

WALLBOX PRIME SINGLE-PHASE

SMART PV T2C

Manual
Installation - maintenance - use



V9

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INTRODUCTION

This manual contains all the necessary information for the safe use of the **Detas EVchargers Prime** system for electric vehicle charging and will guide you to obtain the best performance and use from the system.

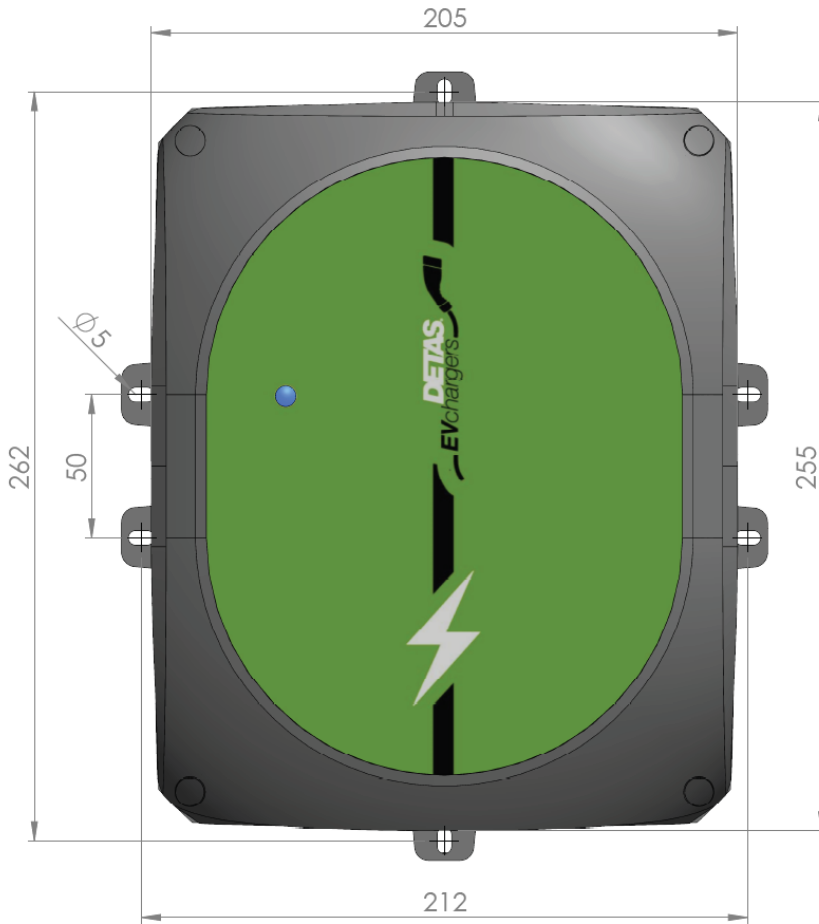
Our **Detas EVchargers** charging stations employ the latest technology and provide the most advanced service on the EV charging market.

The **Wallbox Prime** charging system is designed to be easily installed both outdoors and in covered private parking lots, in order to charge all the EV brands on the market in MODE 3 (according to the European IEC 61851-1 standard), simply by plugging the connection cable with a type-2 connector.

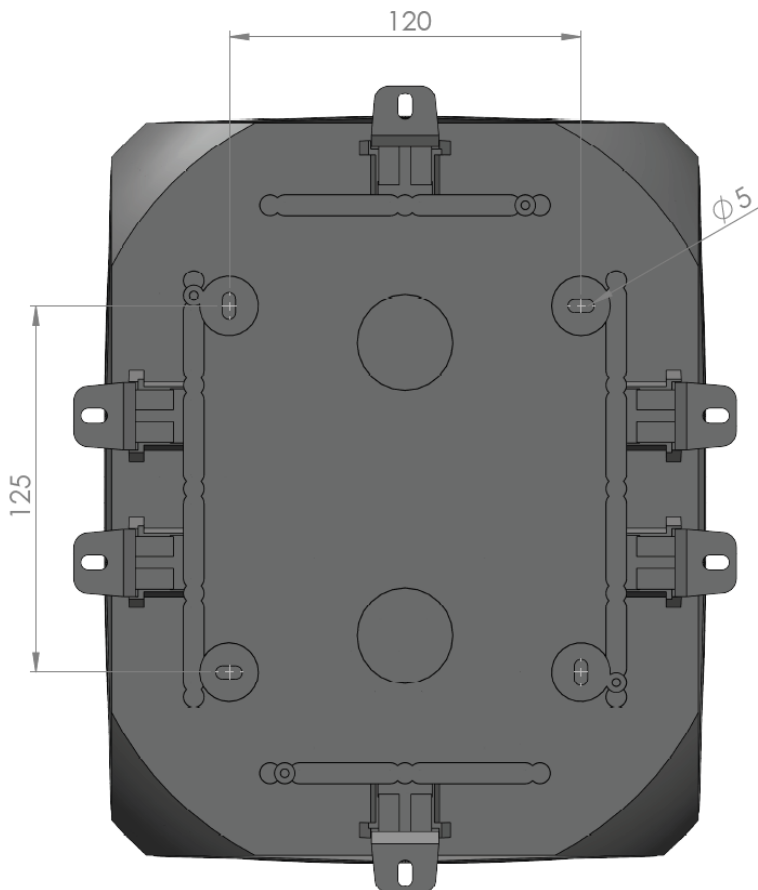
SAFETY INFORMATION

- The wallbox must not be installed in areas with a risk of explosions.
- The wallbox is designed to be installed both in open and closed areas. It must always be installed safely and with suitable protections.
- In case the wallbox is installed outdoors, it is recommended to employ a roof for direct protection from water.
- Do not install the wallbox in areas where it can be damaged by falling objects.
- The wall surface where the wallbox will be positioned must withstand the mechanical forces to which it is subjected.
- Do not employ this wallbox for purposes other than electrical vehicle charging uses indicated in the IEC 61851 standard.
- Do not modify the unit. In case of modifications, **Detas EVchargers** will reject all responsibility and the warranty will become invalid.
- Follow the electrical safety standards rigorously.
- Do not attempt repairs or manipulations with the wallbox connected to electricity.
- Only trained and qualified personnel has access to the low-voltage electrical components inside the device.
- Make qualified technicians only check the wallbox every year.
- Remove any item with signs of damage that can be dangerous for a human (broken plugs, lids that do not close, etc...).
- Use only **Detas EVchargers** replacement parts.
- Do not use this product if the EV latch or connector is broken, cracked, open, or showing signs of damage.
- Before proceeding with the installation, make sure that the power supply voltage corresponds to the nominal one for the device and that the quality of the electricity supplied to the wallbox is compliant with the EN50160 standard.
- Install surge protective devices with an earth connection in the main power switchboard, as prescribed by the installation zone according to the EN62305-1/4 standard.

