1. Please read before carrying out any electrical wiring on the charging station

1.1. Wiring the shunt coil (Shunt Trip function)

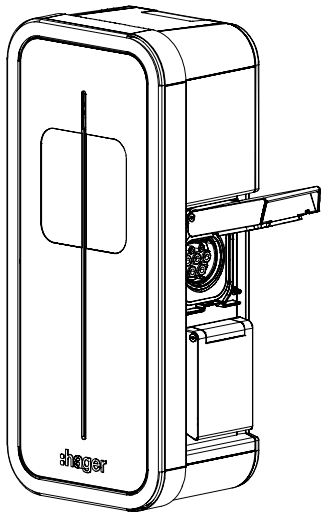
The electrical wiring of the shunt coil of this new charging station has been modified compared to the old Hager Witty Premium and Witty Eco stations.

To prevent any malfunctions in the charging station, please refer to chapter 7. Wiring the shunt coil MZ203 (Shunt Trip function).

2. Overview of the standard range

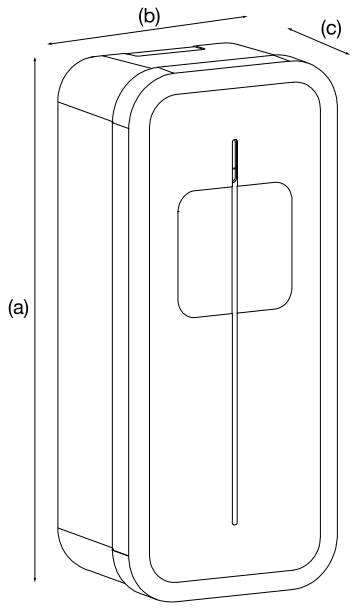
Description of the product reference structure

Reference XEV1K07T2 for example:	
XEV1	code for the charging station 1 charge point
K	key-controlled access (Key)
04/07/11/22	charging station power in kW
T2	T2S mode 3 socket (secure T2 socket)
Other references	
XEVAxxx	accessory for charging stations
XEVSxxx	spare part for charging stations

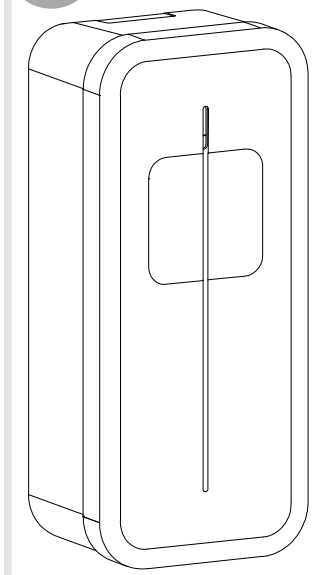


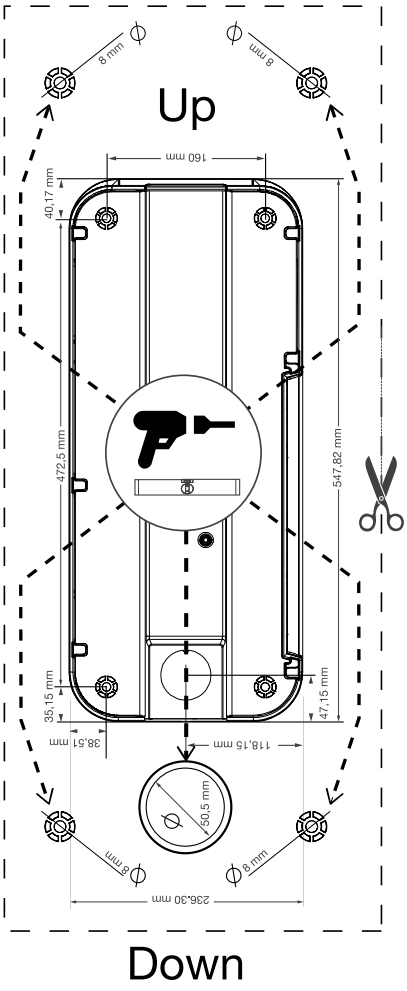
Charging stations with T2/T2S socket

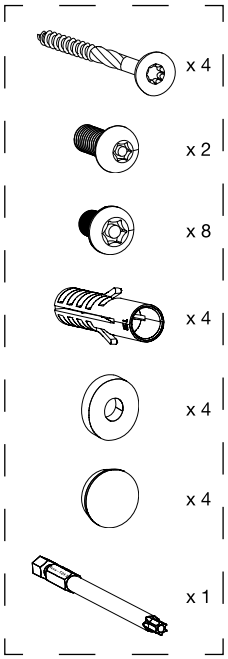
Ref.: XEV1K04T2 / XEV1K07T2 / XEV1K11T2 / XEV1K22T2

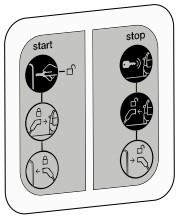


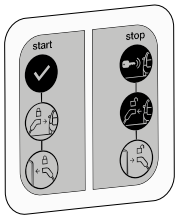
a (mm)	549
b (mm)	250.5
c (mm)	173





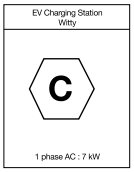


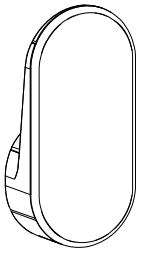




2 locking keys to secure access to the charging station and located inside the charging station.

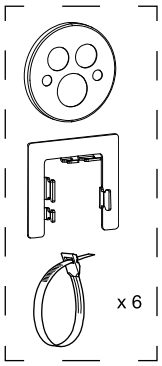
Identification label

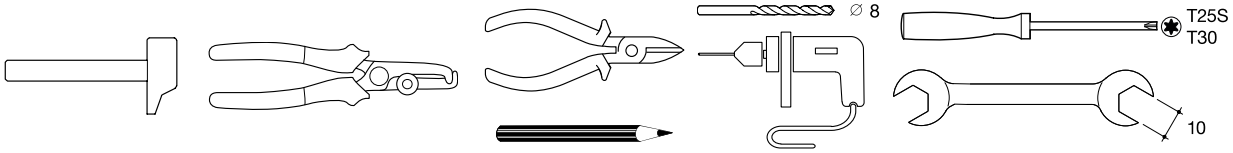




Optional

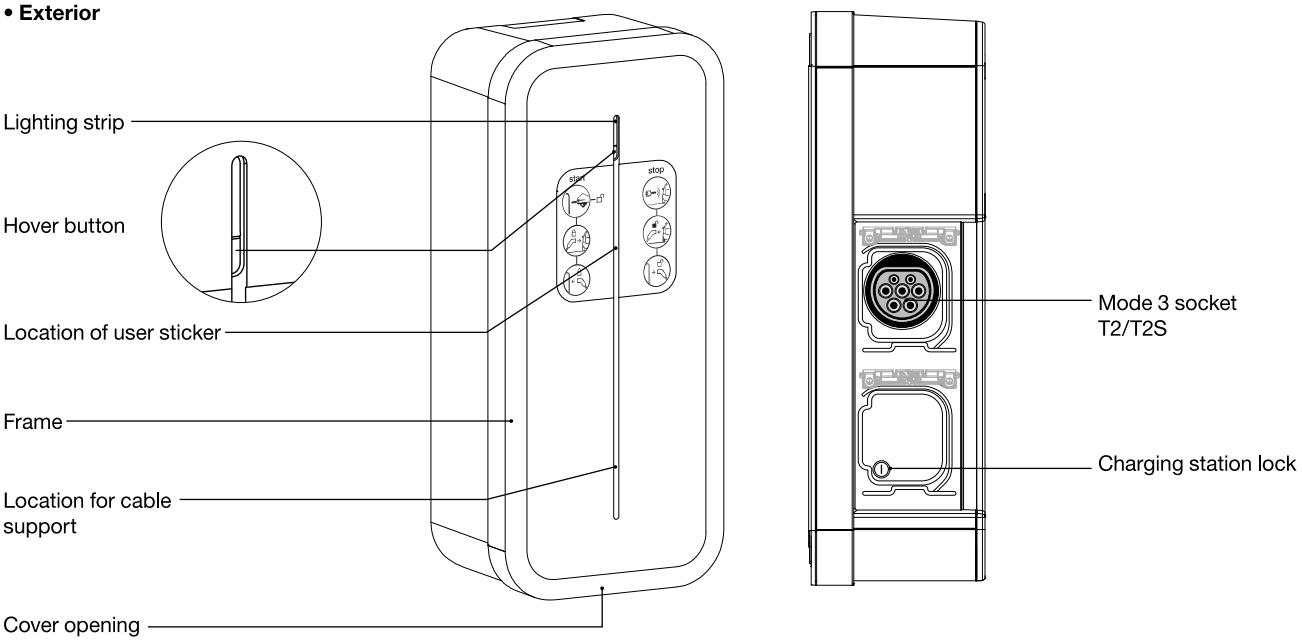
Ref.: XEVA100
Refer to the instructions provided with the cable support to install it.



