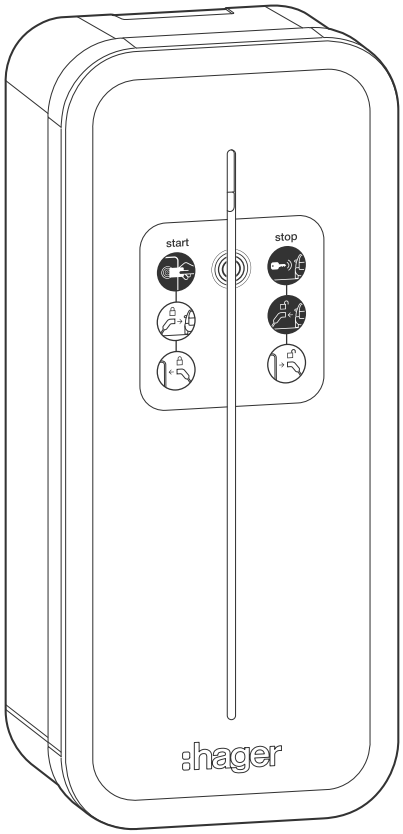
Installation instructions

Charging station witty solar



Hager witty solar charging station for the flow energy management system
XEV1K22T2S, XEV1K22T2SEMC, XEV1K22T2SEMCC (3-phase)
XEV1K07T2S, XEV1K07T2SEMC (1-phase)

CE

:hager

EN

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Publication, either in whole or in part, requires written approval.
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Manufacturer's guarantee

You are given the current guarantee documents on purchasing the device.
If necessary, you can also download the documents from the customer portal.

Additional information

The device was developed, produced and tested with great care and using state-of-the-art technology. HagerEnergy GmbH fulfils the requirements of DIN EN ISO 9001 and proves this through a certified quality management system.
Please obtain the current version of these instructions from the customer portal. Read the instructions through carefully before installation at the customer's premises. Images in these instructions can deviate from the actual state of production of the device.
The instructions have been optimised for duplex printing.
If you have questions, feel free to contact us.
You can find more information on the product and HagerEnergy GmbH on the company website.

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These instructions relate to the following devices and software versions:
Device: **witty solar charging station**
Date and version of these instructions **03.2023 | Version: V1.1**

The instructions of HagerEnergy GmbH are continually developed further.
You can download the current version of these instructions using the QR code shown on https://hgr.io/r/XEV1K22T2S or https://hgr.io/r/XEV1K07T2S.

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01 Notes on these instructions

The following instructions describe the installation, commissioning and operation of the device. Keep this document in an accessible place at all times during the entire lifespan of the device!
The mounting and electrical installation work described relates to the intended standard installation of the device.
In particular, please pay special attention to the safety and warning information!
The images in these instructions are used for explanation and may deviate from the actuation production version of the device and its components.

01.01 Scope of validity

This document applies to the witty solar charging station device.
HagerEnergy GmbH reserves the right to make technical changes.
On the following pages of this document, the device is termed a **charging station** or a **witty solar charging station**.

01.02 Target groups

Specialists
The chapters "Installation", "Electrical connection", "Commissioning" and "Decommissioning" are intended for qualified electricians.

Users and operators of the charging station:
The chapter "Operation" and its subchapters are intended for users, who are also operators of the witty solar charging station.
People, who, on account of their physical, sensory or mental abilities or inexperience, are not able to operate the witty solar charging station safely, may not use the device without supervision or instruction from a responsible person.

01.03 Qualification of the specialists carrying out the installation

Qualified electrician

Electrical devices may only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, safety and accident prevention regulations of the country.

The qualified electrician must have read and understood these instructions and know the safety precautions.
In general, these preconditions are considered as having been fulfilled when the qualified electrician has specialist training and knows the relevant standards and requirements.
If further units are required for installation, then the necessary activities may only be carried out by specialists trained in the work.

01.04 Danger levels in warning informations

	Warning word	Consequence on non-observance
	Danger	Leads to serious injuries or death.
	Warning	Can lead to serious injuries or death.
	Caution	Can lead to minor injuries.
	Caution	Can lead to device damage.

Tab. 1: Danger levels

01.05 Symbols in the instructions

The following types of general notes are used in these instructions:

Note

Additional information, which is important for the appropriate topic, but has no safety relevance.

02 Safety

Please read these instructions before installing and commissioning the device, in order to avoid possible injuries and/or physical damage. Every user must always comply with the safety and warning information.
Each user of the device must read and observe the safety and warning information.
When selling, loaning and/or passing on the device in any other manner, please also pass on these instructions as well.

02.01 Correct use

The device is an alternating current vehicle charging device, with which the batteries of electric or hybrid vehicles can be charged according to charging mode 3 - or charging mode 2 with restricted functions.
The device is suitable for use in interior areas and can also be used in weatherproof outdoor areas (IP protection class 55).

Qualified electrician

Electrical devices may only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, safety and accident prevention regulations of the country.

Danger
Danger to life from improper changes to the device!

Improper changes to the device can lead to serious safety problems and a danger to life and limb.

- Avoid improper changes of any kind to the device and the external wiring!

Caution
Improper changes to the device will render the manufacturer's guarantee null and void!

If improper changes are made to the devices, the manufacturer's guarantee will be rendered null and void.

02.02 Improper use

Any other use than that described under Correct use is improper and therefore not permitted.
HagerEnergy GmbH will not accept any liability for damage resulting from improper use. The user shall bear the sole responsibility for risks resulting from improper use.
Improper use of the device shall include, for example:

– The electrical connection and opening of the device by lay persons!
– Installation and operation of the device in areas at risk of explosions!
– Installation and operation of the device in areas in which highly flammable substances are located!
– Operation of the device at an ambient temperature outside the temperature range specified in the Technical Data Sheet.

– Perfect and safe operation of the device assumes correct and suitable transport, storage, mounting and installation, as well as careful operation and maintenance of the device.
– Non-observance of these instructions!

Caution
Physical damage or injury through non-observance of these instructions!

- The device is only intended for the purpose described in these instructions.
- Any installations shall be performed as described in these instructions.
- Only use the device in accordance with the information given in these instructions. Any other use can lead to physical damage or injury.
- Perfect and safe operation of the device assumes correct and suitable transport, storage, mounting and installation, as well as careful operation and maintenance of the device.

Note

- The instructions belonging to this device are a component part of the product and must available to specialist personnel at all times.
- Read and comply with the instructions.

02.03 Consequences of non-observance of these instructions

Any other use of the device than those described in these instructions shall be considered improper. HagerEnergy GmbH shall not accept any liability for damage resulting from non-observance of the instructions, as well as its safety and warning information.

02.04 Safety instructions

This chapter lists safety and warning information, which must be observed when working on and with the device. Read all the information through carefully before operation!
If the contents or the language of the explanations cannot be perfectly understood, please contact or inform us.

Danger
Risk to life from electrical voltage!

Energised parts can cause serious injuries.

- Before starting work, ensure the system is volt-free.
- Observe the 5 safety rules of electrical engineering:
  (1) De-energise!
  (2) Secure against restart!
  (3) Ensure voltage freedom on all poles!
  (4) Earth and short-circuit!
  (5) Cover or fence off neighbouring parts which are energised!
- The fuse integrated into the device is used for device protection and is only designed for this device.
- The installation engineer must design and plan the necessary cable and personal protection.

Danger
Risk to life from fire or explosion

A fire can occur on electrical devices.

- Do not install the device in areas in which easily flammable substances are located.
- Do not install the device in areas at risk of explosions.

Caution
Risk of injury to children.

Children can injure themselves by playing with the device and the packaging.

- Ensure that children do not play with the device, the packaging and the accessories.

Caution
Damage to the device through non-compliance with the permitted environmental conditions!

The device can be damaged by non-compliance with the permitted environmental conditions.

- Always comply with the permitted environmental conditions: Temperature, humidity, sufficient air supply and cooling.

03 Product description

03.01 General

The device is an alternating current vehicle charging device, with which the batteries of electric, plug-in or hybrid vehicles can be charged according to charging mode 3.
The device is suitable for wall installation or can be installed on a pedestal using optional accessories (see chapter "Scope of delivery and transport check").
witty solar charging station:

– With type 2 charging socket, Mode 3, 1/3-phase;
– With RFID reader,
– automatic phase change-over (to 3-phase variant)
– Designed for 7 kW (1-phase) or 22 kW (3-phase), adjustable for 3/11 kW.
– For wall installation or on a pedestal

The device is suitable for use in interior areas and can also be used in weatherproof outdoor areas (IP protection class 55).
The device is intended for use in private and semi-public areas, e.g. on private land, company car parks.
The use of the device in conjunction with a Hager flow energy management controller (EMC) is expressly intended (see the following subchapter).

03.02 Operation in conjunction with the Hager flow energy management controller

In conjunction with the Hager flow EMC, the electric vehicles can be charged as follows:

– Via power from proprietary production (solar production or other sources),
– Via power combined from proprietary production and the power grid.

The witty solar charging station communicates with the higher-level Hager flow EMC via Ethernet in the local network (Modbus TCP / LAN).
Up to three (3) Hager charging stations can be installed and communicate with the higher-level Hager flow EMC.
In the following chapters, we assume that the charging station is operated in conjunction with a Hager flow EMC. "Smart charging" is only possible in conjunction with a Hager flow EMC.

What does smart charging mean?
In conjunction with the Hager flow EMC:

– The house installation is protected against overloads during a charging operation with an electric vehicle.
– Multiple connected charging stations are prioritised in such a way that the power supply network is stressed evenly.
– The energy obtained via a solar inverter or stored in an energy storage system (optionally available in some countries) can be used to charge an electric vehicle.
– Various options are possible to use the proprietary production of energy to the optimum (see flow EMC operating instructions).

Settings of the witty solar charging station

You can configure the settings and parameters of your device using the wide-ranging setting options in the menus of the Hager flow energy management controller.
You can also carry out some of the settings to your device using the flow portal.

03.03 Identification through type label

The type label with the exact device designation clearly identifies the product. It is located on the underside of the housing.
You require the data on the type label for the safe use of the product and when contacting Technical Support.
The type label must be permanently attached to the product.

Fig. 1: Type label of the witty solar charging station

Symbols and abbreviations on the type label

Symbol	Meaning / Category	Explanation
CE	CE mark	The device meets the requirements of the applicable EU regulations and standards.
	Manufacturer's information	The symbol contains the struck-through rubbish bin shown on electrical and electronic devices indicates that, at the end of its lifespan, the appropriate device must be disposed of separately from unsorted household waste.
Reference:	Type:	Order number of the device; Example: **XEV1K22T2TFS**
Un/Ina/Freq:		Key data of the device
–	QR code:	Link for logging onto the Cloud

03.04 Structure of the witty solar charging station

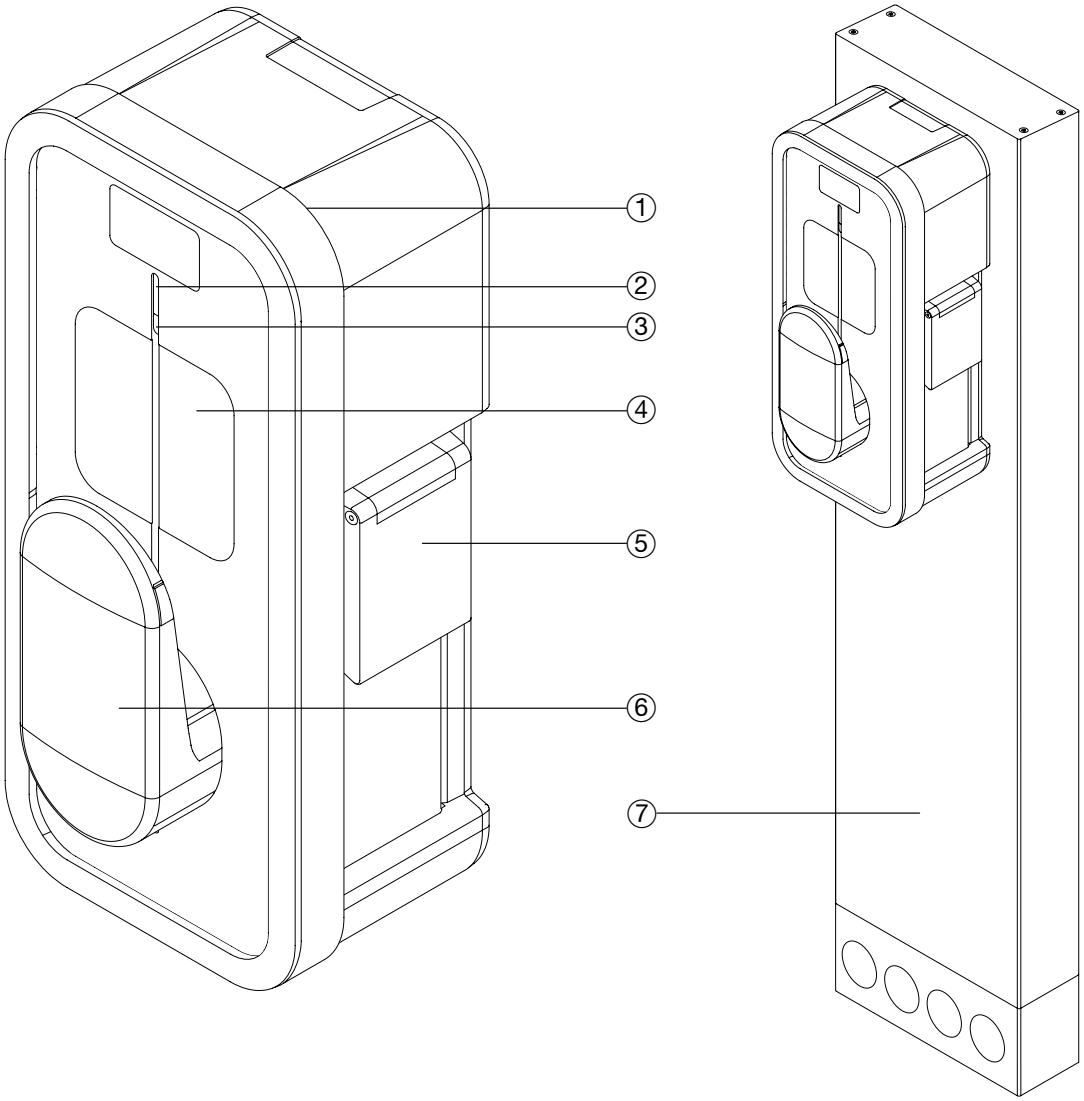


Fig. 2: Exterior view of the witty solar charging station

① Edge protection
② LED display
③ Contact sensor
④ Space for the quick instructions and RFID reader
⑤ Type 2 charging socket, Mode 3
⑥ Cable holder (option)
⑦ Pedestal with ground anchor (option)

