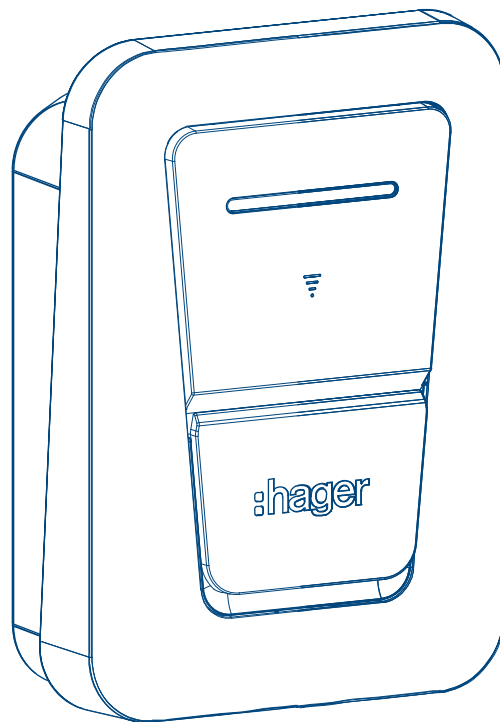


Charging station

witty plus



Electric vehicle charging station

XVL122Sxx



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1 About this manual
















This manual describes the correct and safe installation and commissioning of the charging station for electric vehicles. These instructions are an integral part of the device. Keep these instructions throughout the service life of the device and pass them on if necessary.

1.1 Symbols used


Text icons





Symbol	Description
●	Action instruction in a single step or in any order.
①	Instructions for multi-step actions. Order must be complied with.
-	Enumeration
▶	Reference to documents / additional information

Indication icons



	Contents of the package		Product dimensions		Tools required
	Mounting		Installation		Final mounting
	Description of the device		Settings		Optional accessories
	Installation by an electrician		Alternating current (IEC 60417-5032)		Protective earth (IEC 60417-5019)
	Applicable throughout Europe and Switzerland		When displayed on a device or attached to the documents of the product, the symbol opposite indicates that the device must not be disposed of with household waste when it reaches the end of its service life.		 For more information, refer to the installation and commissioning instructions

Degrees of danger warnings

Symbol	Signal word	Consequences in case of non-compliance
	Danger	Causes serious injury or death.
	Warning	May cause serious injuries or death.
	Caution	May cause minor injuries.
	Attention	May cause damage to the device.
	Comment	May cause damage.

Symbol	Description
	Risk of electric shock.
	Risk of damage due to mechanical overload.
	Risk of damage from electricity. Risk of electric shock
	Risk of fire damage.

Information

Symbol	Signal word	Definition
	Comment	Indicates important instructions for use.
	Information	Indicates useful information about the product.

1.2 Affected groups



The assembly, installation and configuration of electronic devices must only be carried out by a specialist trained in the electrotechnical field and certified in compliance with the local installation standards in force. Accident prevention recommendations applicable in the country must be complied with.

These instructions are also intended for the operator of the charging station and for specialists trained in the electrotechnical field.

Commissioning requires knowledge of network technology.

2 Safety

2.1 Correct use

The charging station is used to charge electric or rechargeable hybrid vehicles. It is only intended for use in private and semi-public areas with open access (private properties, company car parks or depots). It is designed to be mounted in a fixed vertical position on a wall or stand, either indoor or outdoor.

The charging station should be permanently connected to the AC mains. The charging stations comply with the Radio Equipment Directive 2014/53/EU (RED).

Restrictions on use

Installation on the ceiling of a room or on the ground is prohibited. Any intervention in internal areas of the device and any modification of the pre-wiring, other than the operations described in this manual, is prohibited and voids the warranty, as well as any other form of guarantee. Interventions of this type can damage electronic components.

2.2 Safety instructions



Danger

Risk of injuries that may cause death in case of electric shock

- Before working on the device, the upstream circuit breaker(s) must be switched off. After opening the charging station, make sure that all power cables are voltfree.
- When installing, doing maintenance work, or restoring power to the charging station, ensure that ambient conditions, such as rain, fog, snow, dust or wind, do not constitute a source of danger.



Warning

Risk of fire due to device overload

If the power cable is not properly dimensioned, there is a risk of fire due to device overload.

- Prepare the power cable according to the technical specifications of the device.



Caution

Risk of injury due to falling/tipping of the charging station

Use appropriate fixings to prevent the charging station from falling and causing injuries.

- Adapt the installation accessories to the requested conditions at the installation location. The fixings supplied are suitable for concrete and masonry.



Caution

Risk of damage to the charging station if prohibited charging accessories are used

- Do not use a connection adapter between the charging cable and the vehicle.
- The charging cable must not be extended.

**Warning**

Risk of data loss when connected to the Internet

Unauthorised access can result in loss of data.

- Before operating the device, appropriate security measures must be taken to protect the network from unauthorised access.

**Warning**

Risk of malfunctioning due to electromagnetic influences

Electromagnetic fields can interfere with the transmission of signals through very low voltage lines.

- Please follow the recommendations and standards applicable for SELV electrical circuits during cable installation.
- Lay power lines and extra low voltage (Ethernet) lines separately from each other.

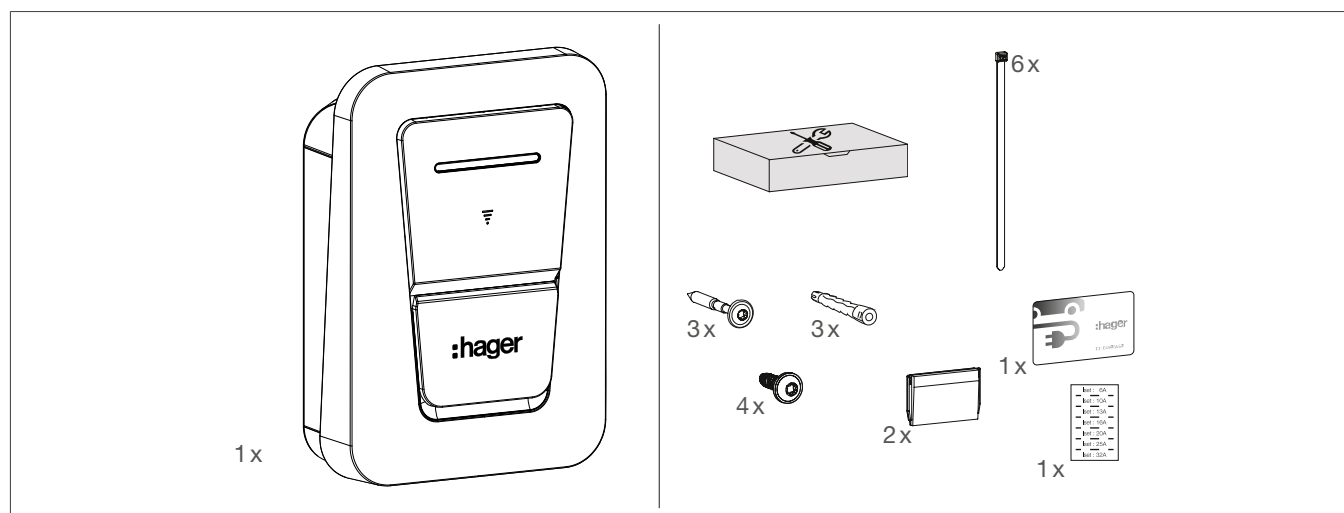
3 Overview

3.1 Overview of the range

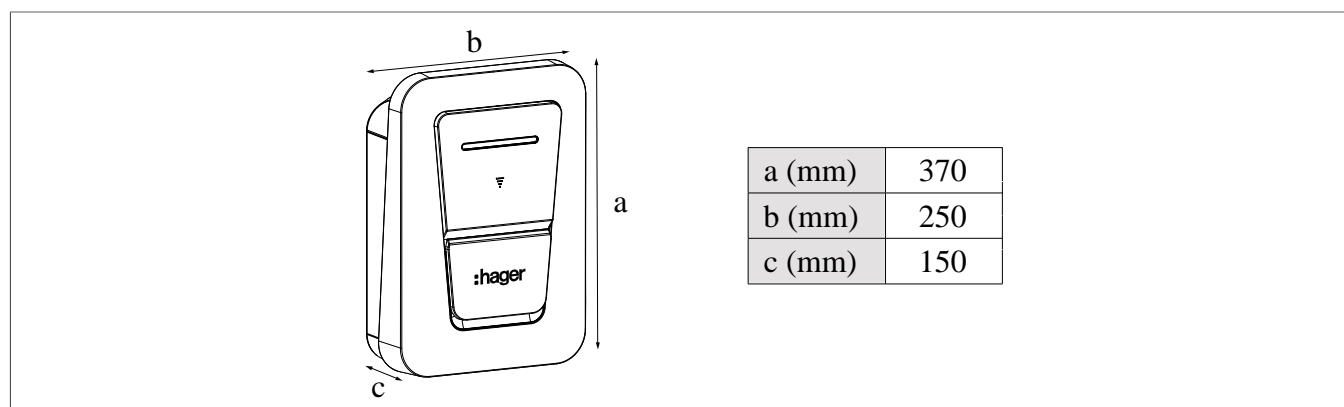
Charging stations	XVL122S	witty plus charging station 7/22kW 1/3ph T2S socket
	XVL122C	witty plus charging Station 7/22kW 1/3ph attached cable
Kits	XVL122SFL	witty plus charging station 7/22kW 1/3ph T2S socket + EMC Flow
	XVL122CFL	witty plus charging station 7/22kW 1/3ph attached cable + EMC Flow
	XVL122SPI	witty plus charging station 7/22kW 1/3ph T2S socket + P1 gateway & wireless board
	XVL122CPI	witty plus charging station 7/22kW 1/3ph attached cable + P1 gateway & wireless board
	XVL122STI	witty plus charging station 7/22kW 1/3ph T2S socket with wired TIC

3.2 Scope of delivery

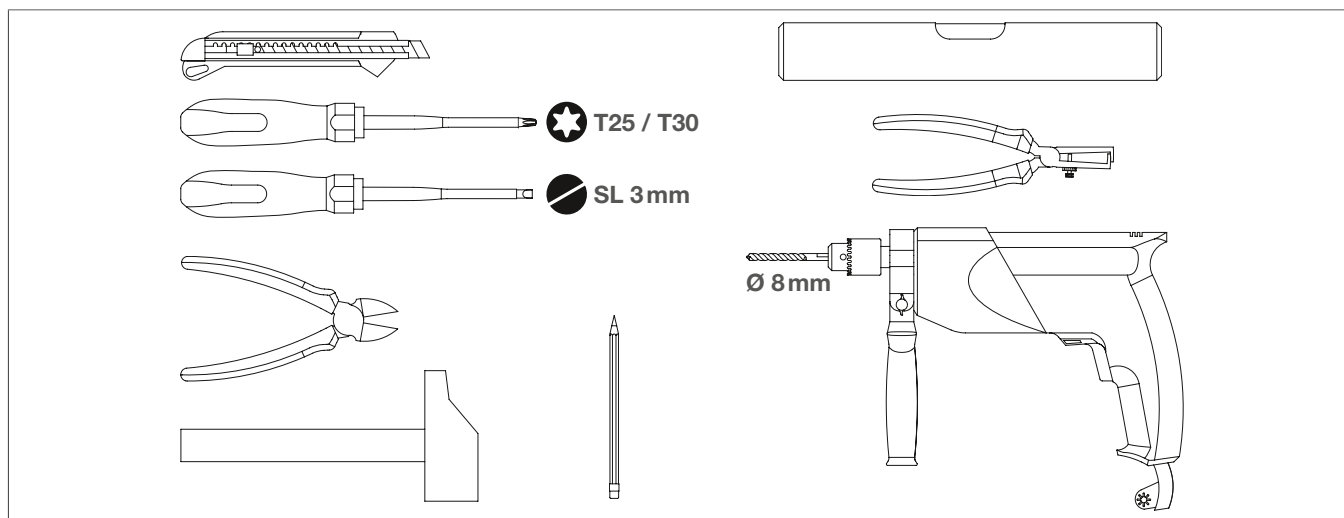
– Make sure the contents of the package are complete and intact.



3.3 Dimensions

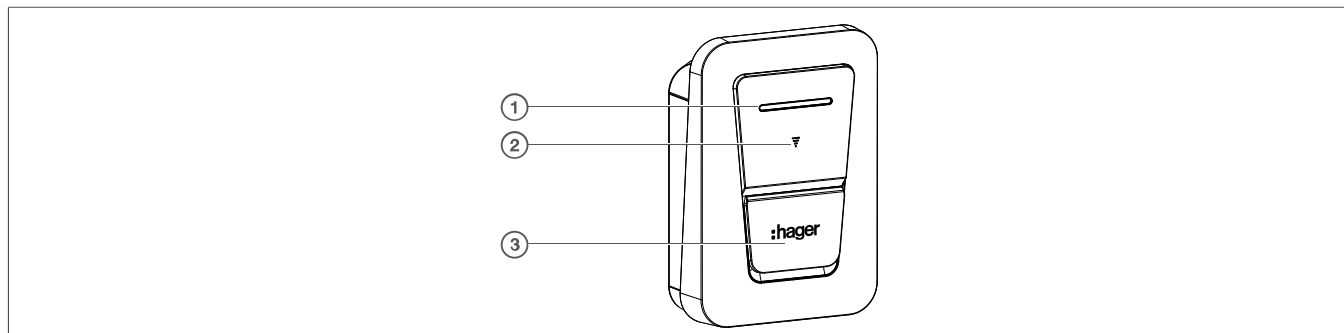


3.4 Tools required



4 Overview of the device

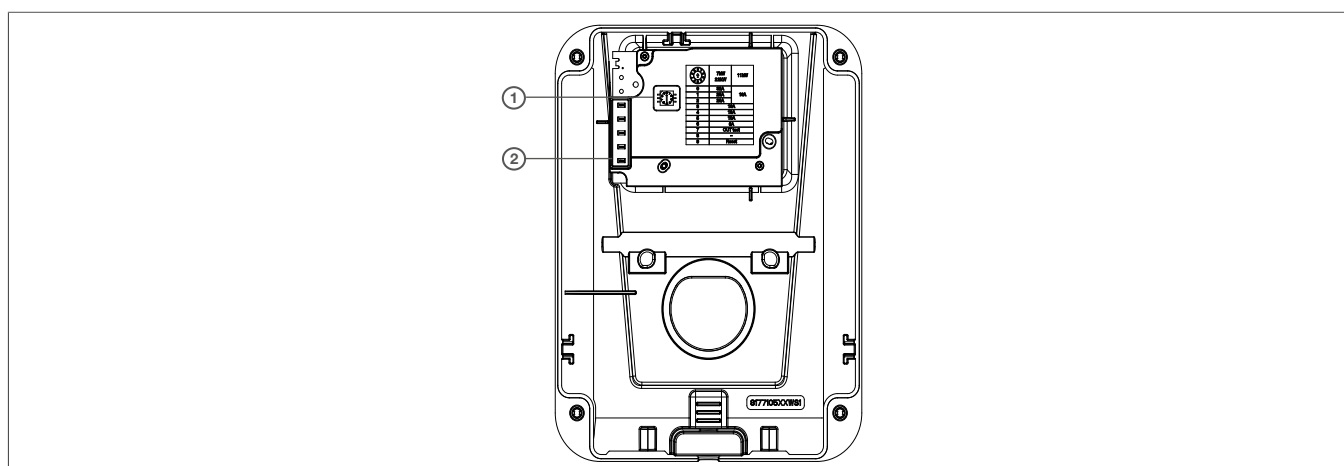
4.1 External view of the device



- ① LED light strip
- ② RFID card reader
- ③ Mode 3 socket type T2S

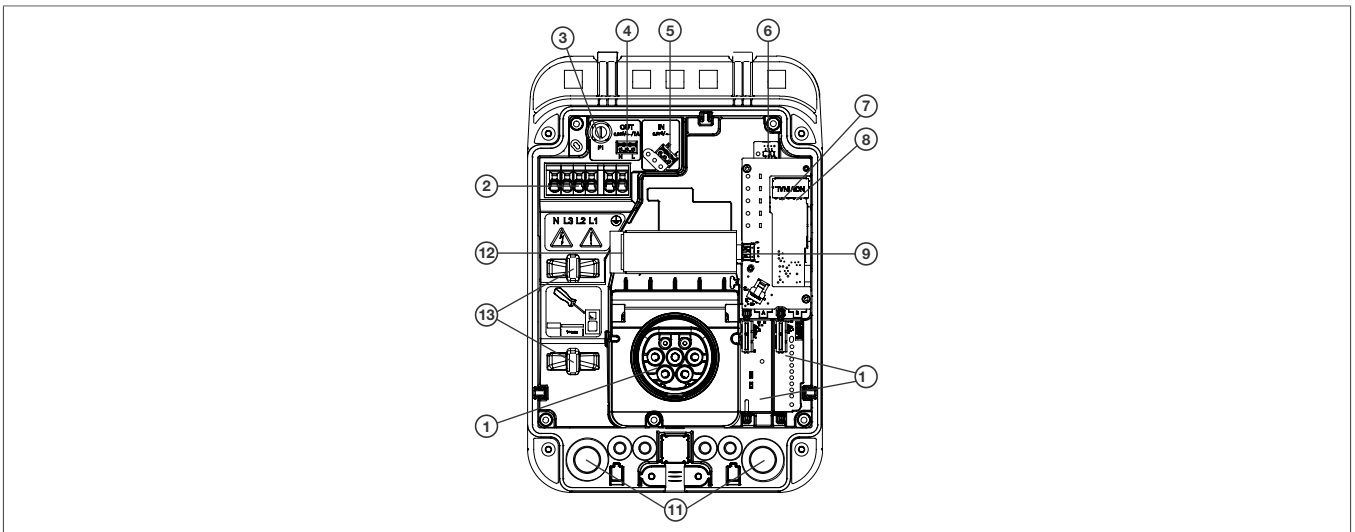
4.2 Internal view of the device

Cover



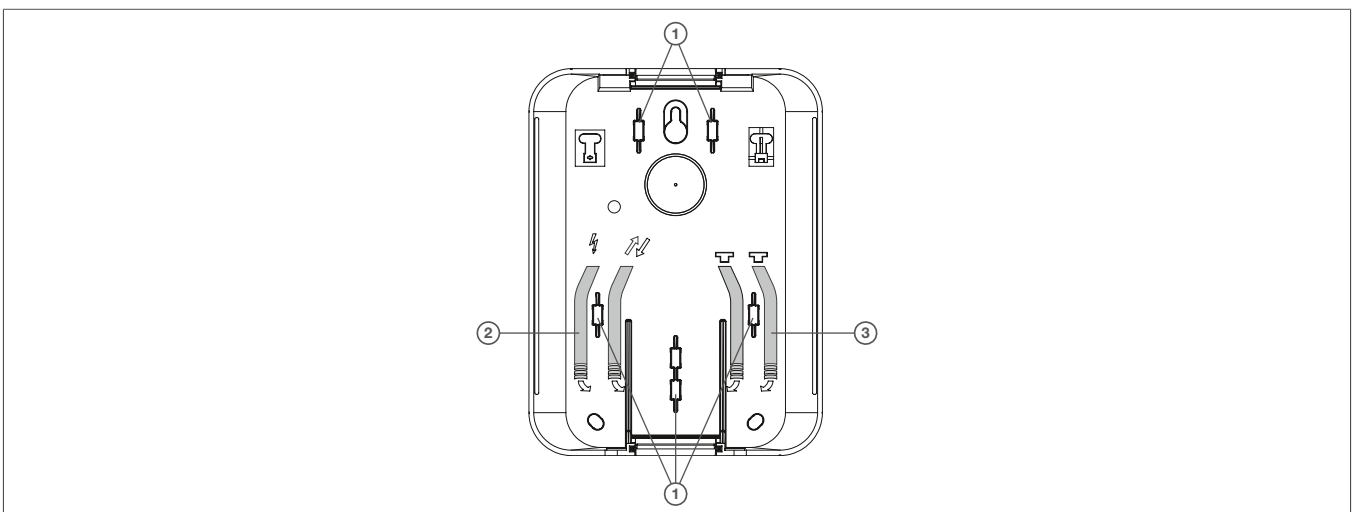
- ① Rotary switch for max. current
- ② Blade connector for HMI

