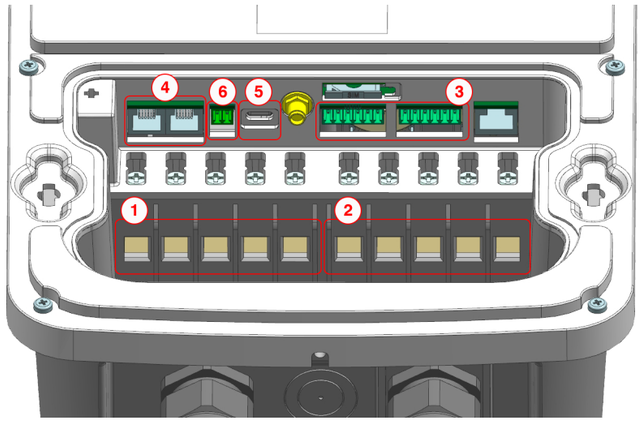
Connection Elements

To access the connection, remove the front wire cover. The connection blocks are as follows:

1. Equipment Power Supply.
2. Power supply to the electric vehicle (hose).
3. Pilot wire (CP).
4. Communication RS-485.
5. USB connector (no functionality assigned).
6. Connector for “Home AC” accessory (Load Balancing). The accessory is supplied (depending on the model) under the thread cover.



Connect ground cable coming from vehicle plug to to charge-box PE terminal.
Connect site ground cable to charge-box PE terminal.
Tighthen current terminals to 1.1 Nm ± 0.1 Nm: loose terminals could produce an overheating.

Equipment Power Supply

The power supply is represented in the figure by the **connector 1**. The power supply is provided by screw terminals, which offer great mechanical robustness. These terminals allow cable sections of up to 25mm^2. The equipment has the following terminals from left to right:

L1. Phase R	L2. Phase S	L3. Phase T	N. Neutral	GND. Ground

The number of terminals may vary based on the model of the recharge point, as it can be single-phase or three-phase.

Vehicle Power Supply

The power supply cables and the IEC62196-2 hose ground, which is connected to the vehicle, are screwed into the terminals shown in the figure as **connector 2**. The equipment, depending on the version, has the following terminals from left to right:

GND. Ground	L1. Phase R	L2. Phase S	L3. Phase T	N. Neutral

Pilot Wire (CP)

Represented in Figure as **connector 3**. The pinout is as follows:

		M3	M1	PP	CP

CP: CP: Control Pilot connection (PWM). **PP**: Proximity Pilot connection. **M1** & **M3**: Motor Control connection.

Communication of the Recharging Points Network

Represented as **connector 4** in the figure, two RJ11 connectors are available for RS-485 communication.

USB Port

Connector without assigned functionality.

Description

The mechanics of the device are based on the following parts:

- **Base**. Part that is attached to the wall.
- **Front**. Hides the active parts of the equipment and is attached to the base.
- **Wire cover**. Provides access to the electrical connection, communications and configuration parts. In this way, there is no access to the internal parts either in the installation or in the configuration of the equipment. This cover can be sealed with two screws.
- **Embellishment**. Most visible part of the equipment, it offers the finishing line.

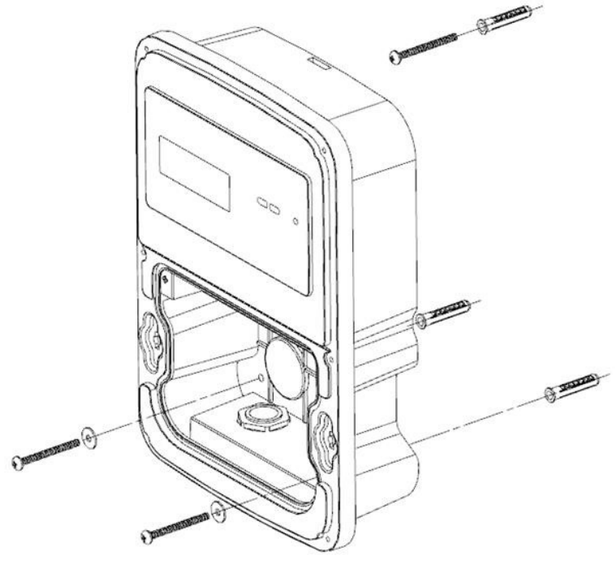
Mounting

When you receive the equipment, and before its installation, perform the following checks:
The equipment model **corresponds** to the specifications of your order.
The equipment is in **perfect mechanical condition** and there are no shocks or loose parts