MECHANICAL INSTALLATION








**Front view
(external mounting)**



**Rear view
(internal mounting)**

MECHANICAL INSTALLATION

4.1) INSTRUMENTS REQUIRED FOR THE INSTALLATION (NOT PROVIDED)

N°1 Flat screwdriver	N°1 Philips screwdriver	N°1 Electric drill	N°1 Electric screwdriver	N°1 wall drill bit D9mm	N°6 Fischer M4
					

4.2) MECHANICAL INSTALLATION PROCEDURE

- ① Open the frontal screws. The correct screwdriver to be used is a small flat one, such that it can enter into the screw by insertion until the bottom of the slot, where the plastic is thicker.
If a large flat screwdriver is used, it will stop at the top of the screw, which can become damaged because there the plastic thickness is smaller.

- ② Open the lid towards the right by paying utmost attention not to tear the connection cables

- ③ Mount the Wallbox on the wall (see wall-mounting dimensions on page 8)



- A Using Fischer M4 / drill-bit diameter 9 mm wall anchors

Warning:

- It is recommended to use a screwdriver to execute the last fixation turns
- Make sure that the electric screwdriver does not damage the cables

- B Using the provided side brackets for a protrusion fixation



Notes:

The EV charging station mainly employs Type 2 sockets.

The charging station connectors are compliant with the EN 62196 standard.

It is forbidden to lengthen/join the connector wires without authorization from the manufacturer.

No operations are allowed apart from those described in the present manual for solving plug-related problems.

TYPE 2



SPECIFICATIONS

Input voltage: single-phase 230VAC \pm 10% 50/60Hz (L,N,PE)

Output power: Max 7,4 kW (32A)

Mechanical resistance: IK09

Protection degree: IP65

Housing material: PC

Operating temperature: from -25°C to +45°C

Storage temperature: from -40°C to +60°C

Operating humidity: from 5% to 95% without condensation

Network connection: IoT GSM / WiFi (2.4Ghz)

Signaling: RGB color indicator

Meters: MID certified

Payments enabled: On request

Dimensions: 205 x 255 x 112 mm

Weight : 3,5 kg

Pedestal for wallbox: On request



Before proceeding, read the instructions carefully to ensure a correct installation of the charging station.

The wallbox installation must be performed only by qualified personnel. During the installation and/or maintenance operations, remove input power and use protective gloves and goggles.

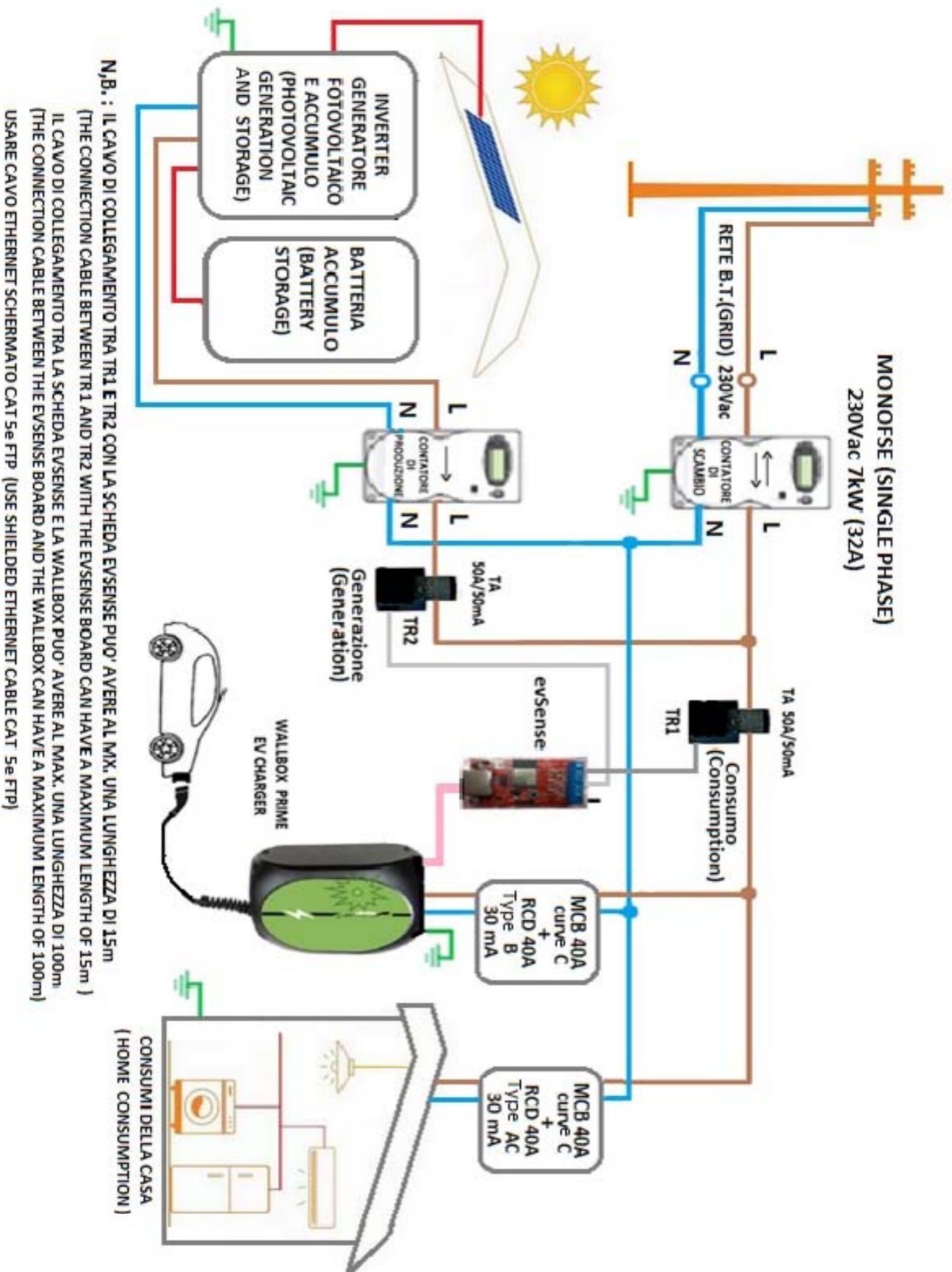
1. Before proceeding with the wallbox installation, make sure that the power supply voltage corresponds to the nominal one, and that the quality of the supplied electricity is compliant with the EN50160 standard.
2. Install surge protective devices with an earth connection in the main power switchboard as prescribed by the installation zone according to the EN62305-1/4 standard.
3. At the end of the installation, use an appropriate instrument to verify the earth connection:
Without a correct earth connection the car charger will not work.