Charging station body



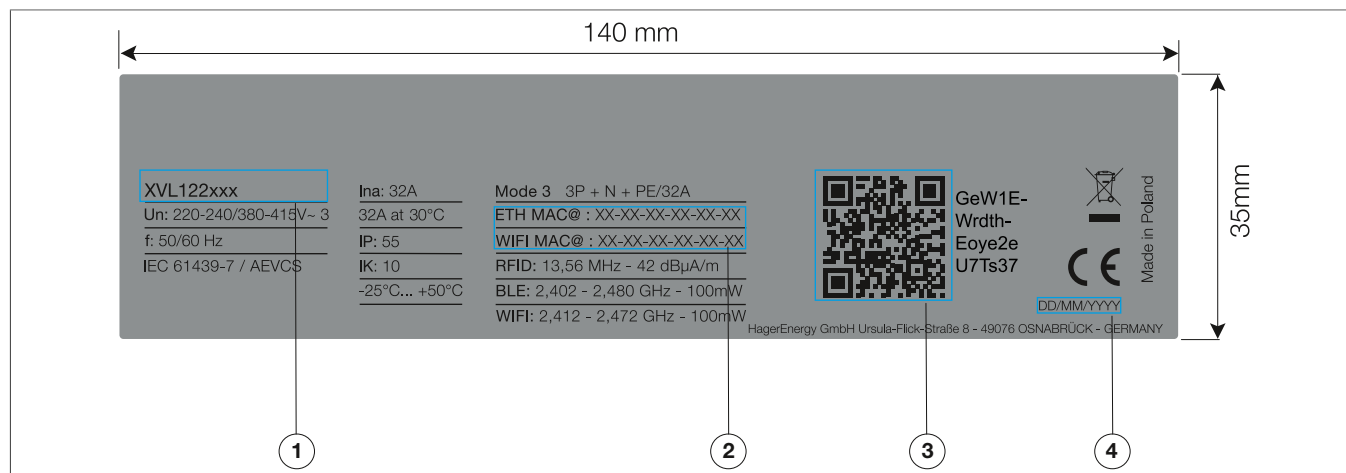
- ① Mode 3 type T2S connection socket
- ② Supply terminal block
- ③ Output contact protection - fuse T3.15AH250V 5x20mm
- ④ Output contact terminal block 220-240 V~ 1 A max
- ⑤ Input contact terminal block 220-240 V~
- ⑥ On/off termination switch (120 Ω) for Modbus
- ⑦ RJ45: Ethernet or Modbus RS485
- ⑧ RJ45: Ethernet
- ⑨ USB connector
- ⑩ Slots for optional cards
- ⑪ Cable entry sleeve
- ⑫ MID meter
- ⑬ Cable fastener

Charging station base



- ① Securing the cables
- ② Sleeve for power supply cable and input/output cables (optional)
- ③ Cable inlets and outlets for optional cards

Label



- ① Product reference - Variable field
- ② Ethernet and Wi-Fi MAC address - Variable field
- ③ QR code - Variable field
- ④ Manufacturing date- Variable field

5 Installation



Danger

Danger of death by electric shock.

Contact with live parts can cause death by electric shock.

- Before working on the device, unlock all the corresponding circuit breakers, check that they are voltage-free and secure them before restarting the device.
- Cover the nearby conductive parts.



Warning

Risk of fire due to device overload.

If the power cable is not properly dimensioned, there is a risk of fire due to device overload.

- Prepare the power cable according to the technical specifications of the device.

The charging station has been designed for indoor and outdoor use. It is therefore necessary to comply with the installation conditions.

- Do not install the charging station in an explosion-hazard area (EX environment), or in premises where ammonia is present.
- Do not install the charging station in a passageway area to avoid any risk of tripping on the charging cable.
- The charging station must not be exposed to a water jet (wash station, pressure washer, garden hose)
- The charging station must be protected, as far as possible, from direct sunlight to avoid overheating and visual degradation of the plastic components.
- The power supply line of the charging station must be dimensioned according to the technical characteristics of the device and installed in compliance with the installation requirements in force.

5.1 Protective device requirements

- Each individual charging station shall be protected by a separate RCD with a rated residual current of 30 mA.
- No other load should be connected to this circuit.
- The protective device shall cut off all phases, including the neutral conductor. This charging station has a built-in protection of 6 mA DC and is therefore compatible with type A and F residual-current devices.

Dimensioning of the protective device

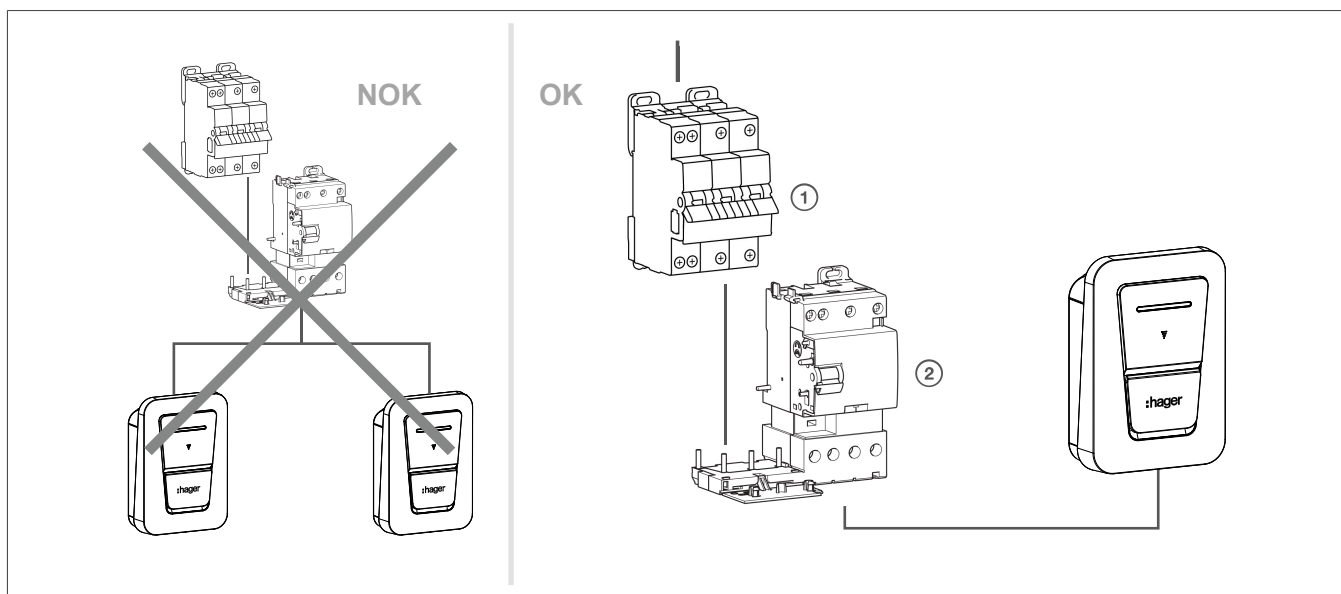
The charging station must be protected by a 40 A circuit breaker, curve type C, with the appropriate breaking capacity for the installation.

Dimension the devices according to the information on the rating plate, the technical specifications and the setting dial of the charging station.

$$I_{(\text{setting dial})} \leq I_{(\text{protective device})} \leq I_{(\text{power cable})} \leq I_{(\text{nominal current})}$$

Depending on the required operating current, it is possible to use, for example, the following products:

- For a 1-phase circuit:
 - MJT740 Circuit Breaker (1P+N 4.5-6 kA C Curve 40 A)
 - Differential Block BDF240F (1P+N 40 A 30 mA)
- For a 3-phase circuit:
 - MJT840 Circuit Breaker (3P+N 6-10 kA C Curve 40 A)
 - Differential Block BDF940F (3P+N 40 A 30 mA)



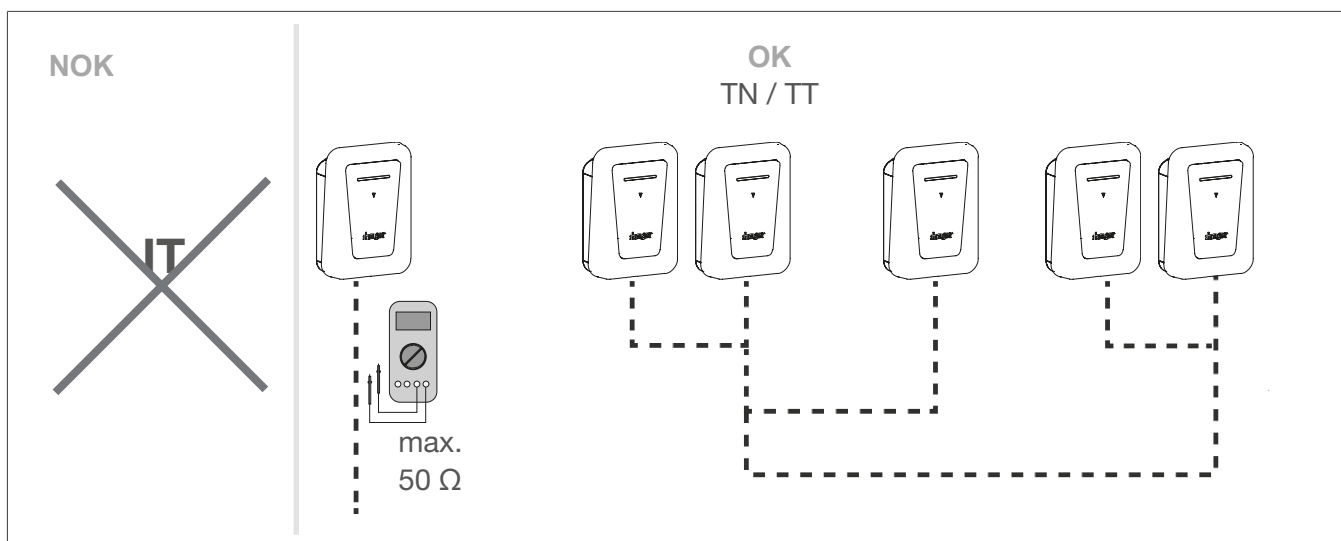
- ① Circuit breaker
- ② Differential block



Information

The references in this diagram are to be used as a guide and are only valid for the French market.

Earth resistance and neutral systems allowed



**Caution**

According to EN IEC 61851-1, this charging station incorporates a DC-CDC compliant with IEC 62955. If a DC component $> 6 \text{ mA}$ is detected at the fault current, this DC-CDC acts on the embedded power relays of the charging station, which automatically cut off the power supply to the charge point. This 6 mA DC detection device makes a type B residual current device redundant. All circuits of the building must be installed in completely the same structure (from the electrical point of view).

**Information**

A maximum of 5 charging stations can be connected to one earth terminal, with a recommended earth resistance of max. 50Ω .

**Danger**

Damage to the charging station or electric vehicle during the charging process due to high voltages.

Transient overvoltages due to atmospheric phenomena or switching can destroy electronic components.

- Install overvoltage protection units upstream of the electronic household consumption meter. Upon the dimensioning step, take local conditions into account.

Provide surge protection devices for charging stations in public and semi-public areas, in accordance with the local standards in force.

6 Mounting the charging station

6.1 Preparatory work



Danger

Danger of death by electric shock.

Contact with live parts can cause death by electric shock.

- Before working on the device, unlock all the corresponding circuit breakers, check that they are voltage-free and secure them before restarting the device.
- Cover the nearby conductive parts.



Danger

Risk of injury due to falling/tipping of the charging station

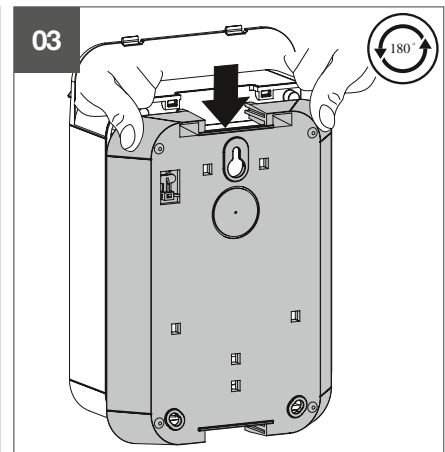
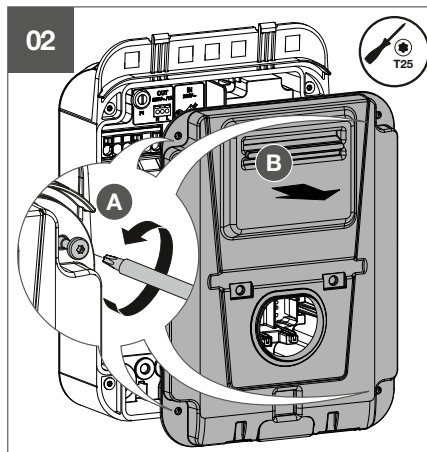
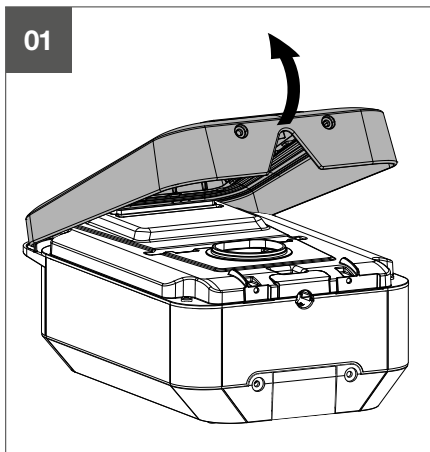
Use appropriate fixings to prevent the charging station from falling and causing injuries.

- Adapt the installation accessories to the requested conditions at the installation location. The fixings supplied are suitable for concrete and masonry.



Information

Upon delivery, the front panel and the mounting bracket are not screwed in.



Prerequisites

Mounting can be done on a wall, column or pole. Horizontal installation on the ceiling or floor is prohibited.

If the temperature difference between the storage and the installation site is too high, the charging station must be brought to ambient temperature

Before mounting the charging station, make sure that all of the cables are present:

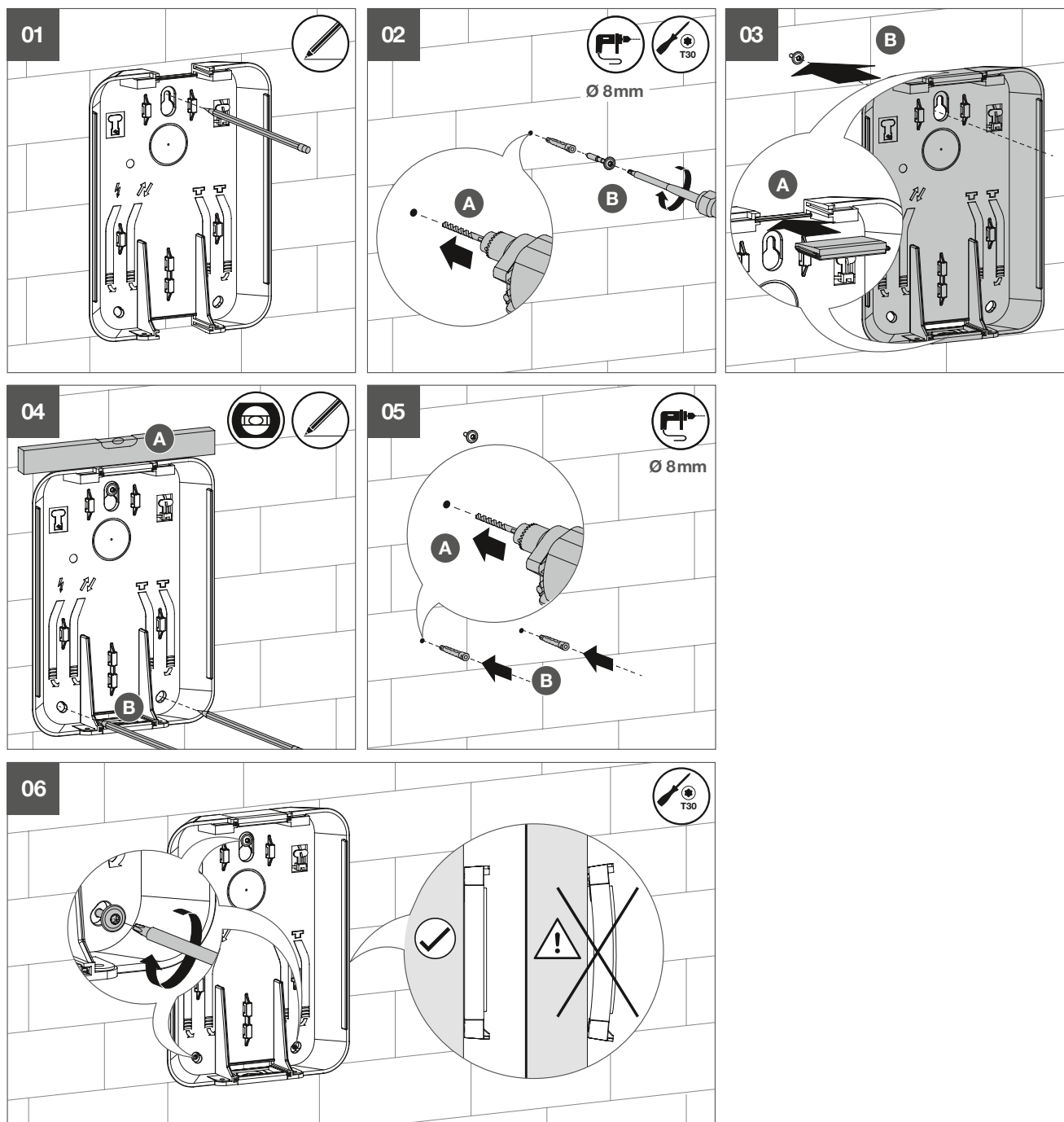
- L + N + Earth for a 1-phase terminal cable section: The minimum cable section for a charging terminal with a 32 A power supply is 10 mm². It is absolutely necessary to take into account the maximum admissible length of cable.
- 3 L + N + Earth for a 3-phase terminal cable section: The minimum cable size for a load terminal rated at 32 A is 10 mm². It is absolutely necessary to take into account the maximum admissible length of cable.
- The maximum cross-section of the power conductors is 10 mm² for multiwire and single-stranded conductors.