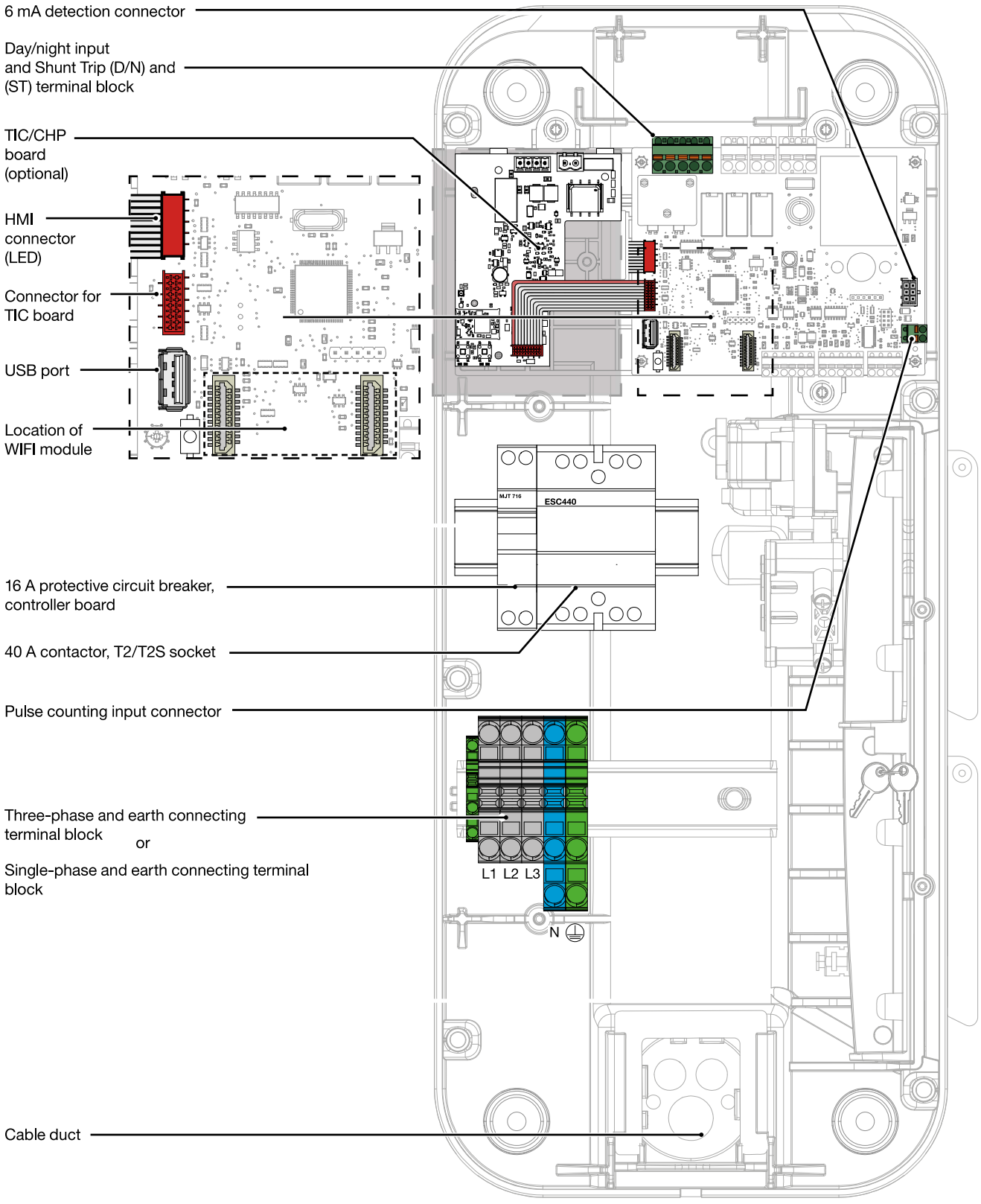


3. Description of the exterior

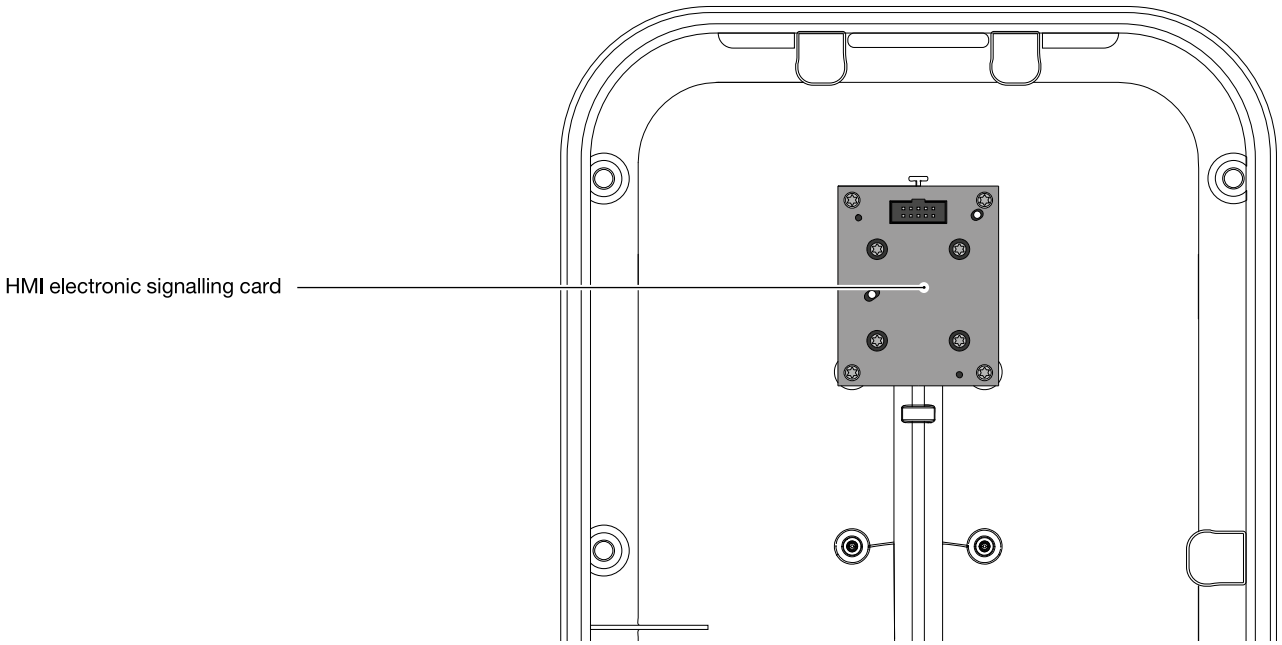
• **Exterior**



• **Electrical composition of the base**

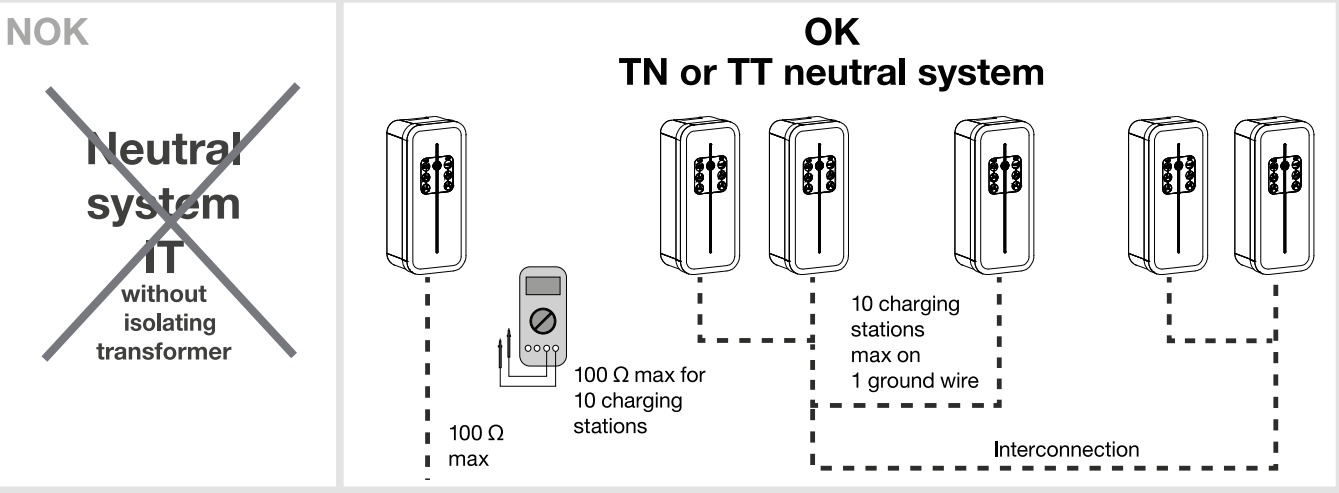


• **Electrical composition of the front panel**

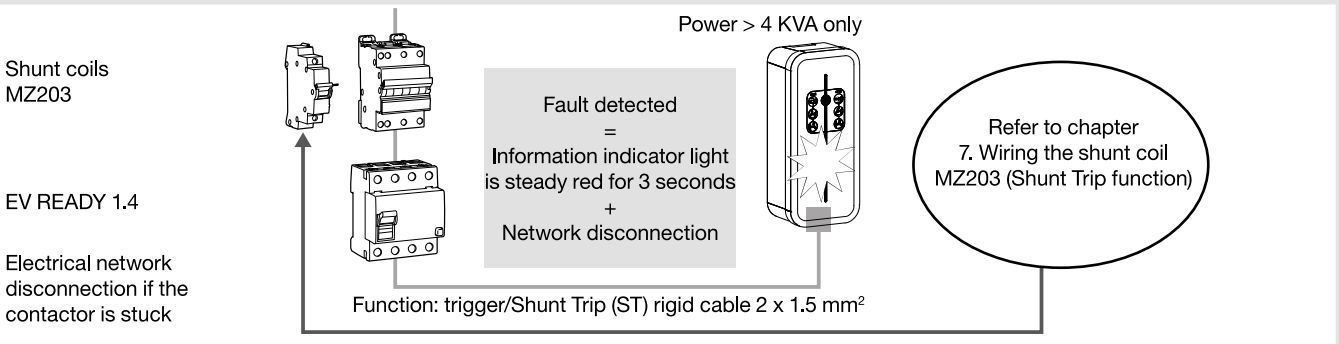


5. Electrical protections for charging stations

• **Quality of the earthing according to the EV READY label 1.4**



• **Detection of contacts stuck to the contactor according to the EV READY 1.4 label.**
All of the charging stations with a rated load power greater than 3.6 kW are provided with a device that detects if a contact is stuck to the contactor.

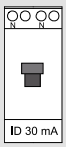


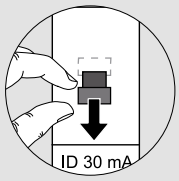
The 6 mADC detection is integrated into the charging station, making it possible to dispense with a type B differential (according to standard NF-EN 61851-1 : 2017). All of the circuits must be fully installed in the same building structure (from an electrical point of view).

6. Installation

6.1. Opening

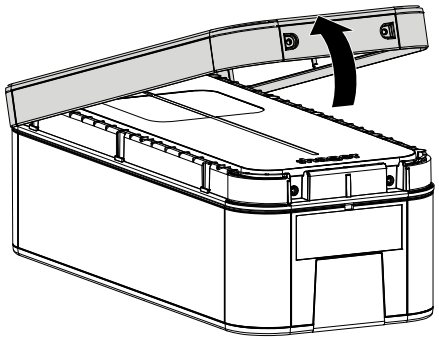
The charging station must be switched off before opening.





When leaving the factory, the frame and the front panel are not screwed on, and the cable of the front LED electronic board is not connected.

1



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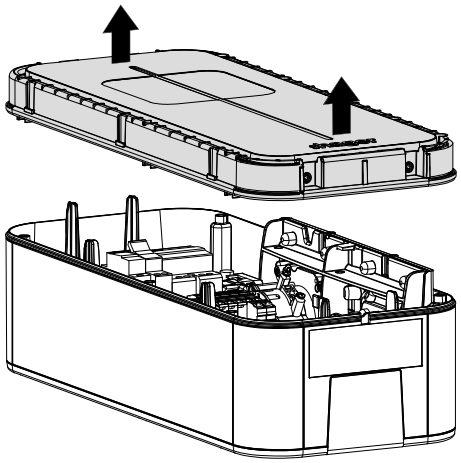

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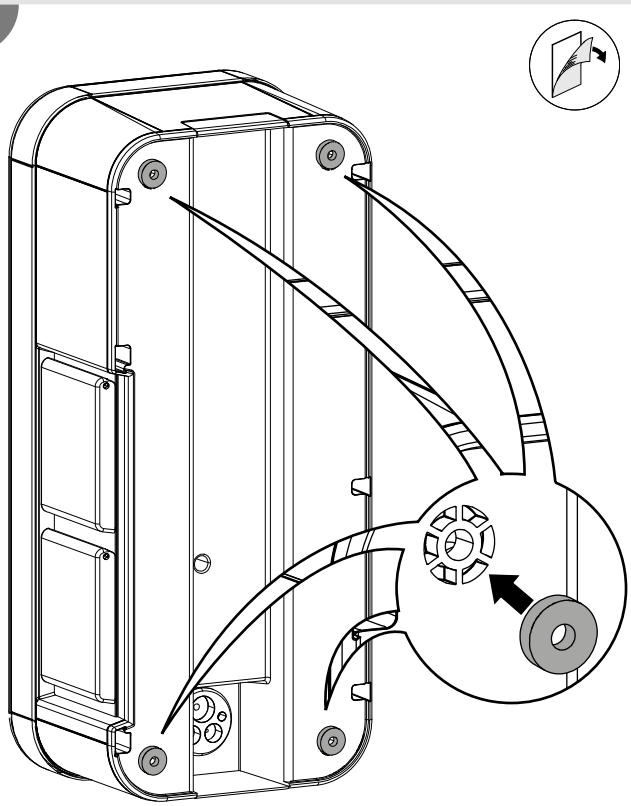
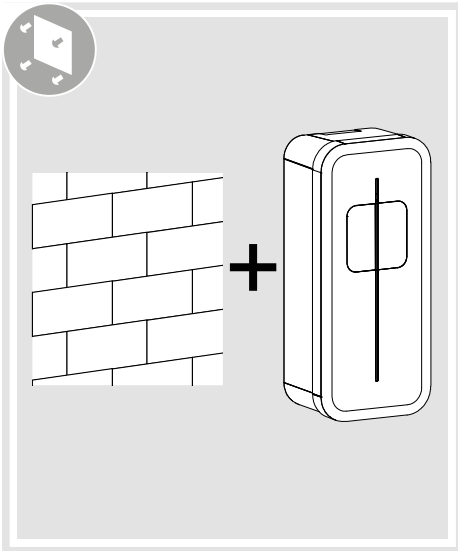


6.2. Mounting

Before mounting the charging station, please ensure that all of the cables are present:
- **3 Ph + N + Earth** for a three-phase charging station, wire diameter: 5G10 or 5G16 flexible or rigid **or 1Ph + N + Earth** for a single-phase charging station, wire diameter: 3G10 or 3G16 flexible or rigid,
- an SYT2 remote reading cable, or failing that, a cable with 1 twisted pair (wired connection) with a TIC board,
- a 2-wire cable (2 x 1.5 mm²) for the “Shunt Trip” function and/or the Day/Night (D/N) function (optional),
- the minimum wire diameter for a charging station with a current rated at 32 A is 10 mm².



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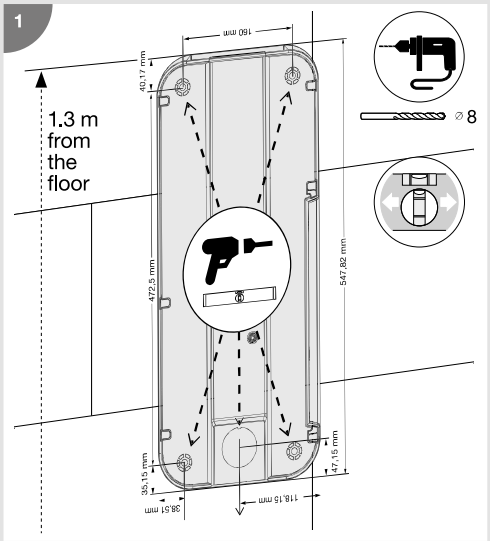

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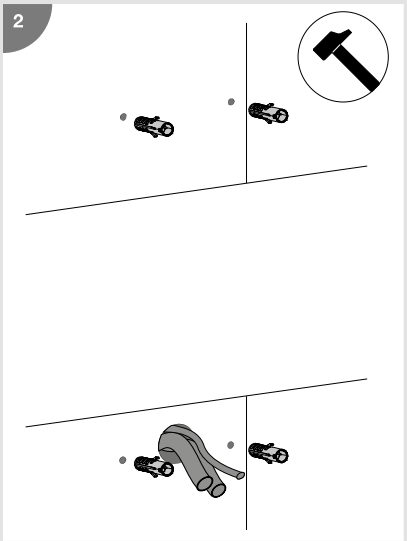

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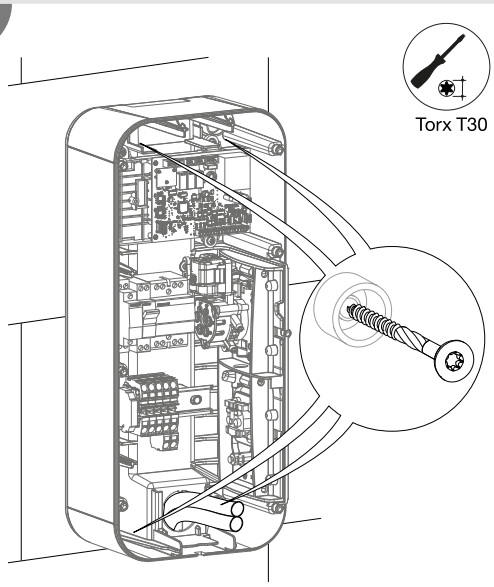
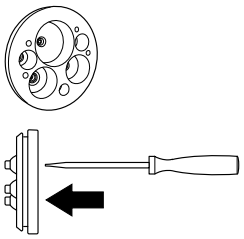
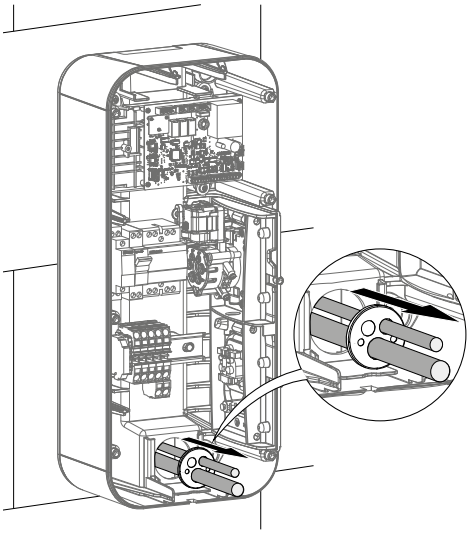


4

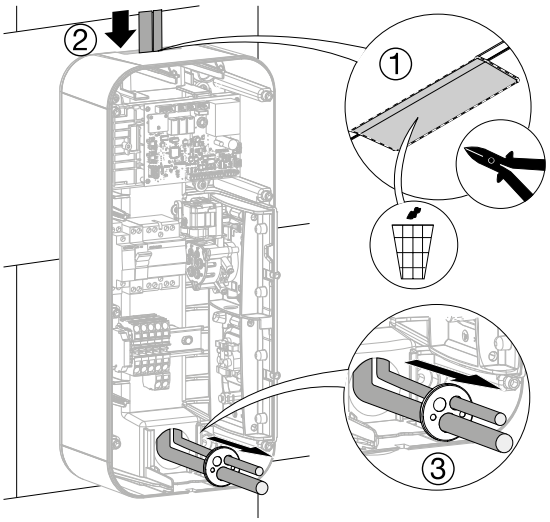
Drill the number of holes required according to the number of cables to be inserted.