WARNING ! IMPORTANT !



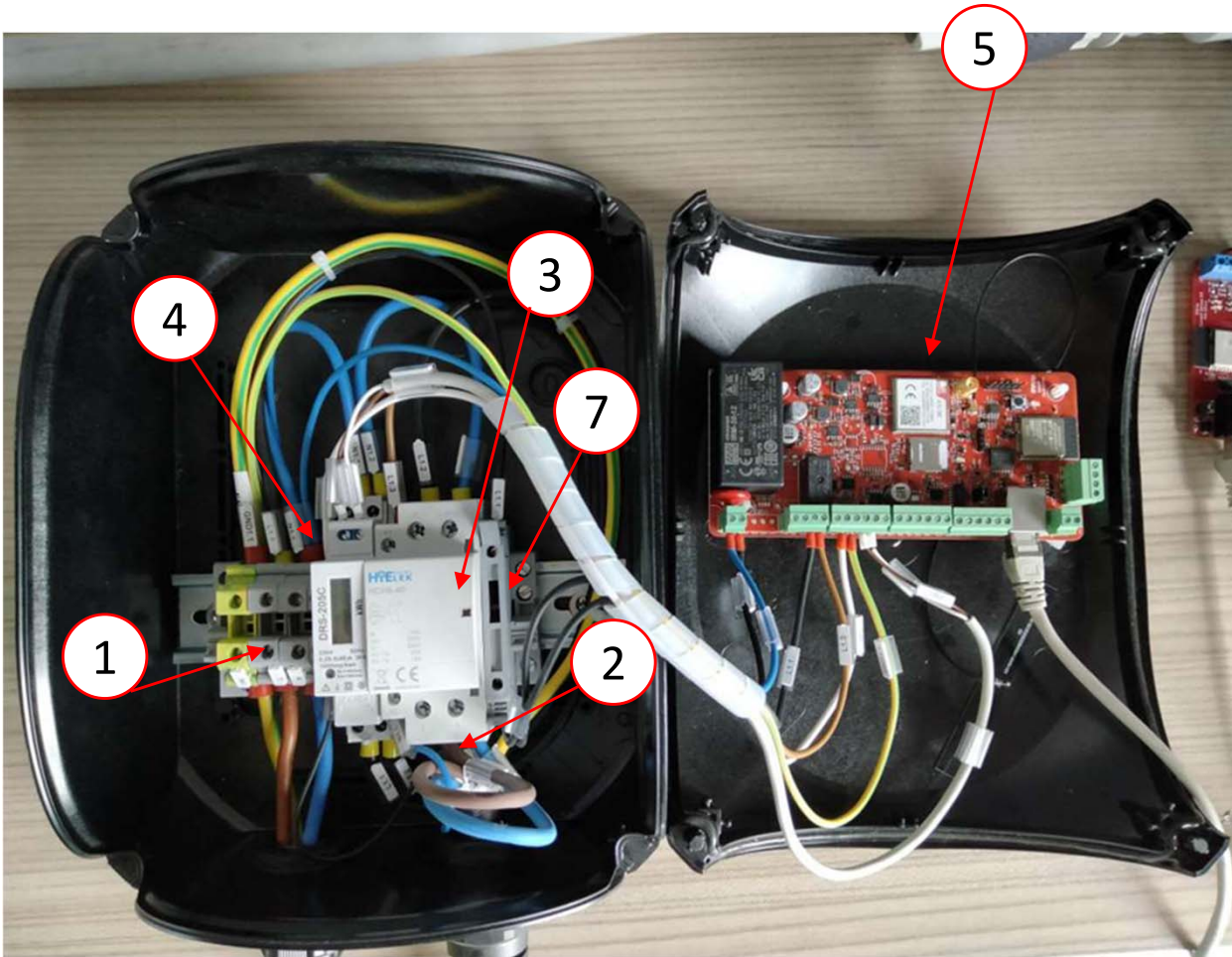
You will find inside the wallbox this label . It is extremely important not to lose it. It will be used to connect the wallbox to the app and to the portal.