When installing the equipment, it is convenient to respect some minimum distances for safety and to guarantee the installation and maintenance activities. The height for fixing the equipment is recommended between 750 and 1200 mm, leaving 250 mm on the other sides.

For correct wall mounting, the following actions must be followed:

1. Upper fixing point: insert the plastic plug into the wall and then insert its screw so that its head has a clearance of approximately 4 mm from the wall.
2. Place the recharging station on the screw. To do this, the screw head is positioned inside the upper hole.



3. Position the equipment so that it is vertical to the ground.
4. Lower fixing point. Insert the plastic plugs into the wall. Insert the screws with their washers in each hole shown in the following image. Then screw them into the plastic plugs to secure the unit to the wall.
5. The plugs, screws and washers supplied with the unit are used for this mounting.

When installing and commissioning the equipment, follow the instructions described in the Low Voltage Electrotechnical Regulations. The installation of the equipment requires an external overcurrent protection (**MCB**) and a differential breaker (**RCD**).

ZIV Spot

Electric Vehicle AC Charging Station

Installation and Commissioning Instructions

Technical Data

The power supply line from the distribution box to the charging point must comply with electrical safety standards, according to the regulations of each country. Remember that the equipment is Cat III (Overvoltage Category). Depending on the location, it may be necessary to install an external overvoltage protection to the device.

AC Power Supply	**230 V 50/60 Hz** (±10%) Single-Phase or Three-Phase.
Overvoltage Category	**Cat III**.
Output Maximum Power	Three-Phase: **22 kW** Single-Phase: **7.4 kW**
Consumption on standby	Three-Phase: **<1.5 W** per phase (@230V) Single-Phase: **<1.5 W** (@230V)
Maximum Output Current	**32 A** per phase / plug.
Insulation Class	**Class 1**.
Charging System	**Mode 3**.
Connection to Power Supply	**Permanent**.
Protection Level	**IP 54 / IK 08**
Installation Mode	**Wall-mounted** **3 fixing points**
HMI	**22 x 70 mm** Display **4** push-bottoms. **2** Status LEDs. **1** Energy Pulses LED.
Dimensions	**332 x 229 x 86 mm**
Weight	**< 2.5 Kg**
Connector Types	**2 x RJ-11**(**RS-485**) **1 x 2-pin male connector** (Home AC). **1 x USB-C** (no function at the moment). **1 x 6-pin male connector** (Pilot Wire) (**PWM** Signal).
Operation Range	**-25º** to **55ºC** **5%** a **95%** non-condensing.
Hose type	**Type 2** according to *IEC62196-2*.
Socket (optional)	**Type 2** according to *IEC62196-2*, *IP54*
Wire:	Supply: **6 - 25 mm2** Signal: **0.5 - 1 mm2** Outside Diameter: **13 - 18 mm**

Auxiliary Elements

The equipment's auxiliary elements must fulfill the following additional requirements according to standard IEC 61851-1.

1. **Fault protection.**

a. Fault protection shall consist of one or more protective measures as permitted according to IEC 60364-4-41. Detailed specification in section 8.3 of IEC 61851-1.

2. **Residual current protective devices (RCD).**

a. The connecting point of the EV supply equipment shall be protected by an RCD having a rated residual operating current not exceeding 30 mA.

b. RCD(s) protecting connecting points shall be at least Type A and fulfill the standards specified in section 8.5 in IEC 61851-1 (Fulfillment of IEC 61008-1, IEC 61009-1, IEC 60947-2 and IEC 62423, etc.).
Every Type A RCD shall have a high immunity: type HPI, SI, HI, KV … for EV Ready models.