The optional cables (input / output) are laid at the mounting location:

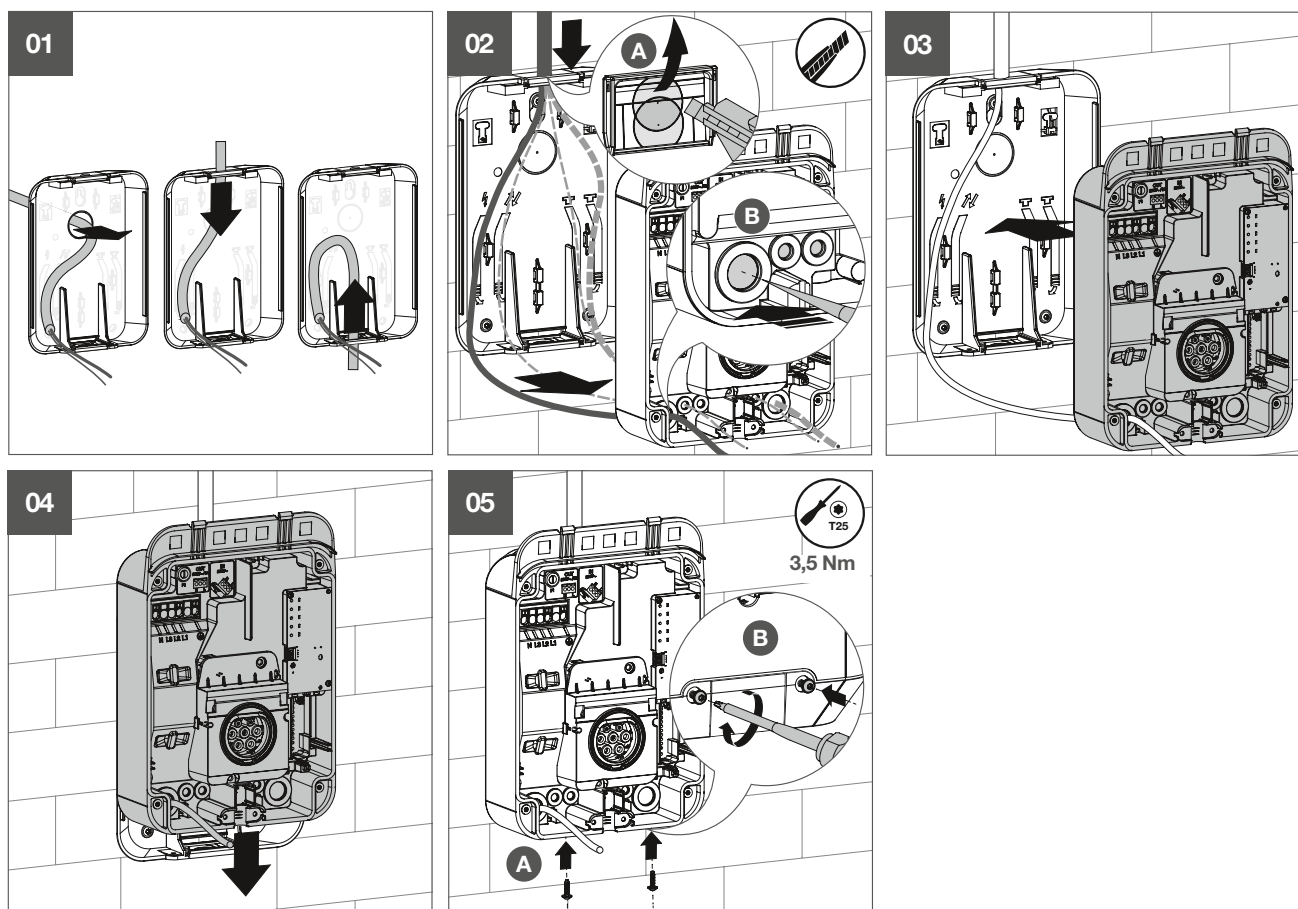
- L + N for connection of input IN and/or output OUT.
- The cross-section of the conductors must be between 0.75 mm² and 2.5 mm². It is absolutely necessary to take account of the power conveyed on these cables as well as their length.

The optional cables used to connect the optional cards (see the optional card installation instructions)

6.2 Wall mounting



The connecting cables can enter the charging station from the rear, the top, or from below.



7 Electrical connection



Danger

Danger of death by electric shock.

Contact with live parts can cause death by electric shock.

- Before working on the device, unlock all the corresponding circuit breakers, check that they are voltfree and secure them before restarting the device.
- Cover the nearby conductive parts.



Caution

Special attention must be paid to the phase order when connecting to the terminal block (marked N-L3-L2-L1-PE).

This protection ensures correctly measured and calculated power consumption data.

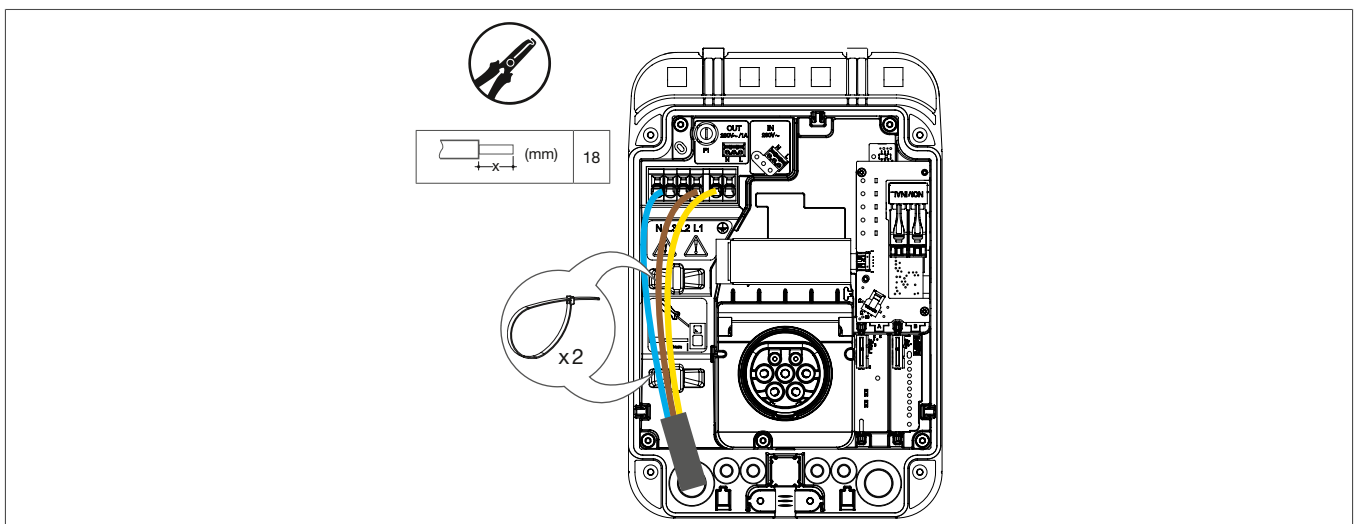
Phase rotations are allowed but must be configured using the mobile app.



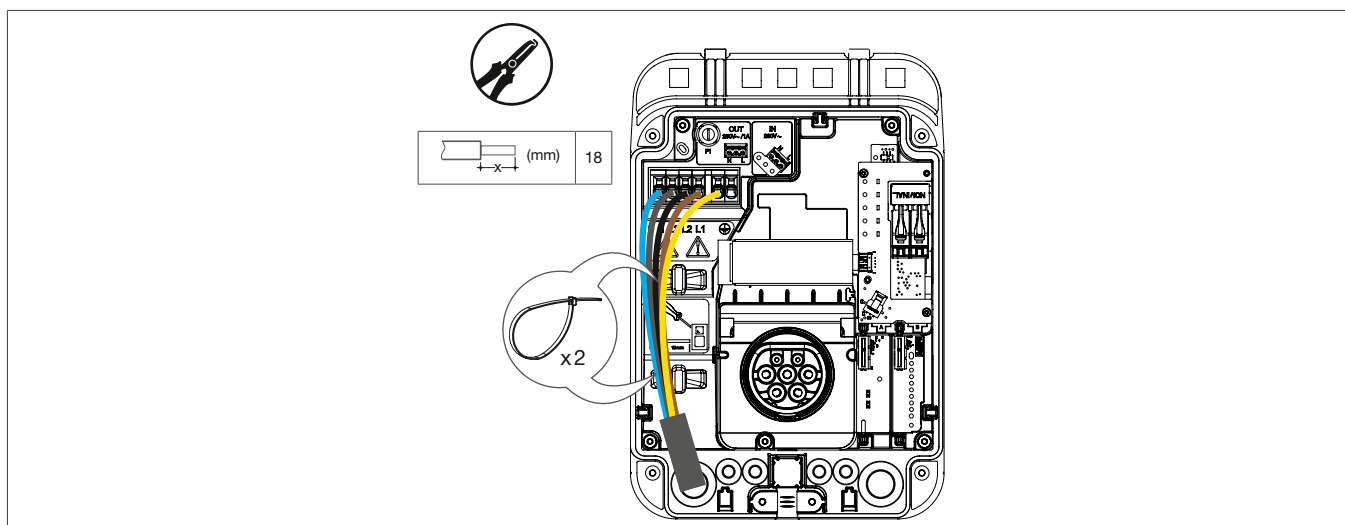
For earth connection to the mounting pedestal, please refer to the mounting pedestal manual (XVA130-XVA135)

7.1 Connection to the power terminal block

1-phase connection:



3-phase connection:



The power supply terminal block is a spring terminal block.

The admissible cable cross-sections are:

- Rigid (min-max): 0.75 mm² ... 16 mm²
- Flexible (min-max): 0.75 mm² ... 16 mm²
- Flexible with end piece (min-max): 0.75 mm² ... 16 mm²

Conductors must be stripped over a length of 18 mm.

7.2 Connection to the communication interface

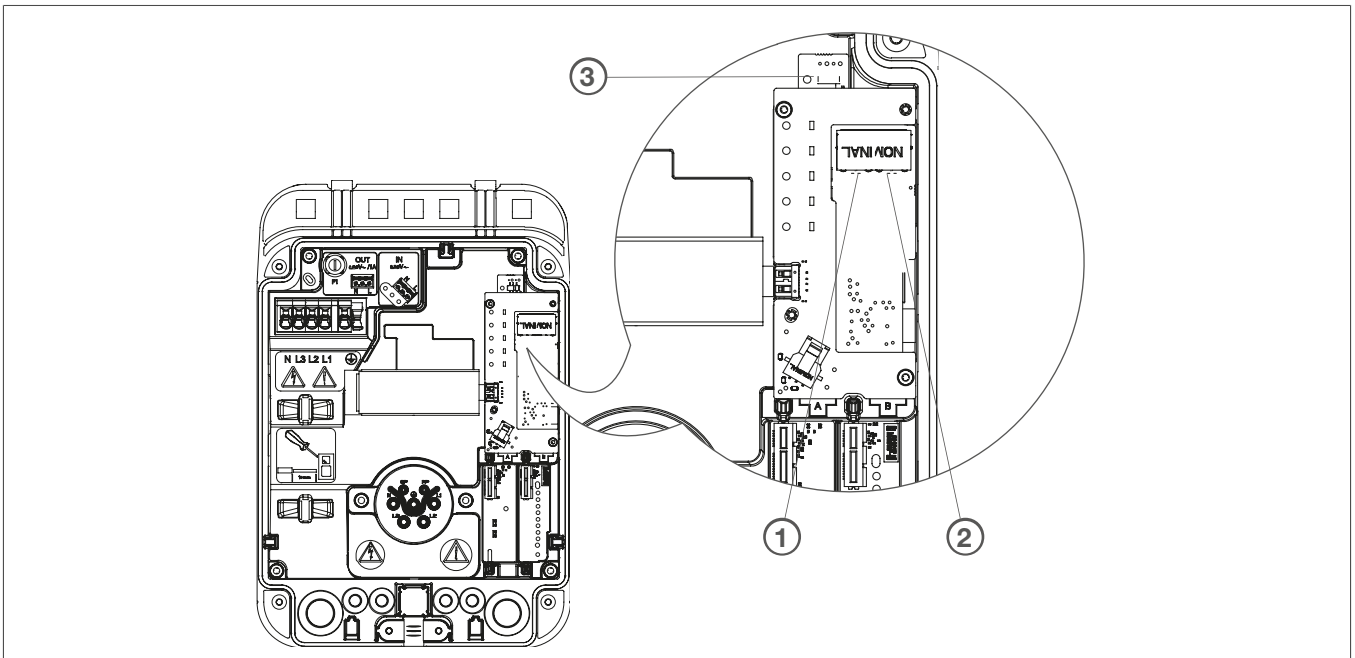
The charging station for electric vehicles has 2 Ethernet ports and an RS485 Modbus input.

The Ethernet interface provides a fast, stable connection to the local network or the Internet, making it easy to add charging stations into wider network infrastructures, enabling effective remote monitoring and control.

The RS485 input, using the Modbus protocol, ensures reliable communication with other devices or management systems. This interface is especially useful for integration into environments where equipment reliability and interoperability are paramount.

Combining these 2 types of input allows flexible integration into smart grids and energy management systems, optimising the use and maintenance of the charging stations.

Principle



- ① RJ45 connector: Ethernet + RS485 Modbus connection
- ② RJ45 connector: Ethernet connection
- ③ RS485 termination switch (120 ohm resistor)

The charging station has 2 RJ45 connectors.

Connector 1 shares the Ethernet network connection and the RS485 Modbus input, enabling connection to an external device (meter etc.)

Connector 2 has an Ethernet network connection only

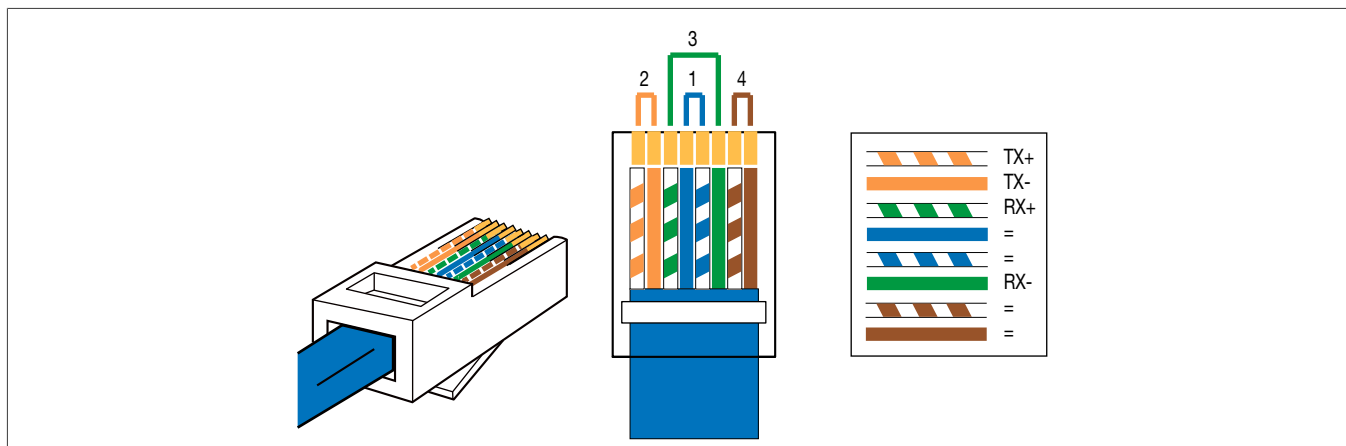
The presence of two Ethernet ports allows Daisy Chain operation which consists of connecting several devices in series, like a chain.

