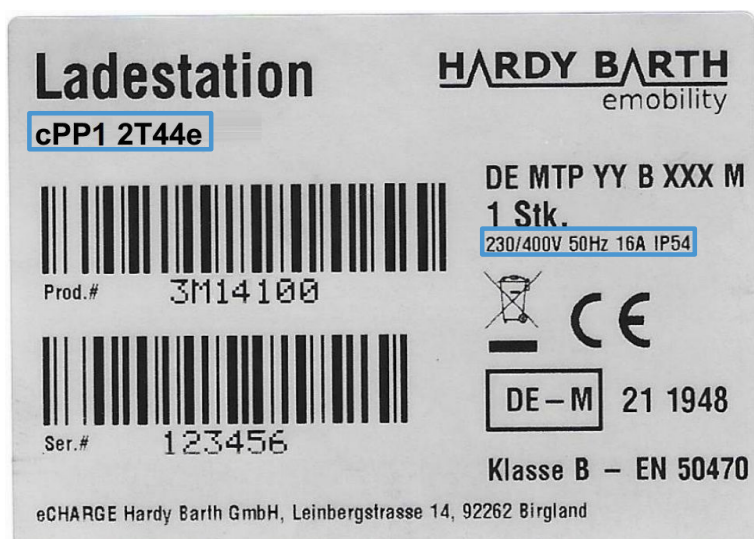


Figure 1: Nameplate cPP2

The model designation (cPP2 xTyy..) and the values for the mains connection (voltage, mains frequency, current) are particularly relevant for identification.

For detailed information on the cPP2 charging stations, please refer to the "Technical data" section on page 31.

## Scope of delivery

Your cPP2 charging station is delivered with various components that are necessary for assembly and proper operation. Therefore, immediately after unpacking, check whether the following basic components are included:

Components	Quantity	Description
cPP2 charging pole	1	charging pole, consisting of metal housing with lockable panel
Installation and operating manual	1	Manual with information on the charging station, instructions for mechanical and electrical assembly and commissioning of the charging station. (this document)
Wiring plan	1	Schematic view of the line connections and wiring of the internal electronics
Testing report	1	Test report of the test launch at the factory
RFID cards	5	eCharge Hardy Barth - Mifare - RFID cards

## Available accessories (optional)

**eCharge Hardy Barth GmbH** offers following accessories for your cPP2 charging pole. For more information or information about available accessories and the further delivery program of **eCharge**, please visit our website at: [www.echarge.de](http://www.echarge.de)

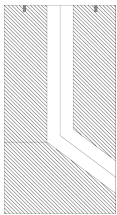






Figure	Description	Item No.
	Concrete foundation for secure mounting of the charging pole via four supplied hexagonal bolts with internal threaded rod anchors RD12, concrete grade C30/37 (XC4/XF1/WF), supply line via integrated HT pipe, incl. 2 ring hooks for transport L x W x H: 426 x 338 x 800 mm; weight: ca. 300 kg	3M40420

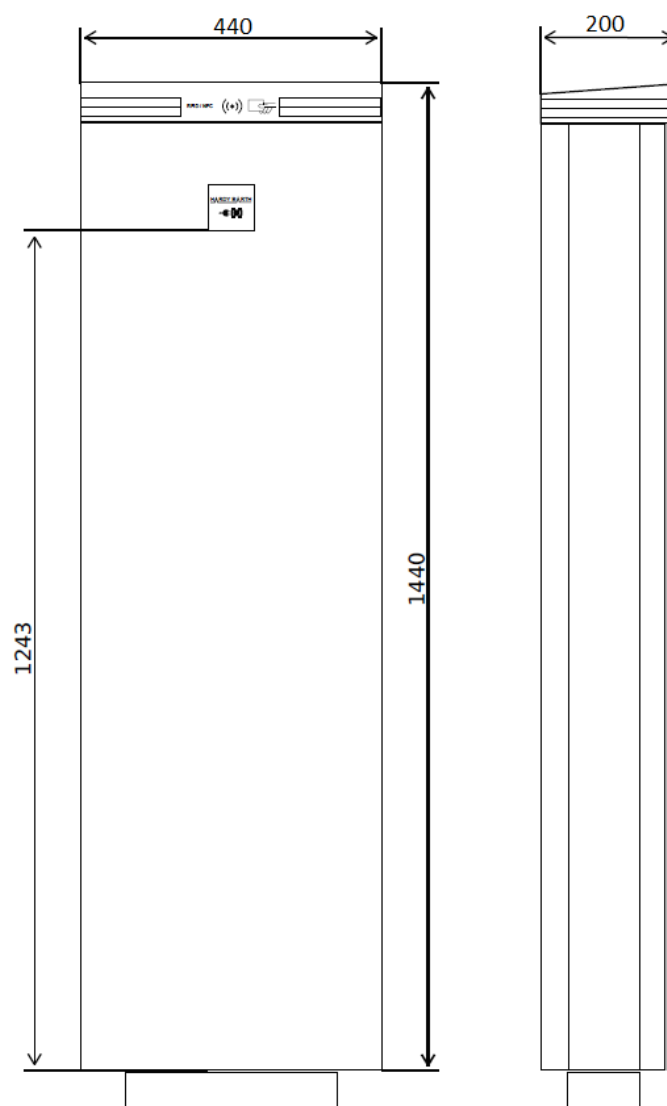
Figure	Description	Item No.
	<b>Pedestal 200</b> Metal pedestal, tall version, for mounting the charging pole on the optionally available concrete foundation using four screws supplied. L x W x H: 369 x 237 x 200 mm; weight: ca. 6,5 kg	3M40431
	<b>Pedestal 100</b> Metal pedestal, medium-high design, for mounting the charging pole on the optionally available concrete foundation using four supplied screws. L x W x H: 369 x 237 x 200 mm; weight: ca. 6,5 kg	3M40434
	<b>Pedestal 40</b> Metal pedestal, flat version, for mounting the charging pole on the optionally available concrete foundation using four supplied screws. L x W x H: 369 x 173 x 40 mm, weight: ca. 2,5 kg	3M40430
	<b>Charging cable IEC Type 2</b> for connection to all charging stations and vehicles with charging socket according to IEC 62196 Type 2, 240 / 415 V AC, 16 A or 32 A Spiral and smooth cable in various lengths Splash-proof IP44	3M4050X
	<b>eCB1-MP+</b> Smart energy meter, for example for PV excess charging or for limiting the maximum current in the house connection.	3M40405
	<b>Dry granulate</b> For dehumidifying the interior of the charging station. Minimizes the chance of undesirable effects due to condensation and seepage water penetration. (Recommended)	3M40460