3. **Characteristics of additional protection**.

a. Overvoltage protection is required to fulfill OV Category III. This can be ensured by the installation of a Surge Protection Device.

4. **Characteristics of circuit breakers.**

a. Circuit breakers, if any, shall comply with IEC 60898-1 or IEC 60947-2 or IEC 61009-1.

b. The circuit breaker shall be of Class limitation 3 and with a short-circuit current rating of 6 kA maximum to ensure the short circuit protection (I2t not exceeding 75000A2s).

5. **Conductive Electrical interface requirements.**

a. The standard accessories (additional protections and wiring) comply with IEC 60309-1, IEC 60309-2 or IEC 60884-1 or the national standard.

b. Basic interface: the basic interface is specified in 6.5 of IEC 62196-1:2014.

c. The circuit-breaker curve shall be curve B or C for single phase charging station. Power gauge of circuit breaker shall be 40A for 32A rated charger.

6. **Cable assembly requirements.**

a. The cable assembly shall be provided with a cable that is suitable for the application.

b. The technical requirements of the cable are detailed in section 11 of IEC 61851-1 (Electrical Rating, Dimensions, Strain Relief, etc.).

7. **Characteristics of mechanical switching devices.**

a. For AC applications, switches and switch disconnectors shall have a rated current, at a utilization category of at least AC-22A.

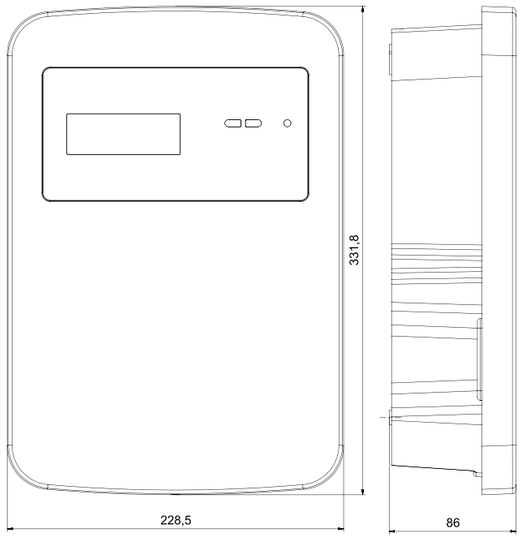
Safety Precautions and Maintenance Operations

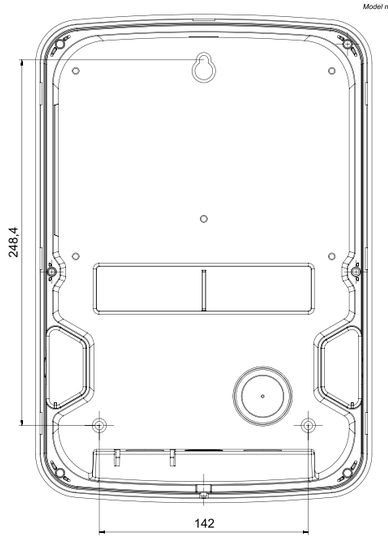
1. The installation of the recharging point is subject, in a generic way, to the compliance of all the safety and occupational risk prevention measures that the company responsible for the installation of the recharging point has established for this work environment and the safety standards.
2. Specifically, only qualified personnel should carry out the installation and handling of the equipment, and the operating environment should be appropriate for the ZIV Spot equipment, ensuring compliance with the conditions indicated in the IEC 61851 standard.
3. Before manipulating or modifying the connection, remove the power supply. Handling the equipment while it is connected can be dangerous.
4. Incorrect handling or installation of the equipment can cause damage, both personal and material. Read this instructions manual carefully before connecting the equipment. Follow all installation and maintenance instructions throughout the life of the equipment.
5. Do not use this equipment in charging modes not covered by IEC 61851 standard.
6. **ZIV** is not responsible for any damage to persons, facilities or third parties resulting from failure to comply with points 1,2 and 3.