Wired Ethernet connection

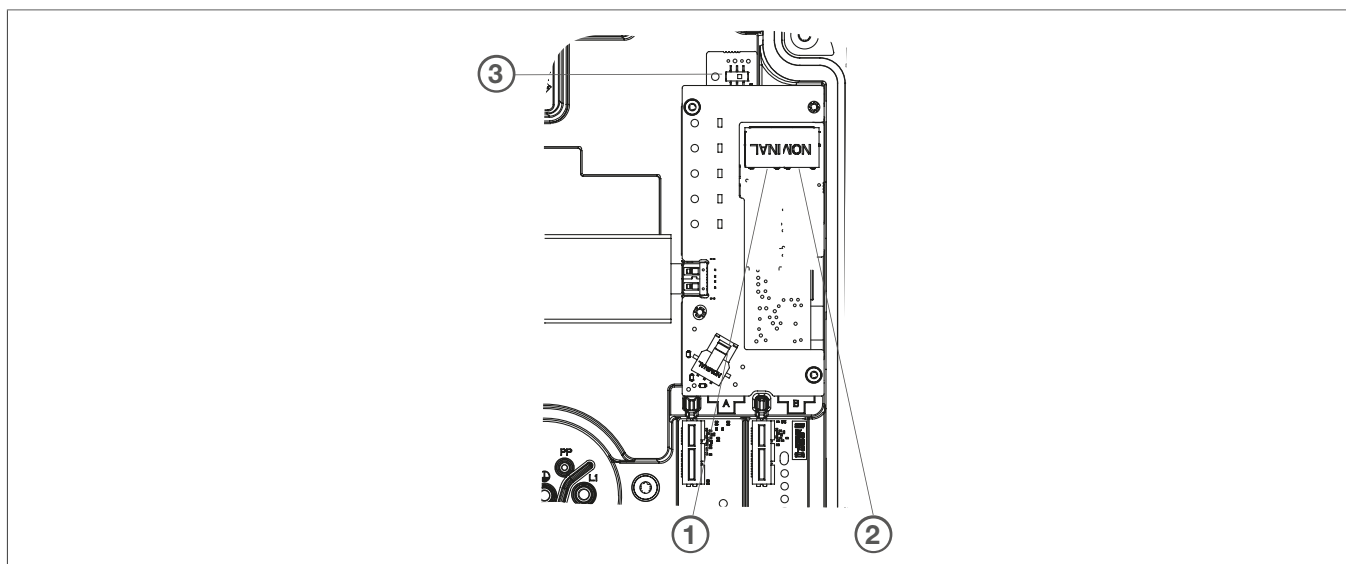


Warning

Use an AWG 23 or AWG 24 Ethernet network cable if possible
The R02V or twisted telephone cable type is prohibited.



- ① Not used
- ② TX Ethernet
- ③ RX Ethernet
- ④ Not used



- ① Connect the RJ45 connector to location ① or ② (Ethernet connection).



Best practices

- Connect the RJ45 connector to location ② when using the RS485 Modbus connection.

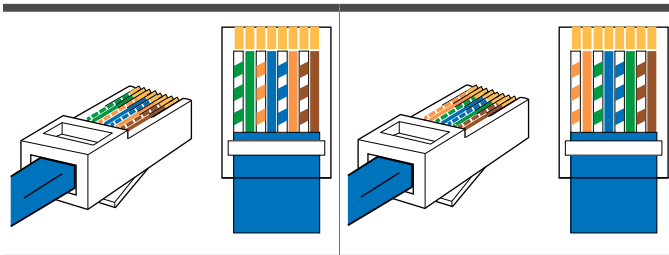
- Type of wiring

The T-568A and T-568B standards define wiring diagrams for RJ45 connectors used in Ethernet networks. They determine the exact order of the wires in a twisted pair Ethernet cable

RJ45 pinout

T-568A	T-568B

RJ45 pinout



Main differences between T-568A and T-568B

- Reversal of orange and green pairs:
 - The orange pair and the green pair are reversed between the two standards.
 - In T-568A, the green pair is placed before the orange pair, while in T-568B, it is the reverse.
- Compatibility:
 - Both standards ensure identical transmission performance.
 - As long as both ends of an Ethernet cable follow the same standard (T-568A or T-568B), the cable will function as a straight-through cable.



Best practices

- Choosing a single standard for the entire installation ensures consistency of wiring and helps avoid errors during connections.
- T-568A is recommended for installations that comply with international standards (TIA/EIA-568).
- T-568B is the most frequently used standard in commercial networks.



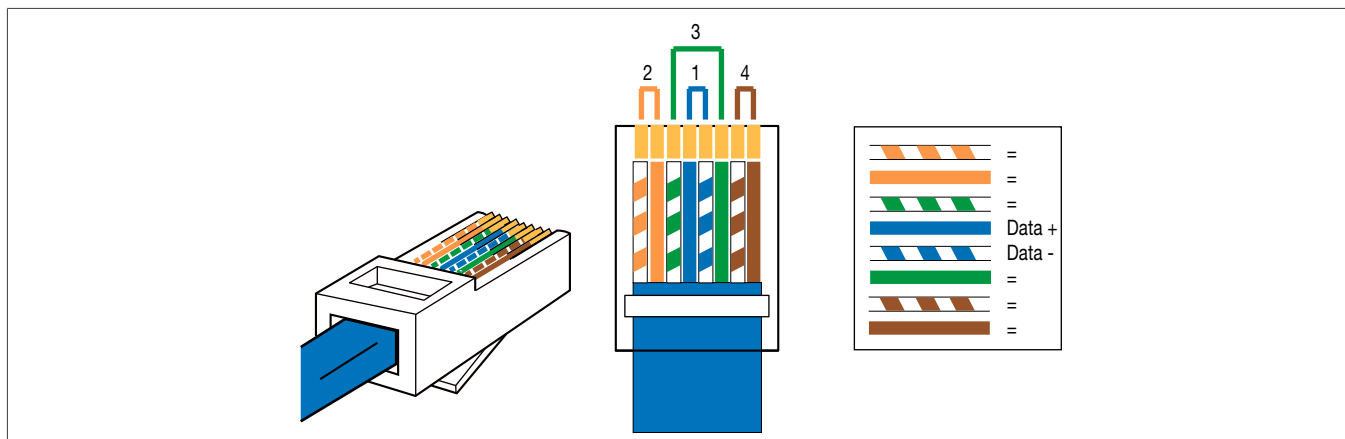
For network connection configuration, please refer to the chapter [Configuration of the communication interface](#)

Wired RS485 Modbus connection

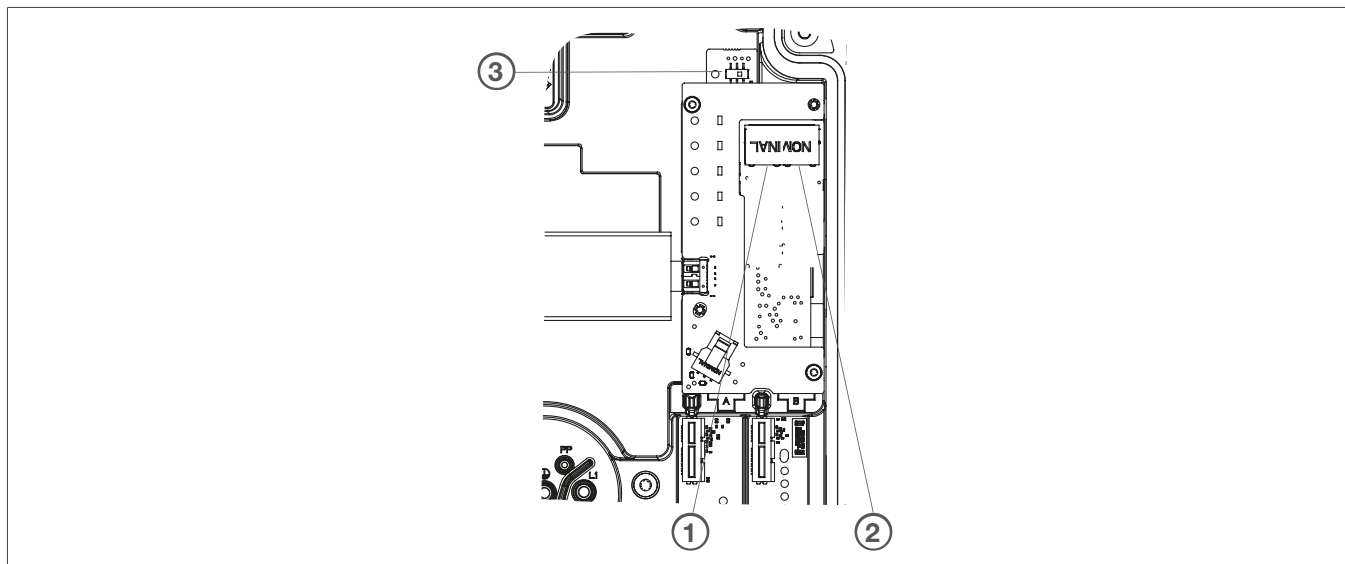


Warning

By preference, a shielded 2-wire RS485 Modbus AWG 23 or AWG 24 cable should be used.
The R02V or twisted telephone cable type is prohibited.



- ① RS485 Modbus connection
- ② Not used
- ③ Not used
- ④ 0 V (brown wire)



- ① Connect the RJ45 connector to location ① (RS485 Modbus connection).



Description of the Modbus RS485 connection

The Modbus RS485 connection is a serial communication standard for data exchange between devices (PLCs, sensors, actuators, etc.). It uses the Modbus protocol and the RS485 standard, enabling reliable communication over long distances.



RS485 termination switch

The 120 ohm terminating resistor is used to minimize reflections of electrical signals in the cables. Without this resistor, signals would reflect at the end of the cables, causing interference and distortion.

- Leave the switch ③ in the **ON** position when the charging station is at the end of the line. If not, turn the switch to the **OFF** position.

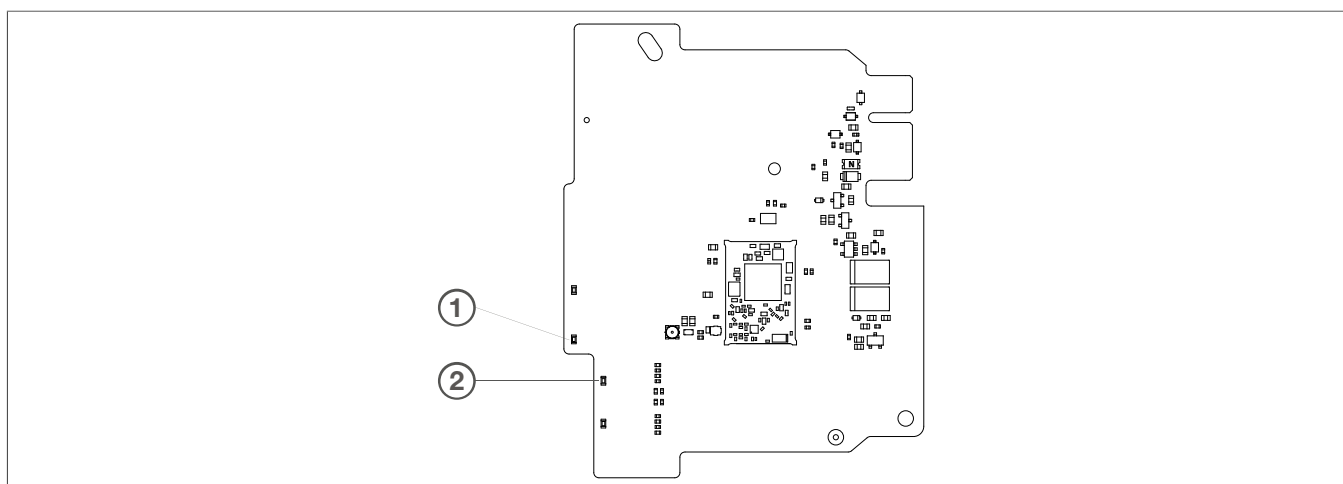
7.3 Connection of the radio board for TIC and P1 (optional)

The XVA205 (TIC and P1 RF) card is a gateway that allows the exchange of meter data between an old- or new-generation electronic energy meter and a Hager charging station. This card receives real-time electrical power consumption data from the electronic meter and transmits it to the charging station controller. It controls the dynamic charging of the vehicle by adjusting the vehicle's load current in accordance with household consumption.

Proper use

- Installation on a charging station for electric vehicles of type XVR107Cxx, XVL122Cxx, XVL122Sxx and XVR111Cxx, XVR111Sxx, XVR107Sxx.
- Communication with a new-generation meter or an electronic meter with a wireless TIC output
- Communication with a meter via the P1 gateway

Description of the card

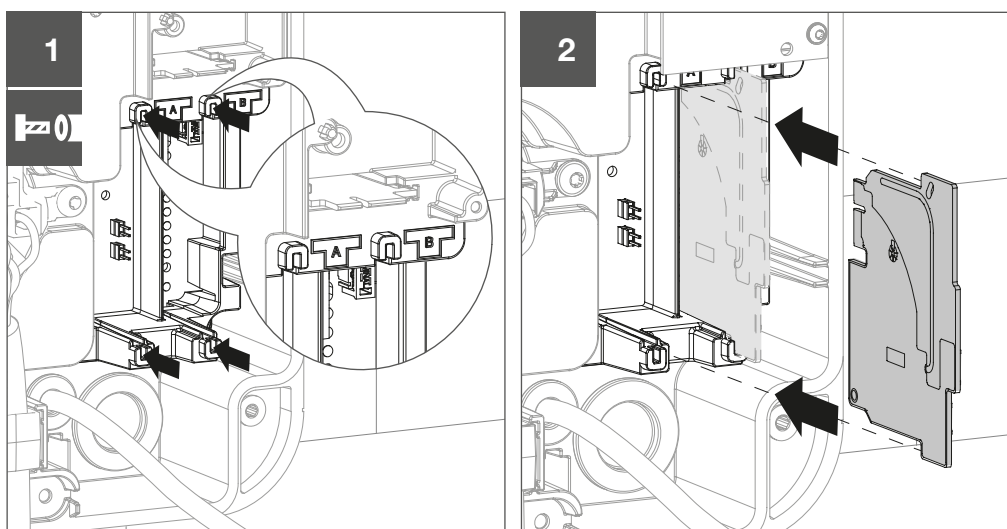


- ① CFG indicator for the radio connection
- ② TIC indicator for the connection with the meter

The communication card has:

- A radio connection for connection to a TIC meter equipped with a radio transmitter (TRPS120);
- A radio connection for connection to a meter via the P1 Gateway (TRPS220).

Installing the TIC card

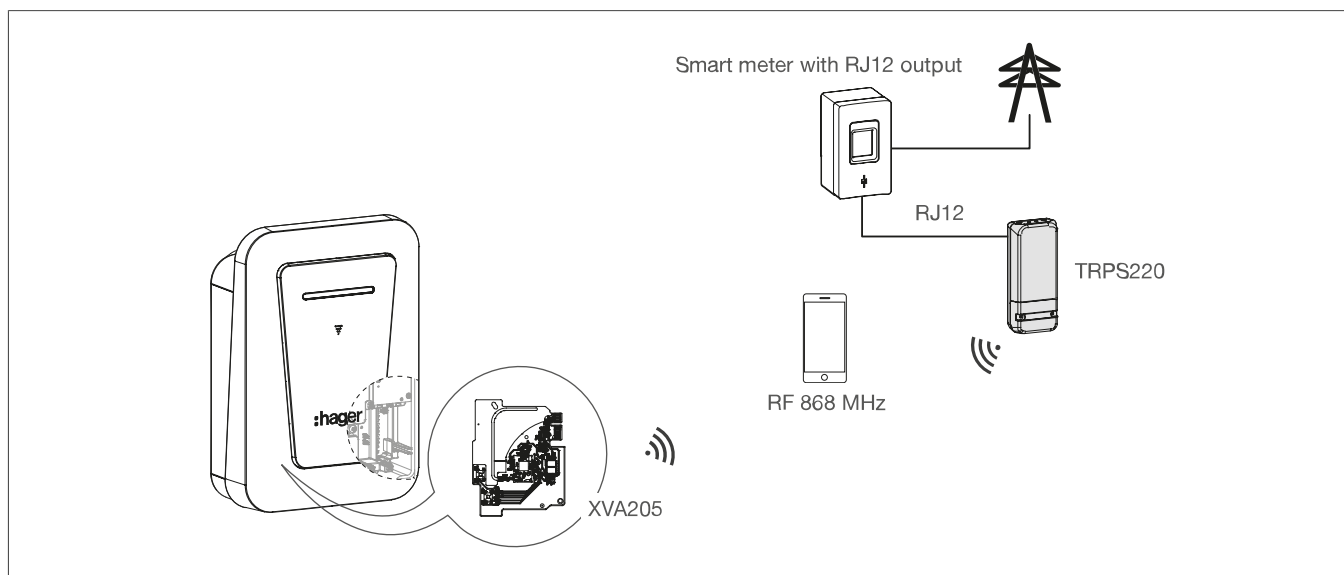


Information

The optional board can be installed either in slot A or slot B.

7.3.1 Communication with a meter via the P1 gateway (XVA205+TRPS220)

The gateway converts electrical data from a smart meter into a protocol compatible with Hager charging stations. This allows both dynamic load management and rate management. The gateway must be mounted to the wall at a maximum distance of 3 m from the meter. The device can be connected directly and safely to the meter in the house, using a cable with an RJ12 plug.



Coupling procedure

- 1 Press the button on the top of the device.



The LED flashes. The device is in pairing mode.

② Move the mobile phone closer to the charging station.

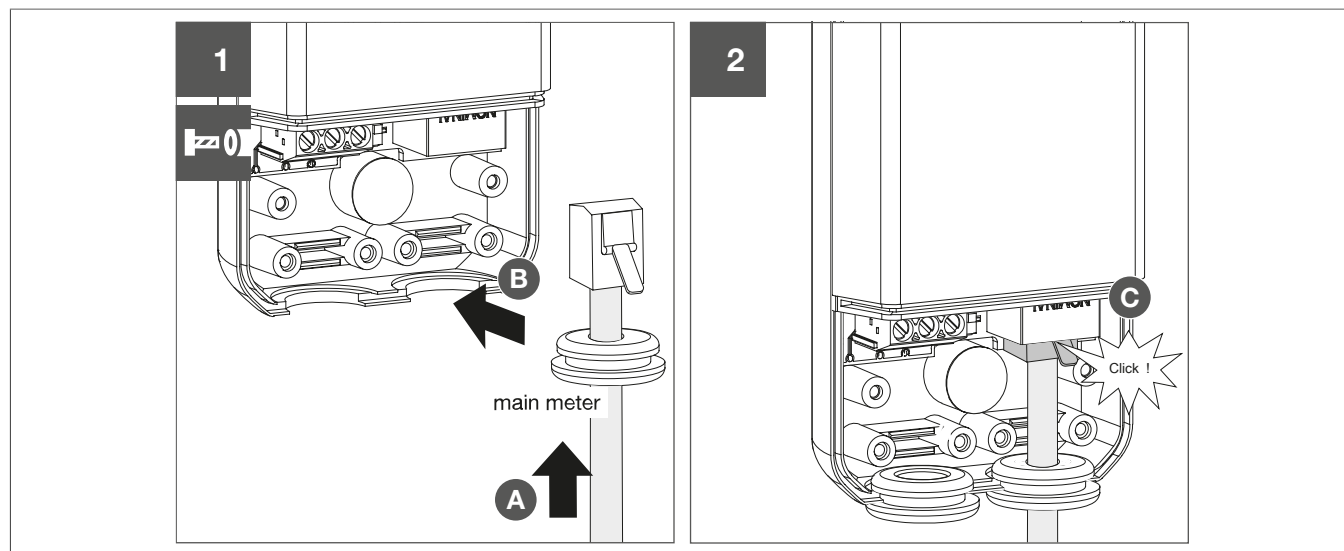
③ Log in to the Hager Charge app.