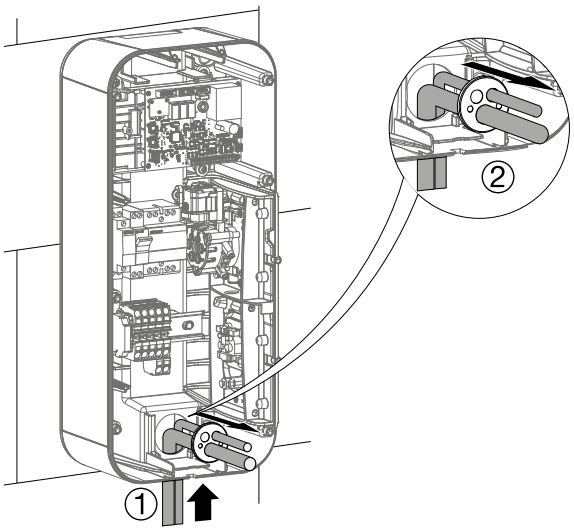
• Cable inlet at the back.



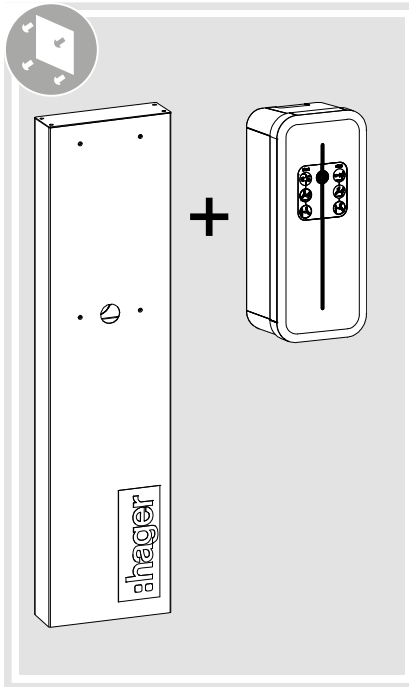
• Cable inlet at the top.



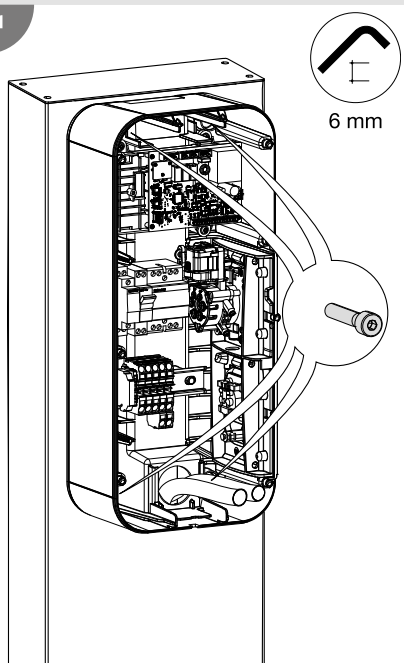
• Cable inlet at the bottom.



Refer to the instructions supplied with the stand to install the XEVA110 (for 1 charging station) or XEVA115 (for 2 charging stations) base and stand. Then follow the steps below.



1



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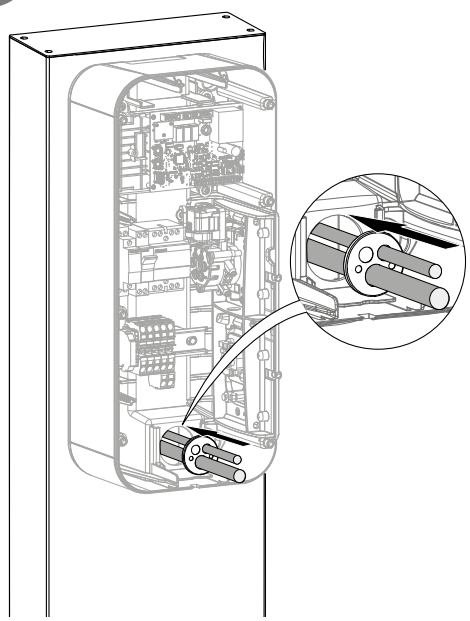
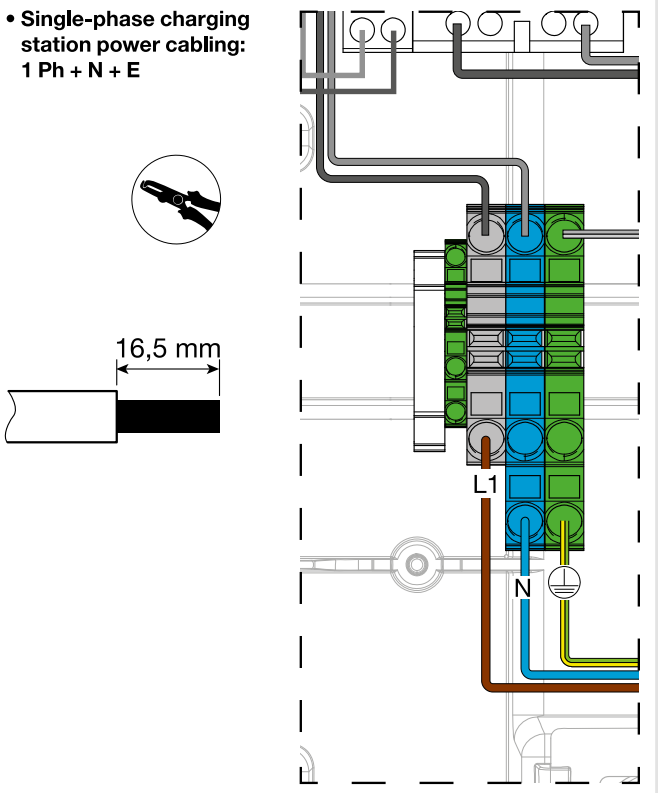
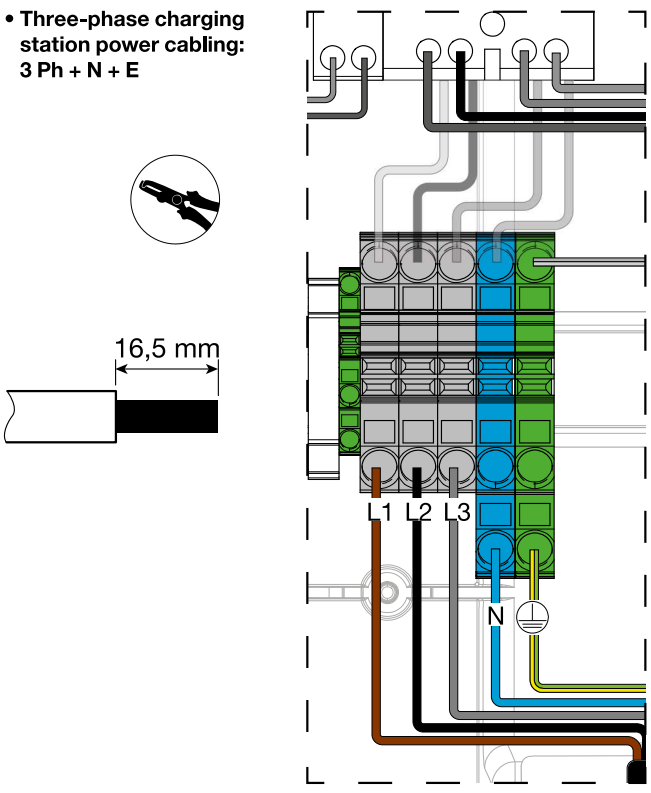


7. Power cabling

- **Single-phase charging station power cabling: 1 Ph + N + E**

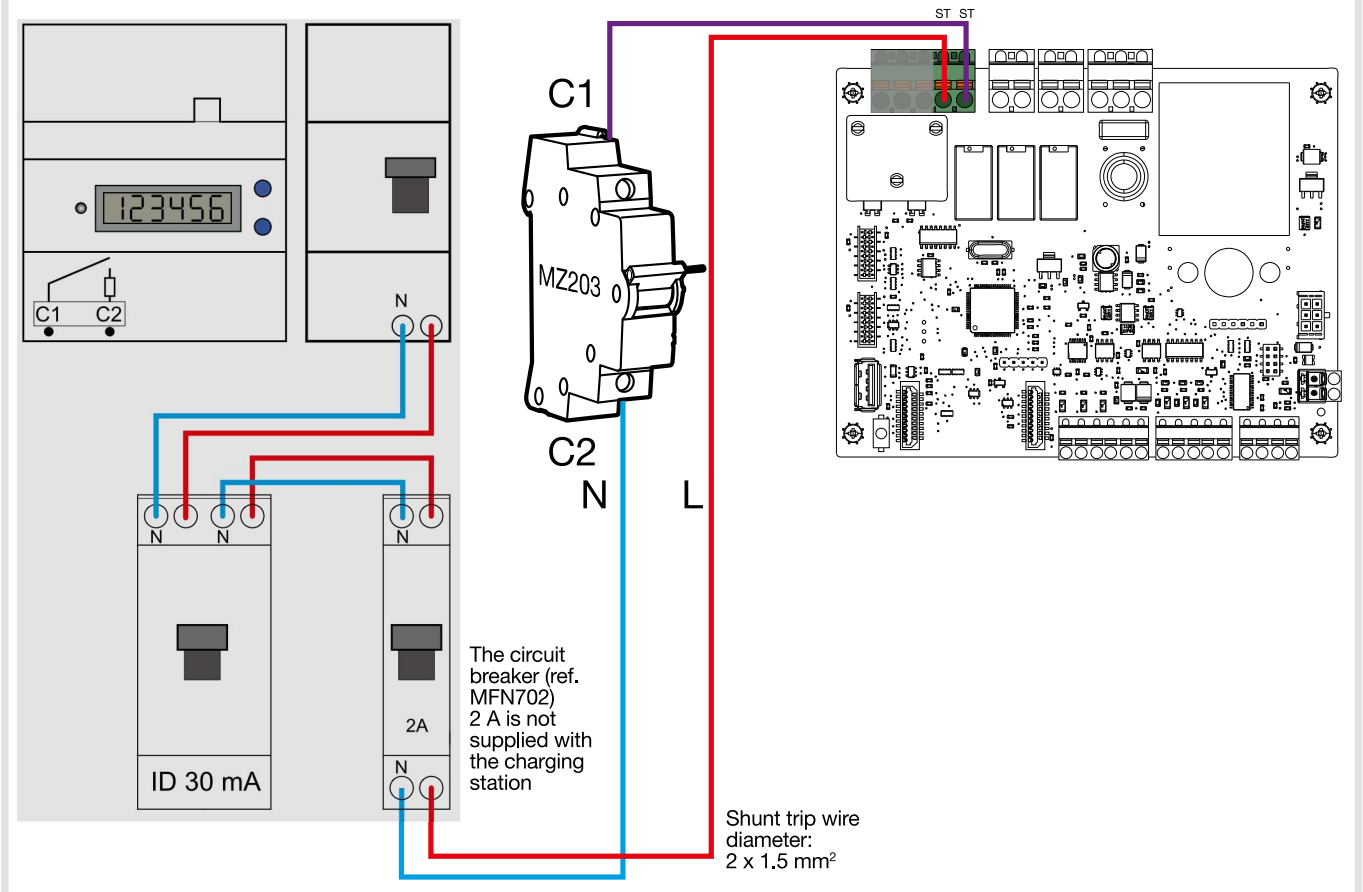


- **Three-phase charging station power cabling: 3 Ph + N + E**



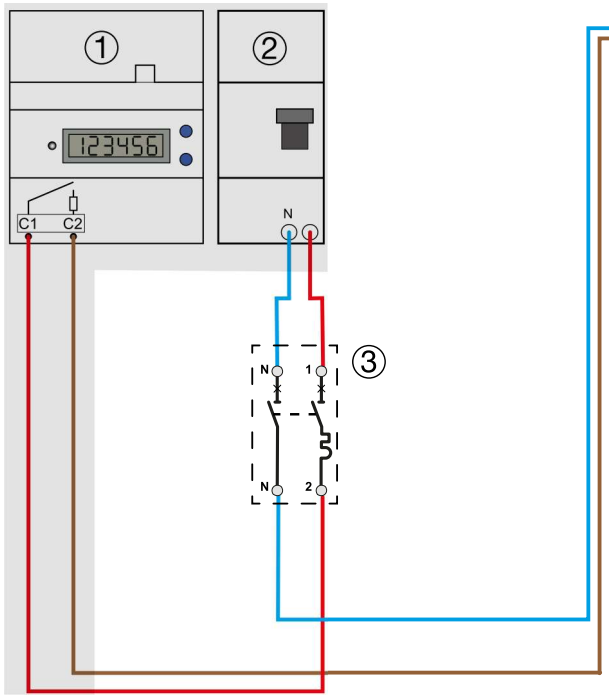
8. Wiring the shunt coil MZ203 (Shunt Trip function)

The shunt coil - 230/415 V AC - HAGER MZ203 is an additional, non-compulsory safety mechanism that complements the mandatory differential switch + circuit breaker pairing, in order to ensure the complete electrical protection of your charging station. It is implemented to cut the power to the charging station in the event that the contactor of the T2/T2S socket becomes stuck.
The shunt coil must be present in order to obtain ZE Ready certification.
It couples to the circuit breaker, enabling it to be tripped remotely.