The equipment does not require any maintenance operation except for the periodic checks stipulated by the regulations in force.

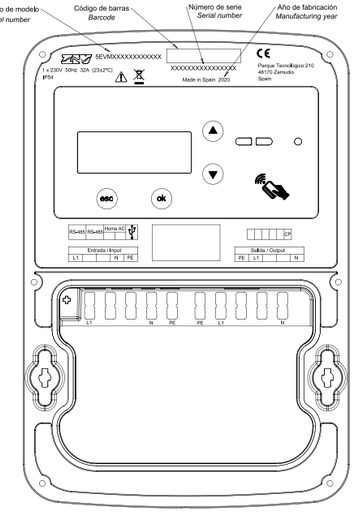
Dimensions and Marking

EV Charger Drawings

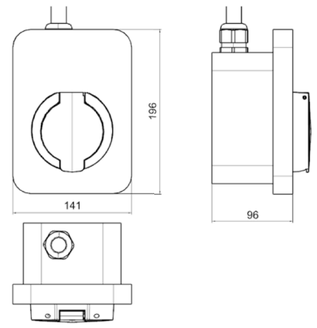




Marking.



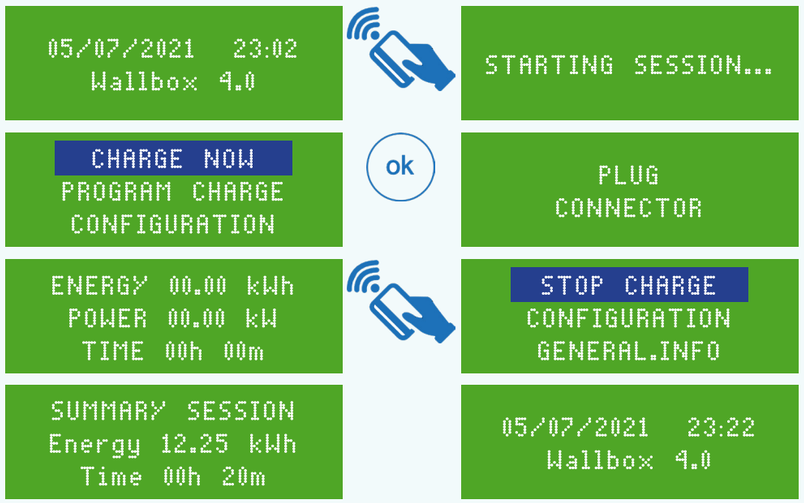
Socket Deported Drawings.



EV Charging

All of the family's recharging points offer vehicle recharging in mode 3 (according to IEC61851-1). The equipment informs of the recharge status by means of display and LED lighting.

1. To start a charge, check that the device is Available: LEDs are lit in fixed green and the display shows the **Default** screen.
2. Pass a RFID card in front of the reader: the LEDs flash yellow and the display shows **STARTING SESSION**. After a few seconds, the LEDs turn to fixed white and the display shows Main menu without load: **CHARGE NOW** / **PROGRAM CHARGE** / **CONFIGURATION** / **GENERAL.INFO**.
3. Select **CHARGE NOW**. The LEDs will now flash yellow and the display will show **PLUG CONECTOR**.
4. Connect the hose. Charging begins immediately: LEDs turn to fixed blue and display shows "**ENERGY**", "**POWER**", "**TIME**" (if there is no consumption the LEDs are blue flashing).
5. To end the session, pass the same RFID card through the reader: the LEDs turn to fixed white and the display shows the Main menu during charging: **STOP CHARGE** / **CONFIGURATION** / **GENERAL.INFO**.
6. Select **STOP CHARGE**: the display shows the **SUMMARY SESSION** ("**Energy**", "**Time**"), LEDs fixed white.
7. Disconnect hose. After 30 seconds, the device is available again: fixed green LEDs and **Default** screen.



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