

enel x



**JUICEBOX PRO &
JUICEBOX PLUS**
INSTALLATION MANUAL

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JuiceBox Pro & JuiceBox Plus

This manual explains how to install and use the models JuiceBox Pro, Pro Cellular, Plus and Plus Cellular.

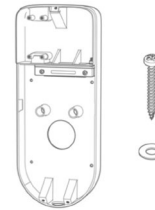


1. Package Contents

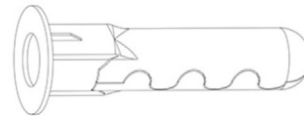
JuiceBox with M3-0.5 x 12 mm screws (x3) and washers (x3)



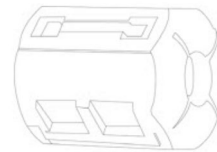
Wall frame with M5 x 50 mm screws (x4) and washers (x4)



M8 x 40 mm wall anchors (x4)



Ferrite



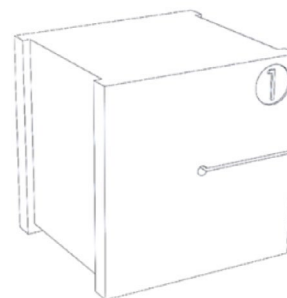
Ferrules (x5)



Weatherproof seal block for external antenna

NOTE:

This part is only required if installing an external antenna (JuiceBox Pro Cellular and Plus Cellular). Refer to the Installation Prerequisites section for more information.



2. Characteristics and Dimensions

2.1. Characteristics

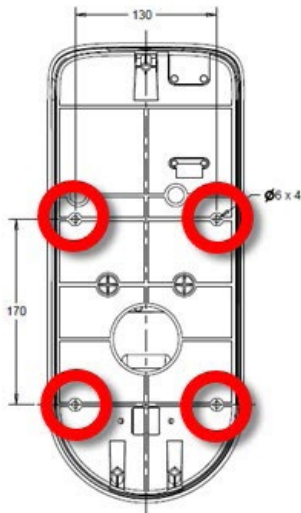
| | | |
|-------------------------------------|--|--------------------|
| Output Power | 1-phase | Up to 3,7 kW, 16 A |
| | | Up to 7,4 kW, 32 A |
| | 3-phase | Up to 11 kW, 16 A |
| | | Up to 22 kW, 32 A |
| Input Voltage | 1-phase | 230 VAC |
| | 3-phase | 400 VAC |
| Charging Mode | Mode 3 | |
| LED | Dynamic LEDs displaying charging status | |
| Protection | IP55, IK08 | |
| | Requirements: <ul style="list-style-type: none">> RCD type A> MCB curve C | |
| Operating temperature | From -40 °C to +60 °C | |
| Standards and Certifications | IEC 61851-1 | |
| | CE marking | |

2.2. Dimensions

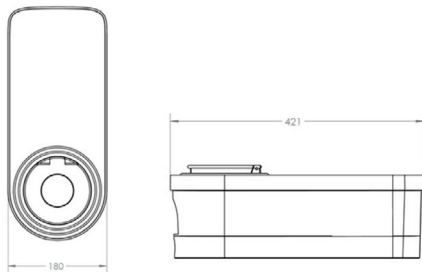
NOTE:

All dimensions are in mm.

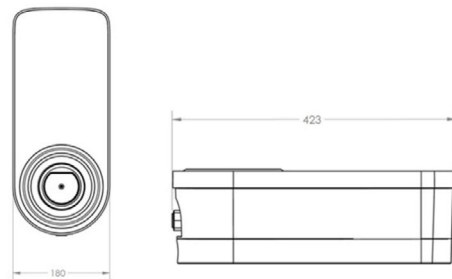
> Wallframe (mounting holes circled in red)