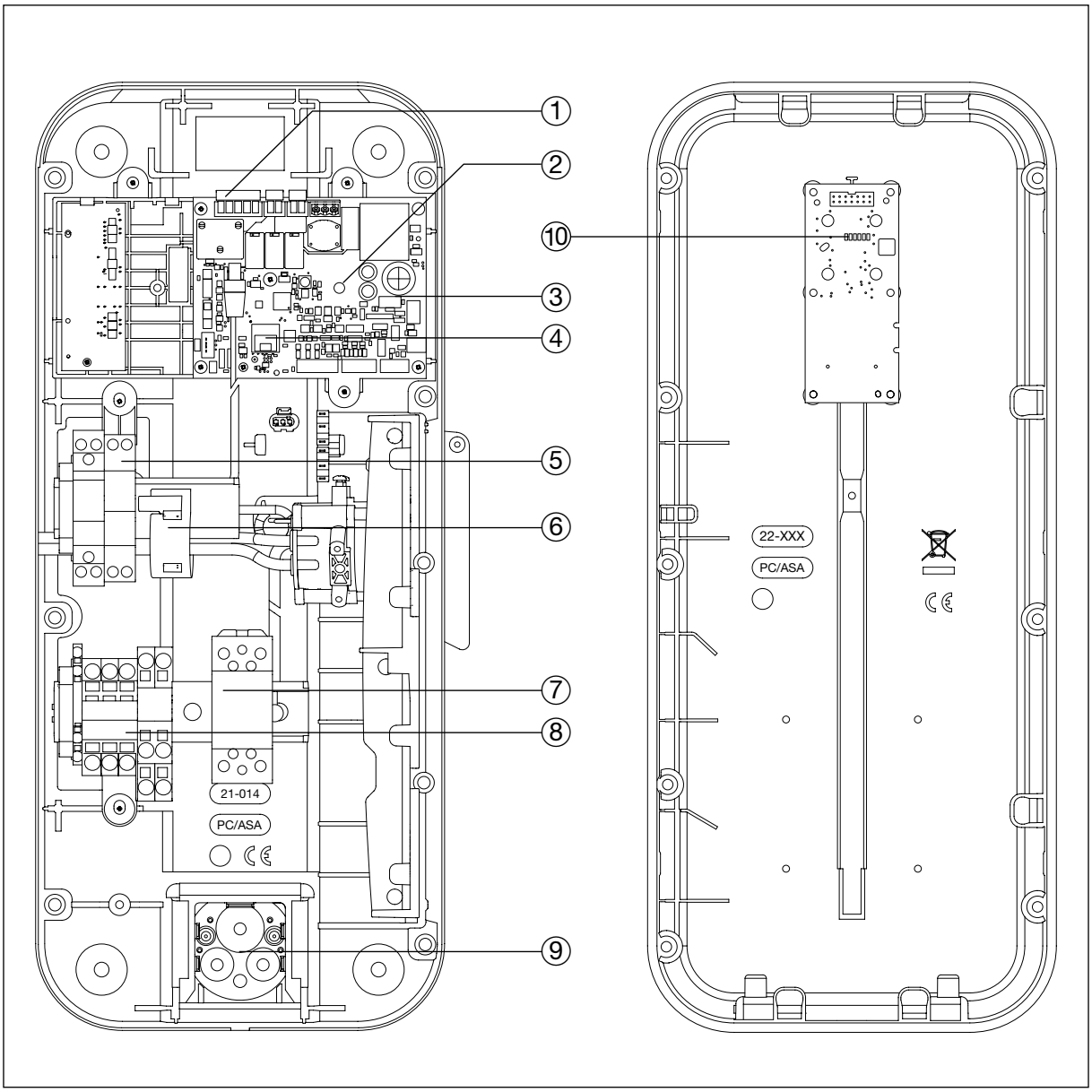


Fig. 3: Interior view of the witty solar charging station

① Terminal block day/night input signal
② Dial maximum power
③ Sensor connection 6 mA
④ RJ45 socket
⑤ Miniature circuit breaker 16 A
⑥ Installation contactor 40 A
⑦ Power contactor (only available in the 3-phase variant)
⑧ AC connecting terminals, three-phase/5-wire (L1, L2, L3, N, PE)
⑨ Seal membrane
⑩ LED/ RFID board

04 Scope of delivery and transport check

04.01 Scope of delivery

Designation	Order no.:	Number
witty solar charging station:	XEV1K22T2S, XEV1K22T2SEMC, XEV1K22T2SEMCC (3-phase variants) XEV1K07T2S, XEV1K07T2SEMC (1-phase variants)	1
Accessories		
Pedestal for a charging station (option):	XEVA110	1
Earthing set for stand (option):	XEVA116	1
Components and screwing material for installation on the pedestal:		1
Ground anchor (option for pedestals): Stainless steel ground anchor for installation in a concrete foundation (incl. fixing material) **Note on mounting the pedestal without ground anchor:** The screwing material for anchoring the pedestal on a concrete foundation without ground anchor is not included in scope of delivery. Bolt or heavy duty anchors are recommended.	XEVA140	1
Charging cable 20 A, 3P, 11 kW, 7.5 m (Option)	XEVA732	1
Charging cable 32 A, 3P, 22 kW, 7.5 m (Option)	XEVA734	1
Cable holder incl. accessories (option)	XEVA100	1
Installation instructions, witty solar charging station		1
Extensions/spare parts		
flow communication board	XEVA260	
RFID board for witty solar	XEVA265	

Tab. 2: Scope of delivery and accessories

04.02 Electrical accessories not included in scope of delivery

The following electrical accessories are required and are not a component part of the scope of delivery:

– Supply cable for the AC connection of the required length
– Ethernet/LAN cable of the required length

For the distribution box (recommendation):

– Hager residual current circuit breaker, 4-pole: 10 kA B-32A, 30 mA Type A, **ADX432D**

Or:

– Hager residual current circuit breaker (RCD/ FI) 4-pole: 6 kA, 40 A, 30 mA Type A, **CDA440D** in conjunction with
– Hager miniature circuit breaker, 3-pole: B-32A (device power class 22 kW), **MBN332**
– Observe the specifications in the chapter "Cable recommendations and necessary protection switches".

04.03 Transport check

Please check the supplied device thoroughly!

Should you find damage to the packaging that indicate damage to the device, or should you find apparent damage to the device, you must not accept it and report the damage within 24 hours.

- After unpacking the device, please check that you have received the complete scope of delivery.
- Please signal any transport damage or missing parts immediately.
- Transport damage will be claimed from the appropriate transport company.

05 Specifications and recommendations

Danger
Physical damage through wetness or moisture!

The device can be damaged by wetness or moisture.

- During installation, the electrical installation, the commissioning and operation of the device, the device and charging plug must be protected against snow, rain and contamination.
- The device must always use the supplied cable glands. Additional penetrations are not permitted and impair the tightness of the device.
- When connecting the device, ensure that the device and room or outside temperature are almost the same and possible condensation in the interior of the device has evaporated.
- The device may not be exposed to a high level of air humidity over a long period of time.
- On the witty solar charging station, the plugs of the charging cable must always be closed with the protective cap between the charging operations.
- Check the charging plug regularly for corrosion damage.

05.01 Requirements for the location for installation

Danger
Danger to life through blocked escape routes!

In dangerous situations, blocked escape routes can lead to death or serious injuries.

- Escape routes must be kept clear at all times.
- Do not install the device in areas blocking the escape routes.
- Do not deposit objects in the area of the escape routes.
- Avoid trip hazards, such as hanging cables.

05.01.01 Explaining the installation conditions to the customer

The certified installation engineer is obliged to explain the installation conditions ("Requirements for the location for installation") sufficiently to their customer. This makes it clear to the customer that the installation conditions must be complied with permanently.
If the installation conditions are not complied with at all times, then no guarantee claims can be made and HagerEnergy GmbH shall reserve the right to check the warranty options.
The customer can see the installation conditions at any time in these instructions.

05.01.02 Select the location for installation carefully

- Do not install the charging station in areas at risk of explosions.
- Select the location for installation according to the IP protection class (IP55) of the device. Rooms requiring increased fire protection requirements cannot be used as the location for installation (e.g. oil tank room, etc.)!
- The charging station is suitable for use in interior areas and can also be used in weatherproof outdoor areas (IP protection class 55):
  - Operation in garages, carports and outside under a porch is possible.
  - It may not be exposed to direct jets of water.
  - It should not be exposed to direct sunlight, to avoid overheating.
- Operation in the permitted temperature range between -25 °C and +50 °C must be guaranteed at the location for installation throughout the year, in order to guarantee optimum operation of the device. In addition, avoid strong temperature variations.
  - Operation outside this temperature range will lead to function loss and guarantee loss!
- Keep the charging station away from heat sources and ensure sufficient air circulation.

05.01.03 Requirements for the installation wall (wall device)

The system must be installed on a smooth, solid and non-flammable wall:
– The wall structure must be suitable for the installation of the charging station.
– The wall must have a sufficient load bearing capacity.
– The installation wall may not be at a tilt and must be flat. If necessary, compensation measures must be taken to prevent torsion of the housing.

05.01.04 Requirements for concrete foundations and cable pipes (pedestal)

Note

- Any work affecting the concrete foundation, excavated soil, etc. is the responsibility of the erection engineer!
  Only recommendations are provided at this point.

Concrete foundation:

- For installation, the pedestal should be screwed to a supporting concrete foundation:
  - The concrete foundation and the substrate must be flat and horizontal.
  - Ensure that the concrete foundation is suitable for stable fastening of the pedestal.
  - The concrete foundation must have a frost-free foundation.
  - In addition, the foundation must be perfectly sealed to ensure that no significant hollow spaces are created.

Cable pipe:

- In the foundation, two cable pipes must be installed to run the AC cable and the Ethernet/LAN cable.
- The diameter of the cable pipes should be dimensioned sufficiently.
- Ensure the cables are protected:
  The cables should be protected against damage that can be caused when creating the foundation, e.g. through the use of a cable jacket or protection hose.
- Comply with the electrical specifications:
  The necessary electrical specifications for the routing of earthing cables must be complied with.

05.01.05 Minimum distances

The charging station must be installed in a way that is freely and safely accessible for possible service deployments and and the operation or charging of a vehicle. Always avoid blocking the free space in front of and to the side of the device.

Spacings (see following diagram):

– Minimum upward spacing from the top edge of the device: 300 mm
– Minimum side spacing to the next wall or between multiple devices: 400 mm
– Space in front of the device: Min. 1 person width

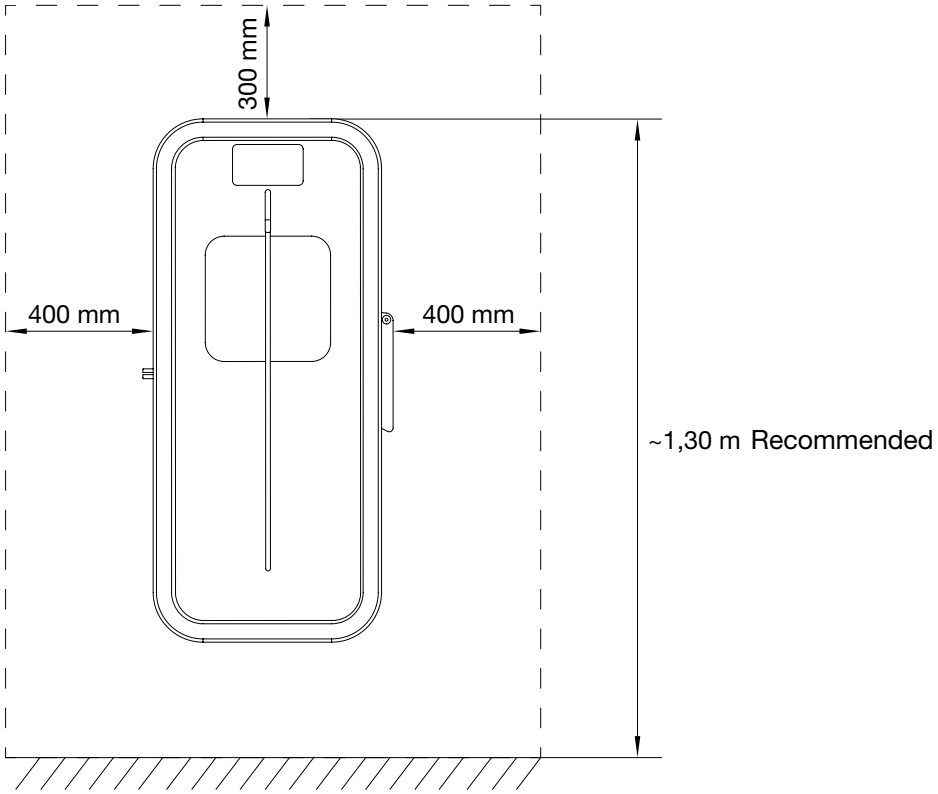


Fig. 4: Minimum spacings at the sides and upwards

Installation height on the wall:

– The charging station may be hung at a maximum height of 1.30 m (top edge).

05.02 Cable recommendations and necessary protection switches

Caution

Increase in network impedance through insufficient cable cross-sections!

Cable cross-sections which are too small in the cable between the house service and the device can lead to a considerable increase in the network impedance (internal resistance of the electrical supply network).

- Only use cable cross-sections which are sufficiently large.

Supply cable for the AC connection:
Not included in scope of delivery!

- The device must be connected with the house distribution box using an AC supply cable of sufficient length.

- The AC supply cable must have 5 wires and be protected according to the device power class (see below "Miniature circuit breakers in the distribution box").
  - **Cable recommendation for interior areas:**
    Flexible control line: LAPP Ölflex Classic 100 5 G 6.0
  - **Cable recommendation for the weatherproof exterior area:**
    Flexible control line: LAPP rubber cable H07RN-F **5 G 6.0**

Ethernet/LAN cable:
Not included in scope of delivery!

- In interior areas:
  - Use a shielded Cat 5e Ethernet/LAN cable of the required length.
- In exterior areas:
  - Use a shielded Cat 5e Ethernet/LAN cable of the required length.
  - The cable must be suitable for the exterior area.

Protection switch for the distribution box (recommendation)
Not included in scope of delivery!

– Hager residual current circuit breaker, 4-pole: 10 kA B-32A, 30 mA Type A, **ADX432D**

Or:

– Hager residual current circuit breaker (RCD/ FI) 4-pole: 6 kA, 40 A, 30 mA Type A, **CDA440D** in conjunction with
– Hager miniature circuit breaker, 3-pole: B-32A (device power class 22 kW), **MBN332**
– Observe the specifications in the chapter "Cable recommendations and necessary protection switches".

06 Installation

Specialists

The activities described in the following chapter may only be performed by trained specialists.

Caution

Damage to the device during installation!

The device can be damaged during installation.

- During installation, please proceed carefully, in order to prevent damage to the paintwork, the device and the electronic components.

The device is supplied as a wall device. Optionally, the device can be installed on a pedestal. The following chapters described both installation variants.

06.01 For your safety

Danger

Risk to life from fire or explosion!

A fire can occur on electrical devices.

- Do not install the device in areas in which easily flammable substances are located.
- Do not install the device in areas at risk of explosions.

06.02 Weight

witty solar charging station (without pedestal): ≈ 6.2 kg

06.03 Dimensions of the charging station

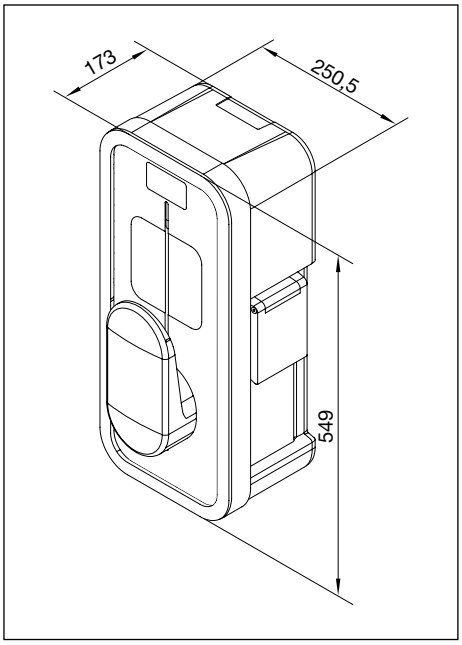


Fig. 5: Dimensions of the charging station (dimensions in mm, without cable holder)

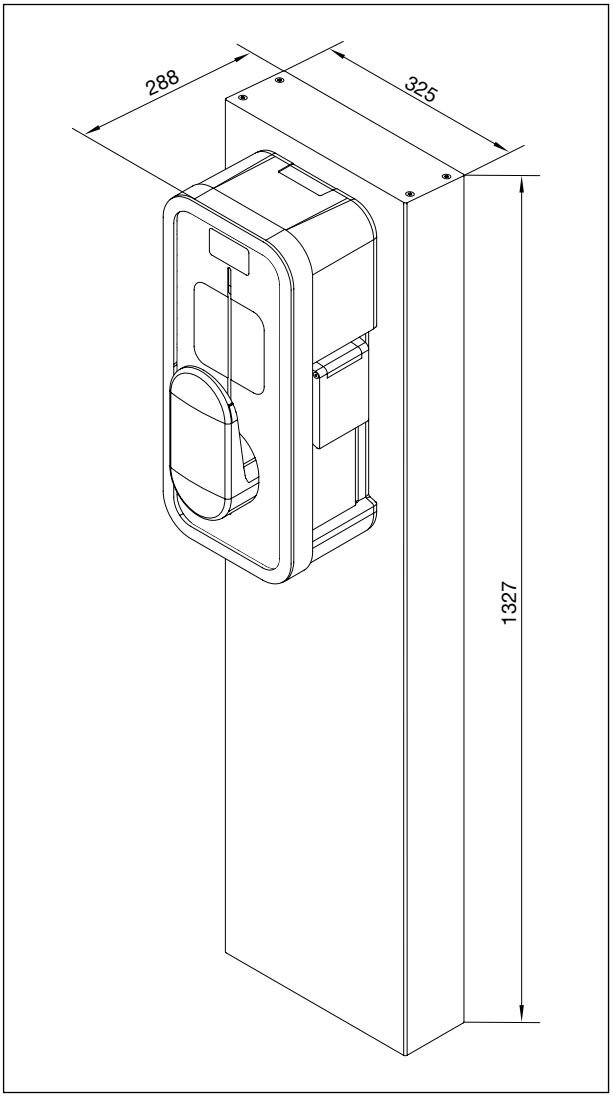


Fig. 6: Dimensions of the charging station on the optional pedestal (dimensions in mm, without cable holder)

06.04 Installation of the charging station on the wall

The following chapter describes the installation of the device on a wall.
The specifications in the chapter "Cable recommendations and necessary protection switches" must be taken into account.