In the application, go to the **Load Management** tab and select the Wireless option in **Control Mode P1**.

④ Please confirm

The two devices automatically connect to one other. The LED on the P1 module is off.

Connection to the smart meter



– Connect a two-wire twisted cable to the RJ12 socket on the gateway.

– Connect the other end of the cable to the energy meter.



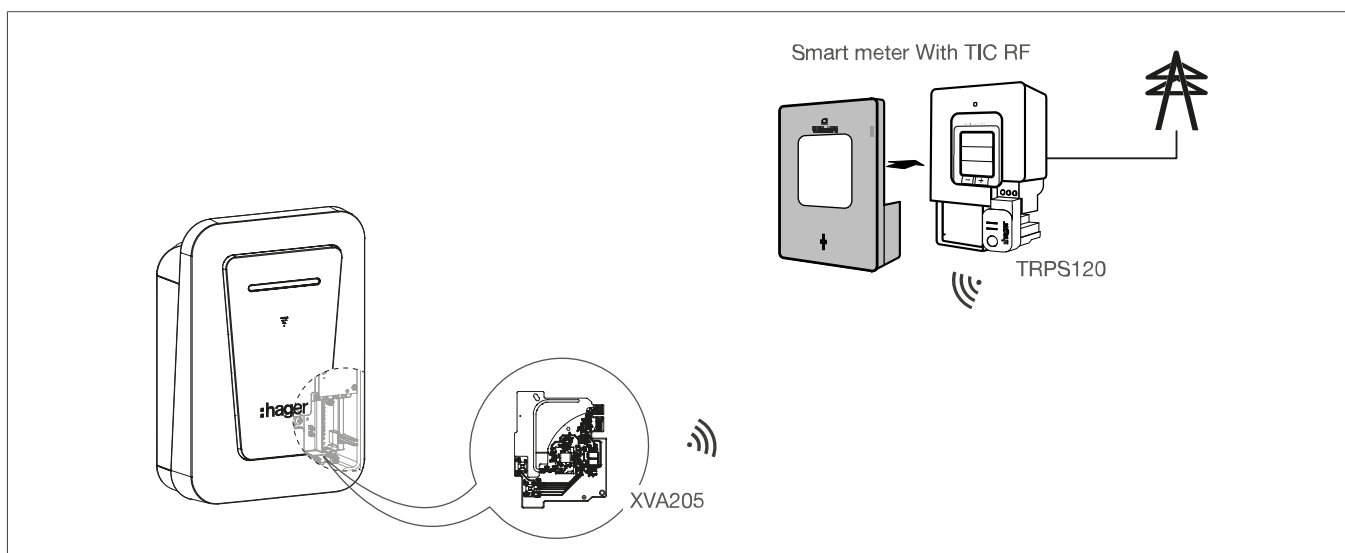
For network connection configuration, please refer to the chapter [Configuration of the Interface for P1-TIC](#)

7.3.2 Communication with a meter via RF TIC module (XVA205+TRPS120)

The XEVA205 card (TIC/CHP) receives data from electronic meters and transmits them to the terminal controller. For this, your customer needs a new-generation energy meter.

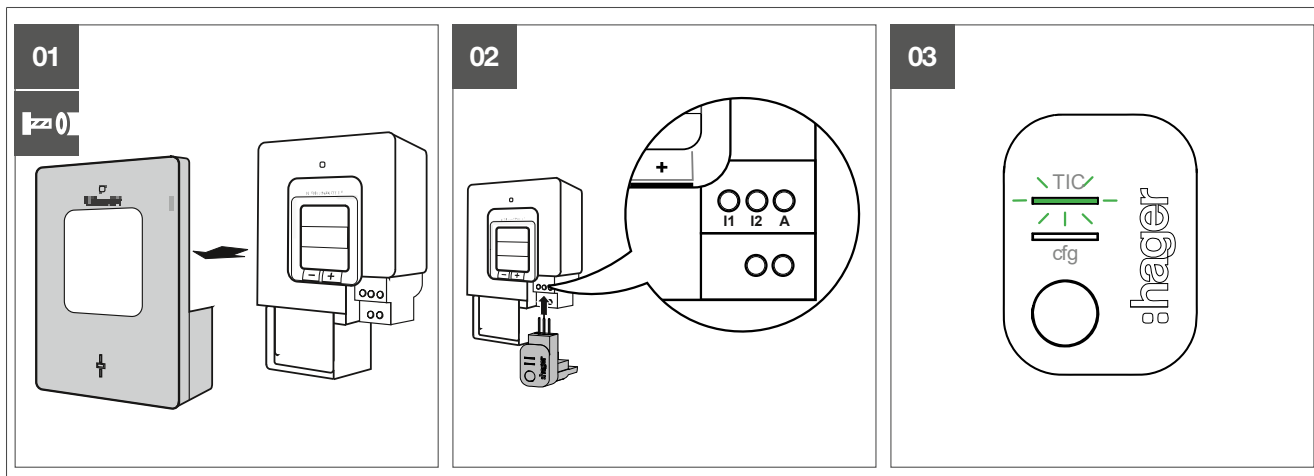


It is possible to connect the meter and TIC/CHP card remotely via the Hager TRPS120 radio transmitter to be installed in the new-generation meter.



TIC Radio Transceiver

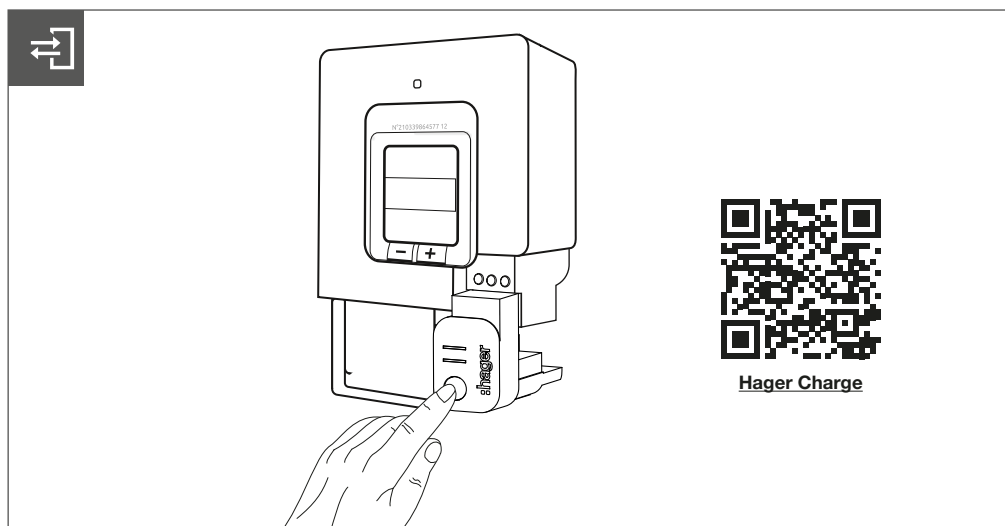
- Unclip and remove the new-generation energy meter cover.
- Connect the TRPS120 to the new-generation energy meter by inserting it into the TIC terminal (I1, I2, A).



The TIC link status LED lights up green.

Pairing procedure

- 1 Briefly press the cfg button on the Tele-Information Client RF transceiver.



The **cfg** LED lights up red. The device is in pairing mode.

- 2 Move the mobile phone closer to the charging station.
- 3 Log in to the Hager Charge app.
In the application, the charging station requests permission to pair with the RF module
- 4 Please confirm
The two devices automatically connect to one other. The **cfg** LED on the RF module is off.



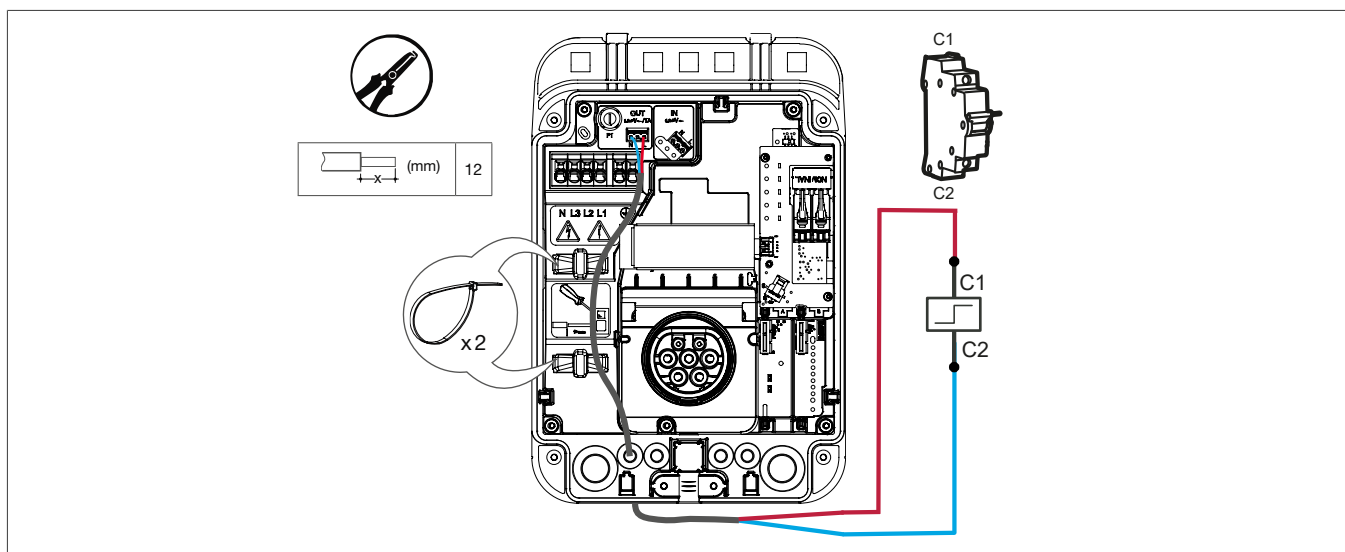
For network connection configuration, please refer to the chapter [Configuration of the communication interface](#)

7.4 Connection of the output (optional)

Bonded contact detection function wiring

The 220-240V output can be used to add additional protection to the charging station

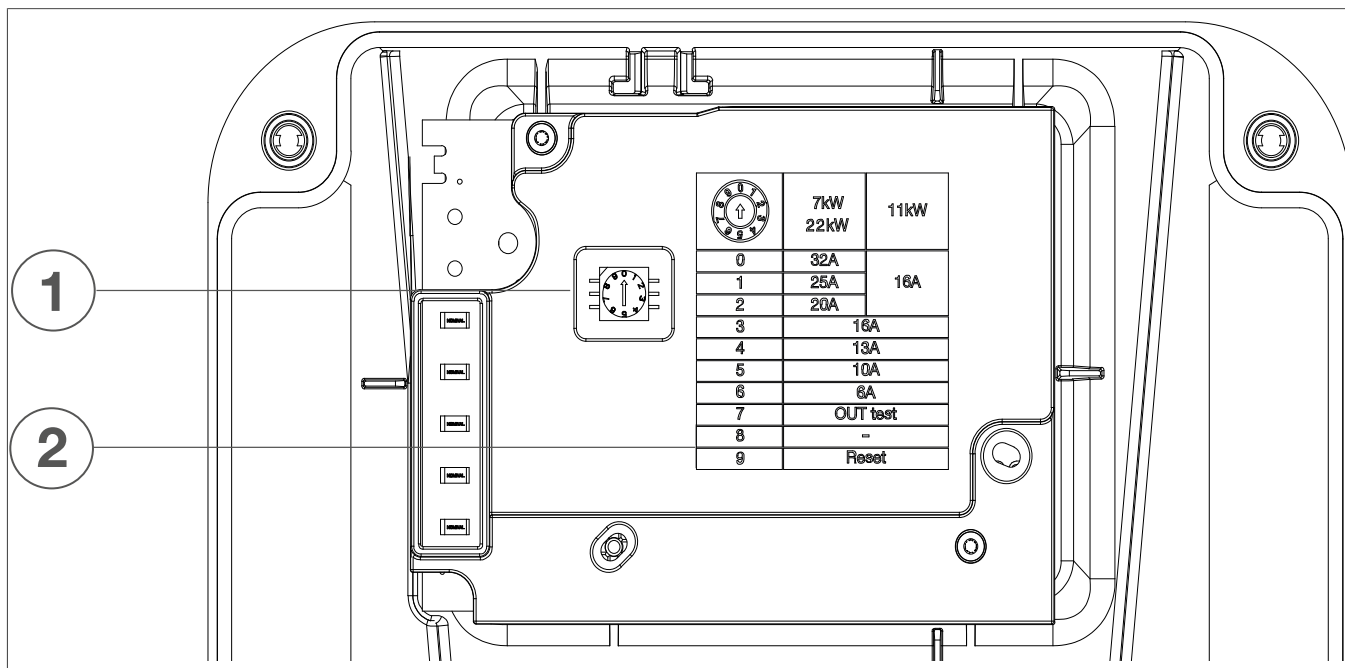
The shunt trip - 230/415 VAC - HAGER MZ203, also called shunt trip coil, provides comprehensive electrical safety for your charging station as an optional addition to the compulsory dual-safety provided by the residual-current disconnecter and circuit breaker. It is used to cut off the power supply to the charging station if the relay of the T2 socket is stuck.



The charging station delivers a 230V supply to this output terminal block, with short circuit protection provided by a 3.15A/250V fuse.

Output contact testing

The output contact can be tested using the setting dial(1).



Process for output contact testing:

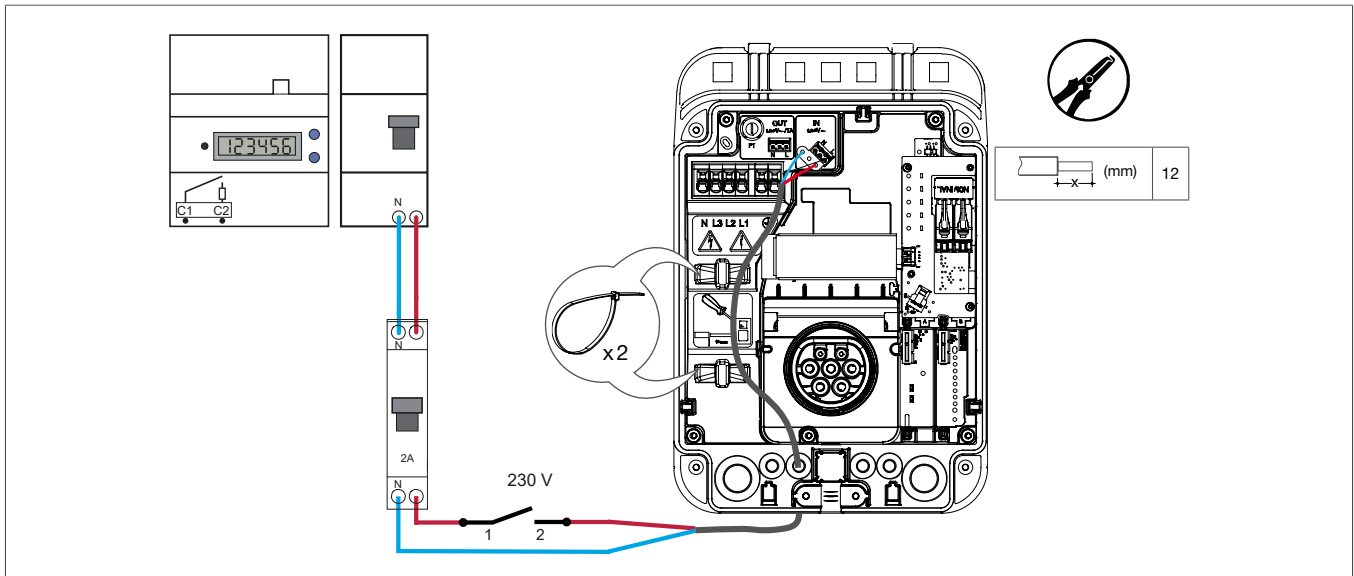
- ① Turn off the charging station for 20 seconds.
When doing so, take the RCD and all circuit breakers into account.
- ② Set the dial to 7.
- ③ Close the cover and turn on the charging station again.
The charging station status LED flashes red. The output contact closes and remains closed until the terminal is de-energised.
- ④ Turn off the charging station for 20 seconds.
The output contact opens.

- 5 Open the charging station cover and set the dial between 0 and 6.
- 6 Close the cover and turn on the charging station.

7.5 Connection of the input (optional)

The 220-240V input can be used to control the operation of the charging station with an external component. It must be configured using the mobile app during commissioning.