## Dimensional drawings and dimensions

The **cPP2** charging pole is delivered fully assembled and tested. All dimensions as well as the mounting points are shown in the following dimensional drawings.

### charging pole

Front and side view of the **cPP2** series incl. pedestal  
(all dimensions in mm, pedestal not included in delivery)

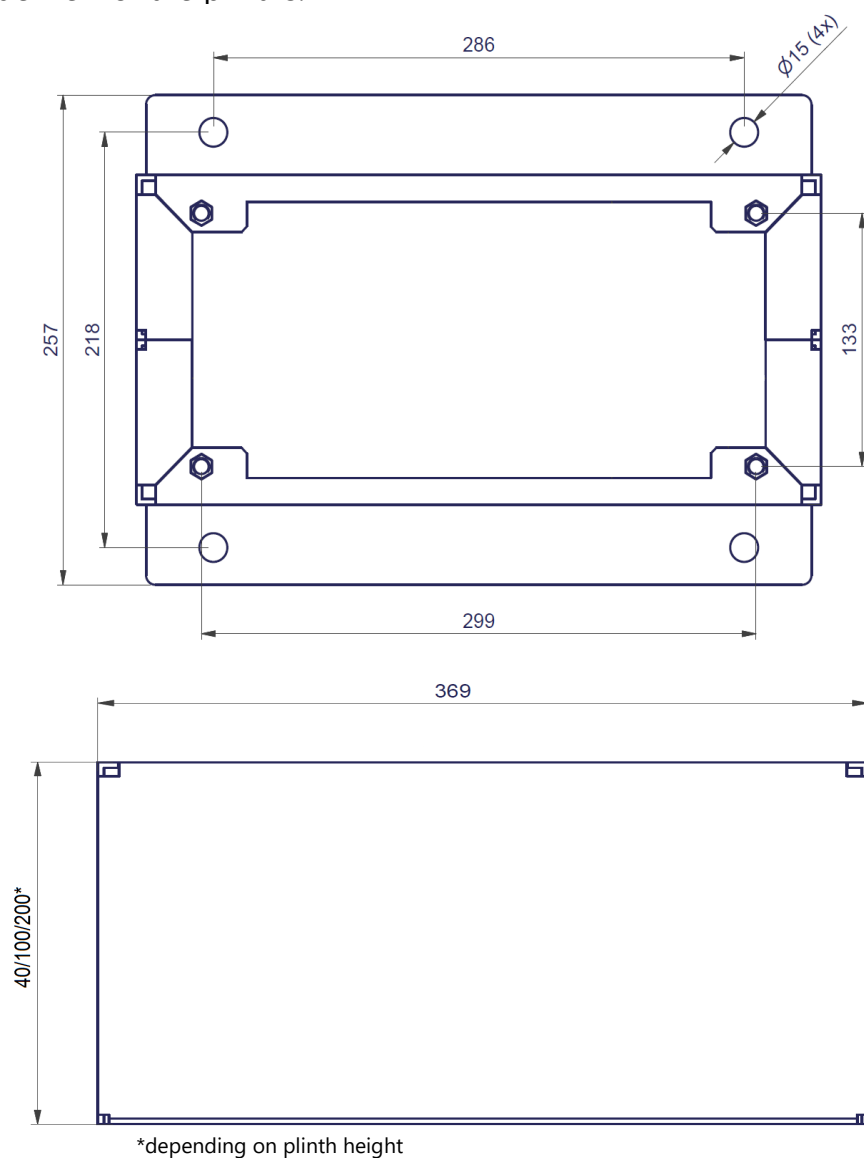


## Pedestal

For mounting the charging pole, **eCharge** offers three optionally available pedestals:

Pedestal height:	Item number:	Application area:
200 mm	3M40431	For mounting on a foundation sunk into the ground
100 mm	3M40434	For mounting on a foundation that is flush with the ground
40 mm	3M40430	

Top and side view of the plinths:

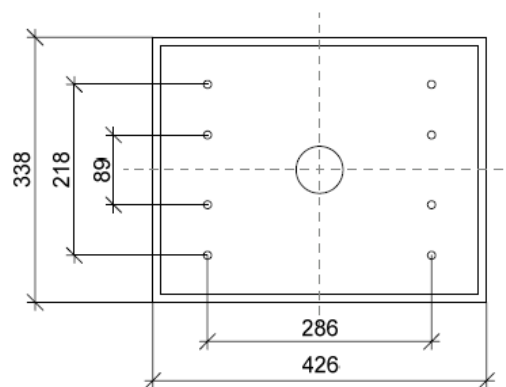
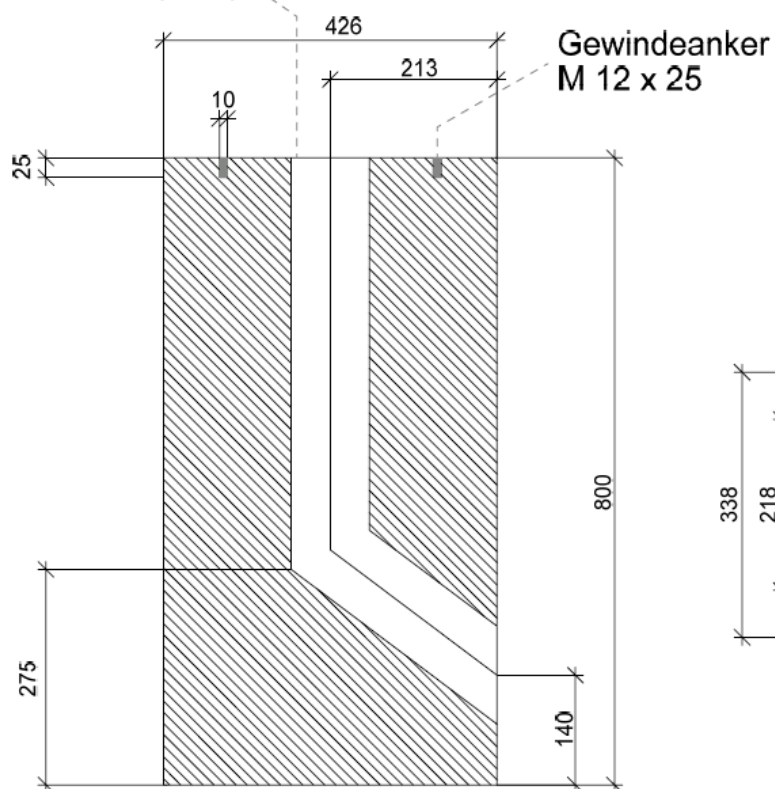


## Foundation

For the necessary stability and safety during ground installation, **eCharge** offers the prefabricated foundation 3M40420. The foundation contains a pipeline that ensures the protection of the supply line. The concrete of our foundation meets the strength class C 30/37 and exposure classes XC4, XF1 and WF.

Technical drawing concrete foundation (all data in mm):

HT Rohr DN 100  
mit Muffe 45° (0,77)





## Assembly and installation



### Attention:

The **assembly, installation and initial commissioning** of the charging station must be exclusively by qualified **Specialized personnel take place**.

The cPP2 charging pole is an electrotechnical device and is therefore subject to certain specifications for indoor and outdoor installation. Although the housing of the cPP2 complies with the regulations described for protection class IP44, you must take the following environmental conditions into account in particular:

- For safe operation of your charging station, minimum distances to other technical installations must be taken into account: For more information, please contact your electrical installation company or your sales partner.
- The charging station must be mounted so that it is freely accessible to persons authorized to operate it.
- Select the mounting location so that you can easily reach the charging socket on the vehicle with the optionally available charging cable of the cPP2: The cable must **NEVER** be under tension when connected to the vehicle.

## Requirements for the assembly site

The cPP2 charging pole was developed for indoor and outdoor use. For proper charging, you as the operator must observe the following specifications for the location and installation.

- Consider all local regulations for electrical installations, for fire prevention as well as for accident prevention.
- All specifications for the installation of low-voltage systems according to DIN VDE 0100.
- The mounting surface must have sufficient strength to withstand the mechanical loads and thus must not be installed directly on the asphalt or a concrete floor. A concrete foundation with suitable specifications must be used. We offer a suitable concrete foundation for this purpose (see S16).
- The soil at the mounting location must allow drainage of any liquids that enter the pedestal.

- A sufficiently dimensioned supply line for the power supply must be provided at the mounting position. The supply line must be laid in the ground in coordination with the pipe opening on the concrete foundation. If necessary, the supply line must be protected against mechanical effects in the area in front of the foundation (by a suitable hose or pipe).
- For mechanical protection, suitable collision protection must be provided to protect the end user from a possible collision with the charging pole.
- One parking position for an end user must be provided on each side of the charging pole. The minimum distance between the vehicle and the charging pole should not be less than 45 cm and not more than 100 cm.
- Select the location of the charging pole so that it is easily accessible for emergency vehicles.
- The cPP2 charging pole should not be installed in areas with a high volume of people or on thoroughfares. In particular, ensure that the charging cables are laid in a clearly visible position and that passers-by or walkways are NOT obstructed by the cables.
- In principle, the cPP2 is designed for operation in high ambient temperatures. Nevertheless, it is recommended that, if possible, the charging pole is mounted so that it is protected from direct sunlight: This prevents excessive heating of the housing. Further information on ambient conditions can be found in the "Technical data" section on page 31.