Included in scope of delivery

– 4x wafer-head screws 5 x 60 TX30
– 4x anchors SX 8
– 2x safety screws, countersunk head M 5 x 20, TX25S
– 4x push-on covers
– 4x self-adhesive sealing washers
– 6x cable ties
– 1x tool bit TX25S x 70

Required tools
– Spirit level
– Marking pen
– Hammer drill/drill hammer
– Masonry drill Ø8 mm
– Insulating pliers
– Side cutter
– Hammer
– Torx screwdriver TX25S
– Torx screwdriver TX30

Removing the housing cover

Note
- On delivery, the edge protection and the housing cover are not screwed to the housing. The ribbon cable of the circuit board of the LED on the front side is not connected.
- The screws to fasten the edge protection and the housing cover are included with the device.

❶ Swivel the edge protection ① upwards and place it to one side.
❷ Remove the housing lid ② upwards and place it to one side.

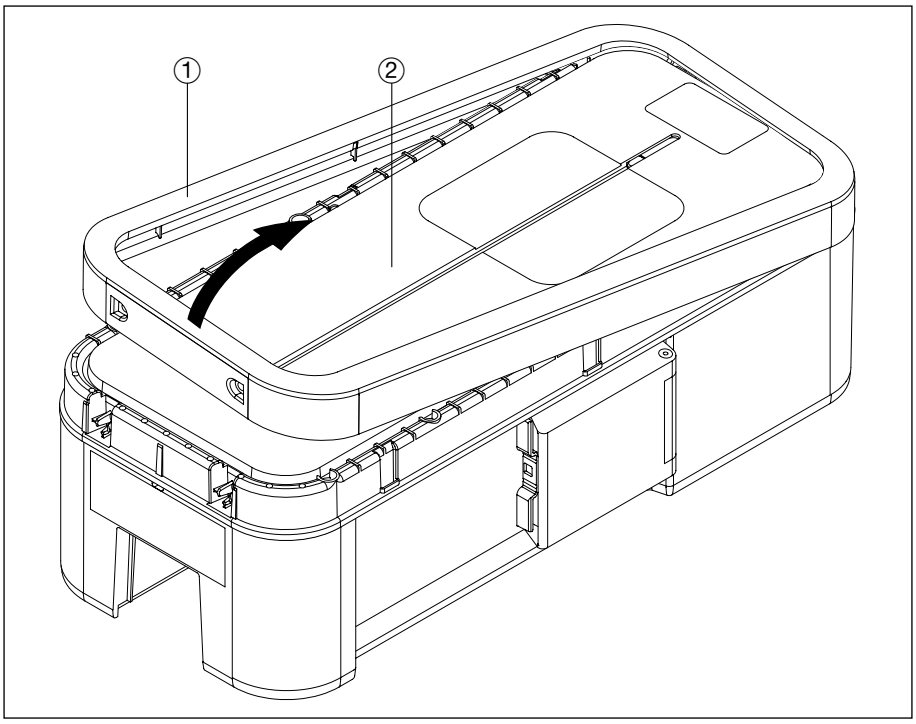


Fig. 7: Removing the edge protection

① Edge protection
② Housing cover

Drawing on and drilling the holes on the wall

☑ The requirements for the installation wall must be fulfilled (see chapter "Requirements for the installation wall").

❶ Draw on the holes on the installation wall horizontally and vertically, in accordance with Fig. 8. Height of the upper drill holes above the ground: Max. 1.30 m

❷ Using an 8 mm masonry drill, drill four holes at the points indicated.

❸ Place an anchor in each hole.

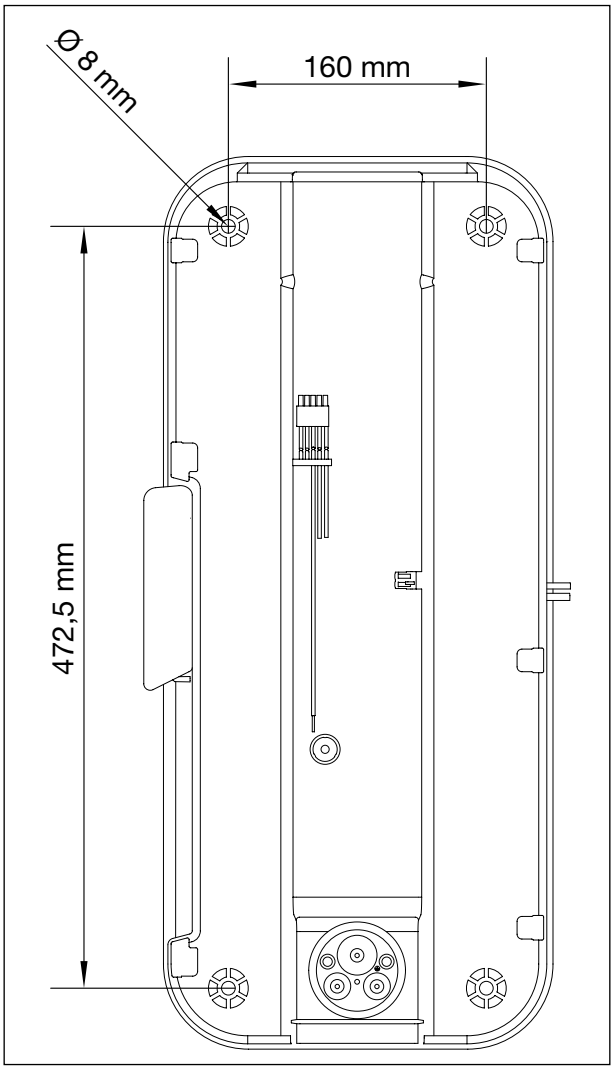


Fig. 8: Rear side of the charging station with hole spacings

Applying self-adhesive sealing washers to the charging station

❶ Remove the protective film from the rubber disks ①.

❷ Using an 8 mm masonry drill, drill four holes at the points indicated.

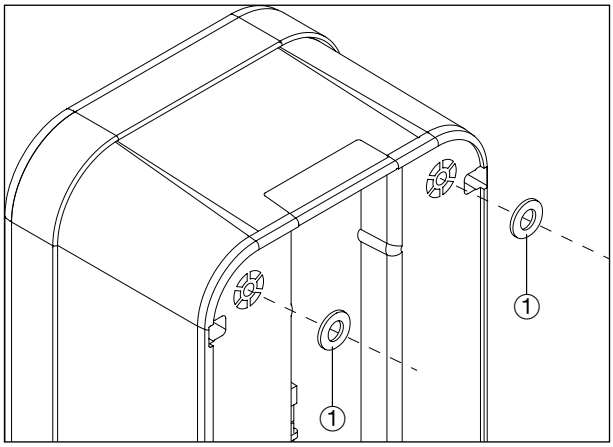


Fig. 9: Applying sealing washers

① Self-adhesive sealing washers

Preparing the sealing membrane

❶ Choose the position at which the cables should be run through the sealing membrane.

❷ Pierce the sealing membrane at the selected positions using a screwdriver.

Note

The selected positions should correspond to the cable diameter.

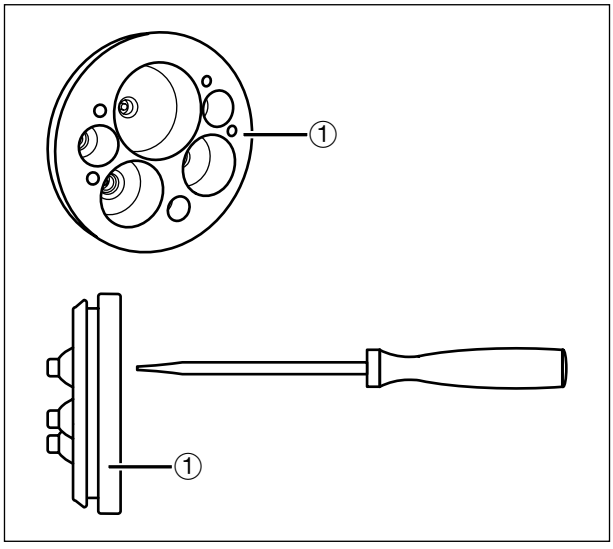


Fig. 10: Preparing the sealing membrane

① Sealing membrane

Screwing the charging station to the wall

Caution

The tightness of the housing must remain intact!

- Use only the intended holes to fasten the housing.

1. Align the charging station on the installation wall using the threaded holes available.
2. Push the wafer-head screw ① through the fastening hole of the housing and tighten it.
3. Repeat the operation on the remaining fastening holes.
4. Place the sealing caps ② on the fastening holes in the housing.

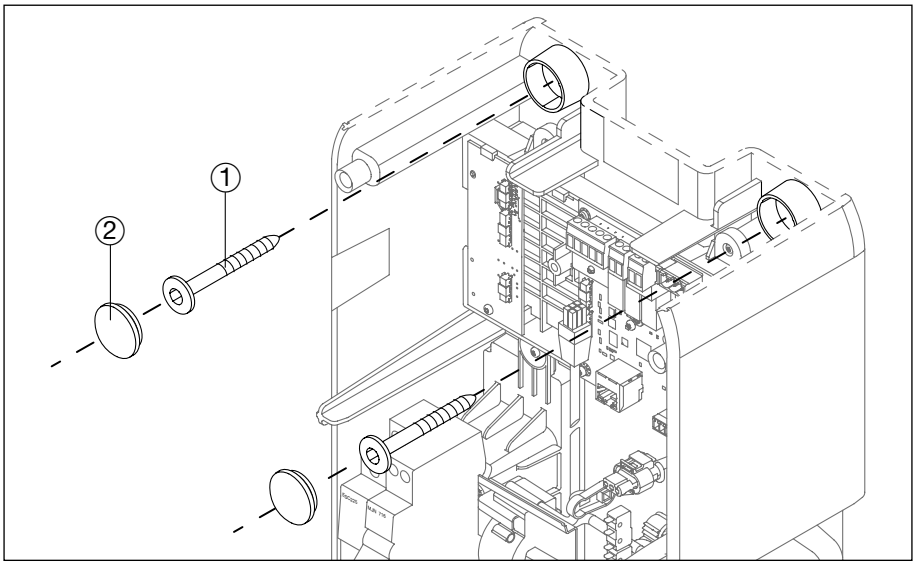


Fig. 11: Screwing on the charging station

① Wafer-head screw
② Push-on cover

Preparing cable penetrations

The supply cable for the AC connection and the Ethernet/LAN cable are usually run into the device from below.
Alternatively, there is the option of running the AC connection and the Ethernet/LAN cable into the device from above. For this, the plastic strut on the top edge of the housing must be broken out.

1. Run the AC connection cable ① and Ethernet/LAN cable ② through the housing as shown.
2. Push the prepared sealing membrane ③ over the cables and let it engage on the rear wall of the housing.
3. Push the holding plate ④ downwards in the guides of the housing and fix the sealing membrane.
4. Fasten the cables to the holding plate using cable ties.

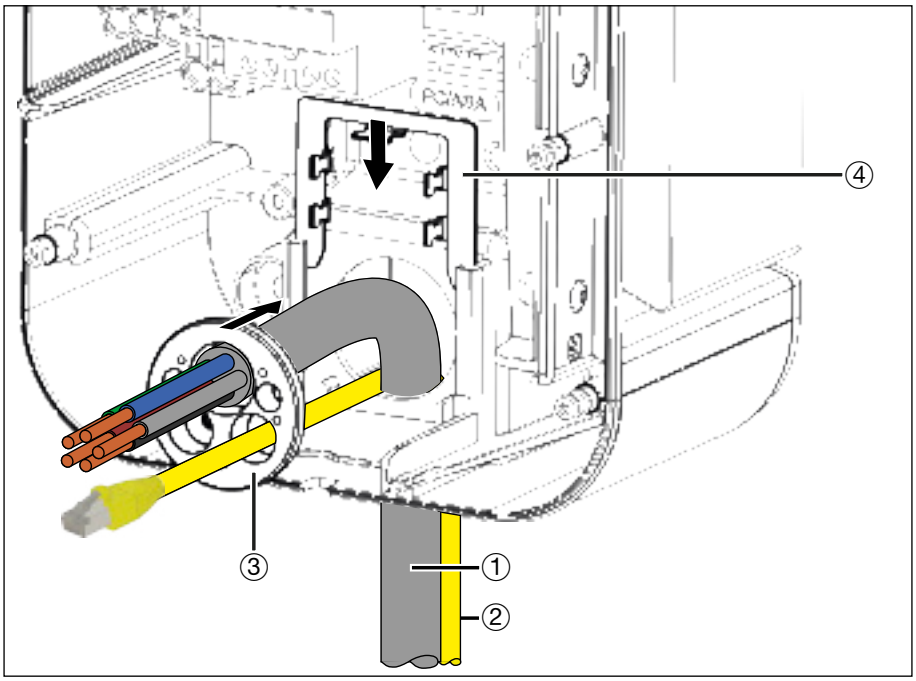


Fig. 12: Cable penetrations

① AC connection cable
② Ethernet/LAN cable
③ Sealing membrane
④ Retaining plate

06.05 Installation of the cable holder (option)

The following chapter describes the installation of the optional cable holder.

Note
The cable holder can be fastened to the housing cover of the charging station or on a wall.

Included in scope of delivery
– 1x cable holder
– 1x wafer-head screw 5 x 60 TX30
– 1x hanger bolt
– 2x anchors SX8
– 1x cap nut M 6
– 1x shim
– 4x flat headed screws 6 x 30 TX30
– 1x push-on cover
– 1x installation aid

Required tools
– Spirit level
– Marking pen
– Hammer drill/drill hammer
– Insulating pliers
– Side cutter

– Hammer
– Torx screwdriver TX15
– Torx screwdriver TX30
– Wrench WAF10

06.05.01 Installation of the cable holder on the charging station (optional)

❶ Drill a hole of 8 mm diameter at the four pre-drilled points ① on the inner side of the housing cover.

❷ Attach the cable holder ② with the two retaining lugs on the front side of the housing cover.

❸ Push the four flat headed screws ③ through the housing cover and into the holes of the cable holder and tighten them.

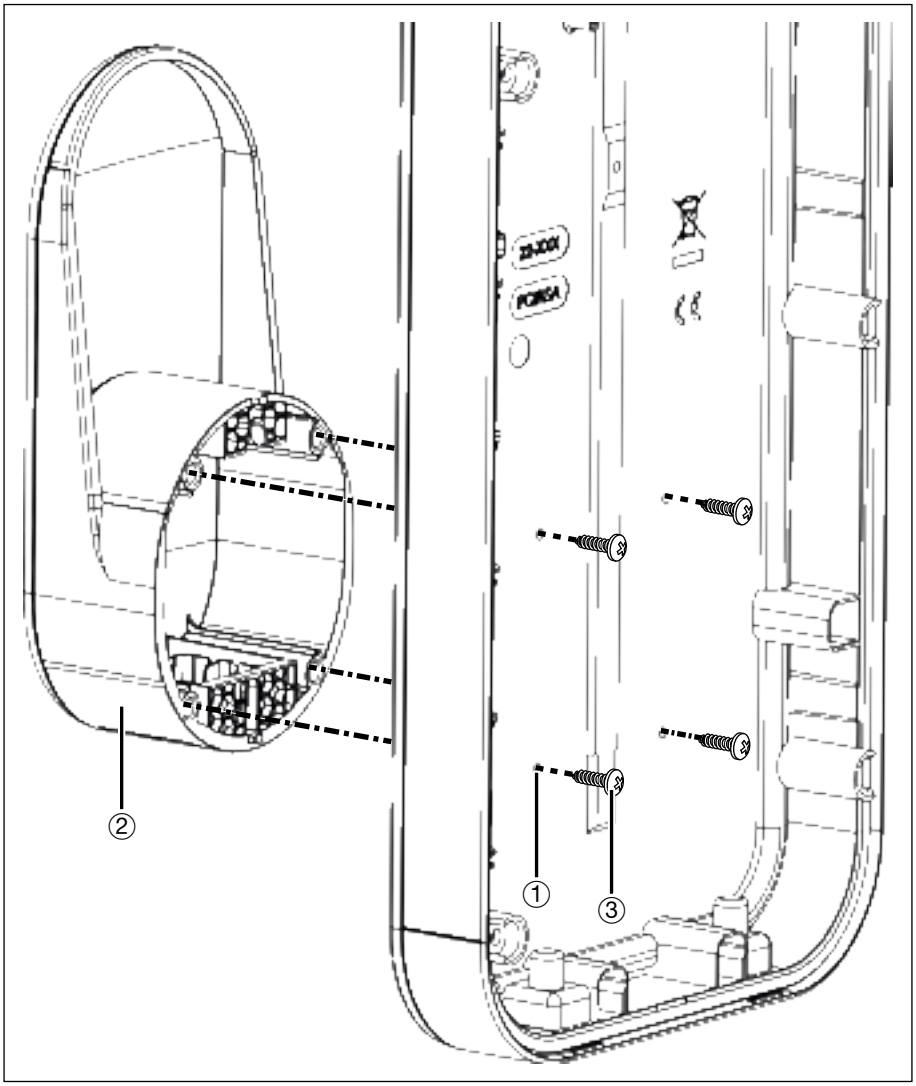


Fig. 13: Installation of the cable holder on the charging station

① Predrilled position
② Cable holder
③ Flat headed screws 6 x 30 TX30

06.05.02 Installation of the cable holder on the wall

☑ The installation wall must be suitable for the weight of the charging cable.