9. Wiring deferred charging

Use the 230V input to shed or authorize the load (with a digital time switches for example):

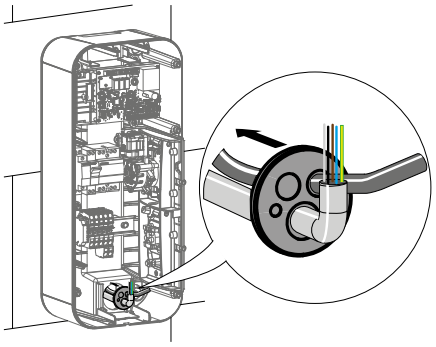


0 V~ : no load
230 V~ : load

① Supplier electronic meter
② Subscriber circuit breaker
③ 2A protection circuit breaker
④ Day/night terminal block of the charging station

10. Finalisation

1



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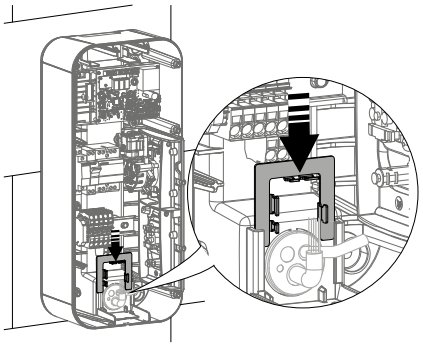

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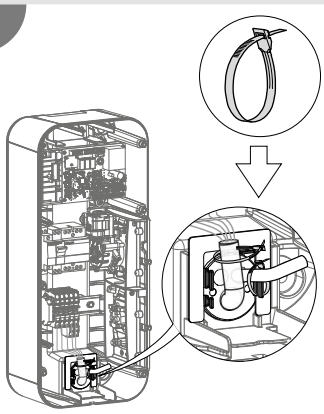

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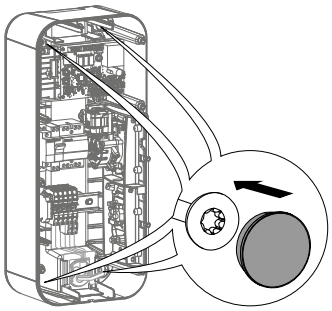
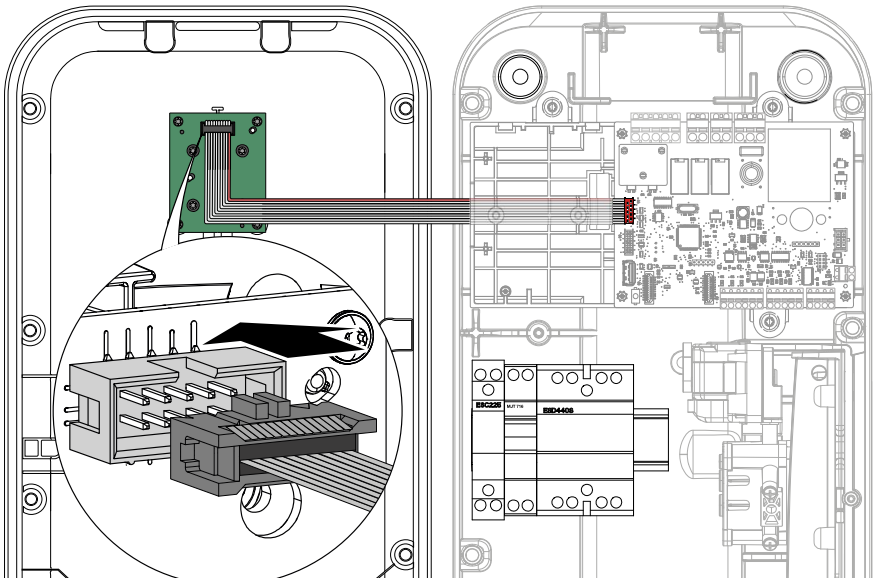


5 **Cable the HMI ribbon cable**



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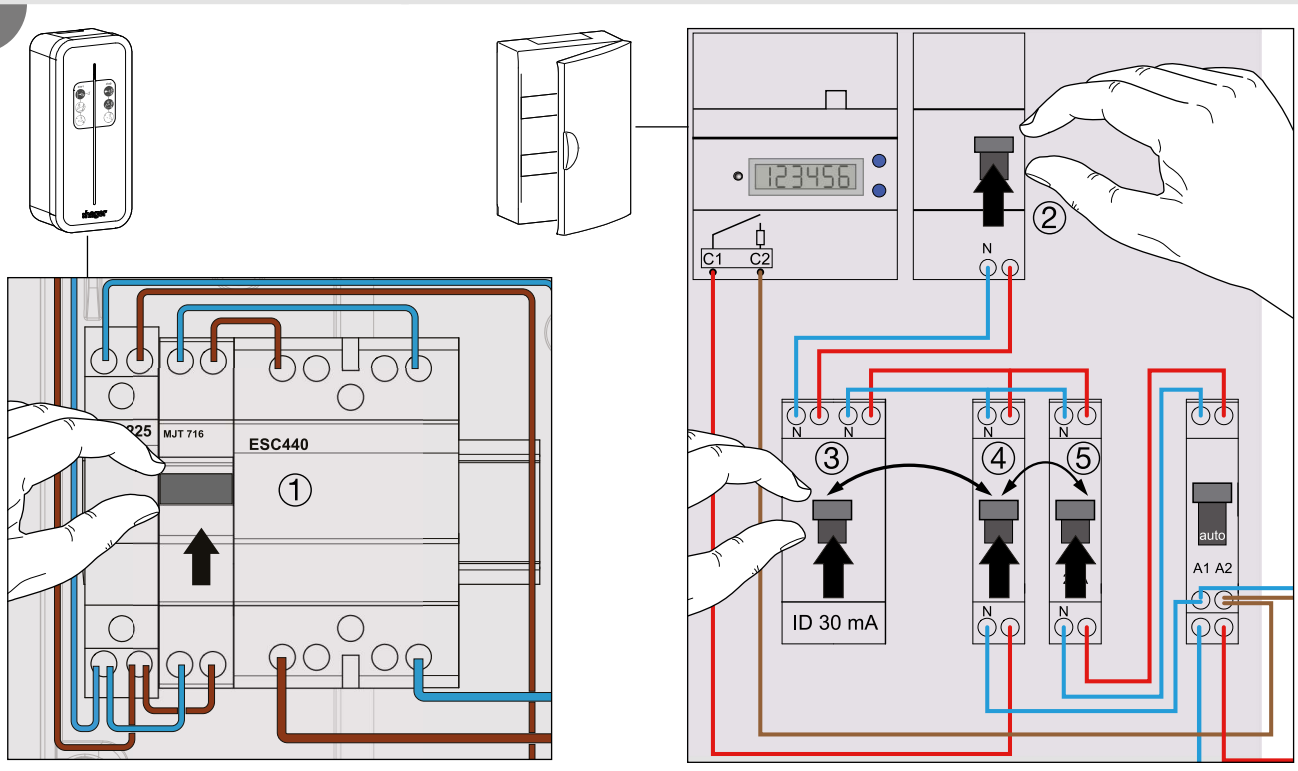


11. Charging station configuration

No vehicle must be connected when the charging station is switched on.

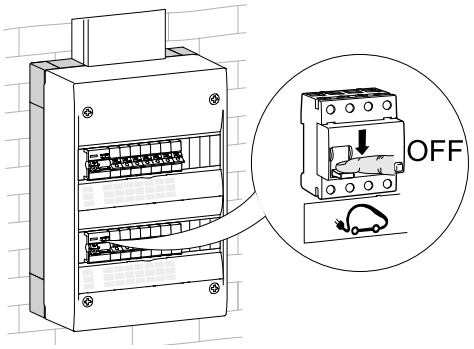
If the key lock has been activated in the charging station configuration, then for any action on the station such as configuration, vehicle charging, mode change, forcing the charge, charge release or switching to hotspot mode, the station must be in the unlocked position (key in the ON position).

11.1. Charging station configuration procedure

On leaving the factory, the charging station is pre-configured to operate with its configuration. An example configuration with a detailed description is provided in step 7 "Edit configuration".
To modify certain charging station operating parameters, according to the electrical installation and/or your customer requirements, **a blank USB flash drive must be used for each new installation** (supplied with those stations with a TIC board). For charging stations that do not have a TIC board, use a 1 to 4 GB USB flash drive in FAT32 format.
If, however, the factory settings comply with the customer's end use, please go directly to chapter 13. Charging station closure.

11.2. Modify the settings using a USB flash drive

1



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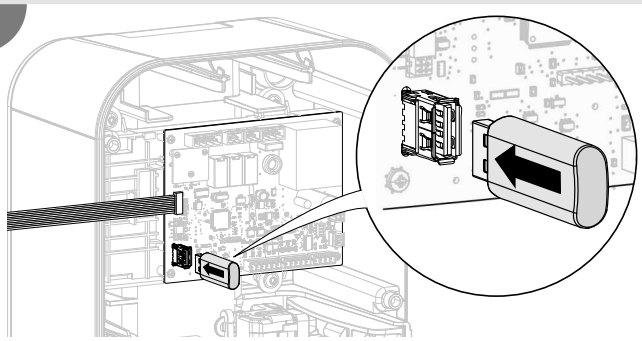

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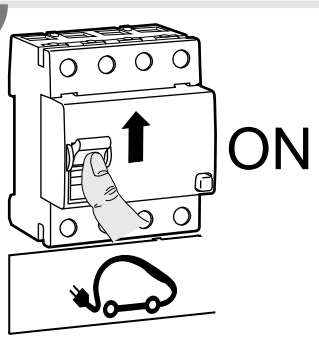
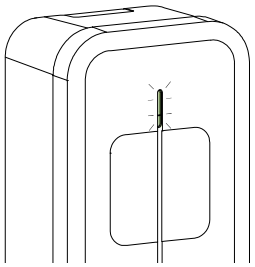
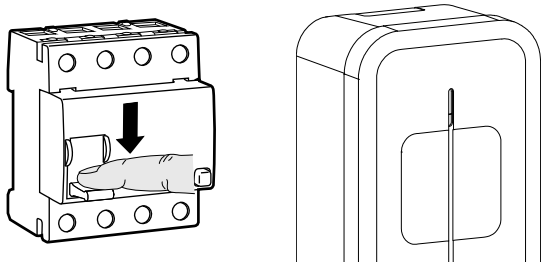


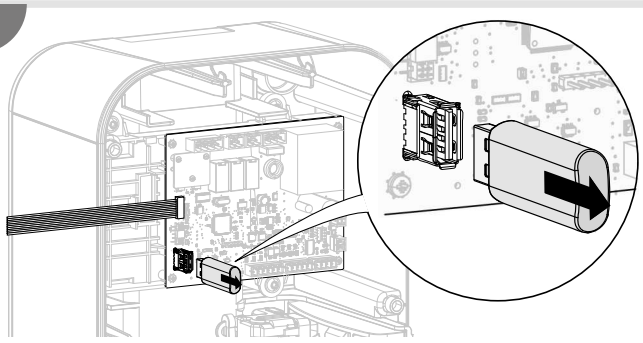


- If the charging station is equipped with a TIC board, please wait 60 seconds for all of the parameters of the electric meter to be taken into account.
- After a few seconds, the green LED on the controller board lights up, flashes twice and then stays on. The "B1280 diagnose.txt" configuration file was copied to the flash drive as well as a "B1280 logs.csv" log file, which traces all the events that have taken place on the charging station. This file is empty at the first charge.

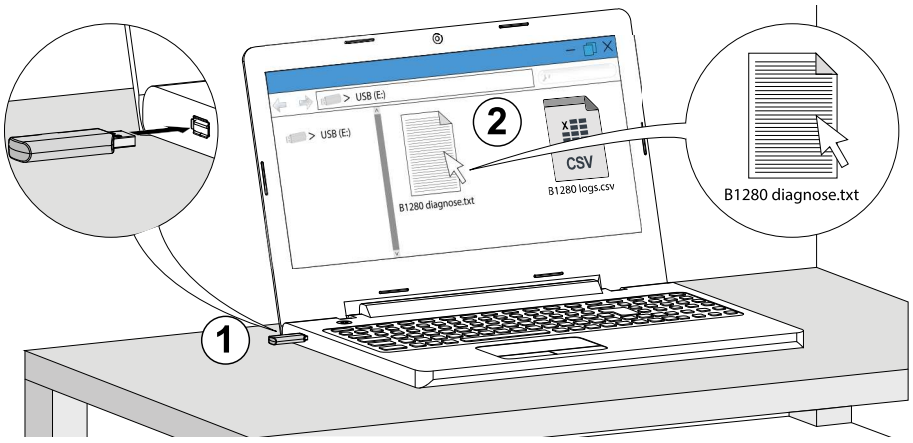
4



5



6



• **Configuration for compliance with EV Ready 1.4:**

For compliance with EV Ready 1.4, the "Charging station current" parameter can only take values whose cells are marked with a tick in the table below.