## Socket installation



### **DANGER!**

During the entire assembly, the circuit breakers for all supply lines to the cPP2 must be deactivated: The supply lines must **IN EVERY CASE BE CURRENTLESS** and may only be reconnected to the mains for the final electrical commissioning.



### **NOTE!**

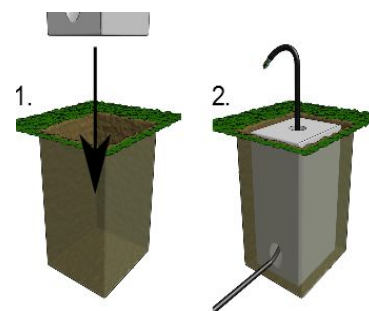
To dehumidify the interior of the cPP2, we recommend filling the entire pedestal area with dry granules: Minimizes the chance of undesirable effects due to condensation and seepage water penetration.

If you have not chosen our concrete foundation (3M40420), please contact your supplier for a professional foundation installation.

For the concrete foundation (3M40420) with the stainless steel pedestals 40mm (3M40430), 100mm (3M40434) or 200mm (3M40431), the following installation instructions apply:

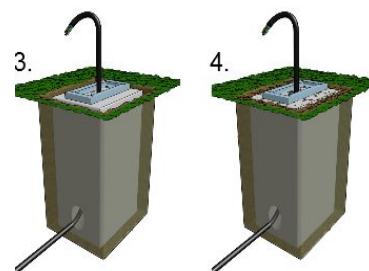
1. Once you have found an installation site that meets the requirements (see page 17), the first step is to dig a hole of size 0.45 m x 0.36 m x 0.8 m (L x W x H).

Make sure that the supply line is either from right or left must be fed and suitably on which in the foundation the intended pipeline. Straighten The foundation must be level (horizontal).



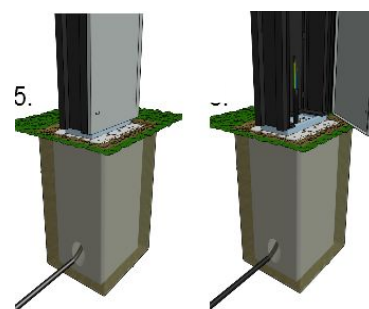
2. Lower the concrete foundation into the hole and guide the supply cable upwards through the guide embedded in the concrete foundation. Make sure that the cables protrude far enough so that an electrical connection can be made without any problems.

3. Now mount the pedestal (e.g. 40 mm) on top of the concrete foundation and screw it tight with the enclosed M12 screws. For the prescribed strength class 8.8, the tightening torque should be about 90 Nm.



4. Then close the gaps next to the concrete foundation (e.g. with soil). Make sure that the pedestal remains level (horizontal).

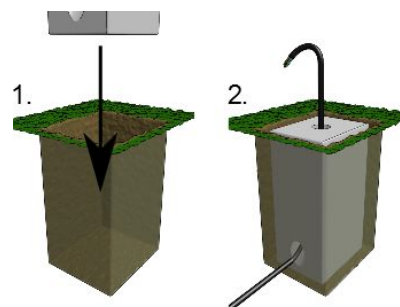
5. Now place the cPP2 charging station on the stainless steel pedestal. To do this, open the housing panel of the charging pole via the swivel handle on the left side of the cPP2. Place the charging pole in position above the mounted pedestal. Insert the supply cables via the cable opening in the base of the charging pole. Place the charging pole on the pedestal so that the through holes in the base plate of the charging pole are directly above the threads in the pedestal. Screw the charging pole into the pedestal with the four M8 x 20 hexagonal bolts supplied using the open-end wrench.



The following installation instructions apply to the concrete foundation (3M40420) with the 200 mm stainless steel pedestal (3M40431):

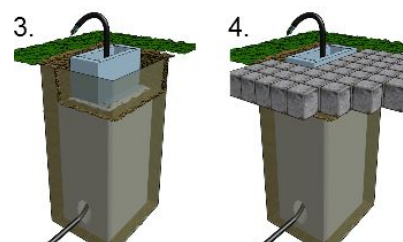
1. Once you have found an installation site that meets the requirements (see page 17), the first step is to dig a hole of size 0.8 to 0.96 m x 0.45 m x 0.36 m (H x L x W).

Make sure that the supply line must be fed either from the right or from the left and that it meets the pipeline provided in the foundation. Align the foundation so that it is level (horizontal).



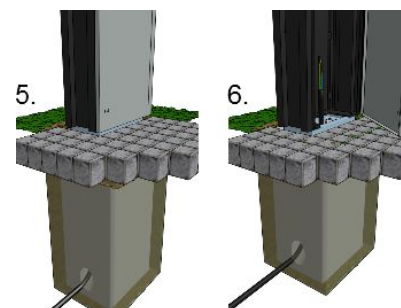
2. Lower the concrete foundation into the hole and guide the supply cable upwards through the guide embedded in the concrete foundation. Make sure that the cables protrude far enough so that an electrical connection can be made without any problems.

3. Now mount the stainless steel pedestal 200 mm (3M40431) on top of the concrete foundation and screw it tight with the enclosed M12 screws. For the prescribed strength class 8.8, the tightening torque should be about 90 Nm.