1. Separate the drilling template from the packaging.
2. Position the drilling template at a suitable location and draw on the two drill holes so that they are vertical to each other.
3. In the installation wall, drill two holes of 8 mm diameter.
4. Push both anchors into the holes of the installation wall.

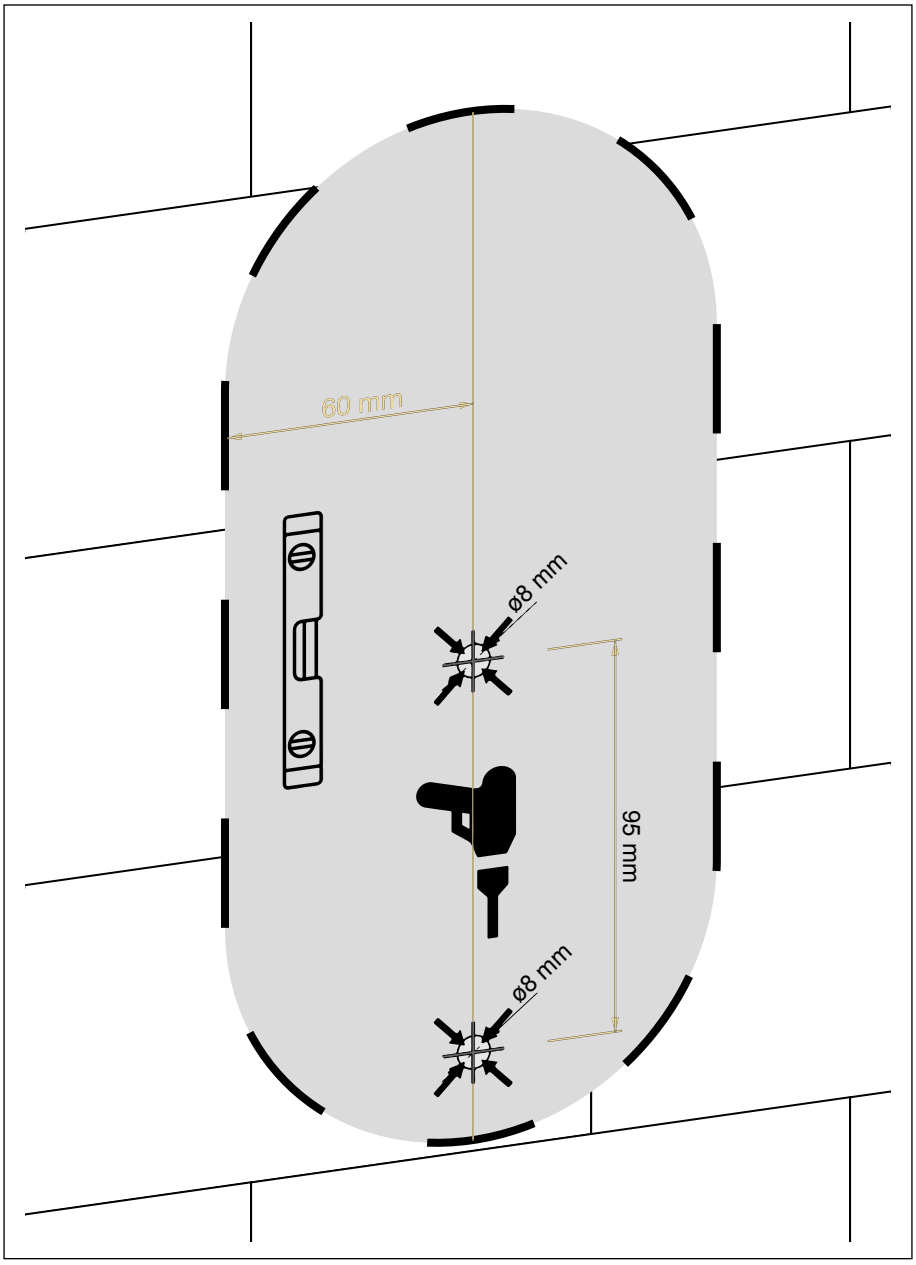


Fig. 14: Draw the holes on the wall using a drilling template

❺ Push the wafer-head screw 5 x 60 ① into the upper anchor.

❻ Hold the installation aid ② beneath the wafer-head screw and turn the wafer-head screw in up to the installation aid.

❼ Remove the installation aid. It is no longer required.

❽ Using a Torx TX15 screwdriver, turn the hanger bolt ③ into the lower anchor.

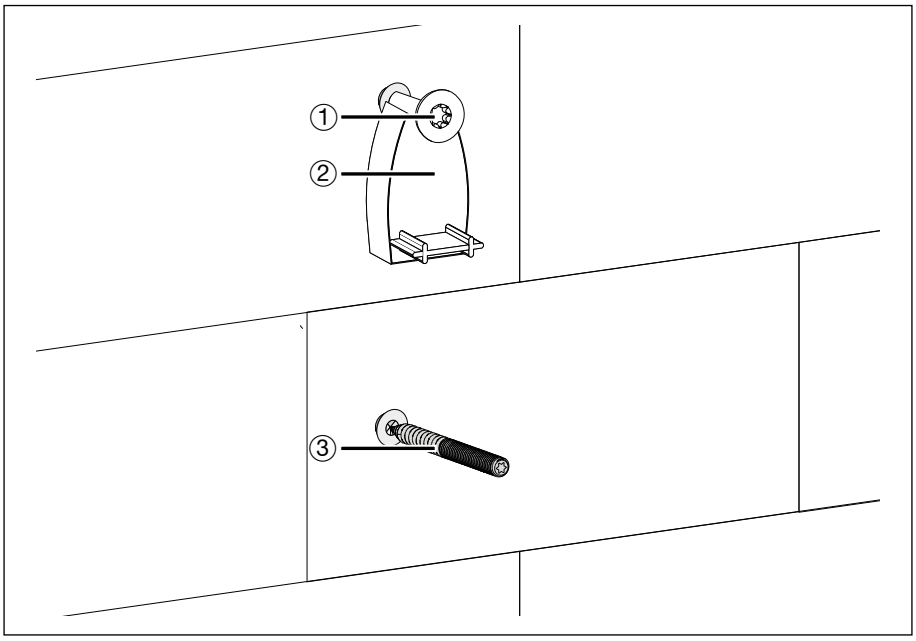


Fig. 15: Installation of the screws on the wall

① Wafer-head screw 5 x 60
② Installation aid
③ Hanger bolt

❾ Cut off the two retaining lugs ① with a side cutter.

❿ Push out the push-on cover ②.

⓫ Attach the cable holder with the opening ③ to the wafer-head screw (see Fig. 15: Installation of the screws on the wall).

⓬ Position the opening ④ over the hanger bolt.

⓭ Through the lower opening of the cable holder, place the shim on the hanger bolt.

⓮ Then, turn the cap nut onto the hanger bolt.

⓯ Using a 10 mm wrench, tighten the cap nut through the lower opening of the cable holder.

⓰ Place the push-on cover ② back on the cable holder.

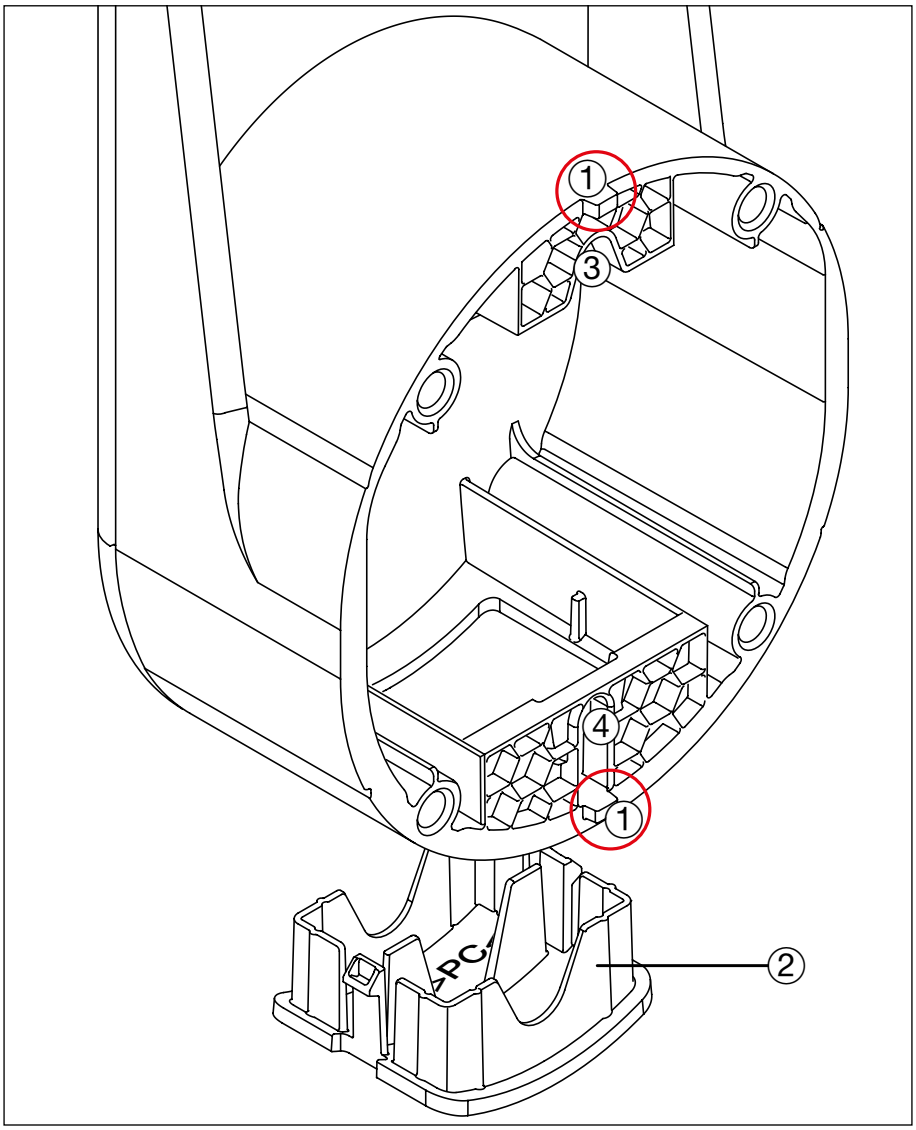


Fig. 16: Installation of the cable holder on the wall (rear-side view)

① Retaining lugs
② Push-on cover
③ Opening for wafer-head screw
④ Opening for hanger bolt

06.06 Installation of the pedestal (optional)

Included in scope of delivery

– 1x installation base
– 4x brackets
– 12x hexagon nuts M12
– 12x shims ø13
– 4x chassis washers ø13

Required tools

– Spirit level
– Wrench WAF19
– Allen key WAF5

Concreting in the installation base

Note

- The concrete base must be constructed according to the recognised rules of technology. The creation of the concrete base is not described here (see chapter "Requirements for concrete foundations and cable pipes (pedestal)").
- The ductwork must have been routed before the base is concreted in.
- The optional earthing cable must be routed, completely unrolled, in the earth/concrete.

1. Insert the brackets ④ into the holes of the installation base from below.
2. Attach the shims ③.
3. Turn in the hexagon nuts ④.
4. Concrete the installation base in with brackets.
5. Concrete the installation base in with brackets.
6. Let the concrete harden.
7. After the concrete has hardened, remove the hexagon nuts and shims.

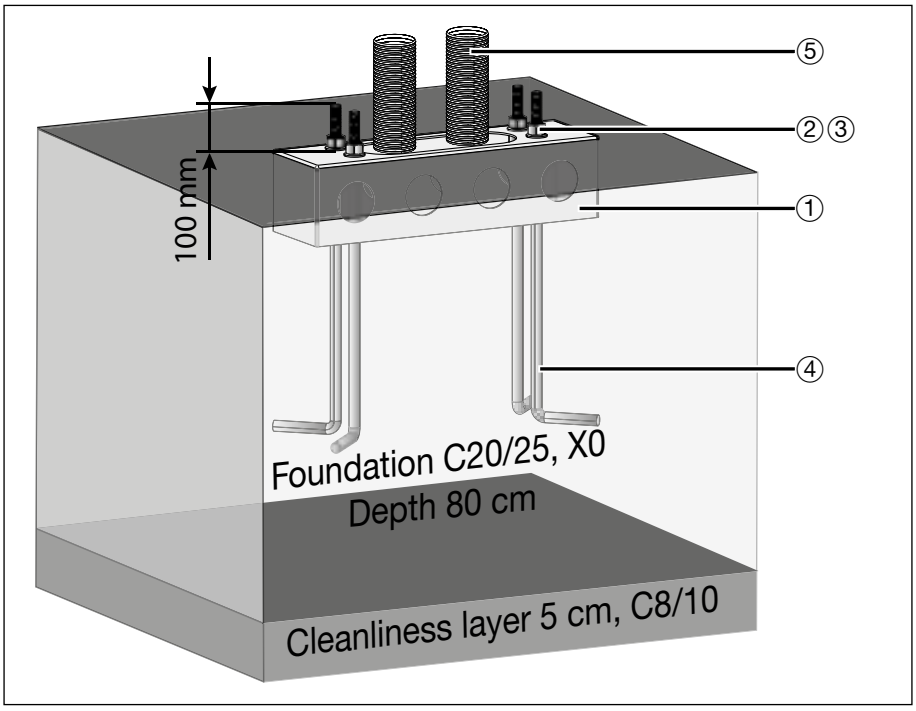


Fig. 17: Concreting in the installation base

① Installation base
② Hexagon nuts M12
③ Shims ø13
④ Bracket
⑤ Protection pipe (to be created on the construction side)

Installing the pedestal on the installation base

1. Loosen the countersunk head screws M5 x 12 ① with a Torx TX25S screwdriver and place them to one side.
2. Remove the cover plate ② and place it to one side.
3. Push up the panel at the back ③ and remove it from the rear.
4. Loosen the M8 x 40 Allen screws ④ with an Allen key WAF5 and place them to one side, together with the shims ⑤.

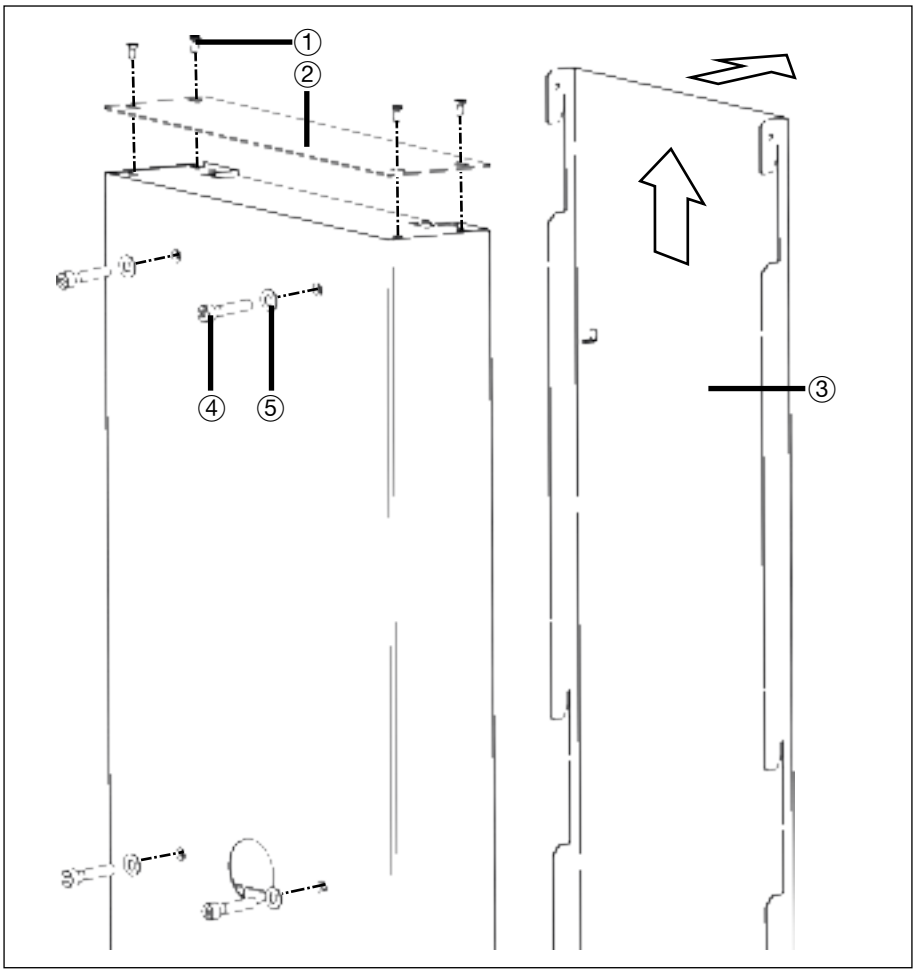


Fig. 18: Installing the pedestal on the installation base

❺ Run the cables through the opening of the stand ①.
❻ Place the stand on the ground anchors ② of the installation base.
❼ Turn the shims ③ and hexagon nuts ④ onto the ground anchors.
❽ Tighten the hexagon nuts with a wrench WAF19.