> JuiceBox

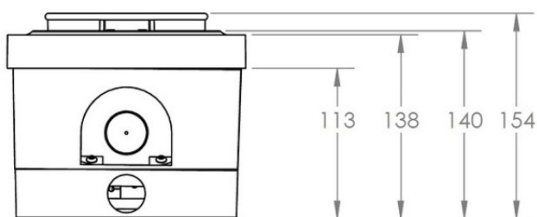


Socket Version

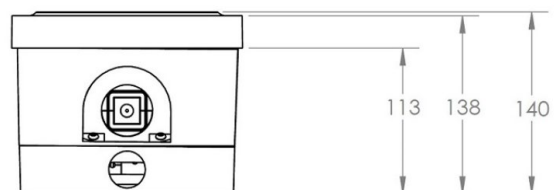


Cable Version

> JuiceBox And Wallframe



Socket Version



Cable Version

3. Required Tools

- > Phillips screwdriver
- > Pencil or marker
- > 4 mm hex key
- > 8 mm wrench
- > 2.5 mm hex torque screwdriver (1.3 Nm)

For buildings with brick or concrete construction:

- > Hammer
- > Masonry drill bit for M8 wall anchors

NOTE:

When installing a JuiceBox Pro Cellular or Plus Cellular in an area with poor reception, an external antenna is recommended. Refer to the Installation Prerequisites section for more information.

4. Installation Prerequisites

The JuiceBox must be installed to the following specifications by a qualified electrician:

- > Unit must be within range of vehicle's charge port
- > **Units equipped with Wi-Fi connection (JuiceBox Pro and Plus models):** Within range of the local Wi-Fi network (supporting IEEE 802.11b/g/n at 2.4 GHz)
- > **Units equipped with cellular connection (JuiceBox Pro Cellular and Plus Cellular):** Within range of good mobile cellular coverage (at least -80 dBm with SIM used in the JuiceBox).

If reception is poor: an external antenna with a low attenuation cable and RP SMA male connector should be connected to the JuiceBox. In this case, it will be necessary to check that the signal present at the antenna installation point guarantees, considering the antenna gain and the attenuation of the connecting cable, at least a signal of -80 dBm with the SIM used in the JuiceBox.

NOTE:

The Wi-Fi functionality is currently not available in Italy and Spain.

The JuiceBox is compatible with the networks in the following table:

| DISTRIBUTION SYSTEM | | NEUTRAL | VOLTAGE |
|---------------------|------|---------|---------|
| 1-phase | TT | Yes | 230 VAC |
| 3-phase | | Yes | 400 VAC |
| 1-phase | TN-S | Yes | 230 VAC |
| 3-phase | | Yes | 400 VAC |
| 1-phase | IT | No | 230 VAC |

NOTE:

The installation must be compliant with local regulations.

The installation of the JuiceBox must include dedicated protection devices:

| JUICEBOX | MCB | RCD | |
|----------------|--------------------|--|--|
| 1-phase | Up to 3,7 kW, 16 A | <ul style="list-style-type: none"> > Curve C > ICC: 10 kA > In: 20 A > Poles: 2 | <ul style="list-style-type: none"> > Type A > Id: 30 mA > In: 25 A > Poles: 2 |
| | Up to 7,4 kW, 32 A | <ul style="list-style-type: none"> > Curve C > ICC: 10 kA > In: 40 A > Poles: 2 | <ul style="list-style-type: none"> > Type A > Id: 30 mA > In: 40 A > Poles: 2 |
| 3-phase | Up to 11 kW, 16 A | <ul style="list-style-type: none"> > Curve C > ICC: 10 kA > In: 20 A > Poles: 4 | <ul style="list-style-type: none"> > Type A > Id: 30 mA > In: 25 A > Poles: 4 |
| | Up to 22 kW, 32 A | <ul style="list-style-type: none"> > Curve C > ICC: 10 kA > In: 40 A > Poles: 4 | <ul style="list-style-type: none"> > Type A > Id: 30 mA > In: 40 A > Poles: 4 |

IMPORTANT NOTE:**Cable versions and Socket versions with optoMOS board**

The JuiceBox has an optoMOS board with a clean NO contact. If the optoMOS board detects issues, it has the ability to trigger the upstream protection device on the power line and can switch off power supply line from JuiceBox.