4. Then close the gaps next to the concrete foundation (e.g. with soil). Make sure that the pedestal remains level (horizontal).

5. Now place the cPP2 charging station on the stainless steel pedestal. To do this, open the housing panel of the charging pole via the swivel handle on the left side of the cPP2. Place the charging pole in position above the mounted pedestal. Insert the supply cables via the cable opening in the base of the charging pole. Place the charging pole on the pedestal so that the through holes in the base plate of the charging pole are directly above the threads in the pedestal. Screw the charging pole into the pedestal with the four M8 x 20 hexagonal bolts supplied using the open-end wrench.



## Electrical installation of the charging pole



### **DANGER!**

#### **Danger to life due to electric shock!**

Before working on the cPP2 charging pole: Disconnect the power supply and ensure that it remains permanently disconnected during work.

After completion of the mechanical installation, the charging pole is connected to the power supply. Only the standard connection of the power supply line is described below: The installation and connection of optional accessory components is not the subject of these instructions, but is described in the instructions for the respective component.



### **NOTE!**

The internal circuits are protected as standard by RCBO type A C32 10.03 (Residual current operated Circuit-Breaker with Overcurrent protection) already installed per charging point.

In addition, the **supply line** must be limited to a **maximum current of 63 A** by an on-site **back-up fuse**.

Deviating country-specific standards (connection conditions) must be observed!



### **NOTE!**

Please note that the charging pole may only be connected with **ONE** supply cable with a maximum conductor cross-section of 50 mm<sup>2</sup> (max. 35 mm<sup>2</sup> with wire end sleeve).

### **For the electrical assembly you need the following components:**

- Slotted screwdriver, min. blade width 6 mm (not included)
- Stripping pliers for supply cable (not included)

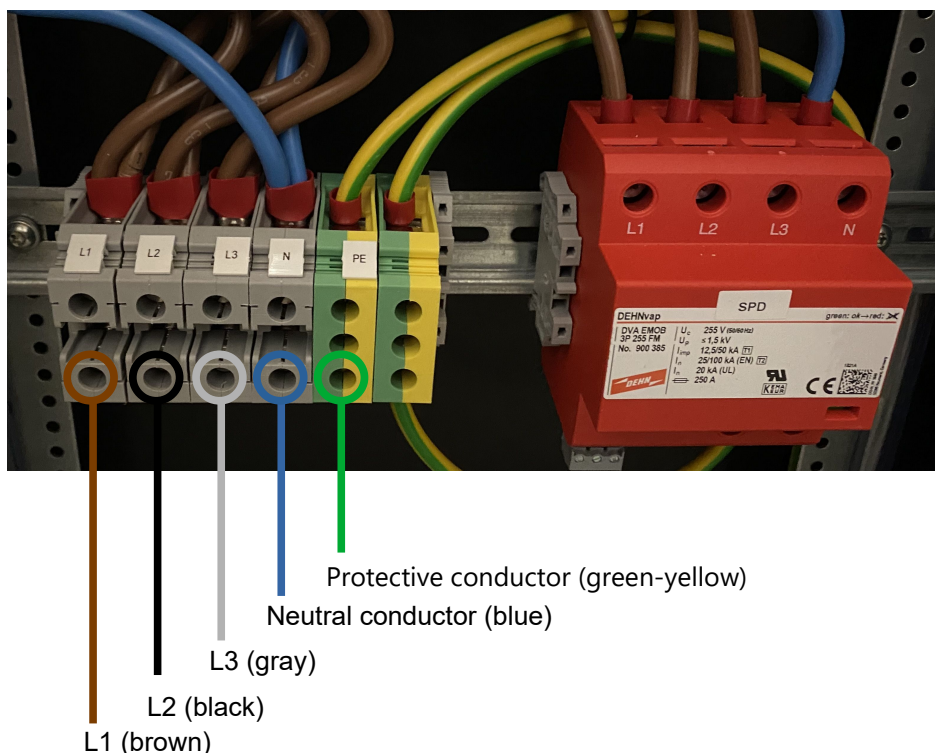


### **NOTE!**

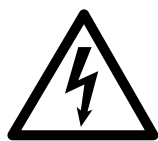
The initial start-up of the charging station **MUST ALWAYS** be performed by a qualified installer: The installer will be able to verify the correct operation of the charging station or correct any malfunctions or installation errors.

**Proceed as follows to connect the charging pole to the mains:**

- 1 Make sure again that the back-up fuse in the supply line is deactivated.
- 2 Now switch off all internal circuit breakers in the charging station (switch position 0 OFF).
- 3 Insert the stripped wires of the supply line from below into the corresponding terminal labelling supply line terminals. **Incorrect connection of the cores can lead to damage to the charging station!**
- 4 Screw clamps properly.



Description	Wire colour	Marking terminal block
Live conductor phase 1	brown	L1
Live conductor phase 2	black	L2
Live conductor phase 3	grey	L3
Neutral conductor	blue	N
Protective conductor	green-yellow	PE

**DANGER!**

The above colour coding is NOT internationally binding: If the individual wires in the supply cable are colour-coded differently, contact a qualified electrical contractor! Have the supply line checked and replaced if necessary.

- 5 Make sure that the supply line is properly tightened and not under tension.
- 6 Switch on all internal circuit breakers in the charging pole (switch position I ON).
- 7 Close the cover of the column and lock it with the swivel handle.