Add input protection (circuit breaker 2A curve C)



The admissible cable cross-sections are:

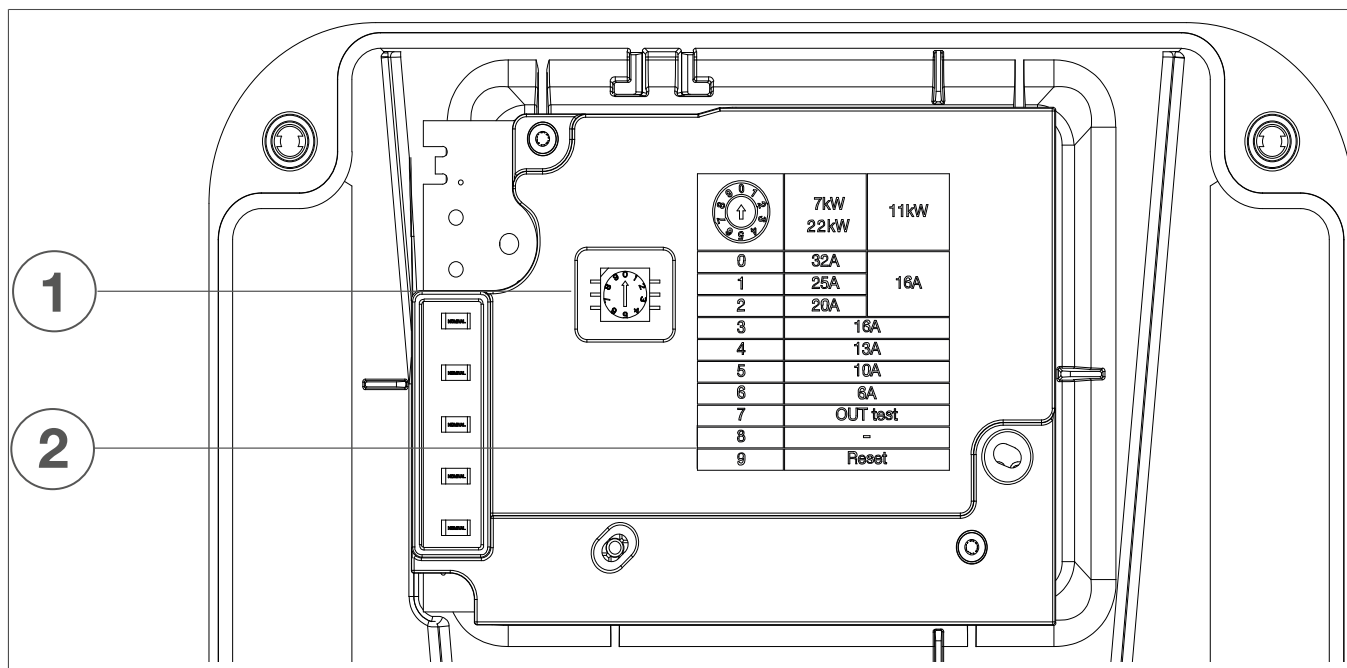
- Rigid (min-max): 0.75 mm²...2.5 mm²
- Flexible (min-max): 0.75 mm²...2.5 mm²
- Flexible with end piece (min-max): 0.75 mm²...2.5 mm²

Conductors must be stripped over a length of 12 mm

8 Settings

8.1 Operating current and connection type

The factory-set values (32 A operating current for a 3-phase connection) must be checked and adjusted if necessary. The maximum operating current (2) can be set by means of the setting dial (1).



Note the maximum operating current setting on the device:

- Peel off the sticker corresponding to the adjustment made
- Attach this sticker to the charging station near the rating plate.

8.2 Reset from the charging station

This procedure resets the charging station without using the application.



Information

This procedure will delete :

- the connection with paired phones
- the connection to paired badges and their parameters

Reset procedure:

- Turn off the charging station for 20 seconds.
When doing so, take the RCD and all circuit breakers into account.
- Set the dial to 9.
- Close the cover and turn on the charging station again.
The charging station status LED turns red. The charging station is being reset to the factory settings when the LED flashes red.
- If the status LED lights red constantly, turn off the charging station for 3 minutes.
When doing so, take the RCD and all circuit breakers into account.
- Open the charging station cover and set the dial between 0 and 6.
- Close the cover and turn on the charging station.

9 Final assembling

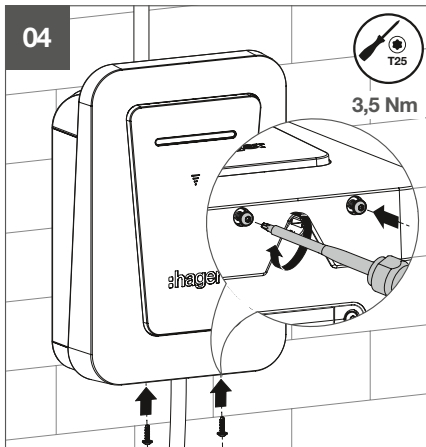
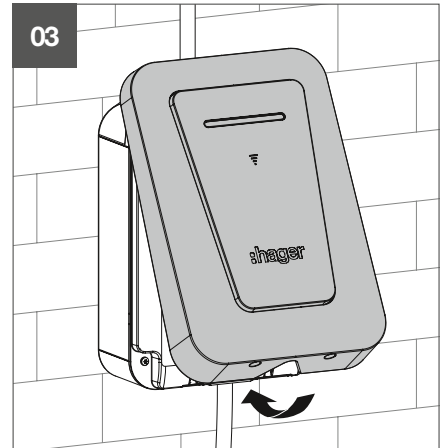
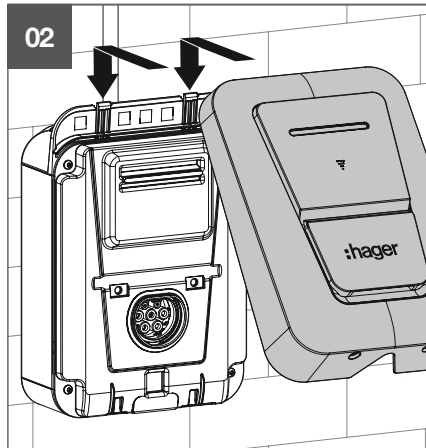
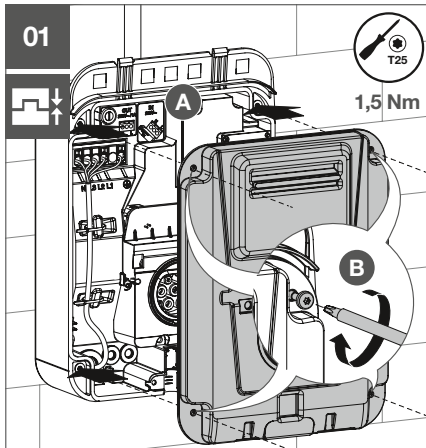


Danger

Danger of death by electric shock.

Contact with live parts can cause death by electric shock.

- Do not switch on the charging station until the front of the charging station is locked.



Information

IP55 protection could be lost:

- If the tightening torque is not respected (see tightening torque picture 1)

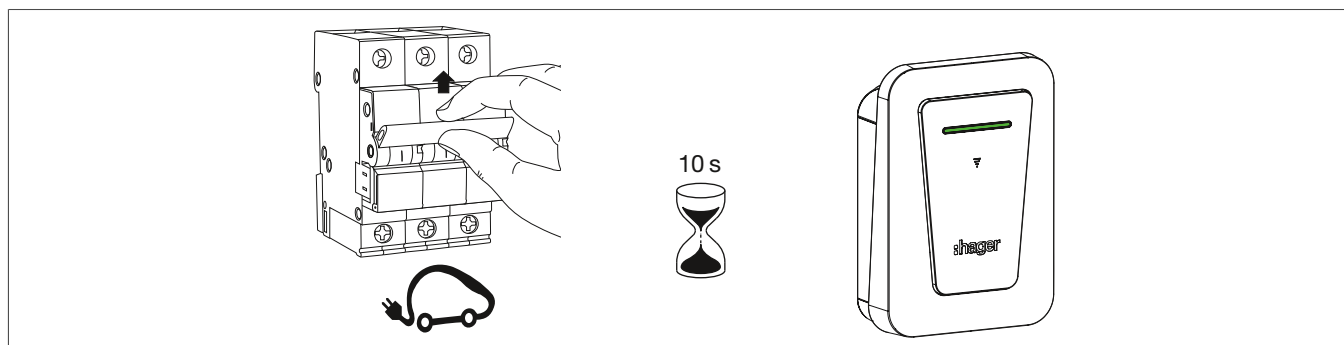
10 Commissioning



Information

Before commissioning, check that the charging station is not connected to the electric vehicle.

After the charging station is switched on for the first time, initialization is complete when the LED indicator strip remains solid green.



The charging station is now functional. It can be used to recharge an electric vehicle.

11 Advanced Configuration

The device has a Bluetooth interface. This interface enables control and parameterization of the device using the Hager Charge app through mobile devices such as smartphones and tablets that support this standard.

The Hager Charge app is compatible with Apple devices with iOS 8 (and above) and Android devices from version 10 and up (compatible with Bluetooth version 4.2 or above).

11.1 Pairing

Download the free Hager Charge app to your mobile device.



Hager Charge



Information


The Bluetooth function  and the location function of your mobile phone must be activated.

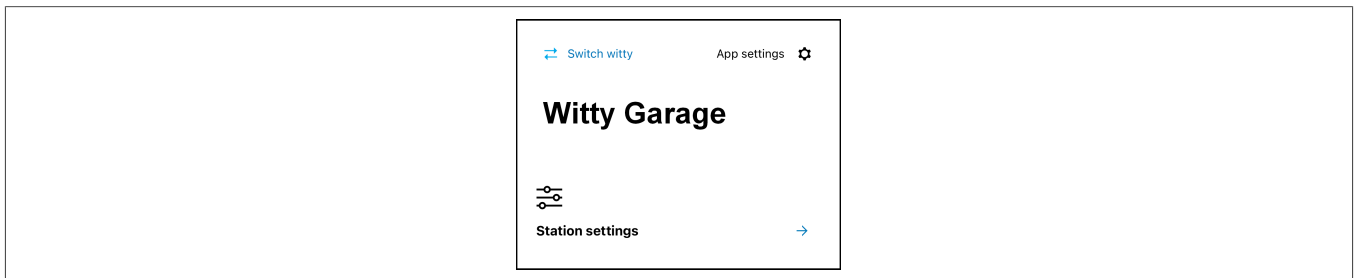
- 1 Start the application.
- 2 Accept the general terms and conditions of use.
- 3 Click on 'Next'.
- 4 Click to 'Activate the Bluetooth function'.
- 5 Click on 'Start pairing'.
- 6 Position the pairing badge on the front of the charging station.
- 7 Remove the badge when the indicator on the front panel flashes blue from left to right (this action takes approximately 7 seconds).
- 8 In the application, confirm by clicking the button.
The application performs a scan and displays the device identified.
- 9 Enter device name (optional).
- 10 Click on 'Pair with this charging station'.
- 11 Confirm by clicking 'Pair'.

When the pairing process is complete, the following screen appears:

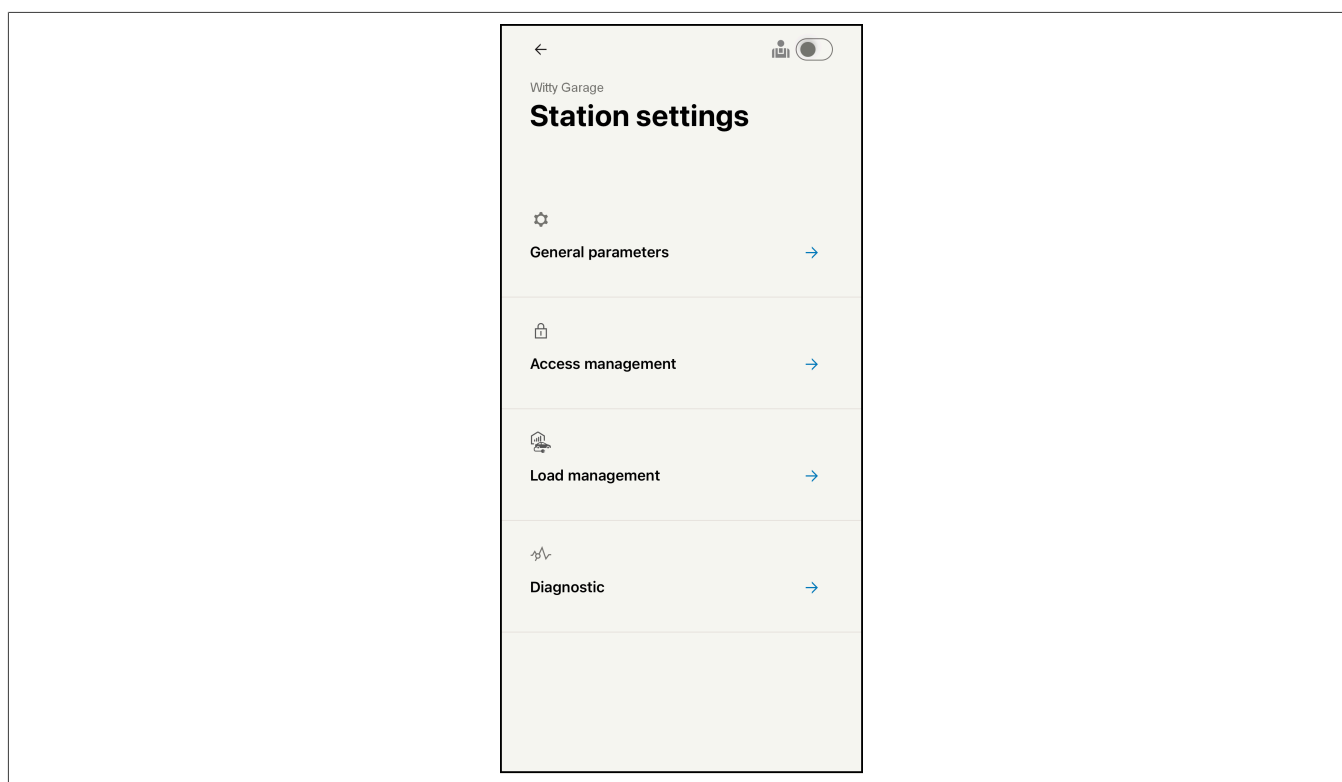


11.2 Dashboard

To access the dashboard, click 





 **Charging station settings:** Allows you to access the various setting menus of the charging station.



There are 2 different profiles (User and Installer) giving access to various settings.

Menu	User	Installer
General settings	<input type="radio"/>	<input type="radio"/>
Access management	<input type="radio"/>	<input type="radio"/>
CPO Configuration		<input type="radio"/>
Load management		
- Load ratings	<input type="radio"/>	<input type="radio"/>
- Charging mode	<input type="radio"/>	<input type="radio"/>
- Load strategy	<input type="radio"/>	<input type="radio"/>
- Phase sequence		<input type="radio"/>
- Input function		<input type="radio"/>
230 V Output		<input type="radio"/>
Diagnostics	<input type="radio"/>	<input type="radio"/>
Editing the device report		<input type="radio"/>

Installer Mode is activated by clicking on the icon  in the top right corner of the screen.

This icon changes to blue when the installer mode is active: 



Change charging station: for connecting to another charging station (10 charging stations max. per mobile)



Application settings: Allows you to define the settings of the application



Language: Set the language of the application menus



About: Displays information about the application

11.3 General settings

- Charging station name: Allows you to change the name of the charging station
- LED power: Adjusts the light intensity of the indicator on the front of the charging station.
- Update charging station: Allows you to perform a software update for the charging station via smartphone.
 - Start the update when it is available
 - Download the update file to the smartphone
 - Start the update installation



Information

Installation of the update:

- Requires your smartphone to be connected
- May take up to 10 minutes

- Restart of the charging station: Allows you to restart the charging station without switching off the power



Information

If a charging session is in progress, it will be stopped.

- Always keep the cable locked to the charging station: this locks or unlocks the plug connected to the charging point.
- Reset all the settings: Used to reload the factory configuration



Information

All the settings for this charging station will be lost after the reset. Communication with this device is lost after the reset.

- Delete this witty: Deletes the charging station from the smartphone application



Information

Access to this charging station is lost and pair up with a pairing badge is needed to regain access.

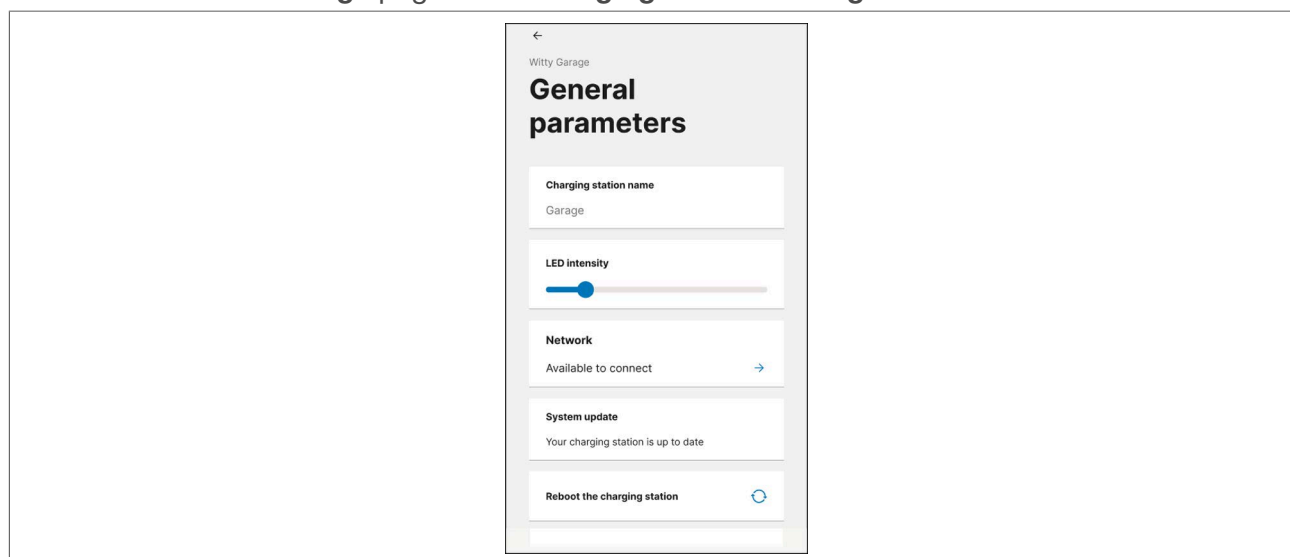
It is also necessary to remove the device from the Bluetooth connection settings.

11.4 Configuration of the communication interface

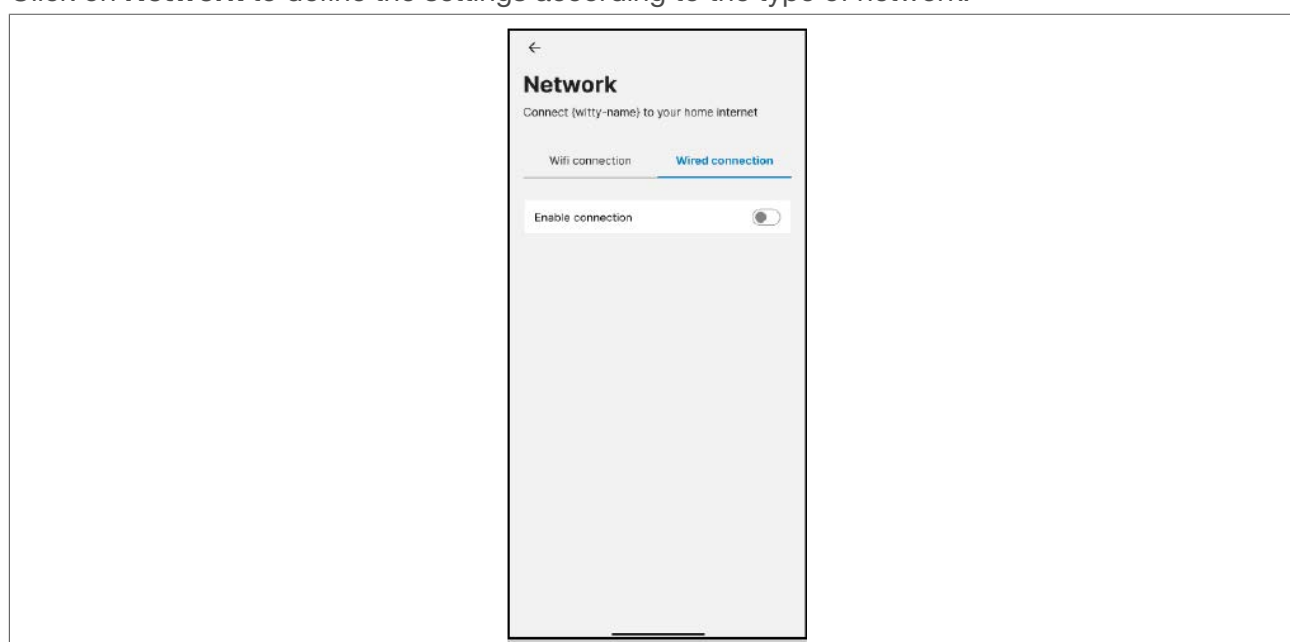
Once the charging station is installed, it is necessary to configure the settings according to the available networks.