The release of the protection devices upstream of the power supply line is mandatory for the cable versions installed in Italy and the Netherlands (IEC 61851-1).

The most suitable solution for switching off the devices is left to the installer who must take the following aspects into account:

- > The maximum voltage that the contact can support is 60V.
- > The cross-section of the connection conductor (the cable that connects the optoMOS

board and the upstream protection device) is between 1 mm² and 1.5 mm².

- > The maximum length of the connection between the board and the release device depends on the solution adopted.

The charger must adhere to NEK-400 (Norway) to be protected against overvoltage.

 **WARNING**

Some electric cars require that the Neutral (N) on the charger has direct contact with the ground, this affects charging at IT networks. In such cases, a transformer must also be installed before RCD, MCB and JuiceBox to create a local TN/TT system.

NOTE:

For TT and TN grids, the grounding resistance of the system must be less than 100 Ω, or even lower if required by local regulations.

The power cable cross-sectional area, insulating material, and composition shall be made according to the size of electrical switches and local regulations.

NOTE:

The maximum cross-sectional area allowed for the JuiceBox input connector is 6 mm².

The following table shows the recommended minimum cross sections for a standard installation with copper cables:

| JUICEBOX | | MINIMUM CROSS-SECTIONAL AREA |
|----------|--------------------|------------------------------|
| 1-phase | Up to 3,7 kW, 16 A | 4 mm ² |
| | Up to 7,4 kW, 32 A | 6 mm ² |
| 3-phase | Up to 11 kW, 16 A | 4 mm ² |
| | Up to 22 kW, 32 A | 6 mm ² |

5. Installation

NOTE:

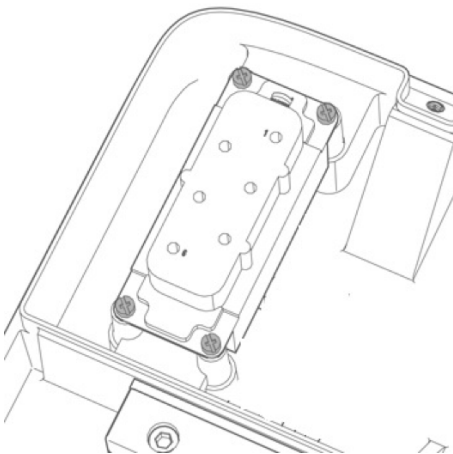
JuiceBox must be installed by a qualified electrician.

1. Ensure that the input cable is not energized. If applicable, turn off the circuit breaker for the input cable.

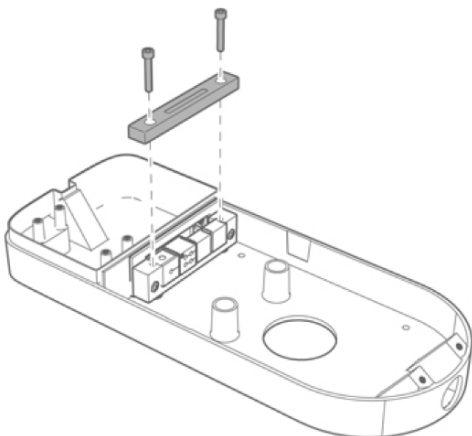
WARNING

Do not continue this procedure until it is confirmed that the input cable is not energized.