	Charging station on	
	single-phase network	three-phase network
10 A		
13 A	✓	✓
16 A	✓	✓
20 A	✓	✓
25 A	✓	✓
32 A	✓	✓

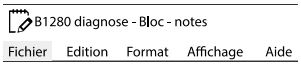
• **Configuration for compliance with ZE Ready 1.4:**

For compliance with ZE Ready 1.4, the "Charging station current" parameter can only take values whose cells are marked with a tick in the table below.

	Charging station on	
	single-phase network	three-phase network
10 A		
13 A		
16 A		✓
20 A	✓	✓
25 A	✓	✓
32 A	✓	✓

7. Modifying the configuration

The text file **B1280 diagnose.txt**, which was generated on the USB flash drive, is used to configure certain functions of the charging station.
The first column contains the names of the **parameters**; this column must not be modified.
The second column corresponds to the **current value** of the parameter; it can be modified. The one below is an example of an XEV1K07T2 charging station.
The third column indicates the **values authorised** on the relevant parameter.
Example: I want the lock to be enabled in order to limit access to the charging station.
To do this, replace **0** with **3** in the current value column.



[Config]
Access control = **0** # 0->Stand Alone-Home
3->Key-Switch

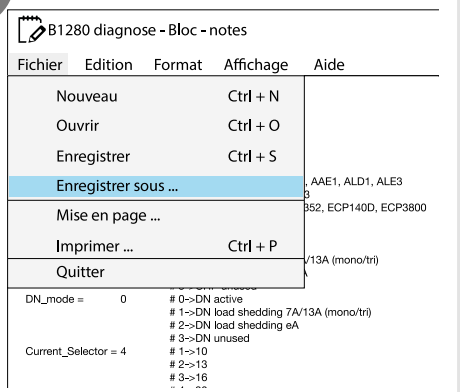
Parameters	Current values	Authorised values	Comments
[Config] Access control =	0	# 0->Stand Alone-Home # 3->Key-Switch	This field takes the value 0 if the customer does not want to use the key. The charging station will always remain accessible for vehicle charging. It takes the value 3 if the customer wants to use the key. In this case, the charging station must be unlocked (put the key in the ON position) to charge the vehicle. Once charging has started, the key can be turned to OFF and removed. The charge will finish but a new charge will not be allowed.
[Manager] Name =	” “	# Charge Point Name	You can give a name to the charging station between the quotes, for example: the name of the customer. Example: "René Dupond". The diagnose file generated will be "B1280 René Dupond.txt" and the log "B1280 logs René Dupond.csv".
Wh_per_impulse =	0	# 0->No Counter # 1->ECP140D, ECR140D, SAIA BURGESS AAD1, AAE1, ALD1, ALE3 # 5->ECP380D, ECR380D # 10->SAIA BURGESS AAE3 # 100->HAGER EC051, EC352	This parameter takes the value 0 if no meter is used in the charging station. It takes the value 1 for the ECP140D meter and the value 5 for the ECP380D meter. Refer to the B1280 diagnose .txt file when using other meters.
Phase_number =	1	# 1->single phase # 3->three phase	This parameter is set by default according to the type of charging station: to the value 1 in the case of a single-phase station and to 3 in the case of a three-phase station. A three-phase charging station can be connected to a single-phase electrical network. In this case, this parameter must be set to 1 and it is imperative to connect the phase/neutral power supply to phase 1 of the three-phase charging station.
CHP_mode =	3	# 0->CHP active # 1->CHP load shedding 7A/13A (mono/tri) # 2->CHP load shedding 0A # 3->CHP unused	This parameter should be set when the CHP* function is required, i.e. with a cogeneration system. When this parameter is set to 0 and the CHP input is active, it signals to the controller that energy is supplied by an alternative way (cogeneration, photovoltaic, etc.) and that it can charge the car with a clean or more attractive energy. Values 1 and 2 are, respectively, partial or total load shedding functions. They make it possible to limit the vehicle's charge to 7 A for a single-phase charging station and 13 A for a three-phase station or to completely stop the charge if the domestic consumption is excessive. A Hager load shedder, reference 60060, should be added to the electrical installation. The default value for this parameter is 3; the function is not used.

Parameters	Current values	Authorised values	Comments
DN_mode =	3	# 0->DN active # 1->DN load shedding 7A/13A (mono/tri) # 2->DN load shedding 0A # 3->DN unused	This parameter is to be used in the case of an electrical installation with a Ferraris meter combined with a Day/Night tariff. When the contact of the Day/Night contactor is connected to the D/N input of the charging station controller, this parameter must be set to 0. It will enable the vehicle to be charged during off-peak hours for a more advantageous price. The functions of parameters 1, 2 and 3 are identical to the functions of the CHP_mode parameters.
Current_Selector =	6	# 1->10 # 2->13 # 3->16 # 4->20 # 5->25 # 6->32	This parameter is pre-configured for all of the charging stations according to the maximum power supplied by this one. It limits the charging current of the vehicle according to the total available power of the electrical installation. It must be readjusted if an electrical installation does not include TIC and where the total power installed in the home exceeds the power supplied by the electrical installation.
Deferred =	1	# 0->Immediate # 1->Deferred inclusive # 2->Deferred exclusive	This parameter defines the basic operation of the charging station. With a value of 0 (Immediate), the charging station operates under immediate charge without taking into account a tariff optimisation (via the TIC) or the D/N and CHP inputs. With a value set to 1 (Deferred inclusive) or when the D/N or CHP inputs are at 1, charging only starts (via the TIC) during the off-peak periods of the customer's subscription, and only stops when vehicle charging is complete. With this value set to 2 (Deferred exclusive) or when the D/N or CHP inputs are at 1, charging only starts (via the TIC) during the off-peak periods of the customer's subscription and stops on returning to the peak hours period, even if the vehicle has not been charged.
Consent Tic =	0	# 0->No consent # 1->Consent ok	This parameter is used when using the XEVA220 Wi-Fi accessory card.
DN Delay =	0	# Day night delay in minute (up to 1440)	This parameter complements the DN_mode parameter. It makes it possible to delay the start of the vehicle charge when switching to off-peak hours from 0 to 1440 minutes in order to avoid a peak in domestic consumption when switching to off-peak hours. This parameter is set to 0 when a TIC is present because the load management becomes dynamic.
Phase mapping =	0	# 0->L1-L2-L3 # 1->L1-L3-L2 # 2->L2-L1-L3 # 3->L2-L3-L1 # 4->L3-L1-L2 # 5->L3-L2-L1	This parameter makes it possible to reposition the order of the three phases of the three-phase network on the charging station without having to rewire it. By default, the value is 0. For single-phase charging stations, this parameter is used to define on which phase of the three-phase network the station is connected.
Led_Pwr =	100	# 30% - 100%	Adjusting the brightness of the LED of the charging station.
[Tic] Tic_management =	0	# 0->TIC active # 1->TIC unused	This parameter is set according to the presence or absence of the TIC board in the charging station. However, if this was present but not used, this parameter will have to be repositioned to 1. TIC function used: parameter to be set to 0 TIC function not used: parameter to be set to 1.
Tariff_1 = Tariff_2 = Tariff_3 = Tariff_4 = Tariff_5 = Tariff_6 = Tariff_7 = Tariff_8 = Tariff_9 = Tariff_10 =	0 0 0 0 0 0 0 0 0 0	# 0->No charge # 1->Charge # 0->No charge # 1->Charge # 0->No charge # 1->Charge # 0->No charge # 1->Charge # 0->No charge # 1->Charge # 0->No charge # 1->Charge # 0->No charge # 1->Charge # 0->No charge # 1->Charge # 0->No charge	These parameters are only to be set within the framework of use of a standard TIC from a Linky meter. The energy supplier is supposed to provide its customer with the tariffs to which the different time slots are assigned. Example (non-contractual): Peak hours → Tariff 1 Off-peak hours → Tariff 2 Super off-peak hours → Tariff 7 The installer will set the tariff_7 parameter to 1 and if necessary, depending on the customer's choice or requirement, the tariff_2 parameter to 1. All other Tariff parameters will remain at 0. In the above case, the charging station will charge the vehicle during off-peak hours and super-off-peak hours. The different tariffs are also readable directly on the meter (from 1 to 10).
ERL =	0	# 0->ERL unused # 1->ERL active	This parameter is not used in these charging stations. It is set at 0 by default.

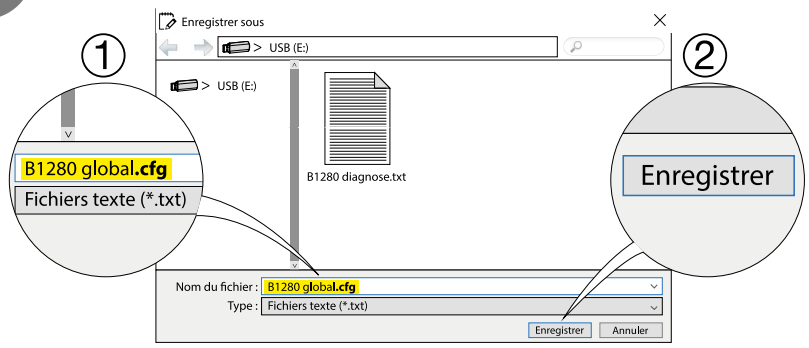
• Save the configuration

After configuring the parameters, save the text file under: **B1280 global.cfg.**

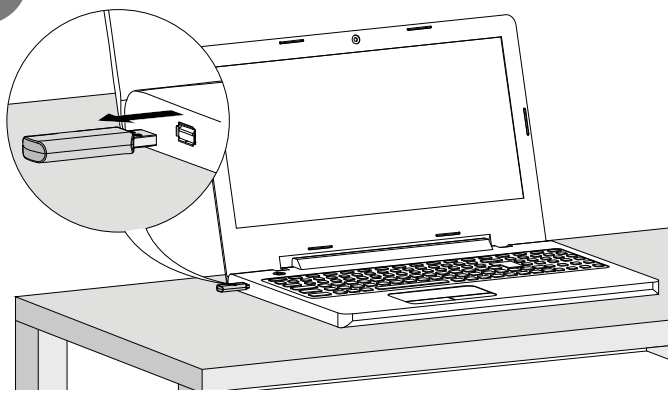
1



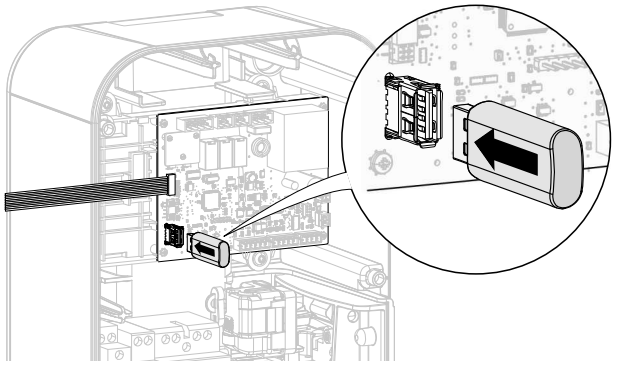
2



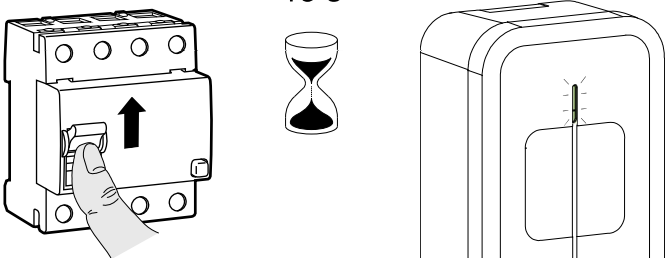
3



4

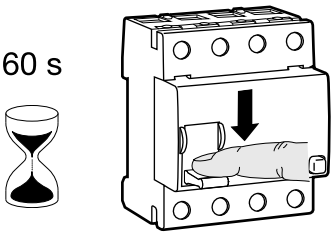


5

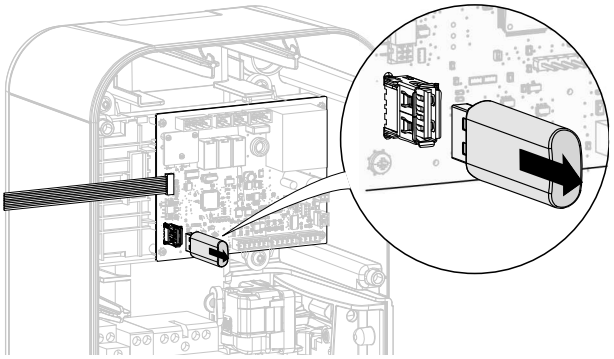


6

Wait 60 seconds before cutting it off.

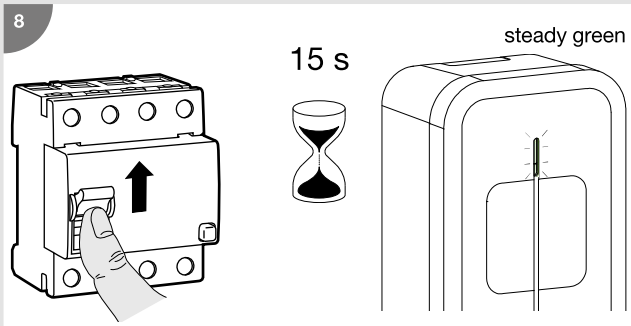


7



⚠ Read the key again to check that all of the parameters have been taken into account.