On your smartphone:

- 1 Launch the **Hager Charge** application.
- 2 Go to the **General settings** page in the **charging station settings**.



- 3 Click on **Network** to define the settings according to the type of network.

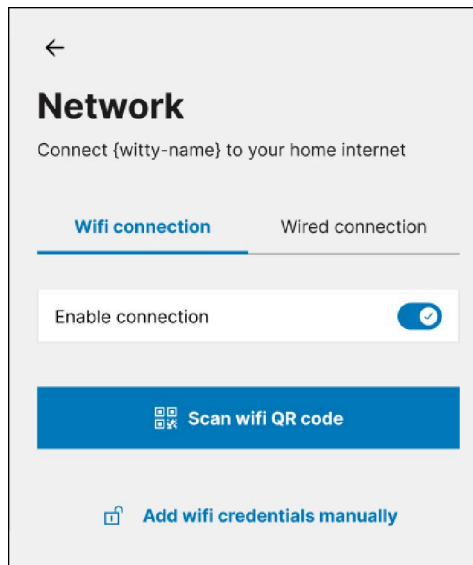


- 4 Select the type of network: **Wired** or **Wireless (Wi-Fi)**

Wireless Networks (Wi-Fi)

The Wi-Fi network allows a wireless radio connection between the charging station and the router. There are 2 ways to choose the Wi-Fi network (depending on the router model):

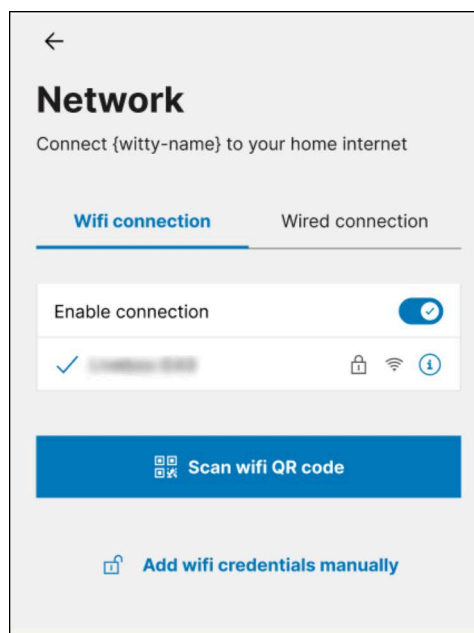
- By scanning the QR code present on the Wi-Fi router
 - Click on the blue **Wi-Fi QR Code Scanner** button
 - Scan the QR Code located on the Wi-Fi router
- By manually adding Wi-Fi credentials
 - Click **Manually Add Wi-Fi ID**



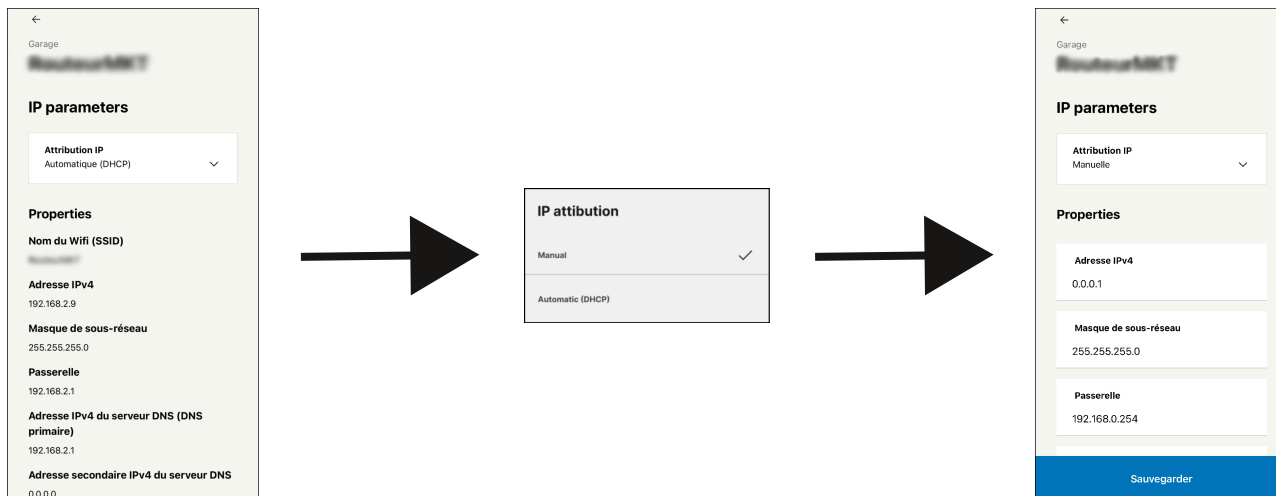
- Enter the network name (SSID)
- Enter the password

By default, the charging station is configured in Dynamic Host Configuration Protocol (DHCP), which automatically assigns an IP address from the router or switch.

If you need to configure an IP manually:



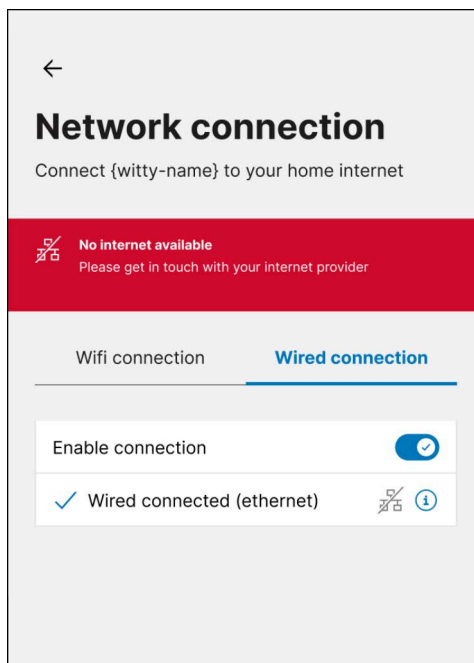
- Click ⓘ to access the settings



- In **IP Assignment**, select **Manual**.
- Change the settings according to your network.
- Click **Save** to save the new settings

Wired Networks

The wired network uses an Ethernet cable to connect the charging station to a router or switch. By default, the charging station is configured in Dynamic Host Configuration Protocol (DHCP), which automatically assigns an IP address from the router or switch. If you need to configure an IP manually:



- Click ⓘ to access the settings




- In **IP Assignment**, select **Manual**.
- Change the settings according to your network.
- Click **Save** to save the new settings

11.5 CPO Configuration

A CPO (Charge Point Operator) is an entity that manages and operates charging infrastructure for electric vehicles. Its role is central to the electric charging ecosystem.

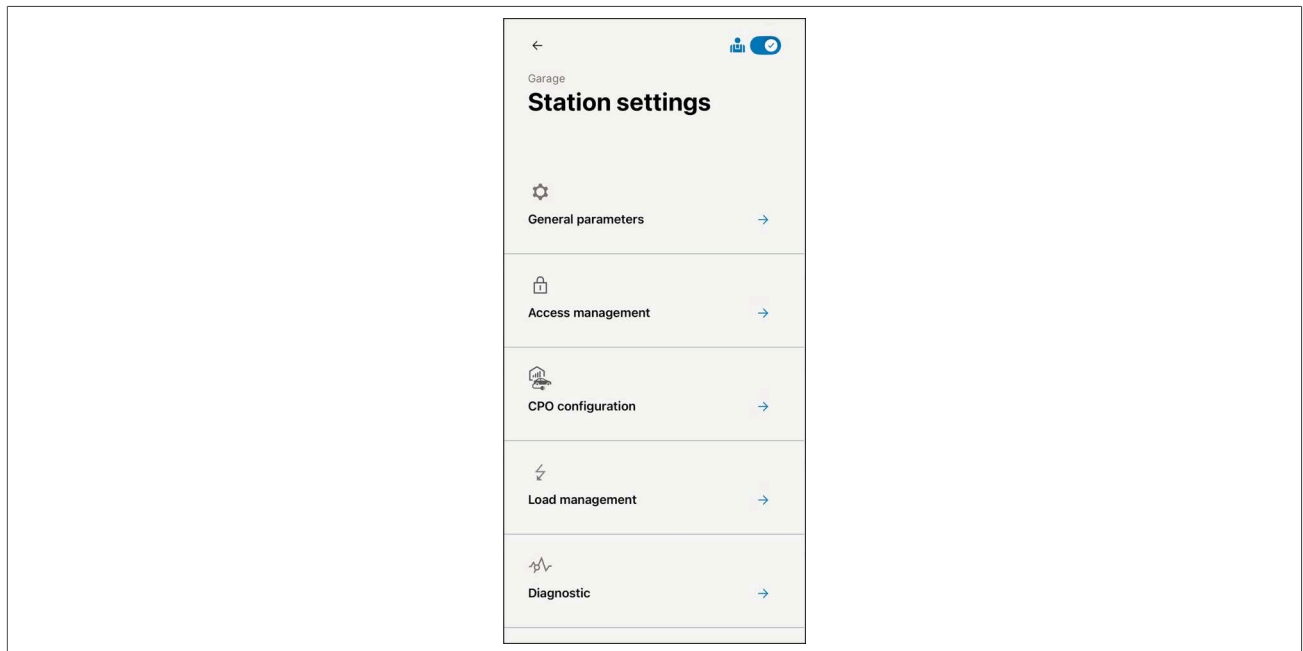
OCPP 1.6J is the supported communication protocol for the connection between the CPO and the charging station (see chapter: [OCPP Protocol](#)).



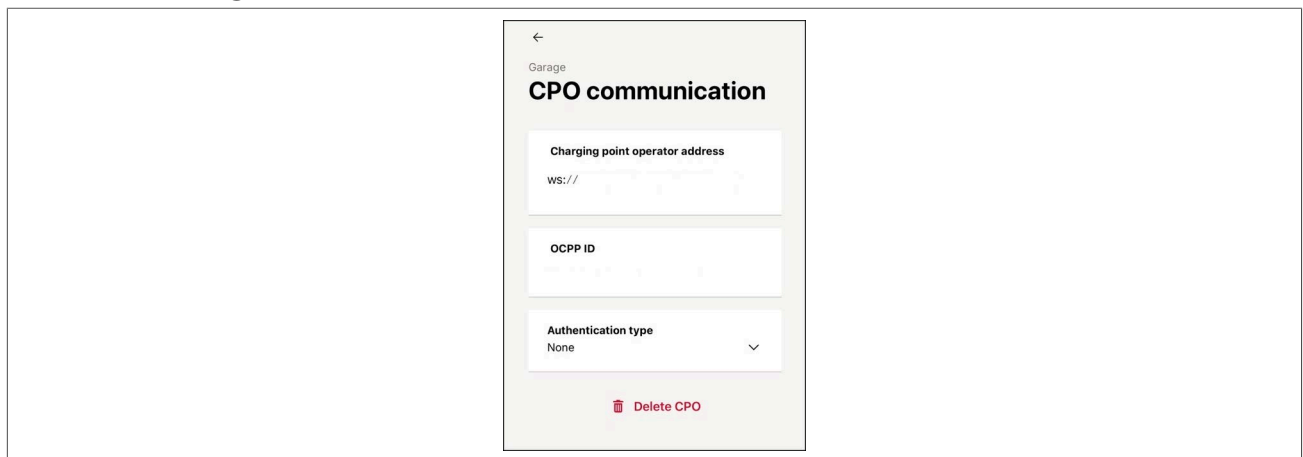
In order for the CPO Configuration menu to be accessible, Installer Mode must be active

On your smartphone:

- 1 Launch the **Hager Charge** application.
- 2 Go to the **Charging Station settings** page.



3 Click **CPO Configuration**.



- 4 Enter the CPO address (ws:// or wss://)
- 5 Enter the OCPP login details
- 6 Click **Save** to save the new settings

11.6 Access management

Who can charge their car at your charging station? :

- Everyone: Anyone can charge their car at this charging station
- Badge wearers: Only a list of authorised badges can interact with the charging station







Manage Badges: Allows you to add or remove badges allowing access for charging from this charging station.

Two possible methods:



- Bring your badge close to the scanning area just below the LED
- Add a badge manually: Enter the ID and name of the badge

For each badge, you can define the different rights:

-  Start/stop my charging sessions
-  Charging to full power or returning to default mode
-  Stop a load session started by another user
-  Pairing badge

Administrator devices

List of devices that can access the charging station

-  : indicates the device currently connected to the charging station
-  : remove the corresponding device from the list of charging station administrators.

11.7 Load management

This menu is used to configure vehicle load parameters.

Optimisation

- Charging modes: for choosing default charging mode.
 - Slow
 - Boost
 - P1, TIC or meter (depending on option selected)
- Charging strategy: to set the operation of the charging station according to the tariff in force (only possible if the TIC card is available on the charging station).
- Input function: Allows you to configure the operation of the 230 V input.
 - Day/night
 - Forcing
- Phase order: Allows you to set the phase order corresponding to the connection of the charging station power supply.



Information

Access to this menu is only possible with the Installer profile

Load ratings

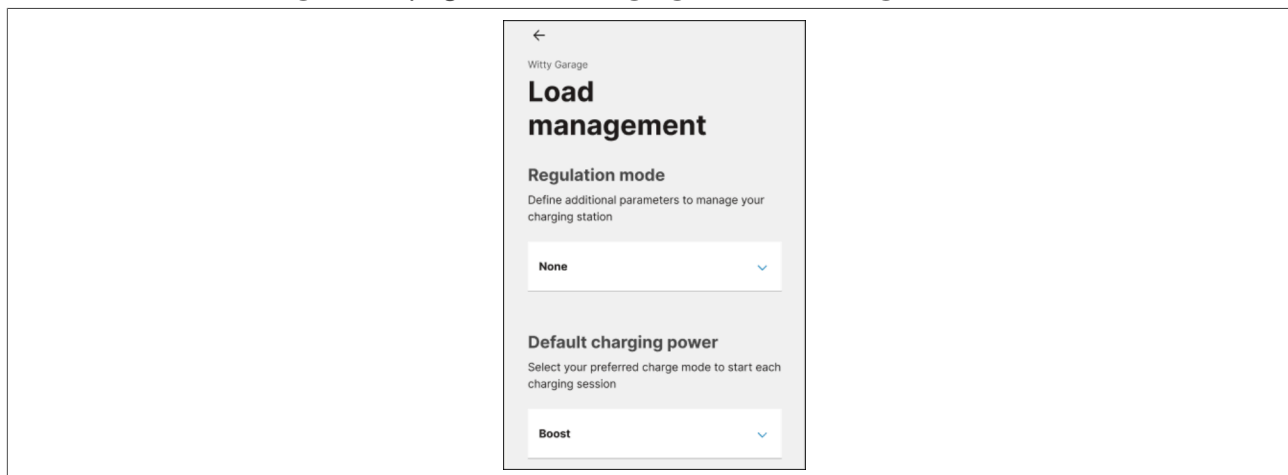
- This menu is used to set the current according to the type of load.
 - Slow load
 - Normal load
 - Automated (only when the TIC card is present)

11.7.1 Configuration of the interface for P1-TIC

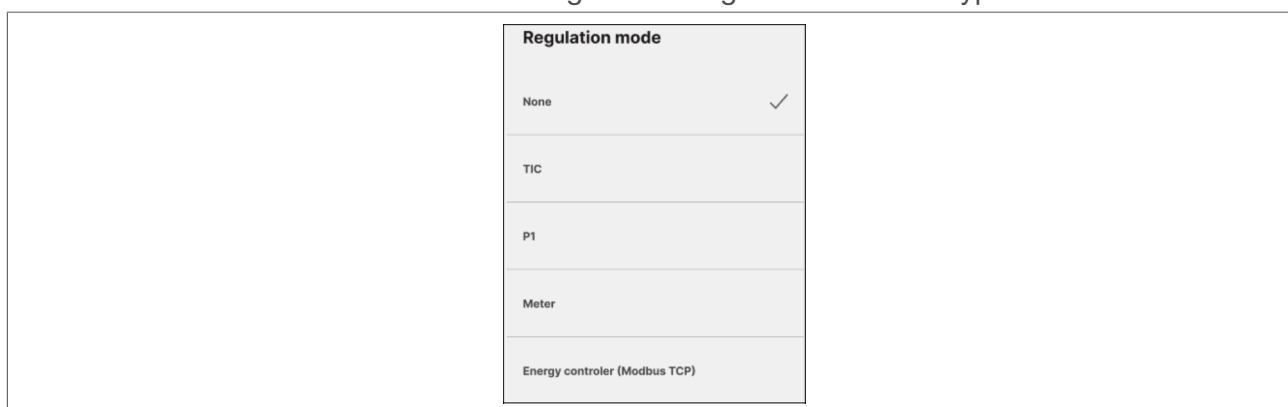
Once the charging station is installed, it is necessary to configure the settings according to the available networks.

On your smartphone:

- 1 Launch the **Hager Charge** application.
- 2 Go to the **Load management** page in the **charging station settings**.