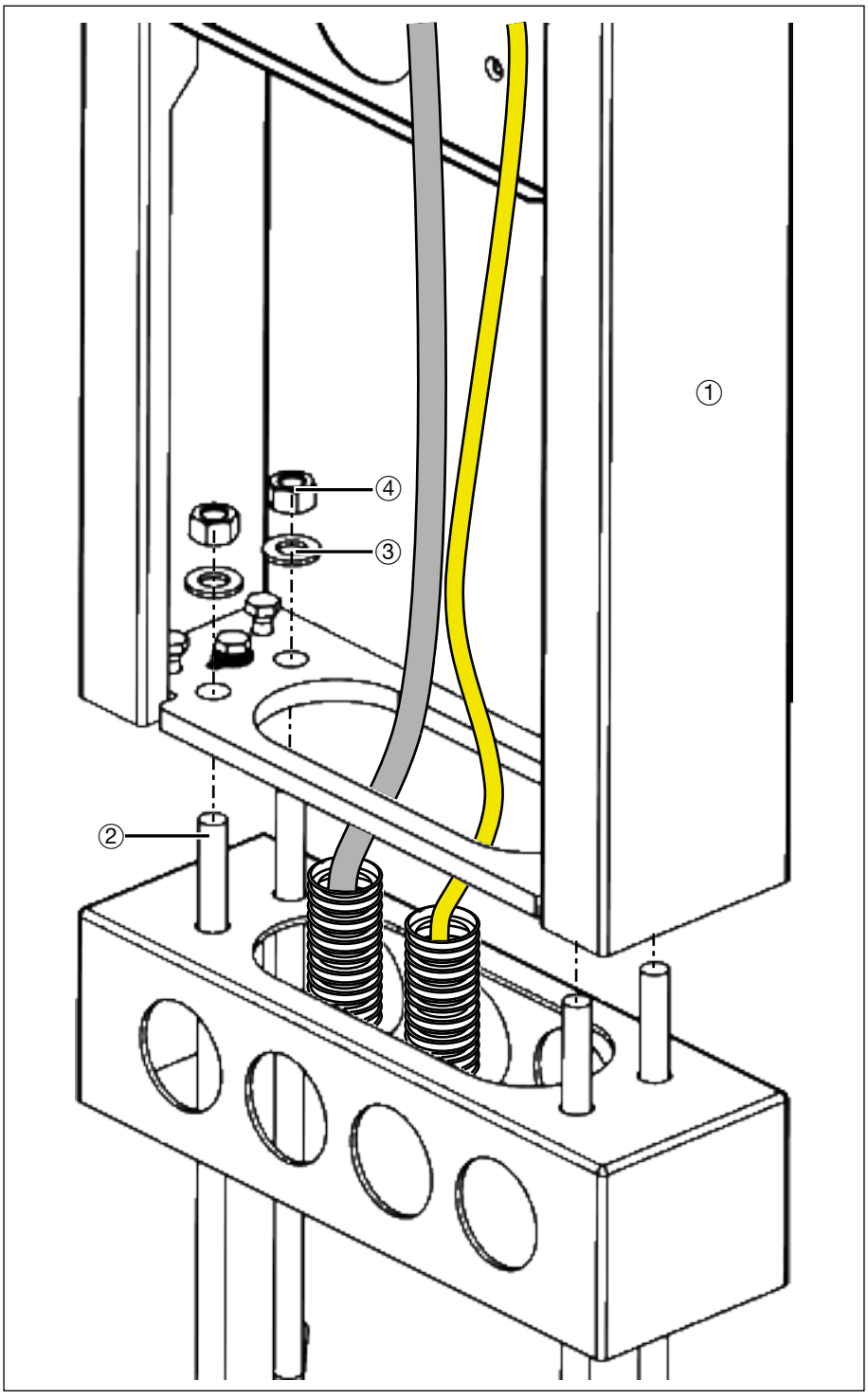


Fig. 19: Installing the pedestal on the installation base (view from behind)

Connecting the earthing cable

Note
The earthing set can be fastened on the left or right in the pedestal.

1. Route the earthing cable ① through the pedestal and run it out through the opening on the front side of the pedestal. The free end of the earthing cable must be connected to the charging station later on.
2. Fasten the earthing cable with shim ②, toothed washer ③ and hexagon-head screw ④

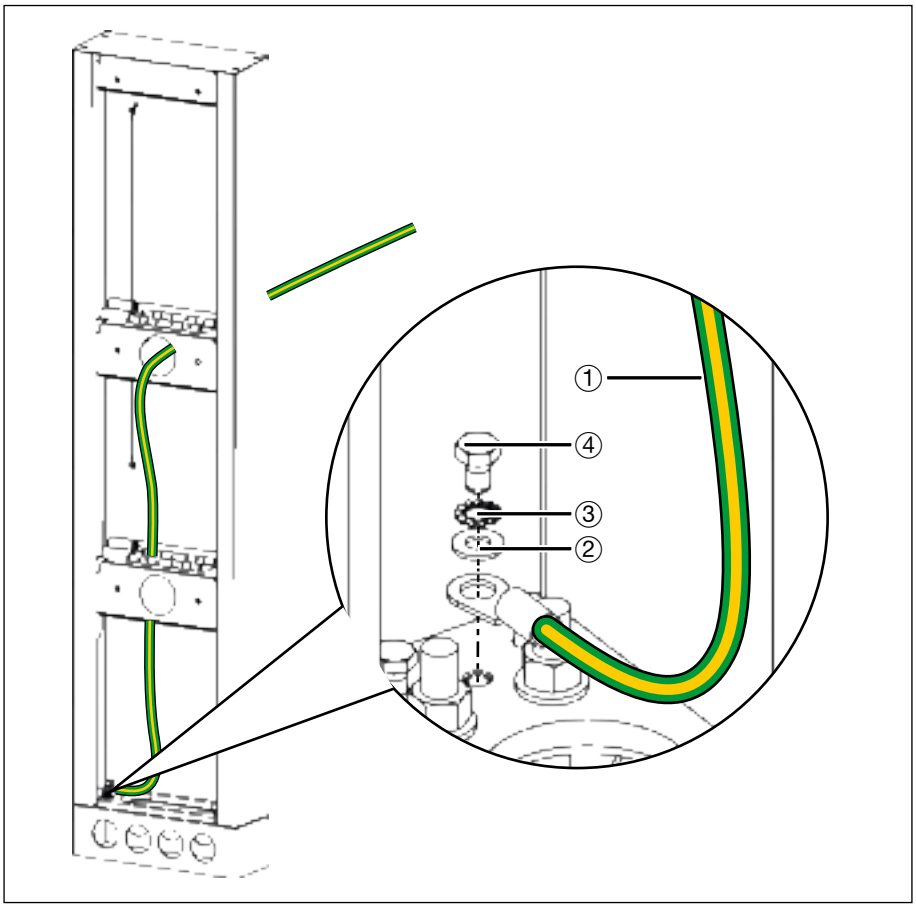


Fig. 20: Connecting the earthing cable (view from the rear side)

Connecting the earthing cable with the earthing set (option)

Note
The earthing set can be fastened on the left or right in the pedestal.

1. Fasten the earthing set ① to the base of the pedestal using the shim ②, toothed washer ③ and hexagon-head screw ④.
2. Fasten the earthing cable ⑤ to the earthing set with the hexagon nut ⑦.
3. Fasten the PE cable ⑥ to the earthing set with the hexagon nut ⑦.

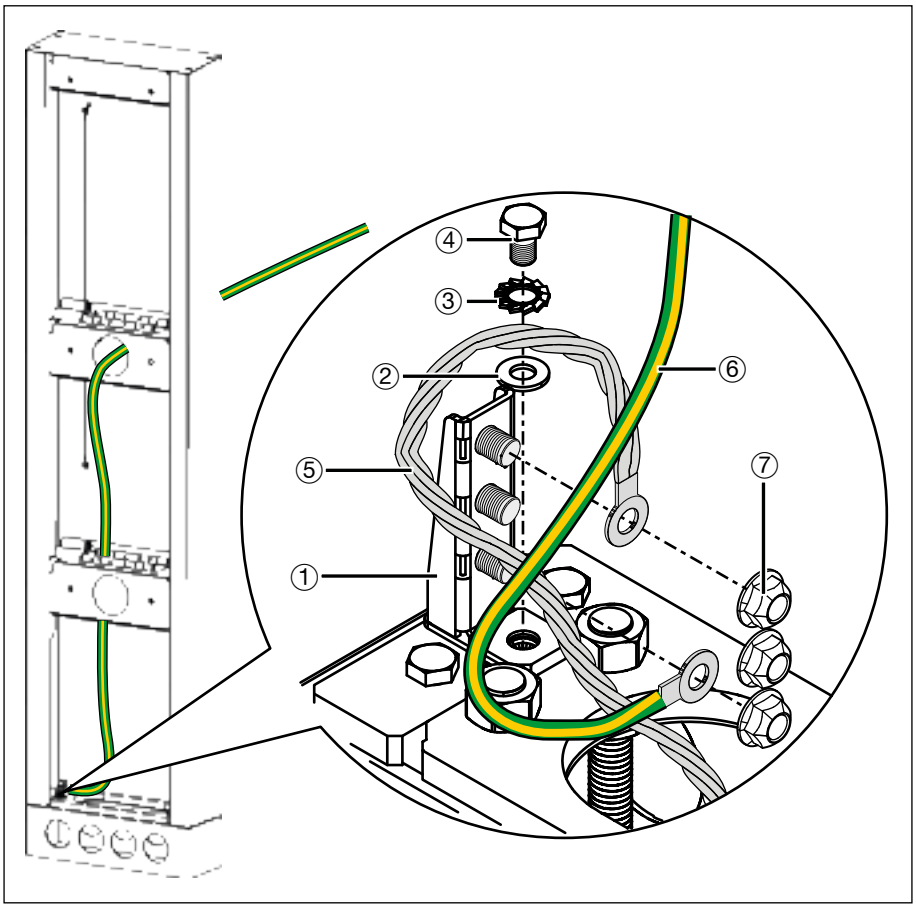


Fig. 21: Connecting the earthing cable with earthing set (view from the rear side)

Closing and connecting the earthing cable

1. Connect the earthing cable ④ to inner side of the pedestal and the cover plate ②.
2. Connect the earthing cable ⑤ to the rear-side panel ③ and the inner side of the pedestal.
3. Hang the rear-side panel to the rear side of the pedestal.
4. Tighten the cover plate with the countersunk-head screws M5 x 12 ① using a Torx TX25S screwdriver.

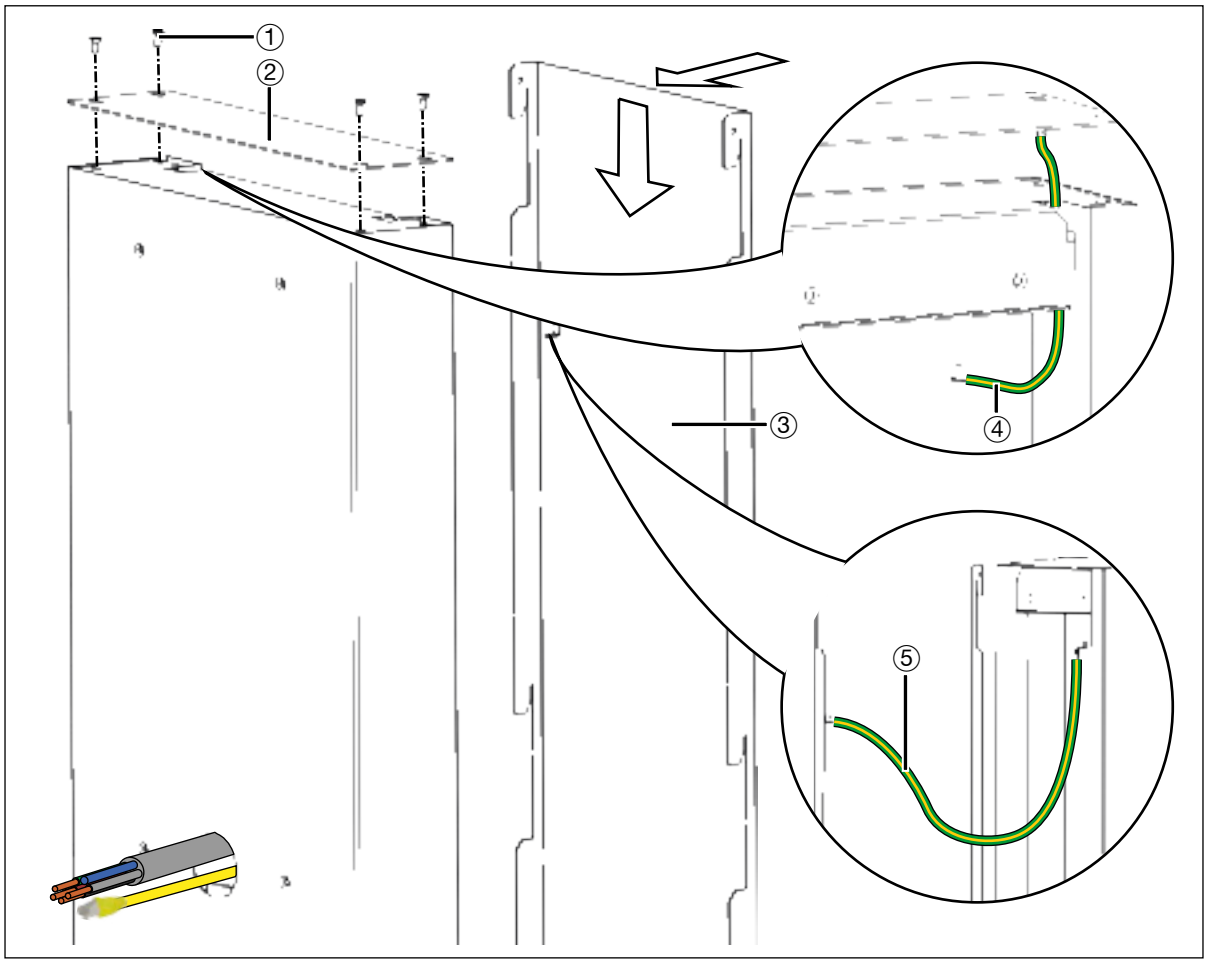


Fig. 22: Closing and connecting the earthing cable

06.07 Installation of the charging station on the pedestal

The following chapter describes the installation of the device on the pedestal.
The specifications in the chapter "Cable recommendations and necessary protection switches" must be taken into account.

☑ The pedestal has been installed correctly (see chapter "Installing the pedestal on the installation base"). All the necessary cables have been routed in the pedestal.

☑ The cable ends have been run out of the drill hole of the pedestal.

☑ The housing cover has been removed (see chapter "Removing the housing cover").

☑ The self-adhesive sealing washers have been applied (see chapter "Adhesive sealing washers to the charging station").

☑ The sealing membrane has been prepared (see chapter "Preparing the sealing membrane").

☑ The cable penetration has been prepared (see chapter "Preparing the cable penetrations").

❶ Remove the cylinder head screws ② and shims ③ from the pedestal and place them to one side.

❷ Align the charging station to the pedestal using the threaded holes available.

❸ Run the routed cables out through the opening in the charging station.

❹ Push the cylinder head screw ② through the fastening hole of the housing and tighten it in the threaded hole of the pedestal.

5. Repeat the operation on the remaining fastening holes.
6. Place the sealing caps ② (see chapter "Screwing the charging station to the wall", Position 2) on the fastening holes in the housing.