Schematic



COMPONENTS DESCRIPTION

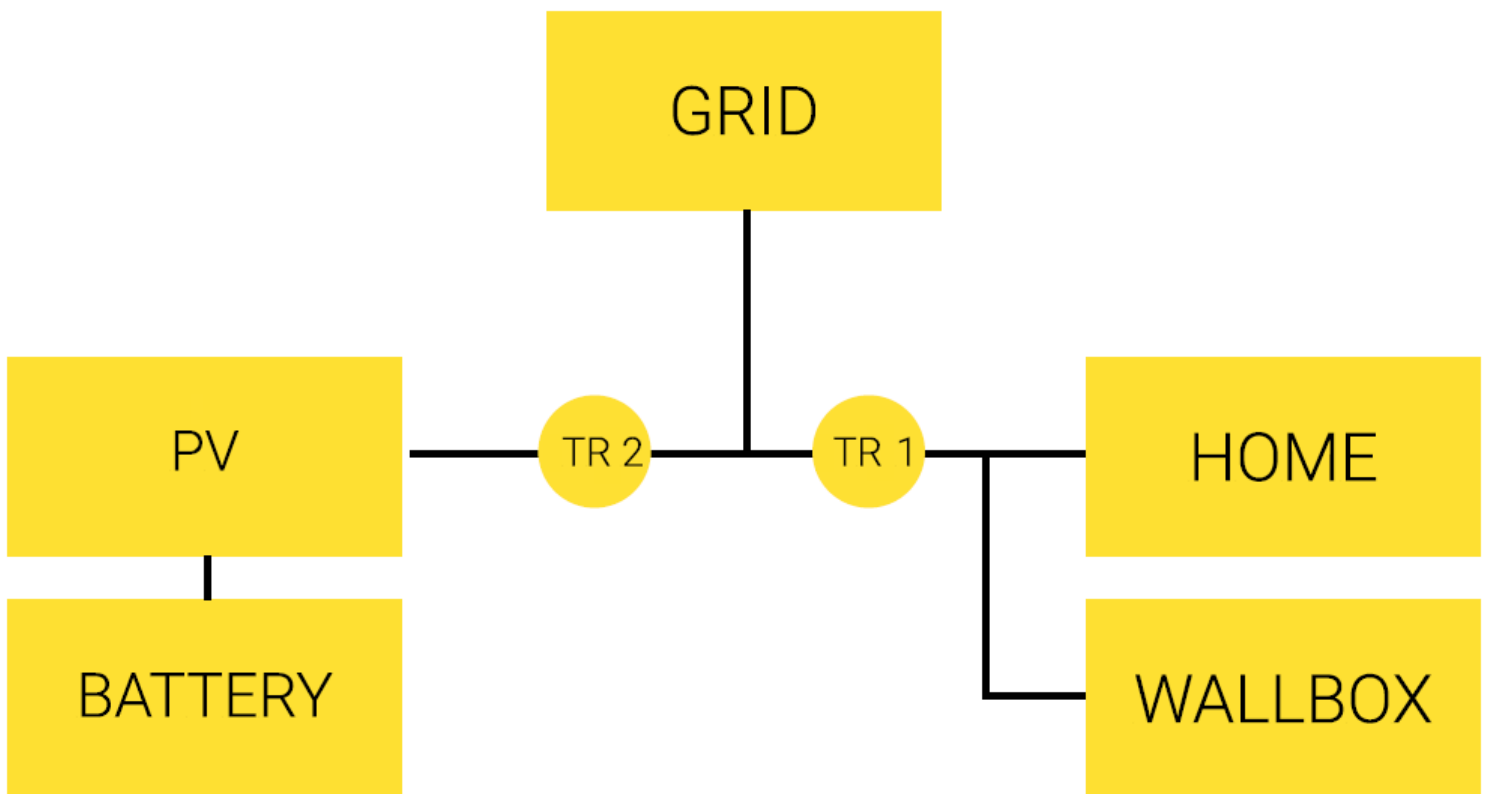
- 1 Power supply cables inlet
- 2 Vehicle connection cable inlet
- 3 Single-phase relay
- 4 MID certified meter
- 5 Control board



- 6 eVsense board
- 7 Fuse holder (protect the main board 3,15A T)
- 8 Transformer for power regulation and consumption control