8



12. Testing the contactor

It is possible to quickly test the contactor and the shunt trip coil (Shunt Trip function).

• CONTACTOR TEST

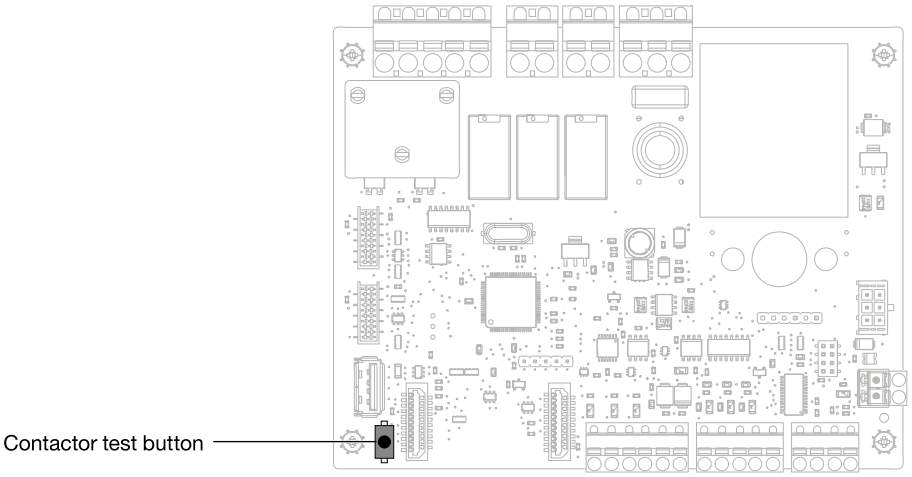
1. Put on the PPI (Personal Protective Equipment).

2. Remove the charging station cover.

3. Switch off the power via the charging station's circuit breaker.

4. Disconnect the connector from the HMI board.

5. Switch on the charging station while holding down for 30 seconds on the button to the left of the Wi-Fi card's location.



2 options:

- The contactor **closes** (listen for the "click"). Use a multimeter to measure the pole-by-pole voltage at the 40 A contactor outputs, ideally with the vehicle connected.
  The voltages measured must be between 200 V~ and 240 V~.
  If the voltages are correct, **the contactor is operational**:
  a) switch off from the charging station circuit breaker,
  b) connect the HMI ribbon cable,
  c) switch on from the charging station circuit breaker.

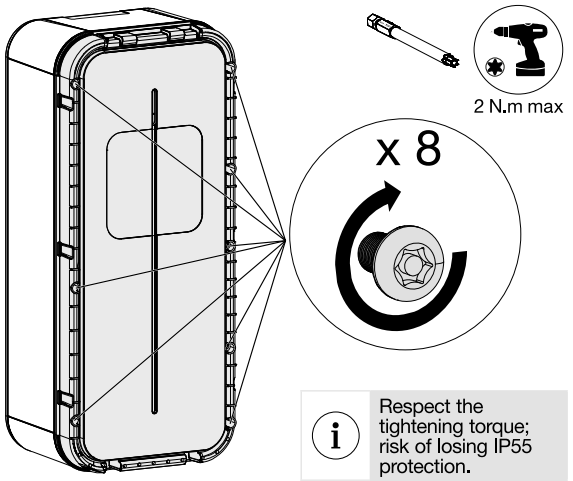
or

- If the contactor **does not close** (no sound) or the voltages measured are not correct, **the contactor malfunctions**:
  a) switch off from the differential circuit breaker of the electrical board,
  b) replace the contactor,
  c) connect the HMI ribbon cable,
  d) switch on from the differential circuit breaker of the electrical board.

6. Close the charging station cover

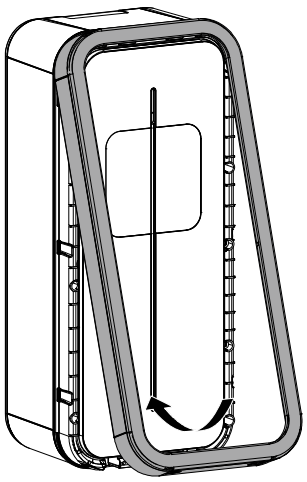
13. Closing the charging station

1

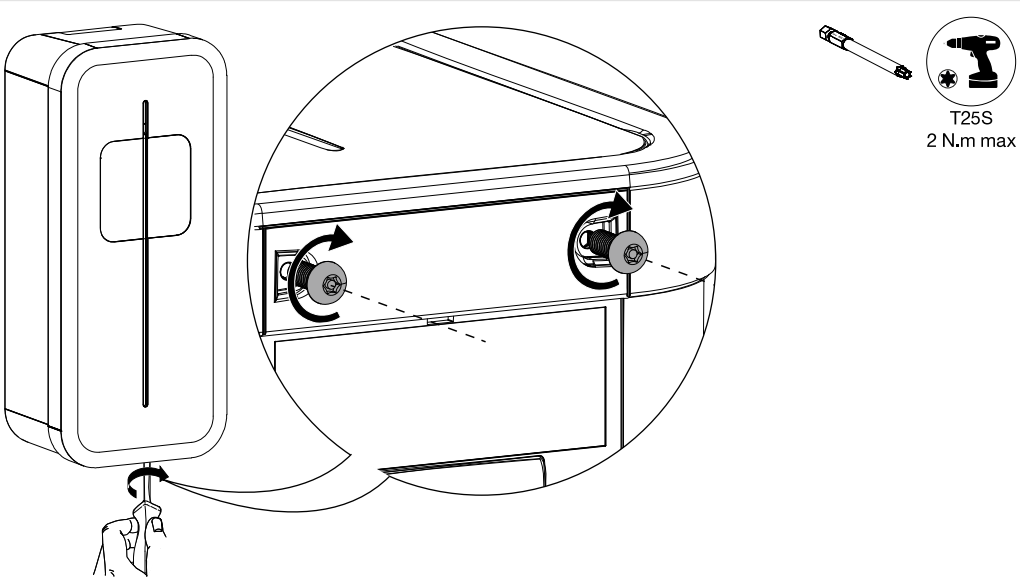


Respect the tightening torque; risk of losing IP55 protection.

2



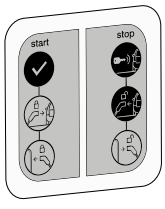
3



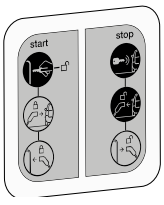
4

1. Select the correct sticker.

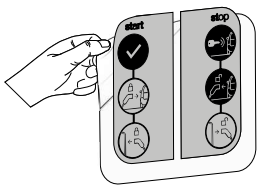
Sticker to be used when the locking key is not used



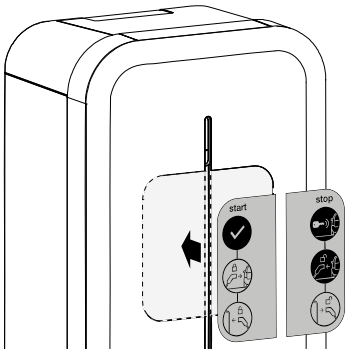
Sticker to be used when the locking key is used



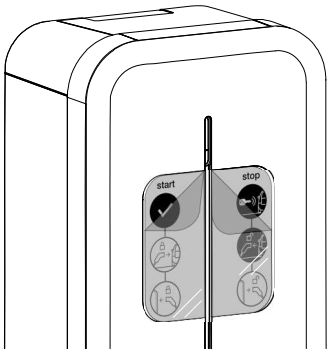
2. First remove the back of the sticker.



3. Adjust the sticker in the intended area.

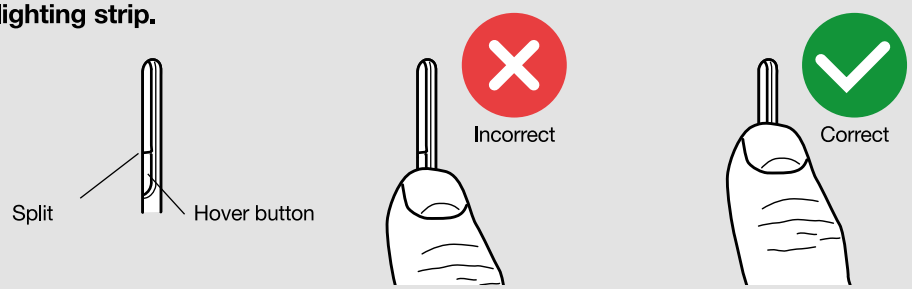


4. Remove the protective film from the front of the sticker.



14. Charging station operation

For the hover button to work correctly, the thumb must cover the split part and the bottom of the lighting strip.



If the key lock has been activated in the charging station configuration/setting, then for any action on the station such as vehicle charging, mode change, forcing the charge, charge release, the station must be in the unlocked position (key in the ON position).

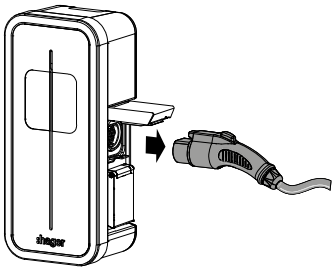
14.1. Selecting the charging mode

The XEV1Kxx charging stations have **three charging modes**:

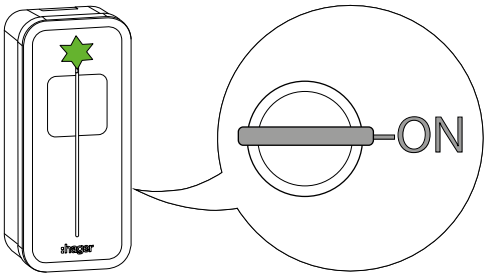
1. **Immediate charging mode:**
   This mode charges an electrical vehicle as soon as it is connected.
2. **Deferred charging mode:**
   In this mode, the start of charging is delayed and only permitted during reduced tariff time periods.
   Charging stops when it is complete.
3. **Exclusive deferred charging mode:**
   In this mode, charging is delayed and only permitted during reduced tariff time periods.
   Charging stops when the reduced tariff time period comes to an end, even if charging is not complete.

Follow the steps below to select these modes:

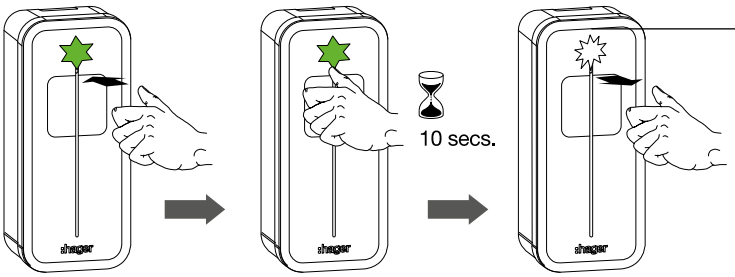
1 There is no electric vehicle connected to the charging station.



2 The charging station is unlocked and the lighting strip has a steady green light.

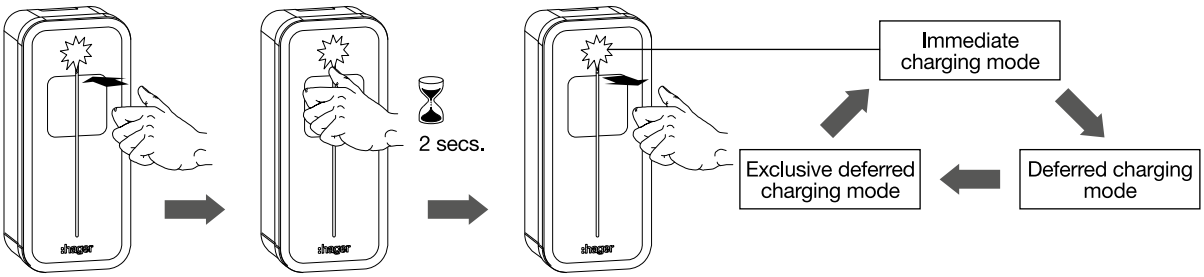


3 To display the current charging mode, place your thumb on the hover button until the lighting strip flashes (min. 10 secs) then remove it.



Flashing yellow	Immediate charging mode
Flashing blue	Deferred charging mode
Flashing white	Exclusive deferred charging mode

4 To switch from one mode to the other, place your thumb on the hover button for 2 seconds then remove it.
The lighting strip changes colour, indicating the new charging mode selection.

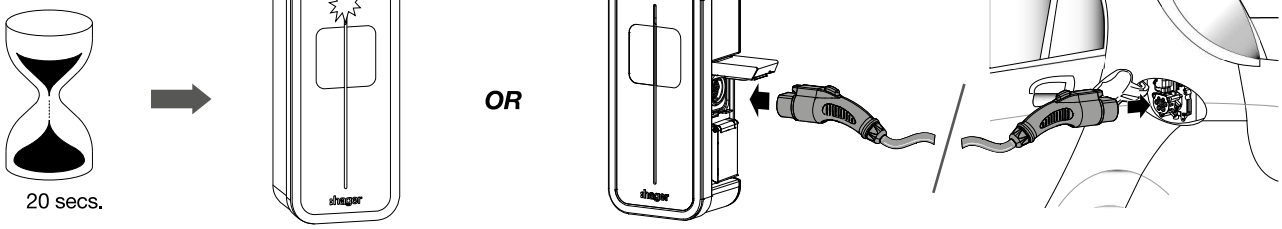


5 To save a new charging mode:

Wait 20 secs.