**ATTENTION!**

For operation, it is recommended that you install cylinder locks in the swivel handle of the charging pole to prevent unauthorised opening of the housing. Commercially available 40 or 45 half-profile cylinders are suitable for installation.

This completes the installation of your charging pole. The back-up fuse in the supply line can be reactivated.

After the mechanical and electrical installation, your charging station is ready for operation.



# Commissioning and charging

## Safety instructions for operation

Before carrying out a charge with the cPP2, you must observe the following safety instructions:

- Make sure that the cPP2 has been installed according to the specifications in this document: In particular, ensure that the charging station is freely accessible, not exposed to direct sunlight or rain if possible, and that an electric vehicle can be connected without the charging cable being under tension or otherwise stressed.
- Make sure that the cPP2 is properly connected to the supply line.
- Make sure that the supply line is protected by suitable circuit breakers.
- Make sure that the lid of the cPP2 is always closed during normal operation.
- Make sure that the charging cable is not twisted and check that there is no visible damage to the cable, charging couplings, housing and charging sockets.

For charging, your cPP2 has different connection options from the TYPE 2 plug depending on the variant. Accordingly, you need an optionally available charging cable to connect to your vehicle.

The type 2 charging socket of the cPP2 in accordance with IEC 62196-2 has three live contacts, a neutral conductor, a PE protective conductor and two signal contacts (**C**ontrol **P**ilot and **P**roximity **P**ilot), which ensure safe connection and thus hazard-free use.

As long as the plug of the external charging cable is not locked in the charging socket of the cPP2, no voltage is output to the charging cable via the current-carrying contacts of the socket. If the mains voltage fails, the charging socket is automatically unlocked.

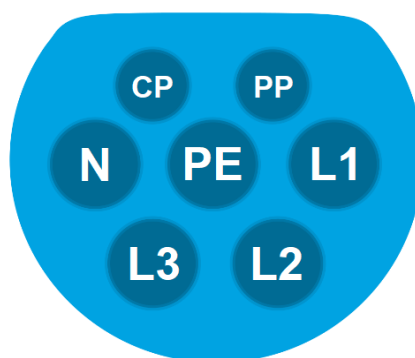


Figure 2: Type 2 plug female

The charging socket of the cPP2 offers an electromotive module with an intern RFID-Module (available as an option) for a fully controlled charging process.



The type 2 charging sockets of the cPP2 are each internally equipped with a DC residual current module.

This protection is a prerequisite especially if your electric vehicle itself does not provide protection against DC fault current: Information on this can be found in the manual for your vehicle and from the manufacturer or Sales partner for your vehicle.

## Charging process

The cPP2 is designed to charge your vehicle as quickly as possible. However, the effective charging time depends on the vehicle battery, as well as the current residual energy in the vehicle. A binding statement on the charging time is therefore not possible: You can therefore only conclude the actual charging time yourself from your practical experience values.

Should a malfunction occur during the charging process or afterwards, this will be indicated via the LED status indicators of the cPP2. The chapter Status LED, page 29, describes how to recognize operating and error states and what measures are necessary.

**To charge your vehicle, proceed as follows:**

1. Check the LED status indicators at the top of the cPP2:  
When the charging pole is ready for operation, the LEDs on both sides of the pole light up green.
2. Open the charging socket on the vehicle.
3. Plug the charging coupling of the charging cable into the charging socket on the vehicle. The vehicle must be parked so that you can easily reach the socket on the vehicle.  
The cable **must not** be under tension during the charging process.
4. Open the cover of a charging socket on the cPP2 and insert the type 2 charging plug.



**NOTE!**

If you operate your charging station with RFID authentication or an OCPP backend, please note points 5 and 6. Otherwise, the charging process starts immediately after plugging in. (The LED changes from "green" to "yellow" (vehicle connected) to "blue" (charging active)).

5. Log on to the charging station with a valid RFID card (one of the 5 RFID cards supplied ex works). To do this, hold the card in front of the charging station's card reader for approx. 3 seconds. A short signal tone will sound to indicate that the card has been successfully recognised.  
Immediately afterwards, another tone will sound:
  - short tone (ca. 1 second) for card accepted
  - long tone (ca. 3 seconds) for card rejectedMore information about the RFID module on page 28.
6. Start of the charging process  
In the standard configuration, the charging process starts immediately after the RFID card has been successfully authenticated. When the charging process starts, the colour of the status LED of the corresponding charging socket changes from yellow to blue.
7. The charging process is usually only terminated by the vehicle. The LED status changes from blue to yellow. After the charging process is completed, first pull the cable out of the socket on the vehicle and then out of the Type2 socket on the charging pole. If the vehicle is not 100% charged in this case, please check the settings in your vehicle. You usually have the option of setting a charging limit (e.g. 80%) in the vehicle's on-board computer.

## Charge control

With the changeover to our "Salia" board, all cPP charging points of the new series receive a number of additional functions. While one or more vehicles are in a charging phase, the charging current for each charging point can be actively controlled in real time. For various applications, it can also be useful to set the maximum or minimum current of the charging process. Normally, the charging current of an electric vehicle is between 6 A and 32 A (varied).