The charging station is now prepared for electrical connection.

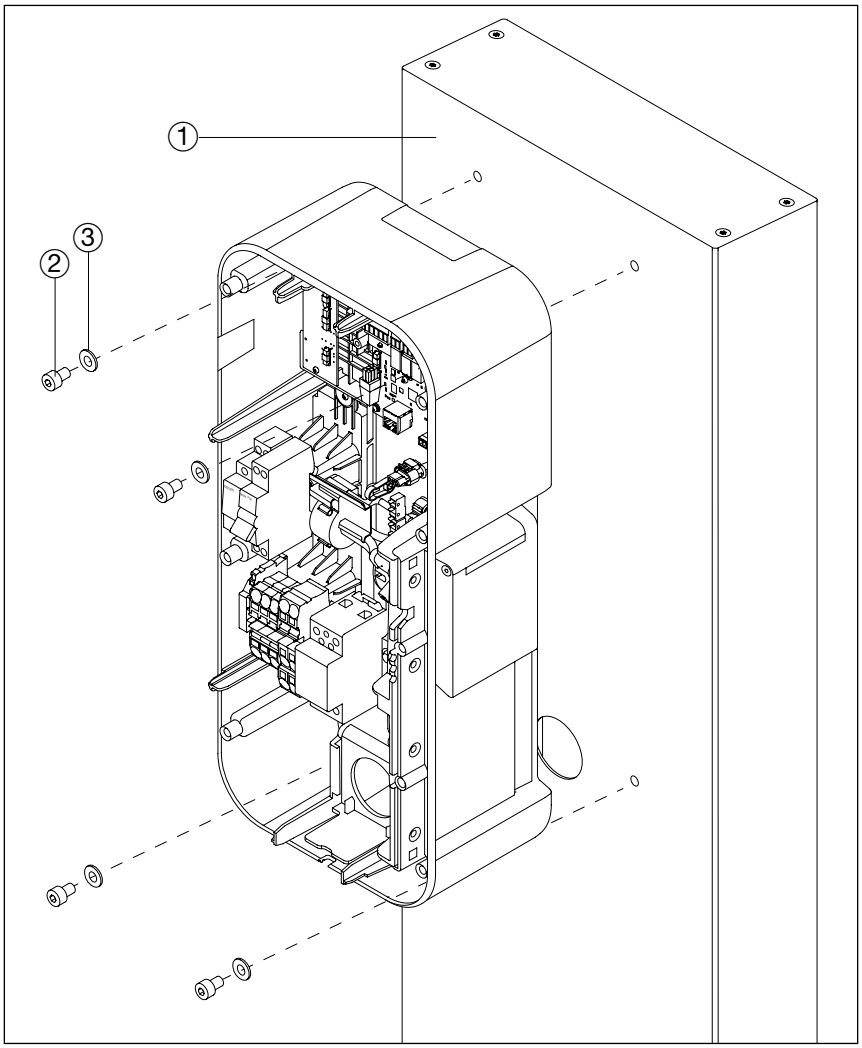


Fig. 23: Installation on a pedestal

① Installation base
② Hexagon nuts M12
③ Shims ø13
④ Bracket
⑤ Protection pipe (to be created on the construction side)

07 Electrical connection

Qualified electrician

Electrical devices may only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, safety and accident prevention regulations of the country.

Danger

Risk to life from electrical voltage!

Energised parts can cause serious injuries.

- Before starting work, ensure the system is volt-free.
- Observe the 5 safety rules of electrical engineering:
  (1) De-energise!
  (2) Secure against restart!
  (3) Ensure voltage freedom on all poles!
  (4) Earth and short-circuit!
  (5) Cover or fence off neighbouring parts which are energised!
- During the installation and operation of the device, all the prescribed safety requirements, the technical connection conditions of the responsible power generating company must be complied with, along with the regulations.
- The installation engineer must design and plan the necessary cable and personal protection.

Danger

Risk to life from fire or explosion!

A fire can occur on electrical devices.

- Do not install the device in areas in which easily flammable substances are located.
- Do not install the device in areas at risk of explosions.

Caution

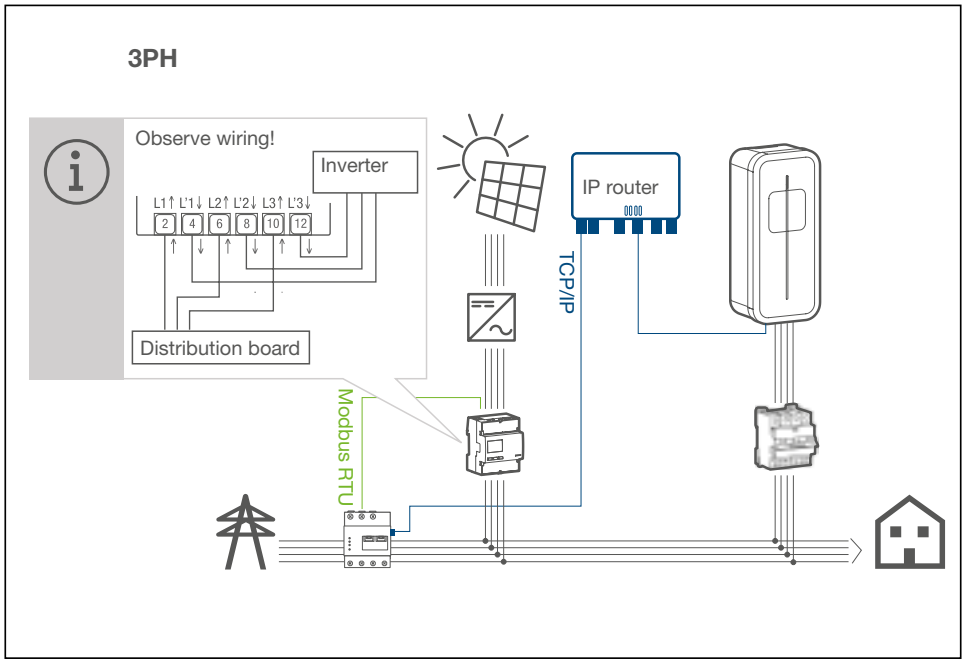
Hazardous construction elements through electrostatic discharge (ESD)!

Electrostatic discharges can lead to the damage or destruction of the board and other components of the device.

- During the installation of the device, appropriate safety measures must be taken.

Observe the specifications in the chapter "Cable recommendations and necessary protection switches".

07.01 Installation diagrams



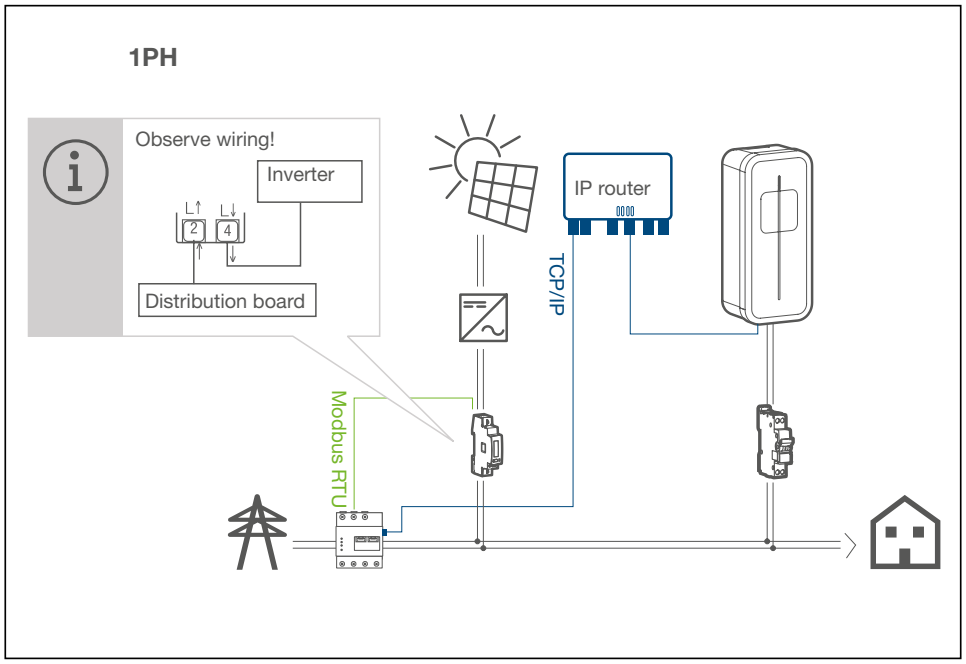


Fig. 24: Installation with photovoltaic system

Note

- When combining the charging station with the flow energy storage system, please consult the connection diagram in the corresponding instructions.

07.02 Electrical connection of the charging station

07.02.01 Overview of connections

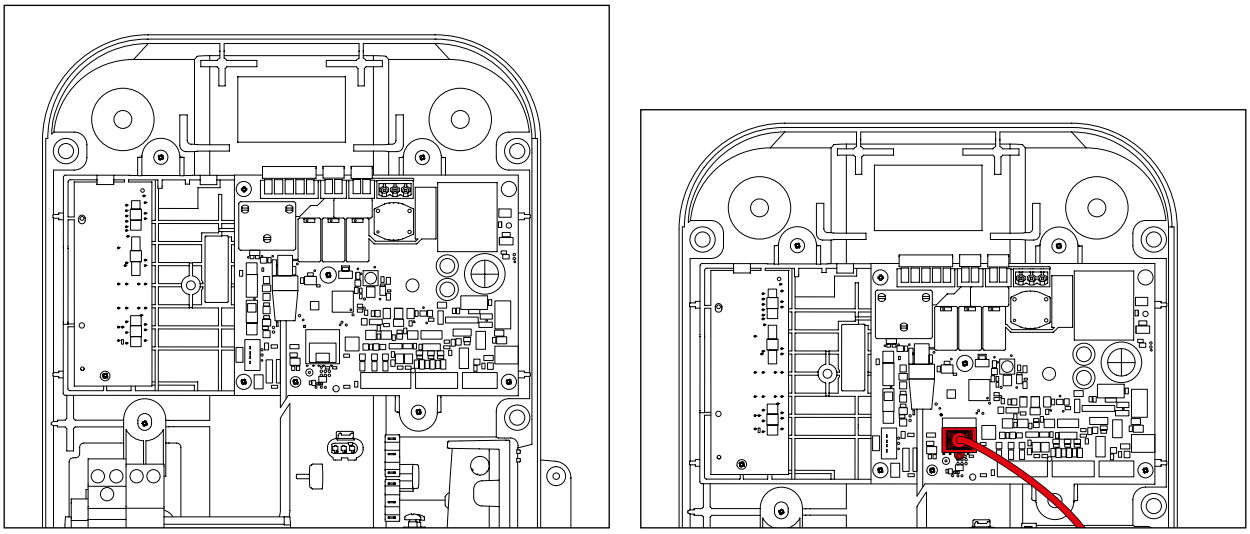


Fig. 25: Overview of the Ethernet and AC connections in the charging station

07.02.02 Connecting the AC lead and Ethernet cable

The AC lead is connected using the AC connecting terminals in the charging station.

☑ The cables have been routed correctly and run through the cable penetration in the housing (see chapter "Preparing cable penetrations").

❶ Strip the cable jacket of the AC lead appropriately (approx. 20 to 25 cm).

❷ Shorten the wires **L1**, **L2**, **L3** and **N** (XEV1K22...), **L1** and **N** (XEV1K07...) by approx. two cm.

❸ Strip all the wires appropriately (approx. 16.5 mm).

❹ With a flexible AC lead, use conductor sleeves:

– With the recommended use of a flexible AC lead, attach conductor sleeves and crimp with conductor sleeve pliers.

❺ Apply the wires **L1**, **L2**, **L3**, N and PE (XEV1K22...), **L1**, **N** and **PE** (XEV1K07...) and tighten with 2.5 Nm.

❻ Push the Ethernet cable into the RJ-45 socket.

The witty solar charging station is now fully electrically connected.

08 Commissioning

Qualified electrician

Electrical devices may only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, safety and accident prevention regulations of the country.

08.01 Adjusting the charging capacity of the device

Using a screwdriver, adjust the rotary encoding switch in the device to the correct charging capacity:

❶ Select the desired charging current.

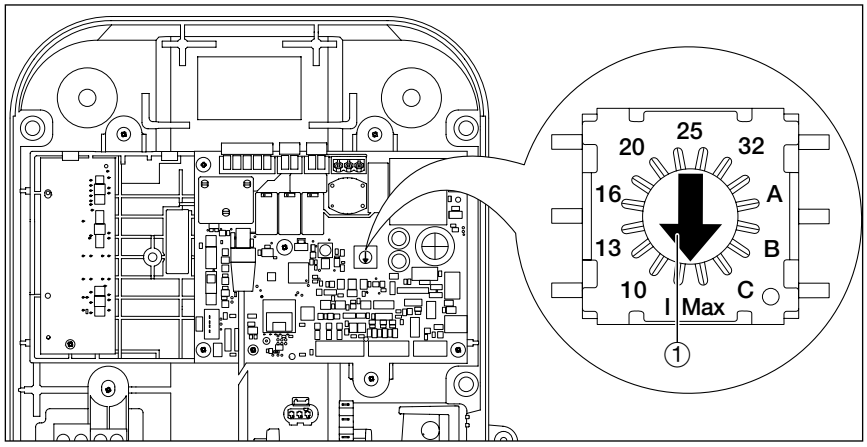


Fig. 26: Adjusting the charging capacity of the witty solar charging station (illustration similar)

① Rotary encoding switch in the witty solar charging station

– Device power class 22 kW: 32 A, 3-phase
– Device power class 11 kW: 16 A 3-phase
– Device power class 7 kW: 32 A 1-phase

Position of rotary encoding switch	Nominal current, charging station
0	Auto (via the EMC)
10	10 A
13	13 A
16	16A
20	20A
25	25A
32	32A
A	Test solar installation contactor
B	Test main installation contactor
C	Does not have any function

Tab. 3: Adjusting the nominal current of the charging station

08.02 Switching the device on

☑ The device is connected to the building power network.

☑ The installation and electrical connection to the building power network have been tested.

☑ The Ethernet connection has been set up, so that the device can communicate with the higher-level Hager flow EMC.

The device is switched on using an automatic switch of the charging station.

❶ Switch on the current.

❷ Remove the frame.

❸ Loosen the eight Torx screws TX25S of the housing cover.

❹ Lift the housing cover of the device:
Ensure that the ribbon cable for the LED display is not torn or damaged!

❺ Set the LS switch ① to the ON position.

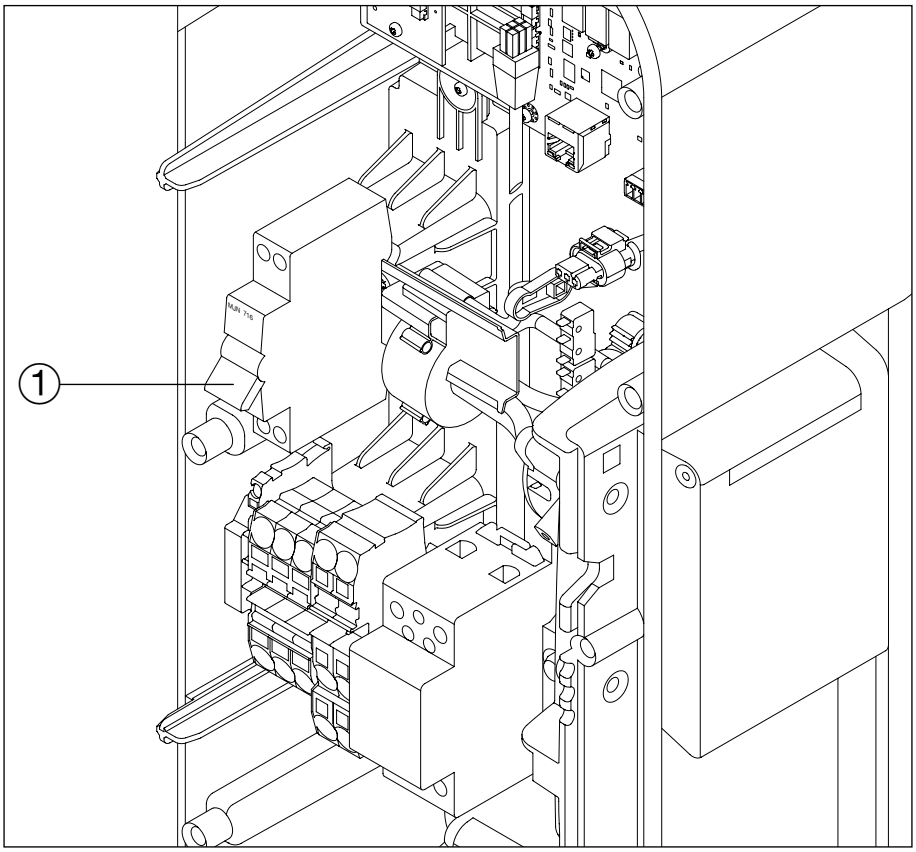


Fig. 27: Switching on the witty solar charging station

08.03 Closing the device

❶ Pull the flat connector of the ribbon cable ① out of the holder on the left inner side of the housing.