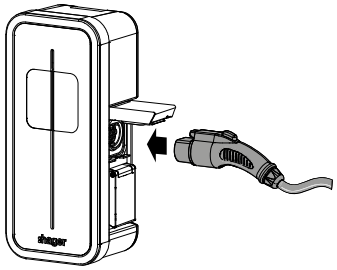
The lighting strip flashes quickly for 5 seconds depending on the charging mode selected.

Connect the electric vehicle to the charging station

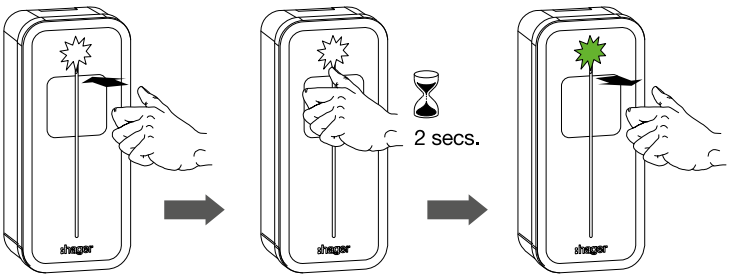


14.2. Forcing the charge

1 Connect the electric vehicle to the charging station.



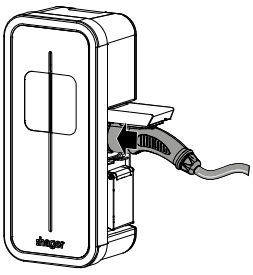
2 Place your thumb on the hover button for 2 seconds then remove it. The lighting strip starts to pulse green.



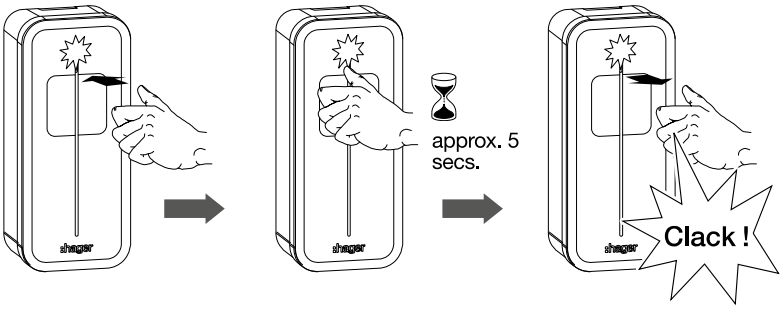
14.3. Unlocking the charging cable

If the charging cable is locked on the charging station, you can release it by following the procedure below. The charging station must be unlocked (key to ON position):

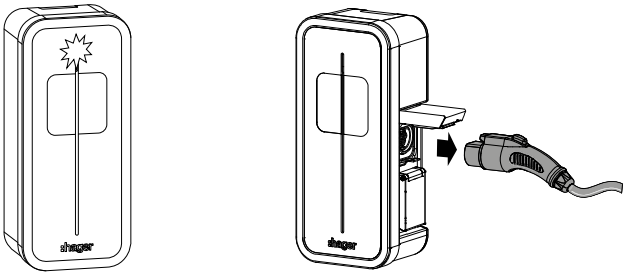
1 Push the plug to the bottom of the socket in the charging station.



2 Place your thumb on the hover button for approximately 5 seconds then remove it. You will hear a “click” as it unlocks.



3 The lighting strip flashes green/white. You can remove the charging cable. This procedure can be done several times in a row.



15. Charging station diagnostic

15.1. Introduction

The charging station incorporates a set of control parameters to establish a diagnosis during all phases of its operation.

The results are provided in the B1280 diagnose .txt file when the USB flash drive is inserted into the USB port of the charging station controller board.

The B1280 diagnose .txt file is made up of 2 areas:

1. A first area providing all of the charging station configuration parameters from the [Config] field to the [Tic] field. For more details, refer to Chapter 11: Charging station Configuration.

2. A second area providing a complete diagnosis of the charging station and starting with the [Diagnose] field.

DANGER WARNING: if a live diagnosis is required, please equip yourself with PPE (Personal Protective Equipment).

15.2. Diagnostic parameters and their explanations

This chapter sets out the diagnostic function of the B1280 controller board.

Description:
The diagnostic function is implemented to provide detailed information on the current state of the charging station.

- The diagnostic is written automatically when the USB flash drive is inserted.
- On a B1280 controller, equipped with an optional XEVA220 Wi-Fi card, access is via the Wi-Fi network instead of USB.

The diagnostic information is divided into sections, each of which is described below.
Each section may vary depending on the configuration of the Witty charging station.

Example of a Diagnose function:

The parameters of the Diagnose function cannot be modified

15.2.1. Information

This section concerns the current software version, the type of board and other charging station data.

[Information]	
Version =	7.0.1.0
Hardware =	B1280
D/N_Timer =	0 s
Blackout_timer =	0 s
Wifi =	absent

Field	Possible value	Note
Version =	x.x.x.x	Witty charging station software version
Hardware =	B1280	
D/N_Timer =	Minutes	The current status of the D/N timer, if not at zero, represents the time remaining in minutes before charging begins.
Blackout_timer =	0-60 Seconds	Current value of the blackout timer after a power failure. If it is not zero, it represents the time remaining in seconds before charging restarts.
Wifi =	Absent; Present	

15.2.2. Inputs

This section deals with the current status of the input data.

[Inputs]	
Slider =	Delayed inclusive
Current_selector =	32 A
Tariff =	High tariff
CHP_Input =	Open (unused)
Temp =	27°C
Key_Switch =	Unlocked
Installation_phases =	Three-phase

Field	Possible value	Note
Slider =	Immediate; Delayed; Pin (Test mode)	Immediate; Delayed; Pin (Test mode)
Current_selector =	13 A; 16 A; 20 A; 25 A; 32 A	Charging current set
Tariff =	Low tariff; High tariff	Off-peak tariff; Peak tariff
CHP_Input =	Open; Close	External signal status (Open; Closed)
Temp =	[0-125]°C	Temperature of the B1280 controller board
Key_Switch =	Locked; Unlocked	Charging station locked/Charging station unlocked
Installation_phases =	Single-phase; Three-phase	Single-phase; Three-phase

15.2.3. Socket

This section concerns the current status of the sockets.

T2S mode 3 socket:

[Socket1]	
BP_Timer	0 s
EVSE_Contactor	Open
EV_consumption_p1 =	0 A
EV_consumption_p2 =	0 A
EV_consumption_p3 =	0 A
HMI_status	Ready
Charging_Mode	3
Cable	32 A
Ctrl_pilot	Typical
State	A1

2TE mode 2 socket:

[Socket2]	
BP_Timer	0 s
EVSE_Contactor	Closed
EV_consumption_p1 =	0 A
HMI_status	Ready
Charging_Mode	2
Cable	Connected

Field	Possible value	Note
BP_Timer	0-60 Seconds	Time remaining to change the D/N mode with the BP
EVSE_Contactor	Open; Close	Contactor Open; Closed
EV_consumption	nA	n: Instantaneous charging station current
HMI_status	" Off Ready Ready tic faulty Ready tic idle Ready (Purple) Waiting for EV reaction Waiting for EV (de)connection Waiting for authorization signal ie: \ D/N; CHP; TIC; Blackout resume timer Waiting for authorization signal ie: \ D/N; CHP; TIC; Blackout resume timer; M3 release Waiting for Power availability or M3 release Waiting for Power availability / Wifi start Waiting for Power request from EV EV Charging (led cycle ~10s) EV Charging (led cycle ~20s) EV Charging with faulty TIC EV Charging with standby TIC EV Charging after Load Shedding EV don’t request charging EV don’t request charging (tic faulty) EV don’t request charging (tic standby) Fatal Error Error"	"This corresponds to the LED statuses. Each of these could be followed by the Access Point (AP) on the B1280 controller. Off Ready Ready tic faulty Ready tic idle Ready (Purple) Waiting for EV reaction Waiting for EV (de)connection Waiting for authorisation signal, i.e. D/N; CHP; TIC; blackout timer in case of power failure Waiting for authorisation signal, i.e.: D/N; CHP; TIC; blackout timer; M3 version Waiting for power supply or M3 version Waiting for power availability/Wi-Fi start-up (depending on charging station version) Waiting for Power request from EV Vehicle charging in progress (LED cycle approx. 10s) EV Charging (led cycle approx. 20s) EV Charging with faulty TIC EV Charging with standby TIC EV Charging after Load Shedding EV don’t request charging EV don’t request charging (tic faulty) EV don’t request charging (tic standby) Fatal Error Error”
Charging_Mode	2;3	Charging mode 2 or 3
Cable	Failed; 13 A; 20 A; 32 A; 63 A; Not Connected; Unknown	"Cable value: Failed; 13 A; 20 A; 32 A; 63 A; Not Connected; Unknown Failure means that the cable resistance coding is outside of tolerance"
Ctrl_pilot	Standard; Simplified -> Current Max 10 A	Standard; Simplified -> Current Max 10 A
State	A1; A2; B1; B2; C1; C2; D1; D2; E; F; U: as defined in the standard IEC 61851-1	A1; A2; B1; B2; C1; C2; D1; D2; E; F; U: as defined in the standard IEC 61851-1

15.2.4. TIC

This section concerns the communication protocol between the main meter and the charging stations

[TIC]	
Activity =	Active
Data =	Valid (24587)
Mode =	History
Isousc =	45 A
Iinst =	1 A
Tariff =	HP. (High tariff)

Field	Possible value	Note
Activity	Inactive; Active	Inactive; Active → Active means that a frame has been received
Data	Invalid; Valid	Invalid; Valid → Valid means that the TIC frame is correct
Mode	"Standby Standard History Three-phase standard Three-phase history Greencharging Unknown"	Standby Single-phase standard Single-phase history Three-phase standard Three-phase history Greencharging Unknown
Iprod	n A	n is the current produced. Only displayed if Ecolo = Active
Isousc	n A	n is the maximum subscribed current. Only displayed if Ecolo = Inactive
Iinst	n A	n is the instantaneous current consumed by the installation. Only displayed if Ecolo = Inactive
Iinst_x	n A	n is the instantaneous current consumed by the installation during phase x. Only displayed with a three-phase TIC
Tariff	 HC.. HCJB HCJR HCJW HN.. HP.. HPJB HPJR HPJW PM.. TH.. Tariff1 Tariff2 Tariff3 Tariff4 Tariff5 Tariff6 Tariff7 Tariff8 Tariff9 Tariff10	.. If 2 points are present behind a rate, it is followed by the wording Low (advantageous cost) or High (normal/high cost) HC/HP tariff: Off peak hours Tempo tariff: Off peak hours, blue day Tempo tariff: Off peak hours, red day Tempo tariff: Off peak hours, white day Normal hours tariff HP/HC tariff: Peak hours Tempo tariff: Peak hours, blue day Tempo tariff: Peak hours, red day Tempo tariff: Peak hours, white day EJP tariff: Mobile peak hours Hourly tariff Tariff1 to Tariff10 only supplied by the Linky meter in standard TIC. The tariffs used depend on the tariff contract selected by the customer, depending on their energy supplier.

15.2.5. Error

[Error]	
err_1:	No error
err_2:	

Field	Possible value	Note
"err_x (x is the number of the: - socket 1 / T2S socket or - socket 2 / TE socket E.g.: 1, 2)"	" No Error"" Cable Failure"" CP Short Circuit Failure"" Over Consumption"" Ventilation Error"" Load Shedding Failure"" CP Failure"" DC Current Failure"" Welded Contact Failure 1"" DC Sensor Failure"""	"In the event of an error, the number of flashes is also specified so that the LED error code is known (see Chapter 16. Indicators). No Error Cable Failure CP Short Circuit Failure Over Consumption Ventilation Error Load Shedding Failure CP Failure DC Current Failure Welded Contact Failure 1 DC Sensor Failure"

15.2.6. Maintenance

[Maintenance]	
Ch_duration_1=	0:00:00
Cycles_1=	0
Ch_duration_2=	03:53:51
Cycles_2=	14

Field	Possible value	Note
Ch_duration_x	H:M:S	Total charging time of the socket x or x = 1 (T2S) or 2 (TE).
Cycles_x	Integer	Number of contactor opening and closing cycles x or x = 1 (T2S) or 2 (TE).

15.3. Log file

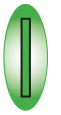
A Log file named “B1280 logs.csv” is written to the flash drive when it is inserted into the USB port of the controller board. This file informs the installer about the saved charging sessions by providing various information during charging, such as:

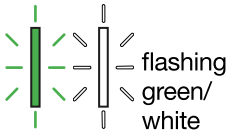
1. The number of socket 1 (T2S) or 2 (TE)
2. The energy consumed during the charge
3. The time in seconds to session start
4. The time in seconds to session stop
5. The time in seconds to charging start
6. The time in seconds to charging stop
7. The session time in seconds
8. The charging time in seconds
9. The error code

As memory is limited, only the last session recordings are kept.