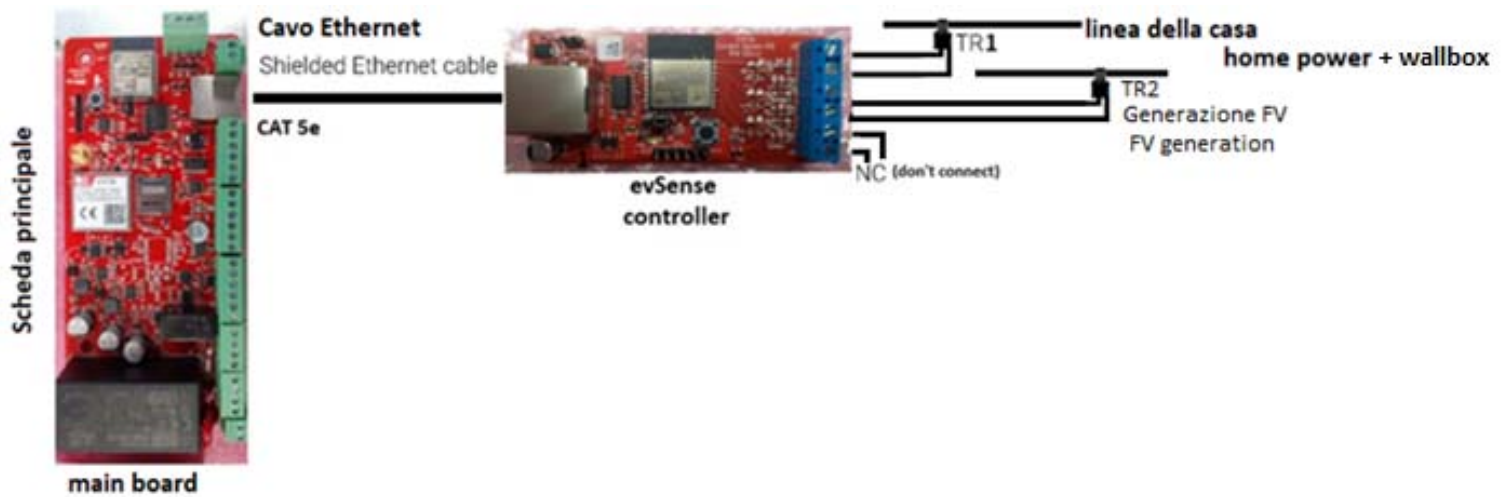


HOW IT WORKS

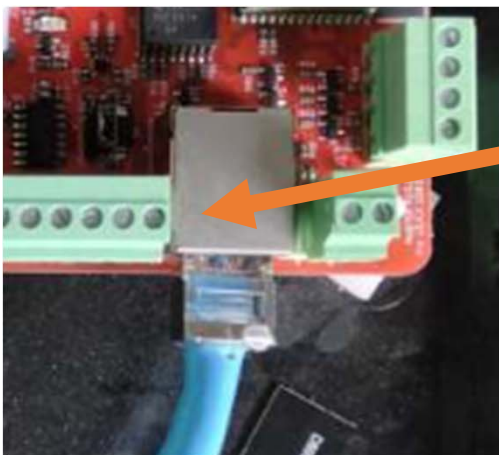


SMART CONNECTIONS

1. Connect the two wires of the TA TR1 and the two wires of TA TR2 to the terminal blocks as indicated in the schematic below.



WARNING ! IMPORTANT !



This connector on the main board is not an ethernet connector and it must not be connected to a router or a witch but only to the eVsense board

2. Connect the eVsense board to the wallbox using a shielded **CAT 5e ftp** ethernet cable. The maximum recommended cable length for correct operation is 100m (for greater distances, request technical assistance).
3. In the electrical panel that powers the wallbox, there must be installed a C curve magnetothermic circuit breaker (MCB) for overload / short circuit protection and a 30mA B type differential circuit breaker (RCD) for protection against indirect contacts. A type A differential can be used if the WB is equipped with the accessory for detecting DC leakage currents > 6mA
4. Make sure that the wallbox is installed in a place where there is coverage of a GSM network or alternatively a WI-FI connection (2.4Ghz only). This is an important condition for the correct operation of the product. If the network connection is not available in the installation site, it is necessary to carry out the first start under network coverage, then the WB can also be installed in an environment without coverage. In this way, however, remote control and updates will not be possible.
5. For the first activation, the installer must set up a teams meeting with Detas to check and proceed with the registration of the wallbox, otherwise it will not work.
6. Adjust the output power from the App so as not to exceed the KW available.
- 7, At the end of the installation, it is highly recommended to test the operation of the current transformer (CT) by using the App to verify that consumption data is correct, or via remote technical support.
- 8, In case the wallbox is not working, disconnect the power supply, wait for 20 seconds, and power it up again.
- 9, If the blue LED on the wallbox board is not blinking, push RESET for 1 second to make it blink again. Otherwise, write to commercial@evchargers.it and request support.



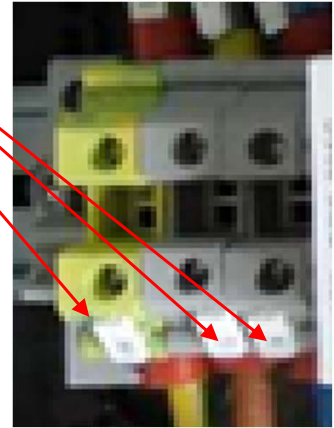
Blue LED

Reset button

ELECTRICAL INSTALLATION

Installation procedure:

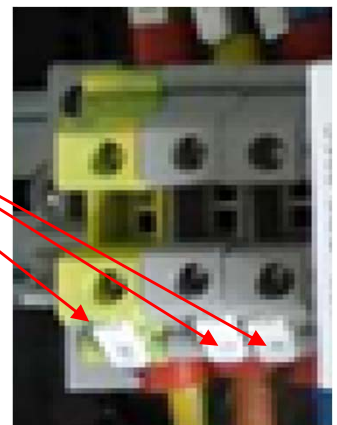
- 1) Verify that all the terminal labels are correctly positioned (as in the image below) and have not fallen off during transportation.



- 2) Insert the **AC** supply cables into the free wallbox cable gland.



- 3) Connect the power supply **PE** , **L** , **N** to the respective terminals.

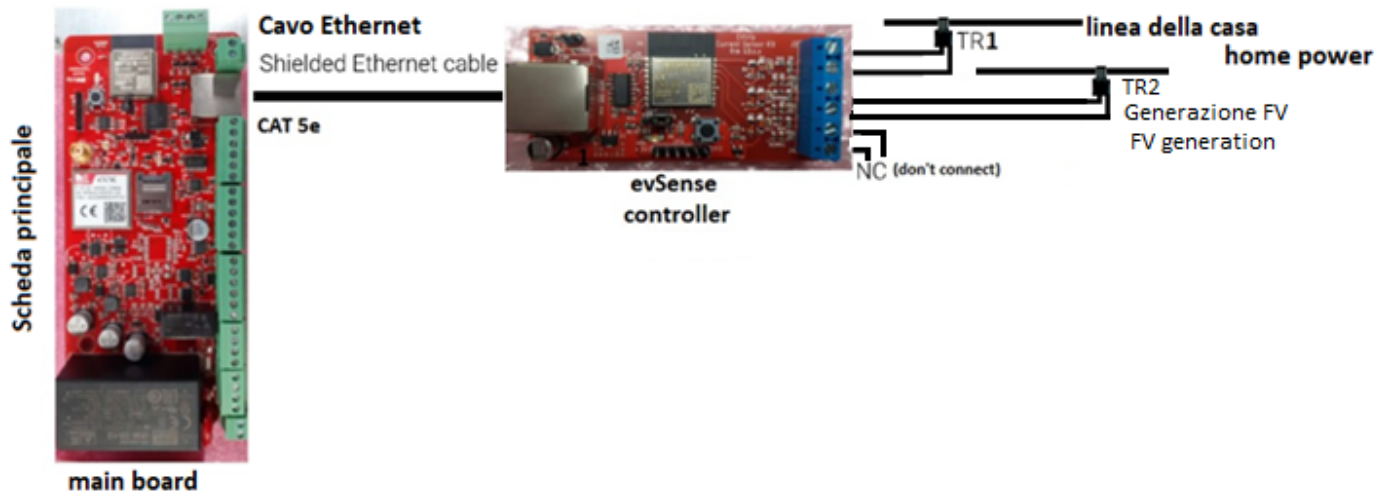


Note: the screw terminal for AC supply cabling is compatible with cables up to 10 mm². Using a cable with single sections of at least 6 mm² is recommended. In case the distance between the junction box and the respective magnetothermic and residual current breakers is significant, it may be necessary to increase the section of the employed cables according to a suitable calculation.