❷ Connect the flat connector to the board ② in the housing.

❸ Attach the housing cover of the device.

Note

- Ensure that the ribbon cable for the LED display is not caught up!

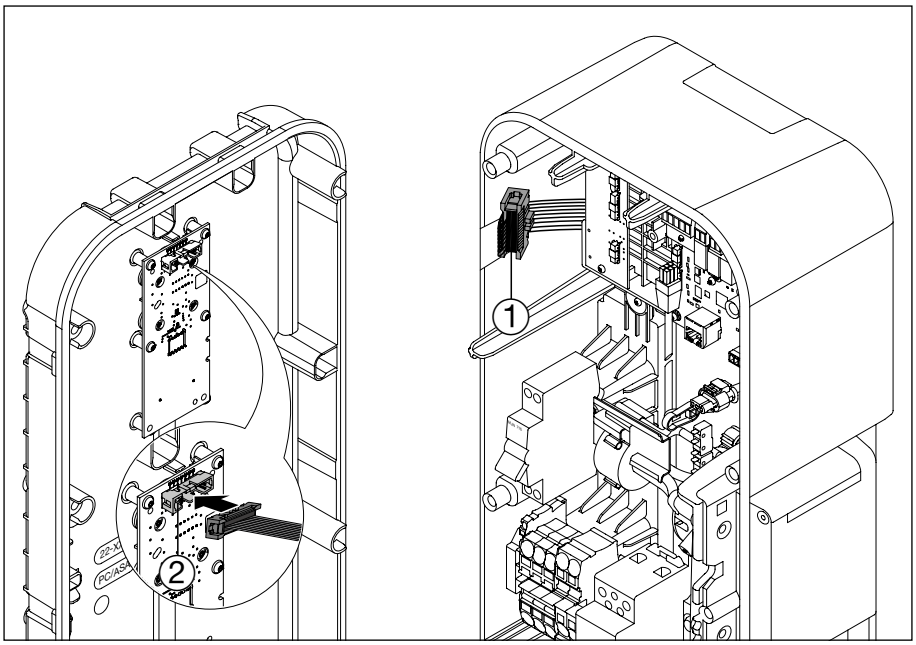


Fig. 28: Connecting the ribbon cable

❹ Screw the housing cover ② tight with the eight Torx screws TX25S ①.

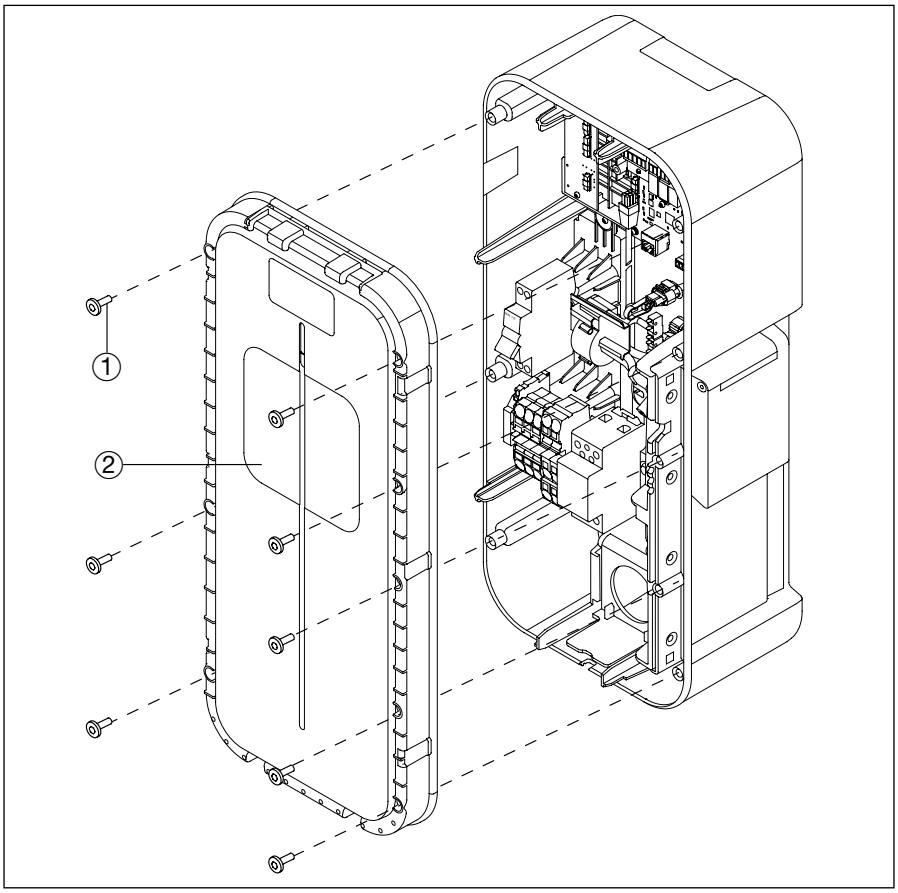


Fig. 29: Closing the device

❺ Attach the frame ① with the retaining lugs on the top side of the housing.
❻ Swing the frame downwards.
❼ Screw the frame to the housing cover using the two Torx screws TX25S.

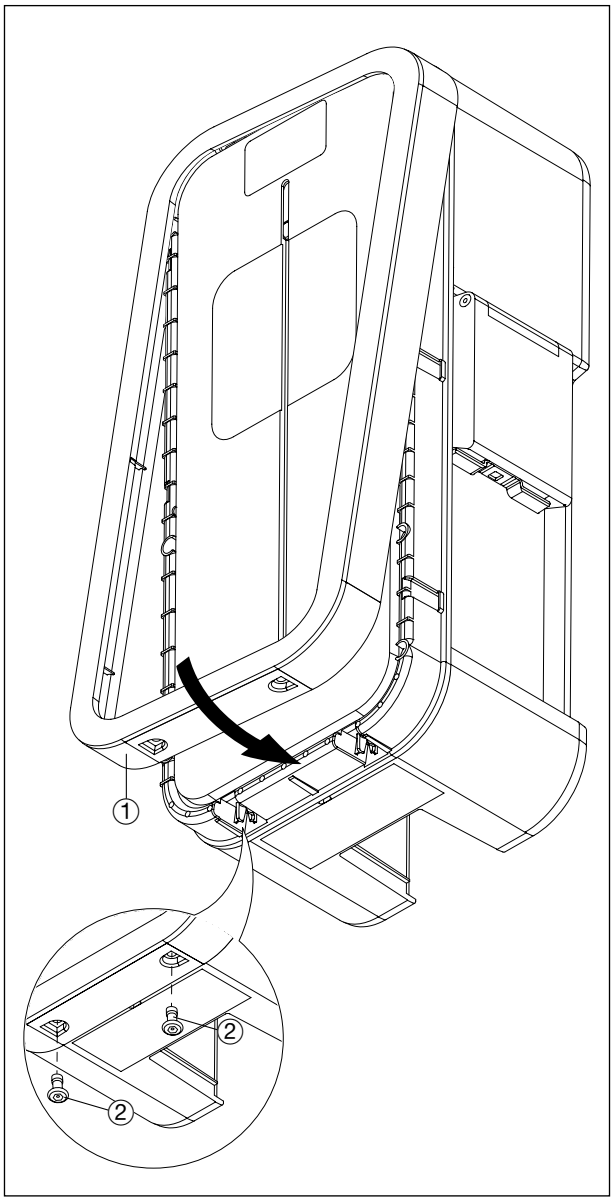


Fig. 30: Attaching the frame

08.04 Applying the sticker for the operating elements

❶ Remove the rear portion of the sticker.
❷ Apply the sticker in the intended area of the front side of the device.
❸ Remove the front protective film from the sticker.

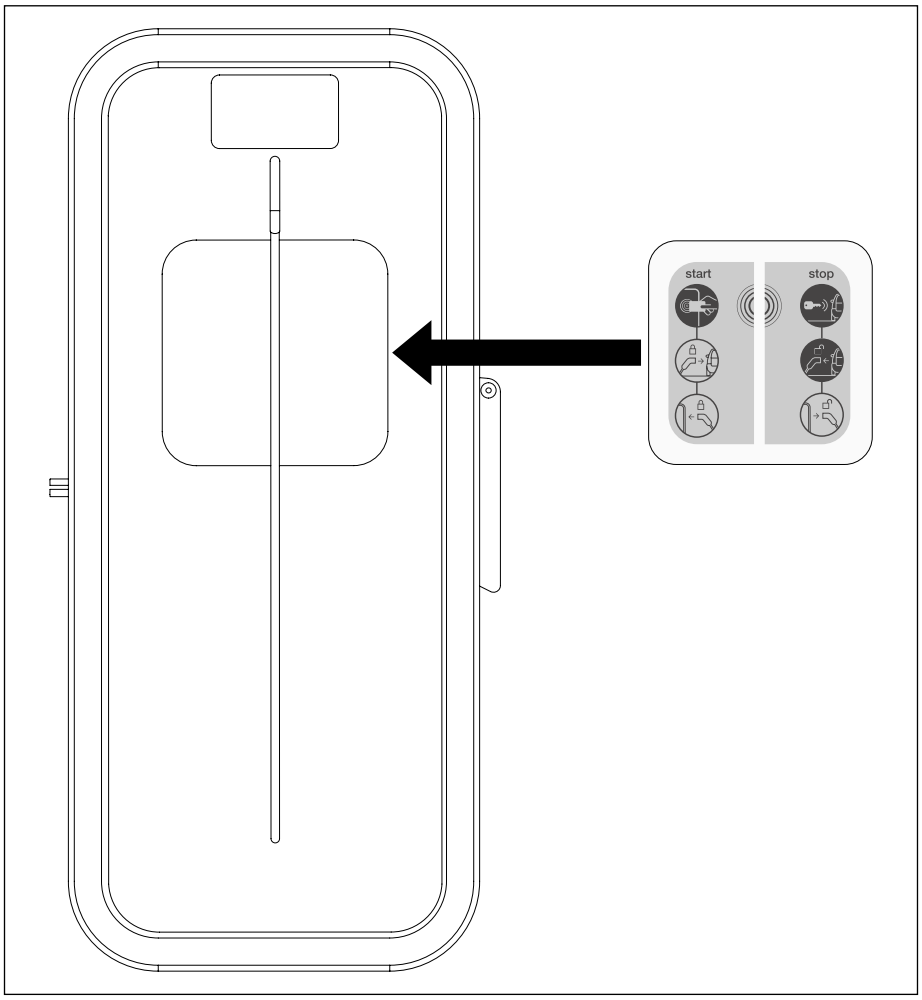


Fig. 31: Applying the operation sticker

08.05 Settings in the Hager flow EMC

The charging station is configured using the web portal of the Hager flow EMC. Open the web portal via: https://flow.hager.com/

You can find detailed information in the application description of the Hager flow EMC at: https://hgr.io/r/XEM470/

08.06 LED display of the device in case of faults

LED display	Cause	Remedy
 Permanent red light	Possible faults: ● The 40 A contactor is stuck. ● The DC sensor is defective or not connected	Find the cause of the fault and repair it.
 Red pulsing	The electric vehicle is being charged in emergency operation.	Find the cause of the fault and repair it. If necessary, contact the vehicle dealer.
 Green flashing (rapid)	The charging station has detected that the electric vehicle is generating a direct current error of over 6 mA. After three detections, change-over to 8x red flashes (see next table).	Contact the vehicle dealer.

LED display	Flash pulses	Cause	Remedy
 White flashing	2 x	No connection to flow energy management controller	● Recouple the charging station with the flow energy management controller (see instructions of the XEM470 or obtain information via flow.hager.com) ● Check the LAN connections ● Ensure that a DHCP router is available in the network.

LED display	Flash pulses	Cause	Remedy
 Red flashing	1 x	Charging cable defective or not supported	Replace the charging cable
	2 x	The vehicle detection function does not function	Replace the cable. Should the problem persist: ● Check all the connections of the vehicle and the charging station ● Contact the vehicle dealer
	3 x	The vehicle does not maintain the power restriction specified by the charging station	Disconnect the vehicle and restart the charging operation. If the problem persists, contact the vehicle dealer.
	4 x	The charging station is not compatible with the vehicle. The vehicle requires ventilation in its vicinity.	Charge the vehicle with a compatible charging device.
	5 x	Load shedding occurs too frequently, as the power supply via the house service is not sufficient	Eliminate the cause of the fault.
	6 x	The charging station does not receive a correct enable from the vehicle to begin charging.	Replace the charging cable and try again. If the problem persists, inform Hager Technical Support of the issue.
	8 x	The vehicle generates direct current, which prevents charging. Detection of a direct current error over 6 mA in the vehicle supply.	The customer must contact their vehicle dealer

Tab. 4: LED displays for faults

The installation, electrical installation and commissioning of the device have now been completed.

08.07 Hand over the operating instructions to your customer

- Please hand the operating instructions for the "witty solar charging station" over to your customer!

08.08 Technical Support

Technical Support for approved installation engineers

Technical Support is only available to approved installation engineers. The employees are happy to answer to any questions that arise and can offer solutions.
Please have the following information available when making enquiries to Technical Support:

- Name of the installation engineer
- myHager Account Mail
- Serial number of the witty solar charging station
- Problem description

09 Operation

09.01 Users and operators of the device

The chapter "Operation" and its subchapters are intended for users, who are also operators of the witty solar charging station.
People, who, on account of their physical, sensory or mental abilities or inexperience, are not able to operate the witty solar charging station safely, may not use the device without supervision or instruction from a responsible person.

09.02 For your safety

This chapter lists safety information, which must be observed when working on and with the device.
Read all the safety and warning information through carefully before operation!
If the contents of the language of the explanations cannot be perfectly understood, please contact or inform your installation engineer or supplier.

09.02.01 Important safety information

Danger
Risk to life from fire or explosion!
A fire can occur on electrical devices.
- Do not install the device in areas in which easily flammable substances are located.
- Do not install the device in areas at risk of explosions.

Caution
Risk of injury to children.
Children can injure themselves by playing with the device and the packaging.
- Ensure that children do not play with the device, the packaging and the accessories.

Caution
Damage to the device through non-compliance with the permitted environmental conditions!
The device can be damaged by non-compliance with the permitted environmental conditions.
- Always comply with the permitted environmental conditions: Temperature, humidity, sufficient air supply and cooling.
- The ambient temperature should be within the range stated in the technical data sheet, in order to guarantee optimum operation and avoid damage to the device.

09.02.02 Safety information on charging with the charging station.

Caution
Physical damage through wetness or moisture!
The device can be damaged by wetness or moisture.

- The device and charging plug must be protected against snow, rain and contamination.
- The device may not be exposed to a high level of air humidity over a long period of time.
- On the witty solar charging station, the plugs of the charging cable must always be closed with the protective cap between the charging operations.
- Check the charging plug regularly for corrosion damage.

Before each charging operation, check whether the charging cable or the contacts of the charging plug are damaged. Do not use a damaged charging cable. There is the risk of an electric shock!

Before each charging operation, check to see if the vehicle inlet (socket outlet of the vehicle) is damaged. Do not use a charging cable with a damaged vehicle inlet.

The charging cable connected to the charging station may not be extended using couplings or adapter cables. It may not be subjected to tension during the charging operation.

Never reach into the socket outlets of the charging station.

Pay attention to the charging cable on the ground when the charging cable is connected to the vehicle and the charging station. There is the risk of tripping.

Do not stand on the charging cable and do not kink the cable.

Ensure that neither children nor pets come into the vicinity of the connected charging cable.

Never let children play with the charging station.

Do not pull the plug out of the socket outlet using the cable. Pulling the charging cable can damage the charging cable or the locking mechanism.

Never forcefully remove the charging cable. Dangerous arcing can lead to serious injuries or death.

Completely unroll the charging cable to avoid overheating.

Only use charging cables that meet the standard (according to the standards EN 62196-1, EN 62196-2 and EN 50620).

Never open the charging station yourself. Only qualified electricians or persons instructed by qualified electricians are permitted to open the charging station.

Always ensure that the charging cable is removed before setting off with the vehicle.

Modifications of any kind to the device and the external wiring are not permitted and can lead to serious safety problems and dangers to life and limb.

Never clean the charging station with sharp cleaning agents, water or steam jet cleaners.