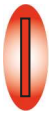
16. Indicators

16.1. Normal operation

Lighting strip	Charging station status
 off	Charging station off
 steady green	Charging station ready for charging or charging complete
 flashing green	Charging station awaiting changeover to reduced tariff schedule
 pulsing green	Electric vehicle charging

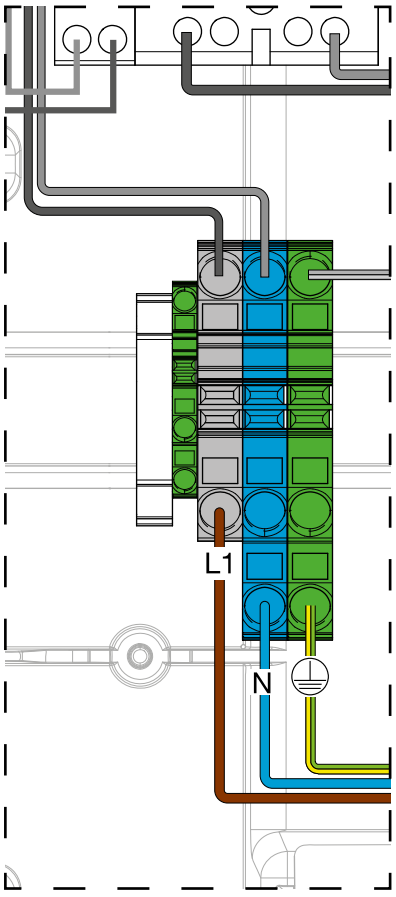
Lighting strip	Charging station status
 flashing blue	Electric vehicle awaiting charge and charge not finalised
 pulsing blue	Electric vehicle charging after an interrupted charge (load shedding for example)
 flashing green/ white	Charging station waiting for electric vehicle connection or disconnection

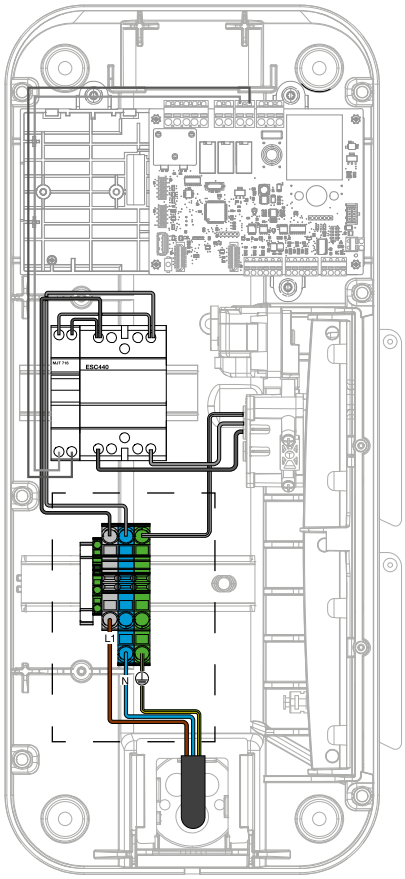
16.2. Anomalies

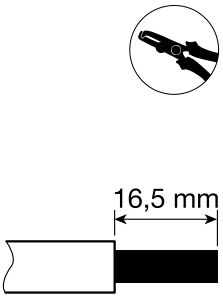
Lighting strip	Cause	What to do
 steady red	Three possible faults: 1. TIC fault. If charging is possible (pulsing red), the TIC fault is confirmed. 2. The 40 A contactor is stuck 3. The DC detection probe is defective or disconnected.	Find the source of the failure and repair it.
 pulsing red	The electric vehicle charges in degraded mode (charge limited to 7 A in single-phase and 13 A in three-phase)	Find the source of the failure and repair it.
 rapid flashing green	The charging station detects that the electric vehicle generates a direct current greater than 6 mA. After 3 detections, it changes to flashing red (x8 see table on next page).	The customer must call their car dealership

Lighting strip	Number of flashes	Cause	What to do
 flashing red	1	Defective or unsupported cable	Change the cable
	2	The detection function of an electric vehicle does not work	Change the cable if the problem still persists after replacement: **1.** Check the integrity of the car and charging station sockets **2.** Call the Technical Assistance Service (TAS)
	3	The electric vehicle does not respect the power limit imposed by the charging station	Unplug the vehicle and try charging again. If the problem persists, call the TAS
	4	The charging station is not compatible with this vehicle because it requires the management of ventilation in the vehicle environment; ventilation that is not managed by this station	Charge the vehicle via another charging station that is compatible with it
	5	Load shedding is too frequent because the domestic electrical power is insufficient	The customer must: **1.** either upgrade their charging station with a TIC board **2.** or change their subscription
	6	The charging station does not receive the correct charging authorisation from the electric vehicle	Change the cable if the problem still persists after replacement: call the Technical Assistance Service (TAS)
	8	The electric vehicle generates a direct fault current, preventing charging	Detection of a direct current greater than 6 mA in the vehicle power supply. The customer must call their car dealership

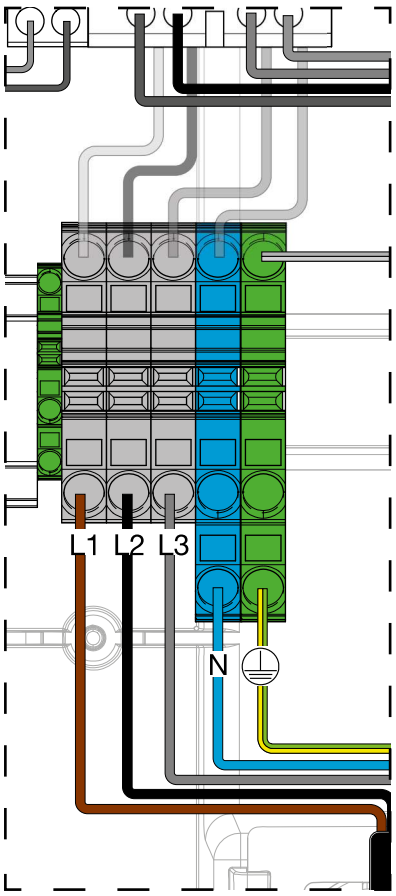
- **T2 single-phase charging station power cabling: 1 Ph + N + E**

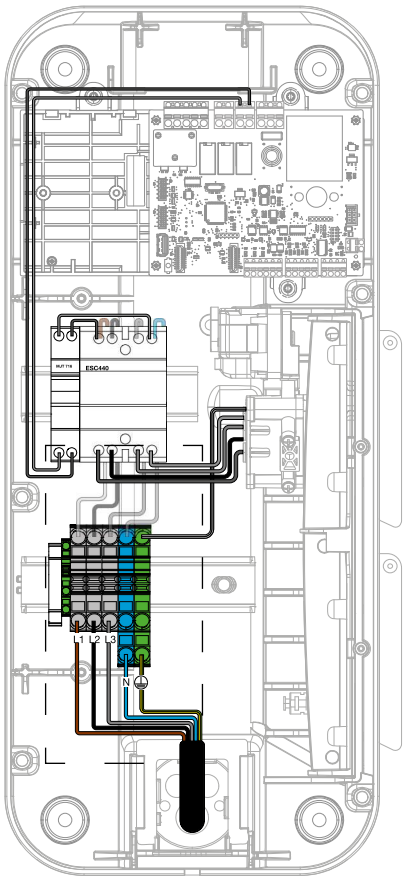


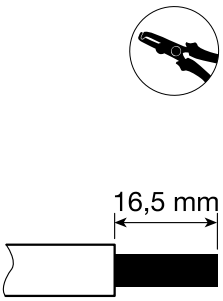




- **T2 three-phase charging station power cabling: 3 Ph + N + E**







18. Electrical maintenance

As with any fixed electrical installation product, it is important to check the tightness at the various connection points of the installation during the annual inspection. They must be in phase with the following torques:

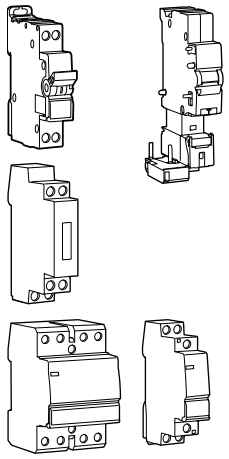
Respect the tightening torque; risk of electrical shock.

Tightening torques

2 N.m circuit breaker

2 N.m energy meter

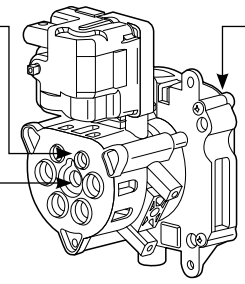
3 N.m contactor



CP/PP: **0.4 N.m**

L1- L3/N/E: **1.2 N.m**

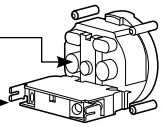
M3T2S assembly: **0.6 N.m**



L/N/E: **0.8 N.m**

CP/PP: **0.4 N.m**

M2 assembly: **0.5N.m**



After opening the charging station for wiring, configuration or maintenance reasons, you must put the cover back in place and adhere to the tightening torques. Refer to chapter 13. Closing the charging station.

For more details, refer to the maintenance manual for charging stations 6LE007370A.

19. Technical characteristics

• Charging station

Environmental conditions	
Usage temperature	-25°C to +50°C
Storage temperature	-35°C to +70°C
Relative humidity	5% to 95%
Protection	IP 55 – IK 10
Maximum altitude of operation	2000 m
Degree of pollution	3
Use	intended for use by ordinary people
Electrical characteristics	
Voltage	230 V~ / 400 V~ (three-phase version) -15% / +10%
Usage frequency	50/60 Hz +/- 1%
Nominal insulation voltage Ui	250 V~ / 500 V~
Charging station electrical protection	40 A circuit breaker, C curve, energy limitation class I^2t 3, on a circuit that cannot supply more than 6 kA in short-circuit (or equivalent)
Electrical protection of the charging station if Charging mode 2 supplied	16 A circuit breaker, C curve, energy limitation class I^2t 3, on a circuit that cannot supply more than 6 kA in short-circuit (or equivalent).
Maximum charging current/power Mode 3 T2/T2S socket (depending on version)	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)
Maximum charging current/power Mode 2 TE socket (depending on version)	16 A - 4 kW
Electrical protection rating	Class 1 (earth connection)
Overvoltage category	3
Earth connection diagram	TN-S, TN-C-S, TT
Minimum/possible wiring	10 mm^2 in single or multi strand/16 mm^2 in multi strand. Only the use of a copper conductor is authorised.
Mechanical characteristics	
Weight	6.2 kg
Maximum weight supported by the cable support affixed to the charging station	7 kg
Height	549 mm
Width	250.5 mm
Depth	173 mm
Classification	
Power input	Electric Vehicle (EV) power system connected to the AC power supply network (permanently connected)
Power output	alternate current power system for EV
Environmental and usage conditions	indoor and outdoor use
Location of	equipment for restricted access areas and unrestricted access areas
Type of mounting	surface mounting on wall mounting, on stand, fixed post, column and pipe. Installation in a horizontal position on the ceiling or on the floor is prohibited
Category equipment	1
Charging mode	mode 3 via T2/T2S socket and mode 2 via TE socket depending on version
Adaptor	no plug adapter can be used between the charging station and the charging cable or between the charging cable and the car
Cable extension	the charging cable cannot be extended. The charging cable must be in one piece and a maximum length of 7 m

• Identification of vehicle compatibility

20. Lexicon

- Remote reading cable: specific cable to establish a remote reading bus (one or more wire connections) between devices and communicating under the EURIDIS protocol. 2 pair 6/10 twisted cable (either reinforced or not) depending on the installation constraints according to the NFC 33-400 standard.

- Dynamic charging: this function, integrated in charging stations fitted with a TIC board or in combination with a TIC simulator, automatically adapts the vehicle's charging power according to the domestic power available. This function prevents a protection device (circuit breaker, etc.) or the main differential circuit breaker from being opened.

- CHP: Combined Heat and Power. Abbreviation used in cogeneration systems.
  Examples:
  - Combined heat and electricity production system using gas or diesel combustion
  - Photovoltaic or wind power system

- D/N: Day / Night. It is used in the context of tariff subscriptions such as Peak hours/Off-peak hours, Tempo ... and, more generally, subscriptions at reduced tariffs.

- HMI: Human Machine Interface. The charging station is composed of an LED indicator light and a hover button located at the base of the indicator light serving as a virtual button.

- T2/T2S: T2/T2S (S for secure) sockets or connectors are connection devices for charging station and electric cars, and are standardised and integrated in a large majority of them.

- TE: the TE socket is a French 16 A socket used exclusively to charge the battery of vehicles such as bicycles, scooters, etc.

- ST: Shunt Trip or Trigger. Function used to cut the power to the charging station in the event of a fault.

- TIC: Customer tele-information. French white electric energy meters and the Linky meter have a TIC output allowing individual power management; they also monitor its energy consumption in real time. French white electronic meters incorporate a historical TIC. The new Linky meter integrates the historical TIC and standard TIC. However, a single TIC is active. By default at installation, the historical TIC is activated by the energy supplier. To switch from historical TIC to standard TIC, ask the customer to call their energy supplier and implement service F185. This service switches the historical TIC to the standard TIC without intervention on the customer's site.

- USB: Universal Serial Bus. USB is a computer bus standard for connecting devices to a computer. The USB port used on the controller board enables you to connect a USB flash drive to:
  - configure the charging station,
  - perform a charging station diagnosis,
  - update the software on the controller board.

How to dispose of this product (waste electrical and electronic equipment). ***(Applicable in European Union countries and other European countries with selective collection systems).*** This symbol on the product or its documentation indicates that it must not be disposed of at the end of its life with other household waste. As uncontrolled disposal of waste can harm the environment or human health, please separate it from other types of waste and recycle it responsibly. You promote the sustainable reuse of material resources. Individuals are asked to contact the distributor who sold them the product or to check with their local authority to find out where and how they can dispose of this product so that it is recycled in an environmentally friendly manner. Companies are invited to contact their suppliers and consult the conditions of their sales contract. This product should not be disposed of with other commercial waste.

Can be used everywhere in Europe CE and Switzerland

Hager hereby declares that the charging station products referenced XEV1Kxxx comply with the RED 2014/53/EU directive.
The CE declaration can be viewed at: www.hagergroup.net.

Recommendations
Any access to internal areas, beyond the areas described in this manual, is prohibited and voids the warranty and any other form of support. It can be damaging to the parts and/or to the electronic components. These products have been defined so that they do not have to be accessed during product implementation and maintenance operations.

Non-contractual document, subject to modification without notice.