In addition, the cPP2 supports dynamic load management and enables, for example, avoidance of load peaks or limitation of the maximum current when several charging points are used simultaneously with a separate house connection measurement. (Local overload protection)

In combination with a compatible inverter or additional eCB1-MP+, the charging station also allows 100% use of the solar power of an existing photovoltaic system for the charging process of your electric vehicle.

The corresponding settings are controlled via the local web interface of the charging station. For detailed information on the charging control, please refer to the **configuration manual** on our website [echarge.de](https://echarge.de).

Our user interface is constantly being optimised and further developed, so we can continue to provide you with new functions even after you have purchased your charging station. It is not possible to control a cPP with Salia board and a cPP with eCB1 Smart Controller on a common web interface.

## RFID module

The RFID module provides user identification for restricting or enabling the charging process for an authorised group of users.

Five RFID cards are included in the scope of delivery. These are stored in the charging pole's database ex works and are required to activate the charging process.

During normal operation, the LED on the RFID module flashes continuously for a short time (6 s interval). The flashing indicates that RFID is ready for operation.

If you would like to log on to 2 charging sockets at the same time, please unplug one of the charging cables and log on to the two charging outlets one after the other.

If you have connected a charging cable and want to unlock it, you must hold a valid RFID card against the module.

Should you wish to log on to several charging sockets at the same time, please plug in the charging cables one after the other and log on to each charging outlet individually.

Once the LED lights up for 1.5 seconds, the card has been recognised and is stored in the database. The charging process is initiated.

In case your RFID card was not accepted, wait a moment and try again. If the charging station is still not activated, the card may be defective or not stored in the database. In this case, contact your sales partner.

For more information on the charging process, see page 25.



## Operating state

Your cPP2 charging pole is designed for maximum operational safety and the most reliable charging possible. Any malfunction of the cPP2 is detected by internal test routines and the charging pole is switched off immediately.

If a malfunction should occur in practice, it is indicated via the status LED in the head area of the cPP2 and via the LEDs in the RFID module. The following chapter describes how to recognise operating and error states and which measures you have to take to remedy the malfunction.

### Status-LED

The LED status indicators at the top of the charging pole show the current operating status. For display purposes, the LEDs can be...

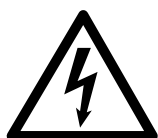
- ...light up (permanently on)
- ...flashing (1Hz)
- ...not light up (permanently off)

In normal operation, the following colours and states are displayed:

Status-LED	Description
Green	Charging pole/charging point is ready for operation. The vehicle can be connected.
Yellow	Vehicle is connected and ready to charge (or fully charged)
Blue	The vehicle is currently being charged.
Red	Error occurred during charging (notify technician)
Purple flashing	OCPP authentication phase (only for backend connection)
Green flashing	Update process (do NOT switch off the charging station)
Red flashing	Internal DC fault current detection has triggered. Disconnect vehicle and try again.
Off	No power supply (check external fuses) / Check internal control fuse (notify technician)

## Malfunctions and solutions

The cPP2 performs various internal test routines to ensure proper and safe operation. In order to take appropriate measures in the event of a fault and to restore operation, you must first establish beyond doubt what type of fault is present.



### **DANGER!**

Inside the charging pole, **life-threatening voltages** occur!  
**Opening** the charging pole and subsequent work on the charging pole may **only** be carried out **by qualified personnel**.

**The following faults can occur:**

Malfunction	Possible cause	Suggested solution
The LEDs have no function.	No mains voltage is applied to the cPP2.	The external power supply of the cPP2 is interrupted: Check the pre-switched circuit breakers in the supply line.
		An internal control fuse has tripped: Check internal circuit breakers and switch them on again via the toggle lever if necessary.
	Error of the internal 12V DC power supply unit	Check internal 12V operating voltage or contact support if necessary.
Vehicle is not detected (LED remains on "green")	The charging cable is not correctly connected to the vehicle or the charging pole.	Remove the charging plug from the vehicle and plug it in again: make sure that the plug is correctly seated in the vehicle socket.
		Check the vehicle charging socket as well as that of the charging pole (if present) for possible interfering objects or dirt.
The LEDs flash "red".	The cPP2 detects a malfunction e.g.: internal DC fault current detection has triggered, internal MID energy meter not detected.	Disconnect the vehicle and then briefly disconnect the charging pole from the mains to restart it. If an internal energy meter (MID meter) is installed, check its function. Check the voltage of the AC supply line.

## Technical data

Product	cPP2		
Type	2T22	2T44	4T44
Connection terminals	Terminal block, max. 5 x 50 mm <sup>2</sup> (L1,L2,L3,N,PE)		
Rated voltage / frequency	230 / 400 V 3-phase; 50 Hz		
Rated current	32 A	63 A	
Power supply	22 kW	44 kW	44 kW
Charging power max.	1x 22 kW / 2x 11 kW	2x 22 kW	2x 22 kW / 4x 11kW
Charging socket / cable (automatic socket release in case of mains voltage failure)	2x Type 2 32A, acc. IEC 62196-2		4x Type 2 32 A, acc. IEC 62196-2
RCD / circuit breaker	RCBO Type A C32 10,03, per charging point		
DC residual current detection	electronic, DC-RCM, $I_{\Delta n,DC} \geq 6$ mA, per charging point		
Welding Detection	Error signal via LED indicators		
Lightning and overvoltage protection	Type 1 + Type 2 combined		
Energy meter	MID-compliant, per charging point		
Authentication	RFID Mifare DESFire, (ISO14443A+B) and LEGIC Prime & Advant		
Charge release	Free charging, local RFID, Whitelist, OCPP 1.6 (optional)		
Communication	10/100 Mbit Ethernet and mobile radio (2G,3G,4G)		
Load management	Dynamically between charging points		
Vehicle communication	IEC 61851-1 „Mode 3“ and ISO 15118 Ready		
Operating temperature	-25 to 50° C		
Storage temperature	-25 to 85° C		
Relative humidity	5 bis 95%, no condensation		
Class of protection	I		
Overvoltage category	III		
Degree of pollution	3		
Degree of protection	IP44 (housing)		
Maximum Elevation	≤ 2000 m AMSL		
Pillar dimensions [mm]	1.441 x 440 x 203 (H x B x T)		
Weight of charging pole	ca. 47 kg		ca. 55 kg
Item number	3M1XXXXX		