2. Install the ferrules onto the input cable wires..
3. Remove the terminal block. It will be used at a later step.



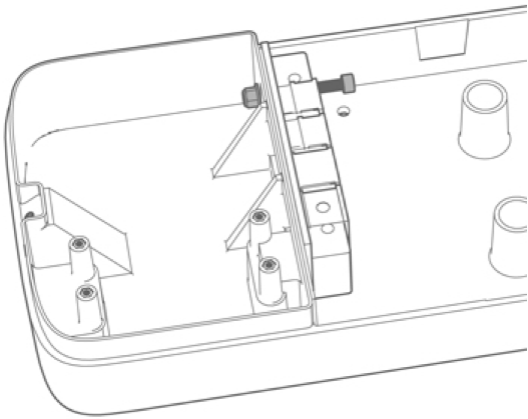
4. Use a 4 mm hex key to release the fasteners (x2) that secure the seal block cover. Remove the seal block cover.



5. Identify the right-hand fastener that secures the seal block. Use an 8 mm wrench to hold the nut, then use a 4 mm hex key to loosen the fastener.

NOTE:

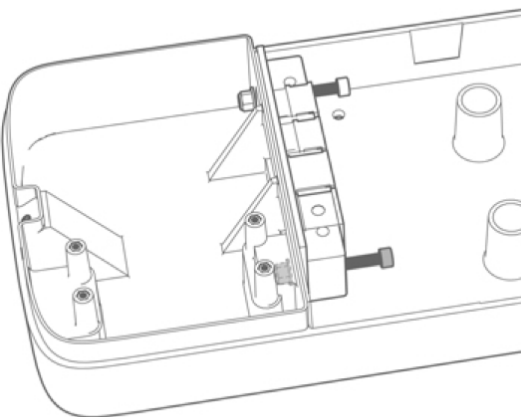
It is not necessary to fully remove the fastener. The fastener will be retightened at a later step.



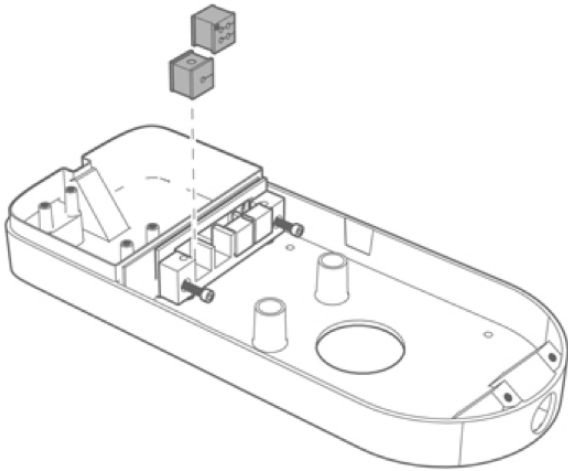
6. Identify the left-hand fastener that secures the seal block. Access the fastener nut on the bottom of the wall frame, then use an 8 mm wrench to hold the nut and use a 4 mm hex key to loosen the fastener.

NOTE:

It is not necessary to fully remove the fastener. The fastener will be retightened at a later step.

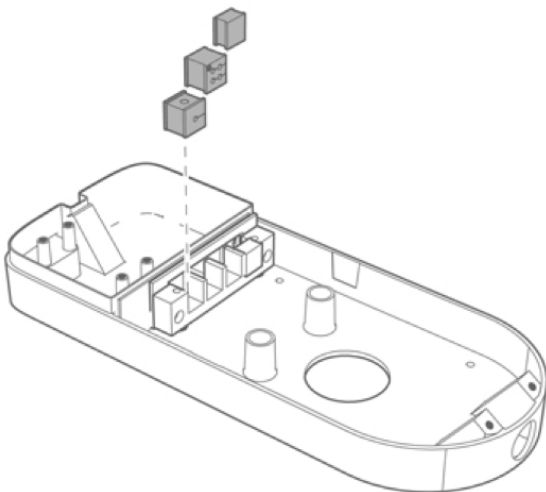


7. Remove the 2 seals from the seal block.



NOTE:

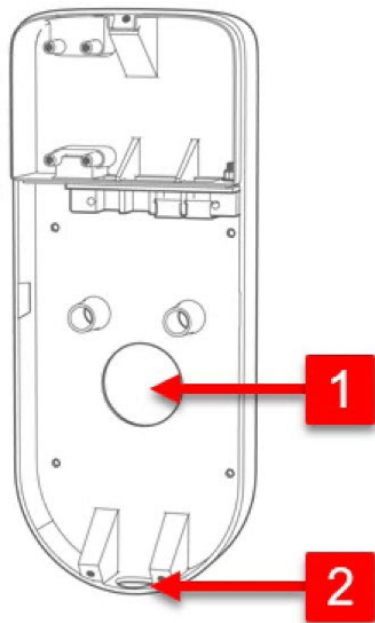
If installing an external antenna (JuiceBox Pro Cellular and Plus Cellular): Remove the 3 seals from the seal block. Discard the rightmost seal that does not have any holes.



8. Route the input wires through the appropriate hole into the wallframe.

NOTE:

Do not secure the wallframe to the wall at this time.



1 **Hole in back of wallframe:** Recommended for concealed input wires

2 **Hole in bottom of wallframe:** Recommended for non-concealed input cable

NOTE:

If installing a JuiceBox cable or socket version with optoMOS board: Route the wires of the optoMOS board into the wallframe through the same hole used for power cables in the wallframe

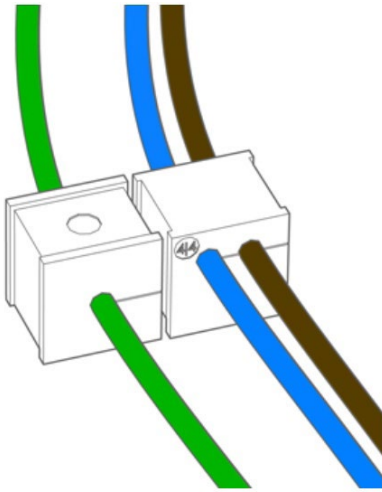
NOTE:

If installing an external antenna (JuiceBox Pro Cellular and Plus Cellular): Connect the external antenna to the coaxial cable extender, then route the coaxial extender cable into the wallframe through the hole in the bottom of the wallframe.

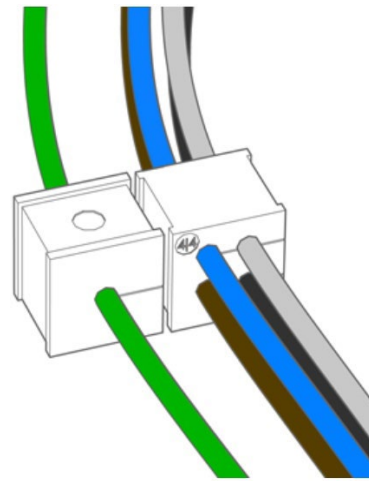
9. Route the input wires through the seals:

> **1-hole seal:** Earthing wire

> **2 or 4-hole seal:** L1, L2 (if applicable), L3 (if applicable), and neutral wires (if applicable). The position of each individual wire within the seal does not matter.



1-Phase Installation



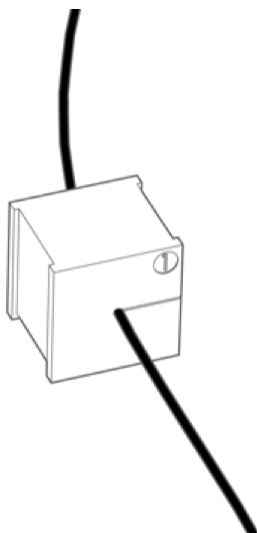
3-Phase Installation

NOTE:

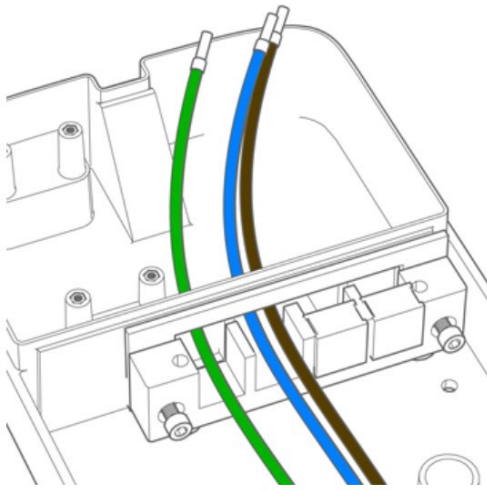
If installing a JuiceBox cable or socket version with optoMOS board: Insert the two connection cables of the optoMOS board in the gasket, parallel to the power cables using the same holes. Alternatively, it is possible to run the two cables in the same partition as the earth cable.

NOTE:

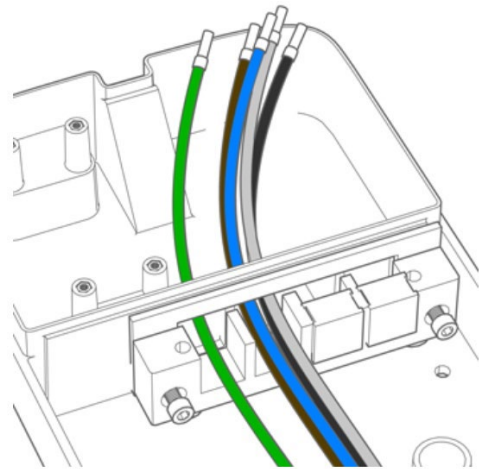
If installing an external antenna (JuiceBox Pro Cellular and Plus Cellular): Route the coaxial extender cable through the included seal.



10. Route the wires through the partition into the top section of the enclosure, as shown.



1-Phase Installation



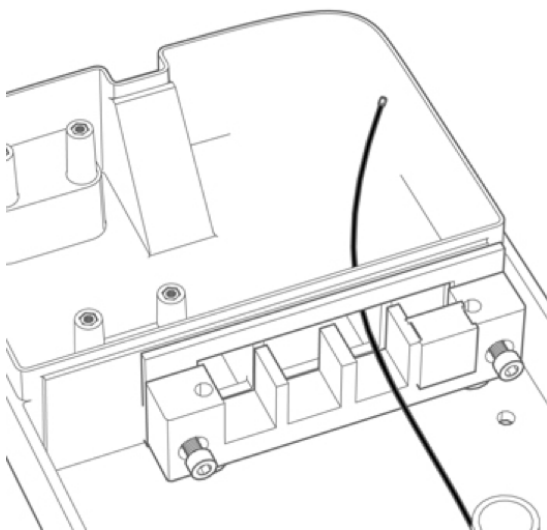
3-Phase Installation

NOTE:

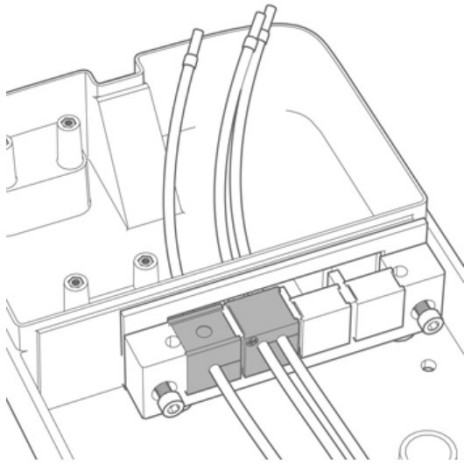
If installing a JuiceBox cable or socket version with optoMOS board: Route the two connection wires of the optoMOS board through the same partition.