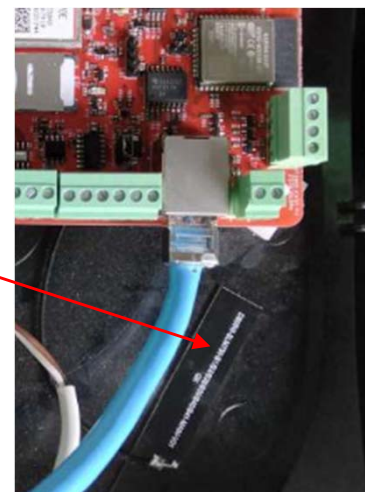
3) Open the provided transformer and put only one wire of the power supply line (L or N) through it, right after the usage meter (see schematics below).



Transformer opening direction



4) Verify that the antenna is correctly inserted into the appropriate connector and that it has not detached during transportation



The switchboard that powers the wallbox should include a C-curve magnetothermic circuit breaker (MCB) for protection against overloads and short circuits and a 30mA B-type residual current breaker (RCD). An integrated device (MCBO) can also be used

For current transformer (CT) connections use a shielded cable (cat 5 ftp shielded ethernet cable). The recommended maximum cable length for a correct operation is 40m, for longer distances please request technical support.

Make sure that the wallbox is installed in an area with GSM network coverage or a Wi-Fi connection (only at 2.4Ghz). It is a necessary condition for a correct product's operation.

Before the first activation, the installer has to setup an appointment with Detas sending email to info@evchargers.com to verify and proceed with the wallbox registration, otherwise it will not function.

Use the App to set the output power in order to not exceed the available KW.

At the end of the installation, it is highly recommended to test the operation of the current transformers (CT) by using the App to verify that consumption data is correct, or via remote technical support. For further information, see 9.9

In case the wallbox is not working, disconnect the power supply, wait for 20 seconds, and power it up again.

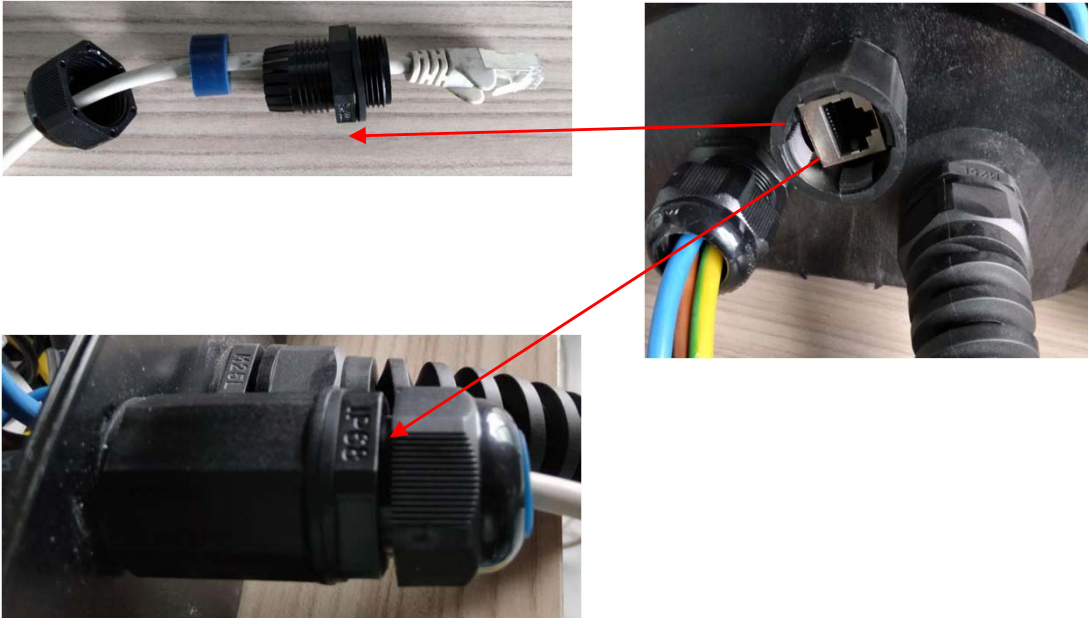
If the blue LED on the wallbox board is not blinking, push RESET for 1 second to make it blink again. Otherwise, call +39 0302594120 and request support.