## Standards & Guidelines

The cPP2 charging station complies with the following standards and protection classes:


### General standards

Norm	Explanation
2014/30/EU	EMC Directive
2011/65/EU	RoHS Directive
2012/19/EU	WEEE Directive
ElektroG	Electrical and Electronics Act

### Standards, protection class and degree of protection for device safety

DIN EN IEC 61851 describes conductive charging systems for electric vehicles:

Norm	Explanation
IEC 61851-1	<ul style="list-style-type: none"> <li>- General requirements</li> <li>- Protection against electric shock</li> <li>- miscellaneous: Environmental conditions</li> </ul>
IEC 61851-1, Mode 3	- Charging with specific charging plug-in systems for electric vehicles with pilot and control contact
IEC 61851-21-2	- Requirements for on-board chargers for electric vehicles with alternating current / direct current supply
DIN EN 61851-22	- AC charging station for electric vehicles

Protection class/ protection type	Explanation
	Protection class I: All electrically conductive parts of the equipment are connected with low resistance to the protective conductor system of the fixed installation.
<b>IP 44</b>	Protection class of the enclosure: <ul style="list-style-type: none"> <li>• protected against access with a wire and protected against foreign objects &gt; Ø1.0 mm</li> <li>• Protection against splashing water on all sides</li> </ul>



## Warranty / Guarantee

### Warranty and guarantee condition

The **eCharge Hardy Barth GmbH** grants the legally prescribed warranty period of 24 months on the present product as well as a warranty with the same duration for the country in which the product was purchased.

If the product is operated in another country, the legal regulations for the country in which the product was purchased still apply: The warranty, like the guarantee, is not transferable under any circumstances.

If modifications of any kind are made to the product that have not been expressly approved by **eCharge Hardy Barth GmbH** or described in a manual for authorized service partners, the warranty obligations on the part of the manufacturer expire with immediate effect.

### Exclusion of claims for damages and liability claims

This includes claims that are due to the following causes:

1. deterioration due to normal wear and tear, corrosion, damage, accident, faulty storage or operation, lack of reasonable and necessary maintenance.
2. installation services of the charging station carried out by unauthorized persons (by an unauthorized electrician), installers not authorized by **eCharge Hardy Barth GmbH** or the customer himself.
3. repairs or interventions carried out by unauthorized persons, companies or by the customer itself to remedy defects in the charging station in question.
4. use of spare parts that are not original spare parts of **eCharge Hardy Barth GmbH**.
5. incorrect maintenance and/or use due to failure to observe or follow the operating instructions.
6. accepting further damage to the device and its environment, e.g. by continuing to use the device after the defect or malfunction has been detected.
7. damage due to mechanical overstress.

The manufacturer further disclaims any claims for damages resulting from improper use, negligence, modifications, attempted repairs by unauthorized persons, or acts of God.

The repair or replacement of defective parts does not lead to an extension or restart of the warranty period according to the warranty conditions.

### **ATTENTION!**



If any problems occur during operation of your product, please contact your local distributor or authorized representative immediately and clarify to what extent this malfunction is covered by the warranty and/or guarantee. Under no circumstances should you make any changes or repairs to your product yourself!

The company **eCharge Hardy Barth GmbH** assures the proper operation of the present product after delivery within the scope of the legally valid warranty.

The warranty is limited to such damage that is due to normal use and obvious material or manufacturing defects.

In these cases, the manufacturer, in cooperation with the local distributor, will attempt to restore the proper function of the product.

Any costs incurred for the transport of the product shall be borne by the customer.

If the serial number has been removed from the charging station, altered or made illegible through the fault of the customer, all rights granted under the warranty conditions shall expire and only the statutory warranty period shall apply.

If the customer orders an execution of repair or replacement work outside the business hours of **eCharge Hardy Barth GmbH**, the hourly wage and the travel expenses outside the normal business hours (Monday - Friday 9:00 - 16:00) will be charged to the customer according to the current price list.

### **Customer service for questions, complaints and claims:**

Monday to Thursday from 8:00 - 12:00 and 13:00 - 17:00.

Friday from 8:00 - 16:00 under the telephone number +49 9666 / 188 00 50,  
as well as by e-mail at [support@echarge.de](mailto:support@echarge.de)

**Please have the serial number, the product designation of the charging station and your customer number ready!**

This image shows a full page of blank white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for writing or drawing. There are no margins, text, or other markings present.