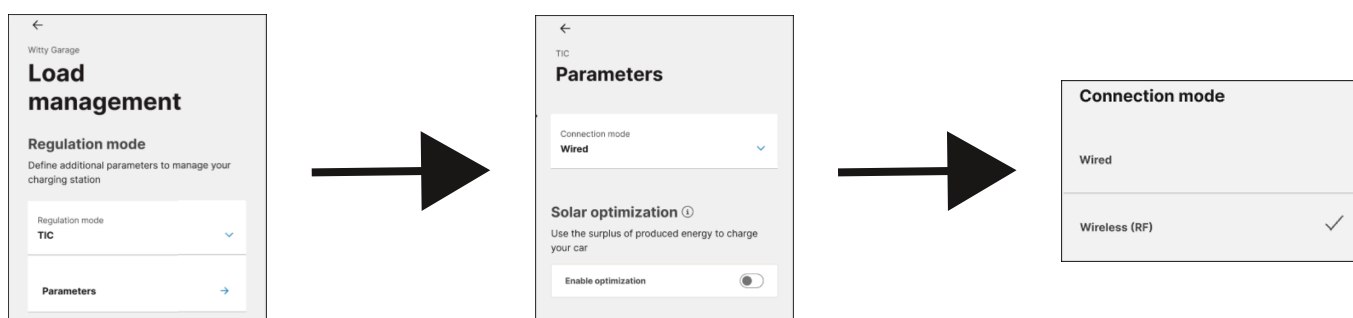
- 3 Click on **Control Mode** to define the settings according to the interface type.



- 4 Select the type of control: **TIC**, **P1**, **Meter** or **Energy Meter (Modbus TCP)**

TIC Configuration

The TIC allows the charging station to receive information directly from the electric meter.

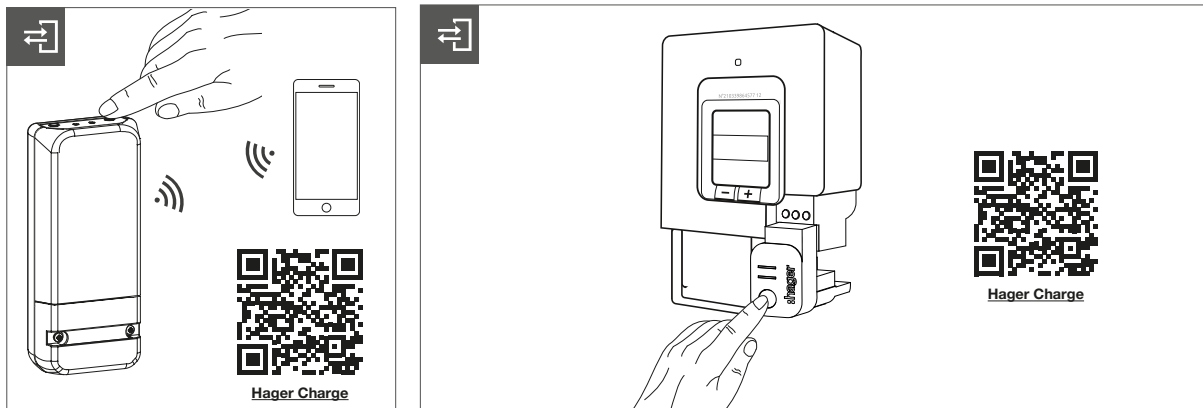


- Select **Settings**
- Select the connection mode: **Wired** or **Wireless**

Wireless TIC Configuration

The wireless network allows a connection between the charging station and the radio gateways (TRPS220 or TRPS120).

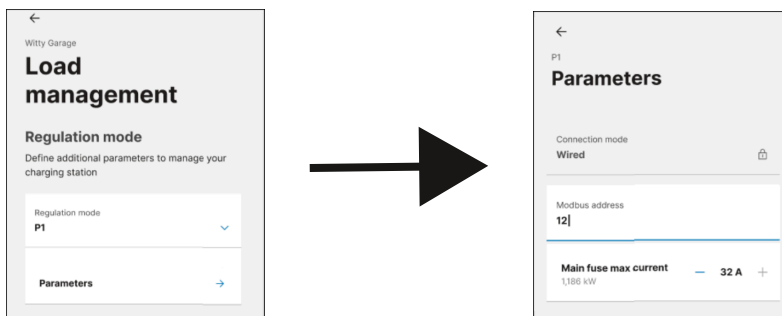
- Click once on the TIC Gateway configuration button



The LED starts flashing. Pairing mode is active for 15 minutes.
The program starts pairing and searches for the connection with the meter.

P1 Configuration

The charging station can use the P1 port to read real-time information from the electricity meter.

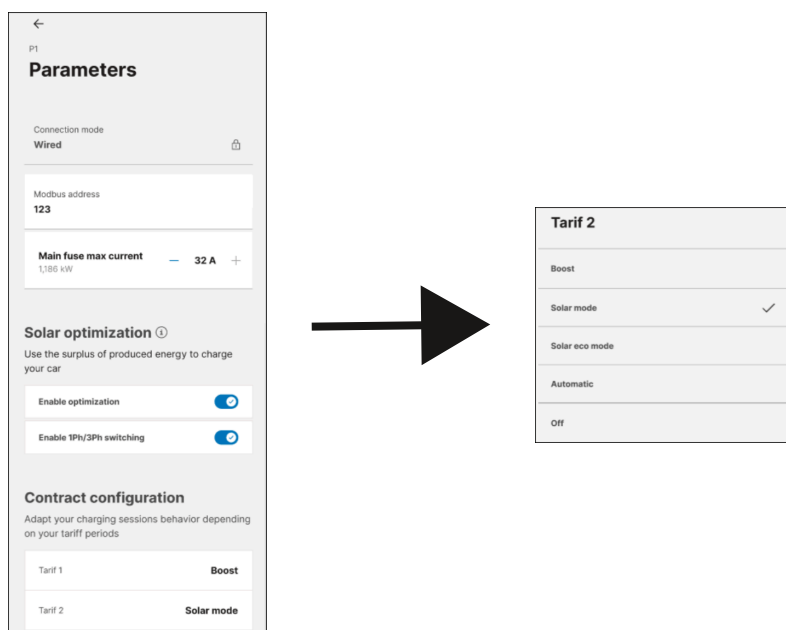


– Click once on the TIC configuration button

The LED starts flashing. Pairing mode is active for 15 minutes.
The program starts pairing and searches for the connection with the meter.

Solar optimisation

Recharge your vehicle using surplus energy produced locally



- **Switching 1Ph/3Ph:** Enables automatic switching from 1-phase to 3-phase mode to optimise the use of available solar energy.



When this option is disabled, the charging station operates continuously in 3-phase mode.

- **Solar mode:** The charging station only activates if the production of renewable energy exceeds domestic consumption.
- **Eco solar mode:** Charging starts as soon as the available solar power exceeds 500 W per phase

11.8 220-240V output

This menu allows you to set the operation of the 230V output of the charging station.

Output function: **Safety switch**

The shunt trip - 230/415 VAC - HAGER MZ203, also called shunt trip coil, provides comprehensive electrical safety for your charging station as an optional addition to the compulsory dual-safety provided by the residual-current disconnecter and circuit breaker. It is used to cut off the power supply to the charging station if the relay in socket T2 is blocked or welded. It is paired with the circuit breaker, which can be tripped remotely.

11.9 Diagnostics

This menu allows you to view the status and measured values of the charging station.

You have access to a real-time display of values. The log file can be exported and is stored in the smartphone memory.

11.10 Installation report

This menu allows you to edit the report including all the settings of the charging station.

- Click on Download to generate the PDF file and copy it to your smartphone.

11.11 Pairing


Download the free Hager Charge app to your mobile device.



Hager Charge



Information

The Bluetooth function  and the location function of your mobile phone must be activated.

- 1 Start the application.
- 2 Accept the general terms and conditions of use.
- 3 Click on 'Next'.
- 4 Click to 'Activate the Bluetooth function'.
- 5 Click on 'Start pairing'.
- 6 Position the pairing badge on the front of the charging station.
- 7 Remove the badge when the indicator on the front panel flashes blue from left to right (this action takes approximately 7 seconds).
- 8 In the application, confirm by clicking the button.
The application performs a scan and displays the device identified.
- 9 Enter device name (optional).
- 10 Click on 'Pair with this charging station'.
- 11 Confirm by clicking 'Pair'.

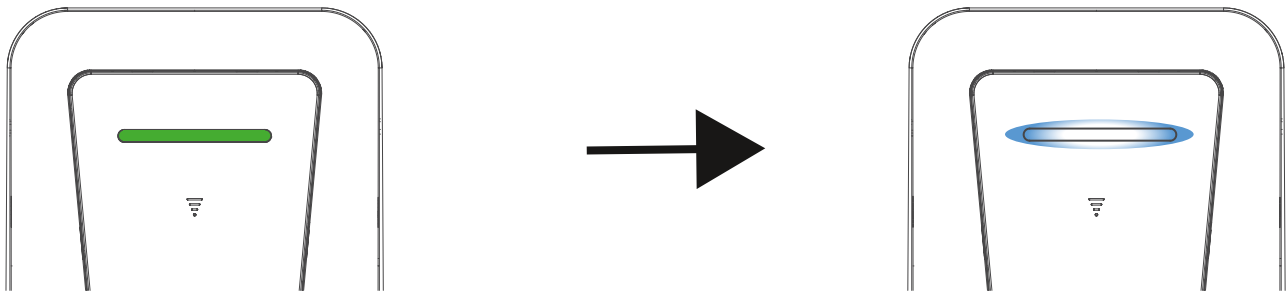
When the pairing process is complete, the following screen appears:



12 Charging station operation


12.1 Operation without a badge

If the charging station does not have access management or restrictions linked to the 220-240V input or a card option, the charging process starts automatically.



The signal strip flashes blue when charging.

If the signal strip flashes green and white alternately, the charging station is waiting for a charging authorisation.

It can be done with an RFID badge properly configured to be passed close to the  logo on the front of the charging station.

12.2 Operation with a badge

Access control can be configured on the charging station. To do so, a valid RFID badge for the charging station is needed.

After connecting the charging station plug to the vehicle, the signal strip flashes (green and white) while waiting for the badge.

- Display the badge close to the logo on the front of the charging station.



If the badge is valid, the signal strip flashes blue. Charging begins.

If the badge is not valid, the warning strip flashes red.

13 Charging an electric vehicle

13.1 Preparation for a charging session


The charging station is ready to operate when the LED signal strip is green.

- Connecting the charging cable to the vehicle
- Connect the charging cable to the charging socket of the charging station.

The vehicle is ready to be charged and the charging process can start.

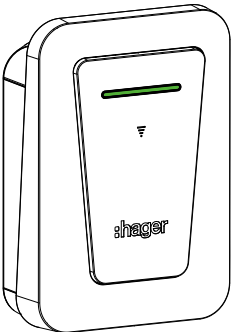




13.2 Stopping a charging session

If the charging station does not have access management, charging is stopped through the vehicle. Please refer to your vehicle's owner's manual for more information.

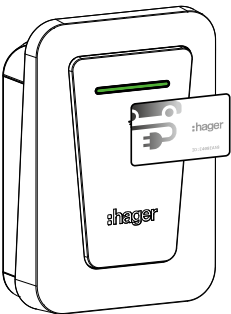
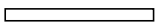


If access to the charging station is controlled, charging can then be stopped through the vehicle or by passing an authorised RFID badge near the  logo on the front of the charging station.

13.3 LED light strip

Operation:

		Charging Station Ready
		Waiting for vehicle authorisation or waiting for sufficient power on the network
		Waiting for user authorisation
		Charging in progress

Operation with the badge:

	<1s		RFID badge reading
	3s< <6s		Charging to forcing or returning to default mode
	6s<		Pairing mode

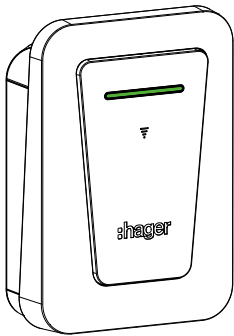
Fault display:



Caution

Damage to the charging station due to a critical error.

- If a critical error is indicated by a solid red light, turn off the charging station for 2 minutes to clear the error.



Charging station faulty

14 Maintenance



Danger

Danger of death by electric shock.

Contact with live parts can cause death by electric shock.

- Before working on the device, switch off all relevant circuit breakers.
- Cover the nearby conductive parts.
- Before carrying out any work on the device, disconnect the charging cable from the charging station and the electric vehicle

Maintenance work must be carried out at regular intervals, taking into account the age and condition of the device, environmental factors as well as usage levels.

Semi-annual maintenance by operator/end customer (recommendation)

- Check that there is no damage to the outside of the unit. In case of damage, take the unit out of service immediately and contact a qualified electrician.
- Check that the electrical switching and safety devices in the secondary distribution system are functioning perfectly and have no visible defects.

15 Appendix

15.1 Technical specifications



Information

This document is not contractually binding and is subject to change without notice

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
Maximum operating altitude	2000 m
Degree of contamination	3
Shock voltage U_{imp}	4 kV
Rated breaking capacity I_{cn} AC according to IEC60898-1	6 kA
Use	intended for use by ordinary persons

Electrical characteristics

Voltage U_e	220-240/380-415V~3
Nominal insulation voltage U_i	250 V~ / 500 V~
Frequency of use f_n	50/60 Hz +/- 1%
Rated current I_{na} / Maximum charging capacity Mode 3	32A - 22 kW
Electrical protection class	Class I (protective earth)
Overvoltage category	III
Earth connection diagram	TN-S, TN-C, TT
Upstream protection	RCBO 3P+N C CURVE 40A RCBO 1P+N C CURVE 40A (In accordance with IEC60898-1)
Power consumption at idle	4.7 W
Conductor cross-section (rigid)	2.5 – 16 mm ²
Conductor cross-section (flexible)	2.5 – 16 mm ²
Built-in differential protection in accordance with IEC62955	6 mA DC
Modbus/Ethernet circuit type permitted in accordance with IEC62368-1	SELV TRT-1 (1500V max transient overvoltage)

Mechanical properties

Weight	3.8 kg
Height	370 mm
Width	250 mm
Depth	150 mm

Packaging specifications

Weight	7.9 kg
Height	595 mm
Width	270 mm
Depth	300 mm

Classification

Power input	power supply system for electric vehicles (EV) permanently connected to alternating current power supply
Power output	alternating current power supply system for EV
Environmental and operating conditions	for indoor and outdoor use
Location	for open or restricted access areas
Ventilation	not supported

Classification

Types of badges accepted	MIFARE classic, 1k/4k; MIFARE DESFire EV1 & EV2 SAM AV3 - RFID ISO 14443A/B; ISO15693. - NFC tags 1, 2, 3, 4, 5
Compatibility with differential protection	Type A (6 mA DC detection is integrated into the charging station, in accordance with NF EN 61851-1)
Electric vehicle (EV) power supply input	Power system connected to AC mains (permanently connected)
Power supply output	Alternating current power supply system for the EV
Assembly type	AEVCS, enclosed mounting
EMC classification	Immunity and emission (Class B) for residential application
Mounting type	Stationary equipment for surface-mount installation on walls, pedestals, fixed poles, columns or conduits. DO NOT INSTALL horizontally on ground or ceiling
Charging mode	Mode 3 via T2S socket
Adapter (in accordance with the standard EN IEC 61851-1)	No plug adapter may be used between the charging station and the charging cable or between the charging cable and the car. Adapters may only be used in the charging socket of the electric vehicle if they have been specially designed and approved for this purpose by the vehicle or charging station manufacturer and comply with applicable national standards. These adapters must comply with all standards applicable to the adapter parts that are connected to the charging cable plug or the charging socket of the electric vehicle. These specific conditions of use must be indicated on the adapter, e.g. IEC 62196 series. The use of adapters that change the charging mode of the charging station is prohibited.
Cable length and cable extension	No extension of the charging cable is permitted; the charging cable must be in one piece and no longer than 7.5 m

Input (IN) / Output (OUT)

Input voltage	220-240V~
Output voltage	220-240V~
Max. output current	1 A

RFID

Frequency band	13.553 - 13.56 MHz
Max. radiated power	42 dBμA/m (at 13.56 MHz)

Bluetooth

Frequency band	2.402 - 2.480 GHz
Max. radiated power	100 mW

Wi-Fi

Frequency band	2.412 - 2.472 GHz
Max. radiated power	100 mW

Ethernet

Flow rate	10/100 Mbps
Shape of cable	FTP cat5e minimum

Modbus

Baud rate	1200 baud to 38400 baud
Shape of cable	RJ45 Hager cable HTG465H or equivalent (2 twisted pairs 0.25m ² shielded)

Integrated MID meter

Class index	B
Minimum current	0.25 A
Maximum current	32 A

15.2 OCPP Protocol

Message	Core	Firmware Management	Local Auth List Management	Remote trigger	Reservation	Smart Charging
Authorize	X					
BootNotification	X					
ChangeAvailability	X					
ChangeConfiguration	X					
ClearCache	X					
DataTransfer	X					
GetConfiguration	X					
HeartBeat	X					
MeterValues	X					
RemoteStartTransaction	X					
RemoteStopTransaction	X					
Reset	X					
StartTransaction	X					
StatusNotification	X					
StopTransaction	X					
UnlockConnector	X					
GetDiagnostics		X				
DiagnosticsStatusNotification		X				
FirmwareStatusNotification		X				
UpdateFirmware		X				
GetLocalListVersion			X			
SendLocalList			X			
TriggerMessage				X		
CancelReservation					X	
ReserveNow					X	
ClearChargingProfile						X
GetCompositeSchedule						X
SetChargingProfile						X

15.3 Identification of compatible vehicles in accordance with EN 17186

Alternating current	EN 62196-2	Type 2	Plug Power socket base	< 480 V RMS	
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15.4 Power reduction

The maximum load current can be limited by the charging demand from the vehicle and/or the temperature inside the charging station.

15.5 CE Declaration of Conformity

Hager hereby declares that the charging station products with references XVL122Sxx comply with the RED 2014/53/EU directive. The EU declaration may be viewed at: www.hagergroup.net.

15.6 Disposal of the charging station

Disposal note



Correct disposal of this product (electrical waste).

(Applicable in the European Union and other European countries with separate collection systems).

This marking 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 from uncontrolled waste disposal, please separate this device from other types of waste. Recycle the device responsibly to promote the sustainable reuse of material resources.

Household users should contact either the dealer where they purchased this product, or their local government office, for details of where and how they can take this device for environmentally safe disposal.

Commercial users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial waste for disposal.

15.7 Warranty

We reserve the right to make technical and design changes to the product in the interest of technical progress.

Our products are under warranty within the scope of the statutory provisions in force. For warranty cases, please contact your trade partner.



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