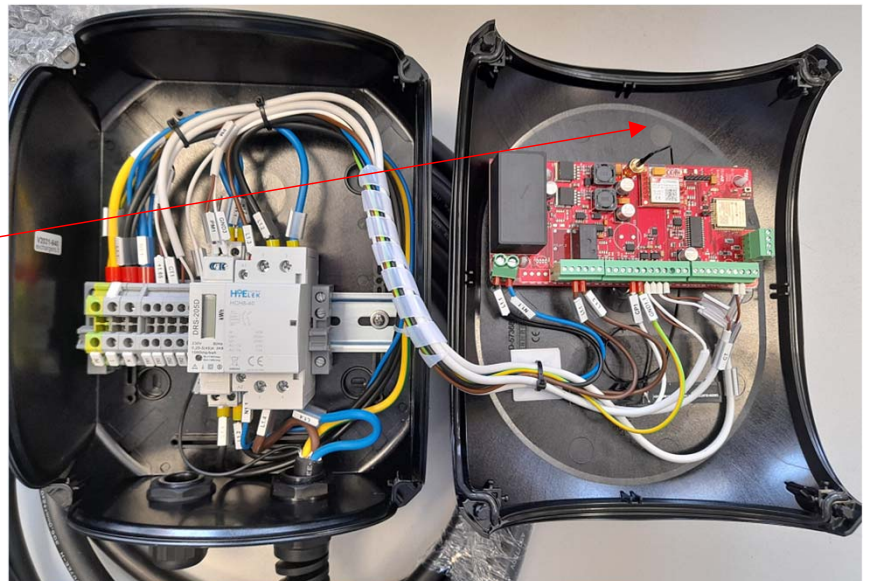
Reset button

Blue LED

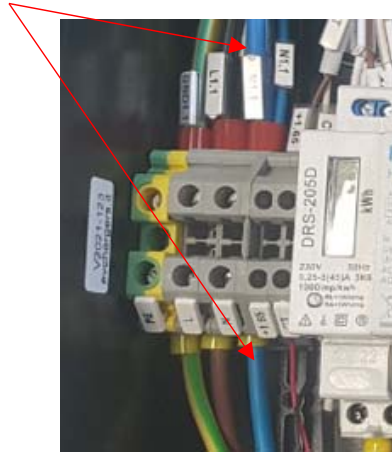
5) Connect the ethernet cable using the special cable gland delivered



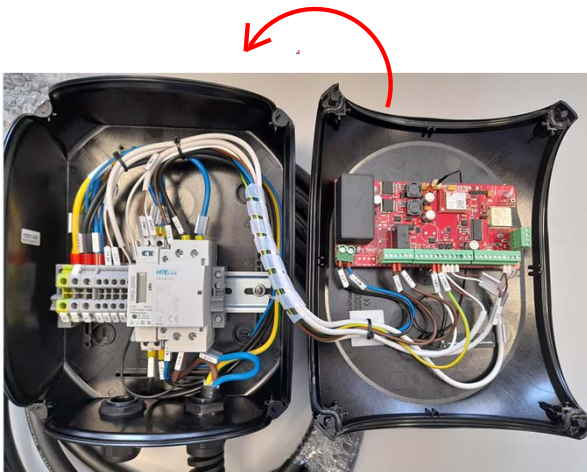
6) Verify that the antenna is correctly inserted into the appropriate connector and that it has not detached during transportation



7) Once the power supply is connected, perform a verification at the neutral terminal to ensure a correct connection



8) Close the wallbox lid and carefully fasten the plastic screws.



Note: for the electrical safety device installation to protect the wallbox, a 40A 30mA magnetothermal residual circuit breaker (C-curve for the MCB and B-type for the RCD) is recommended. The corresponding product code in the EVchargers catalog is 245.

LED INDICATORS

STEADY RED LED

Offline / Connection ongoing /
Generic error



FLASHING GREEN LED

Connected, ready for charging



STEADY BLUE LED

Charging



CHARGING PROCEDURE

(9.1)

Verify that the LED indicator is green, showing that the unit is available and ready for charging



(9.2)

Connect the cable of the **Wallbox Prime Smart** to the vehicle to start charging



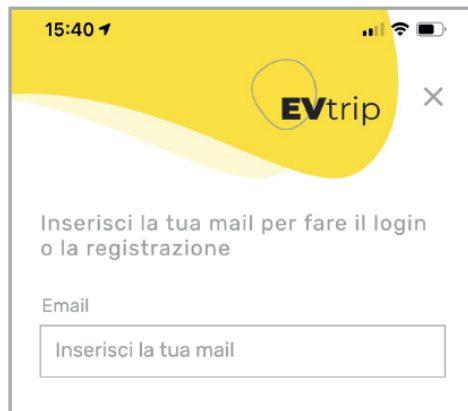
(9.3)

Download the **EvTrip** App from Play Store or Apple Store on your smartphone, or directly scan the following QR code:



(9.4)

Use your email address to register within the app.



(9.5)

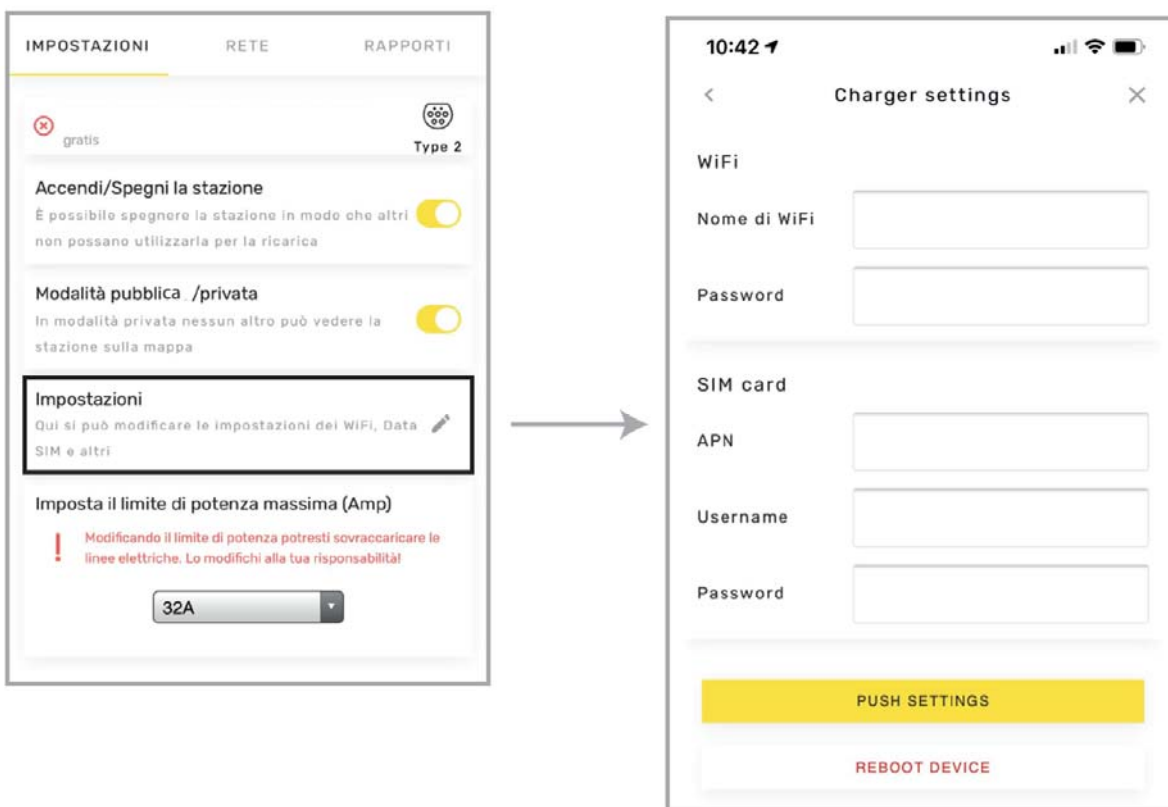
Send an email to info@evchargers.it indicating the following details:

- Name
- GPS coordinates
- BLE Device Name (a unique code located inside the wallbox)

(9.6)

Connect the Wallbox to the smartphone via bluetooth in order to manage its settings.

Note: During the pairing, it will be necessary to enter the “**BLE Passkey**” on the smartphone. This code is located on a label inside the Wallbox



(9.7)

Connect the Wallbox to the network using a WiFi connection or a data SIM card, if available

The Wallbox will **not** be operating if it is disconnected from the network

Notes:

It will now be possible to set the output power

(9.8)

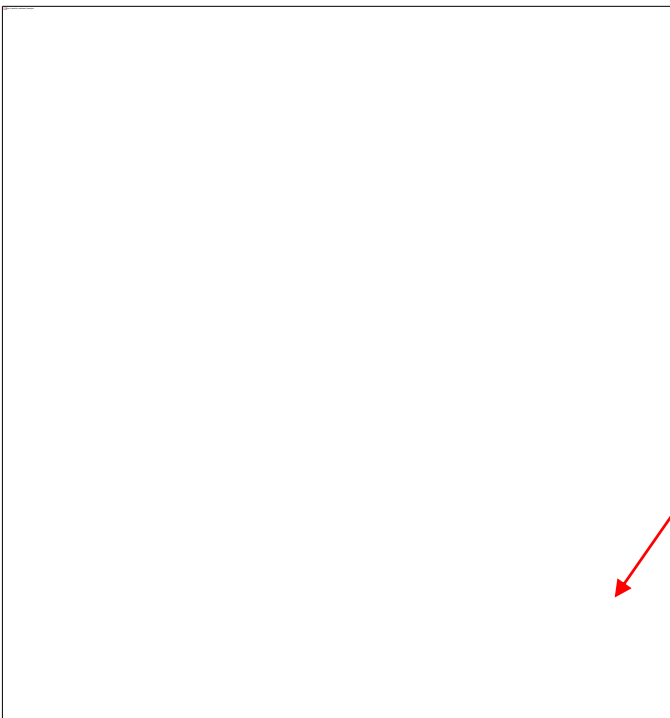
- The LED can be green or green/red (if no connection is available)
- Wait for 30 seconds
- Connect the cable to the car, the charging process will begin within 15 seconds and the LED will turn blue or blue/red (if offline)
- Stop the charging from the car or from the app

(9.9)

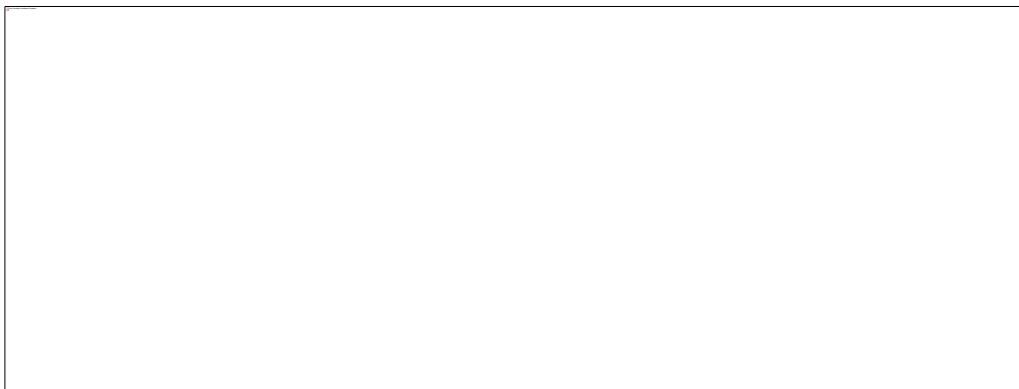
The WB Prime FV model has an important APP update that allows enabling/disabling the charging process with photovoltaic excess

To enable the charging only with the photovoltaic excess, toggle the button «Local energy mode»

If the vehicle should be charged independently from photovoltaic production (e.g. by night), disable this function.



To verify that the CTs are correctly installed, verify real-time data provided by the APP regarding the Photovoltaic generation and the household consumption, also in real-time



9 PERIODIC CONTROLS

The PRIME Wallbox has to be periodically verified by performing routine checks and maintenance operations.

In particular, daily maintenance contents and operations forbidden to unauthorized personnel are:

- It is forbidden to access the charger files or turn on/off the power supply for the non-professionals/not-in-charge personnel.
- Do not use floating cables, connecting cables or bridges.
- Verify the operating state of the charging station monthly regarding RCCB, switches, charge connectors, modules, etc.
- Use a dry cloth to wipe the connector dirt monthly, leaving the plug dry and clean.
- **Verify the tightening of all the cable connectors for all the internal components yearly.**

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