Never immerse the charging cable in liquids.

Only a trained and qualified electrician may perform the installation, electrical connection, commissioning, decommissioning and repair work.

If further units are required for installation, then the necessary activities may only be carried out by specialists trained in the work.

No liability shall be accepted for damage the occurs during transport, if the product is transported in anything other than the original packaging.

Always comply with the local safety requirements for the country in which you are operating the device.

09.03 Basic information on charging an electric vehicle

Caution
No liability accepted for electric vehicles without galvanic separation!

HagerEnergy will not accept any liability for damage or failures caused by the charging of electric vehicles, which do not possess galvanic separation between the direct current side (storage battery in the vehicle) and the alternating current side (building power network)!

The charging operation does not function if the following factors apply:

The housing temperature of the charging station is outside the specified temperature parameters.

- Take appropriate remedial measures, e.g. cooling of the device.
- It is not possible to charge in conjunction with an energy storage system, if the storage system is in energy power operation.

09.03.01 Do I have to charge my electric vehicle with 1 or 3 phases?

The technical specifications of the electric vehicle specify whether charging is 1 or 3-phase. Vehicles with 3-phase charging as standard can frequently also be charged with 1 phase.

- Consult the operating instructions of your vehicle to find out how it should be charged.

If 3-phase charging is essential, then the Type 2 charging cable must also be designed for 3-phase charging operations.
Hager offers 3-phase charging cables for 1 and 3-phase charging operations for the witty solar charging station. The coupling and plug of these charging cables are Type 2.

Impossible charging constellation:

A 1-phase electric vehicle cannot be charged with 3 phases.

09.03.02 Charging current strength or charging capacity per phase

In accordance with the standard, a current strength of at least 6 Ampere per phase must be available when charging a vehicle. Otherwise, the charging operation is cancelled.
Therefore, in the Min. charging current of the electric vehicle input box, the smallest input is 6 Ampere.
The above conditions produce the following minimum charging capacities which must be available:

– Minimum capacity for 1-phase charging: 1 x 6 A x 230 V = 1,380 Watts
– Minimum capacity for 3-phase charging: 3 x 6 A x 230 V = 4,140 Watts

- The minimum and maximum charging current strength can be adjusted. They are stored as parameters.
  - Setting the charging station parameter Min. charging current ensures that an electric vehicle connected via the Type 2 charging cable is only charged from a current strength to be specified by the user.
    The minimum current strength from which charging is possible is 6 Ampere, as specified by the standard.
  - In addition, the charging current can be limited in a parameter-controlled manner to a maximum value (Max. charging current parameter).
    The entered maximum value must be
    ≤ 32 Ampere (device power class 22 kW) or
    ≤ 16 Ampere (device power class 11 kW).
    Higher entered values are rejected by the system.

09.04 Smart charging concept

In conjunction with the Hager flow EMC:

- The house installation is protected against overloads during a charging operation with an electric vehicle.
- Multiple connected charging stations are prioritised in such a way that the power supply network is stressed evenly.
- The energy obtained via a solar inverter or stored in an energy storage system (optionally available in some countries) can be used to charge an electric vehicle.
- Various options are possible to use the proprietary production of energy to the optimum (see flow EMC operating instructions).

Note

- Additional information on the settings can be found in the operating instructions at hgr.io/r/XEM470.

Which technical preconditions must exist?

Smart charging is only possible in conjunction with a Hager flow EMC. Communication between the charging station and the flow EMC must be technically possible:

☑ The Ethernet cabling must be performed by the qualified electrician.

☑ The installation conditions must be fulfilled. Commissioning of the charging station in conjunction with the flow EMC must have been carried out correctly.

Accelerating the charging operation

If an optimisation mode is activated that only uses self-produced solar energy or the stored solar energy considering a minimum load, then a charging operation of the electric vehicle can be accelerated with the maximum available power, instead of having to put up with a load reduction or even delays.

- Using your thumb, keep the sensor button (contact sensor) pressed for approx. 2 seconds and then release it again (Fig. 32).

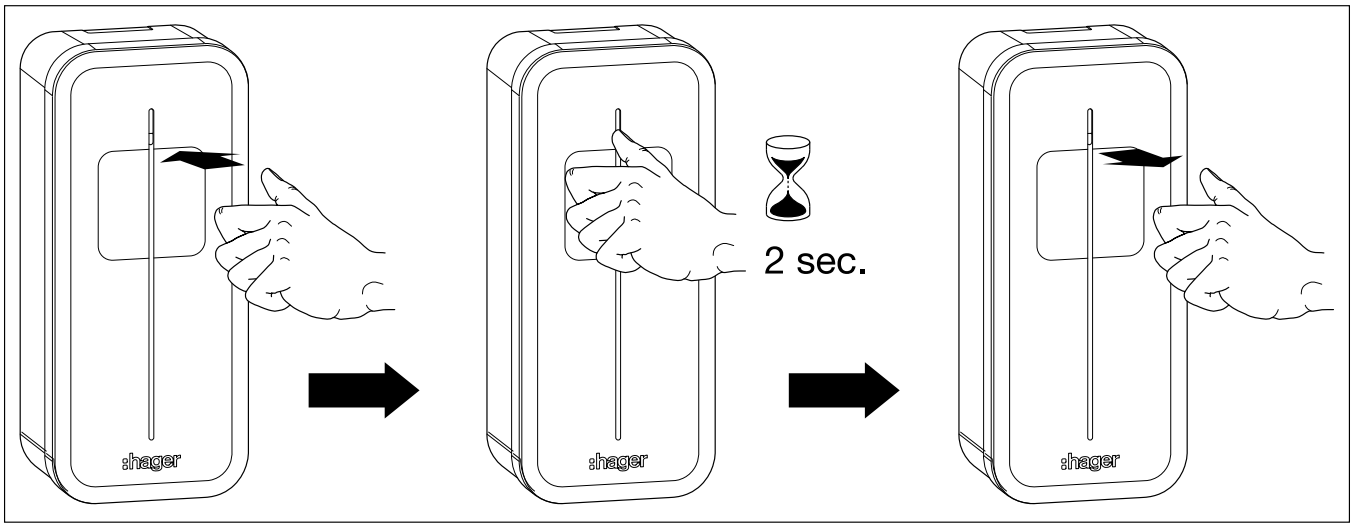


Fig. 32: Accelerating the charging operation on the charging station

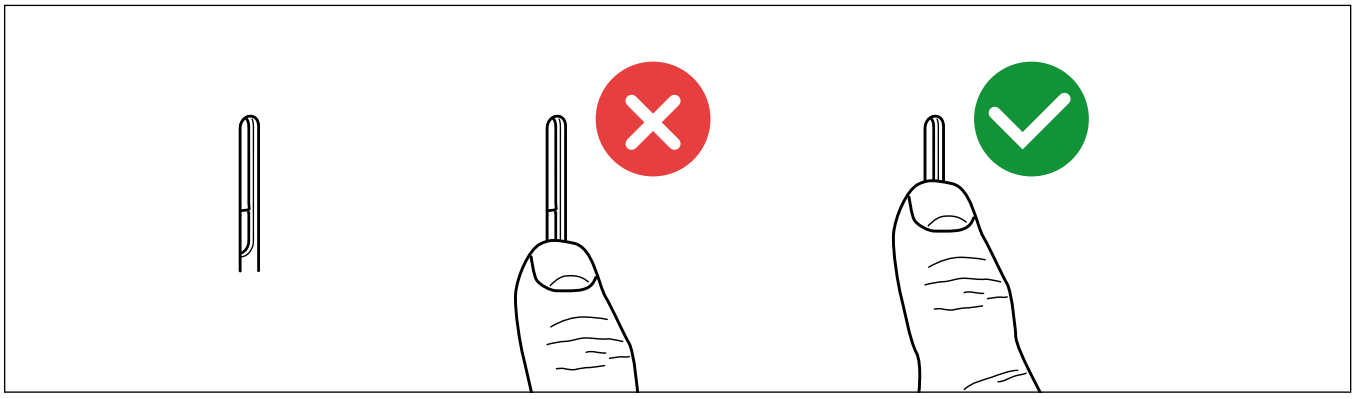


Fig. 33: Operating the charging button safely

- In the widget of the user desktop of flow.hager.com, select **boost** or
- If a smart home domovea server is available and connected with flow, then the charging station can also be triggered via the domovea app or even using a KNX push-button.

09.05 LED displays of the device in normal operation

LED display	Cause
 Switched off	Charging station not switched on and not energised
 Permanent green light	Station ready for the charging operation or charging operation completed

LED display	Cause
 Flashing green light	Charging station waiting for connection or disconnection of the electric vehicle
 Pulsing green light	Electric vehicle is being charged with maximum power and overload protection
 Flashing blue light	Electric vehicle waiting for charging operation and charging operation not completed
 Pulsing blue light	Electric vehicle is being charged in a controlled manner with few restrictions, in order to optimise the charging operation and protect it against overload (Solar mode)

Tab. 5: LED displays in normal operation

09.06 Charging the electric vehicle with the charging station (Type 2 charging)

The following section describes the Type 2 charging of an electric vehicle. The appropriate charging cables for the charging station can be obtained from Hager.

- Observe the notes in the subchapter "For your safety".
- Observe the chapter "Settings for the charging station in the Hager flow EMC".

09.06.01 Starting the charging operation

Use of RFID cards

RFID stands for "Radio Frequency Identification" and is used
for wireless transmission of sensor-generated measured values.
The charging station possesses a reader for RFID cards.
An electric vehicle can be charged using an RFID card.

- An RFID card
  - unlocks the charging station,
  - starts the charging operation of the electric vehicle,
  - documents the charging operation, in order to provide a personalised invoice.

When purchasing the device, the customer receives two RFID cards. Additional cards can be ordered.

Preconditions for charging with RFID cards

- Activate RFID charging authentication.
  RFID charging authentication must be activated on the flow website with charging authentication **RFID**
- Enable the new RFID card on the flow website.
  When using an RFID card for the first time, it must first be enabled on the flow website.

Charging an electric vehicle with RFID card

Variant 1: Use the RFID card and then open the electric vehicle

☑ The LED display is green. The charging station is ready for operation.

❶ Hold the RFID card in front of the charging station beneath the LED display.
The LED display of the charging station flashes white a few times.

❷ Open the electric vehicle using the central locking.

❸ Insert the charging plug into the socket outlet of the charging station.

❹ Insert the charging plug into the socket outlet of the electric vehicle.

After initialisation, the plugs on the charging station and the electric vehicle are locked automatically.
The charging operation starts after locking. Only then does current flow.
The LED display pulses green or blue (depending on the charging mode). The electric vehicle is being charged.
The LED display turns green when the charging operation has been completed.

Variant 2: Open the electric vehicle and then use the RFID card

☑ The LED display is green. The charging station is ready for operation.

❶ Open the electric vehicle using the central locking.

❷ Insert the charging plug into the socket outlet of the charging station.

❸ Insert the charging plug into the socket outlet of the electric vehicle.

❹ Hold the RFID card in front of the charging station beneath the LED display.

The LED display of the charging station flashes white a few times.
After initialisation, the plugs on the charging station and the electric vehicle are locked automatically.
The charging operation starts after locking. Only then does current flow.
The LED display pulses green or blue (depending on the charging mode). The electric vehicle is being charged.
The LED display turns green when the charging operation has been completed.

Charging an electric vehicle without an RFID card

☑ The LED display is green. The charging station is ready for operation.

❶ Open the electric vehicle using the central locking.

❷ Prepare the charging cable of the charging station and the charging socket on the electric vehicle.

❸ Insert the charging plug into the socket outlet of the charging station.

❹ Insert the charging plug into the socket outlet of the electric vehicle.

After initialisation, the plugs on the charging station and the electric vehicle are locked automatically.
The charging operation starts after locking. Only then does current flow.

The LED display pulses green or blue (depending on the charging mode). The electric vehicle is being charged.
The LED display turns green when the charging operation has been completed.

09.06.02 Ending the charging operation

☑ The LED display is green. The charging operation has been completed.

❶ Open the electric vehicle using the central locking.

❷ Remove the charging plug from the socket outlet of the electric vehicle.

❸ Pull the charging plug out of the socket outlet of the charging station.

The charging station is now ready for the next charging operation.

09.07 Settings for the charging station in the Hager flow EMC

Network communication settings: DHCP, IP address, subnet mask, gateway

Note

The device must be located in the same subnet as the router and the storage system.

- If the DHCP protocol is switched on, the entries are set automatically.

10 Appendix

10.01 Maintenance information

10.01.01 Device

The device is maintenance-free.
If there is a defect, then please contact your supplier of HagerEnergy GmbH.

10.01.02 Charging cables and plugs

Caution
Physical damage through wetness or moisture!

The device can be damaged by wetness or moisture.

- The device may not be exposed to a high level of air humidity over a long period of time.
- The device and charging plug must be protected against snow, rain and contamination.
- Between charging operations, always close off the charging plugs of the charging cable with the protective cap.
- Check the charging plugs regularly for corrosion damage.

Only clean the charging cable and soiled contacts when the charging cable is not connected!

- Clean the charging cable and soiled contacts with a dry cloth.
- Never use sharp cleaning agents, water or steam jet cleaners.
- Never immerse the charging cable in liquids.

10.02 Decommissioning

Qualified electrician

Electrical devices may only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, safety and accident prevention regulations of the country.

10.03 Technical data

Note

Subject to changes
The current PDF document at hager.com is always binding!

Environmental conditions	
Operating temperature	-25°C to +50°C
Storage temperature	-35°C to +70°C
Relative humidity	5 % to 95 %
Protection	IP 55 – IK 10

Environmental conditions	
Maximum operating height	2000 m
Degree of contamination	3
Intended use	Intended for private use

Electrical properties	
Voltage	230 V / 400 V (three-phase version) -15 % / +10 %
Frequency	50/60 Hz +/- 1 %
Insulation voltage Ui	250 V~ / 500 V~
Current consumption in standby mode	1.7 W
Electrical protection of the charging station	Select the miniature circuit breaker according to the rated current of the charging station.
Max. charging current / charging capacity Mode 3 Connection T2/T2S (version-dependent)	32 A - 7 kW (single-phase version) / 32 A - 22 kW (three-phase version) 16 A - 4 kW (single-phase version) / 16 A - 11 kW (three-phase version)
Electrical protection class	Class 1 (earthing)
Overvoltage category	3
Earthing diagram	TN-S, TN-C-S, TT
Maximum possible wiring	10 mm^2 single-stranded / 16 mm^2 multi-wire Only the use of copper conductors is permitted.

Mechanical properties	
Weight	6.2 kg
Maximum carrying capacity of the cable holder fastened to the charging station	7 kg
Height	549 mm
Width	250.5 mm
Depth	173 mm

RFID reader	
Frequency range	13,56 Mhz
Maximum radiated power	42 dBµA/m
Accepted card standards	MIFARE classic, 1k/4k, MIFARE DESFire EV1 & EV2 SAM AV3, RFID ISO14443A

Classification	
Supply input	Supply system for electric vehicles (EV), which is permanently connected to the alternating current supply network
Supply output	Alternating current supply system for EV
Ambient and use conditions	Use in interior and exterior areas

Classification	
Erection location	Equipment for areas with restricted access and areas with unlimited access
Installation type	Wall installation, on stand, post installation, shaft and pipe installation. Horizontal installation on a room ceiling or on the floor is forbidden.
Device of class	1
Charging mode	Mode 3 via connection T2/T2S
Adapter	No connection adapter may be used between the charging station and the charging cable or between the charging cable and the vehicle.
Cable extension	An extension of the charging cable is not permitted. The charging cable must be a single piece and not longer than 7 m.

Identification of the compatibility of the vehicles 

Simplified EU declaration of conformity
HagerEnergy GmbH hereby declares that the witty flow solar charging station radio system type conforms to the directive 2014/53/EU. The complete text of the EU declaration of conformity is available at the following Internet address: hager.com.

10.04 Disposal

Correct disposal of this product
(Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems).
The identification shown on the product or its documentation indicates that it should not be disposed of with other household waste at the end of its working life. To prevent possible harm to the environment or human health, please dispose of this device separately from other types of waste. This helps you to promote sustainable reuse of material resources.
Private consumers are asked to contact the dealer from whom they purchased the product, or their local administration, to obtain information on how to dispose the product in an environmentally-friendly manner. Commercial consumers are asked to contact their suppliers and to check the general terms and conditions of business of the purchasing agreement. This product should not be mixed with other commercial waste for disposal.

Data protection note
Old devices frequently contain sensitive personal data. This particularly applies to devices for information and telecommunications technology, such as computers and smartphones. In your own interest, please note that each end user is themselves responsible for the deletion of data on the old devices to be disposed of.

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