NOTE:

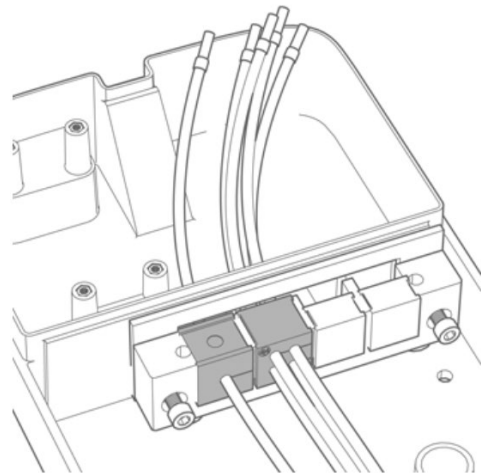
If installing an external antenna (JuiceBox Pro Cellular and Plus Cellular): Route the coaxial cable extender through the partition into the top section of the enclosure, as shown.



11. Pull the wires as far as possible into the top section of the enclosure, then reinstall the 2 seals into the seal block.



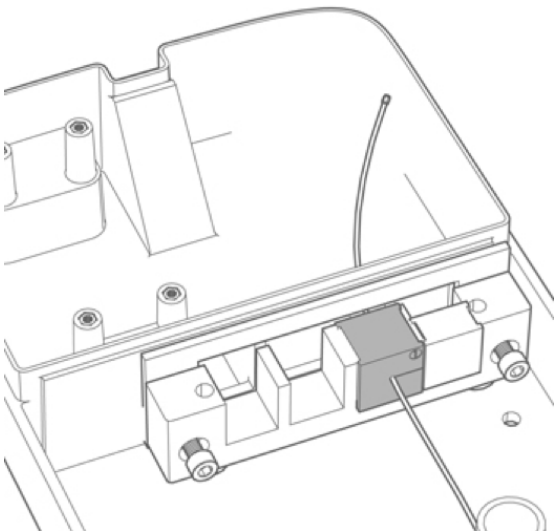
1-Phase Installation



3-Phase Installation

NOTE:

If installing an external antenna (JuiceBox Pro Cellular and Plus Cellular): Install the seal that houses the coaxial cable extender.



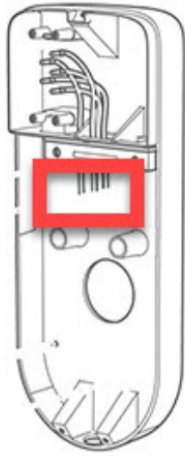
12. For both fasteners that secure the seal block to the wall frame, use an 8 mm wrench to hold the nut while tightening the fastener with a 4 mm hex key (refer to step 5 and 6).

13. Install the seal block cover and fasteners (x2) (refer to step 4).

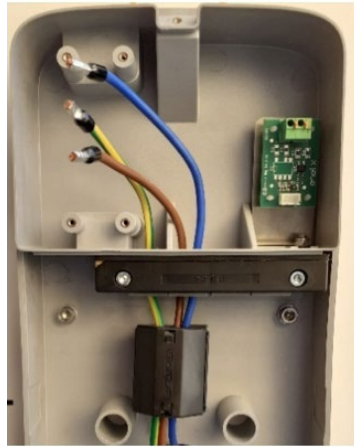
14. Install the ferrite around the input wires at the base of the seal block.

NOTE

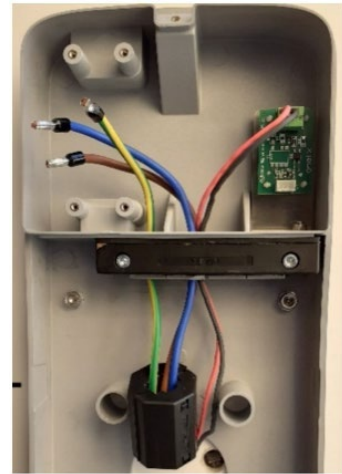
(JuiceBox Pro Cellular and Plus Cellular): It is not necessary to enclose the coaxial cable extender within the ferrite.



Ferrite position



Ferrite installation without card connection cables with optoMOS



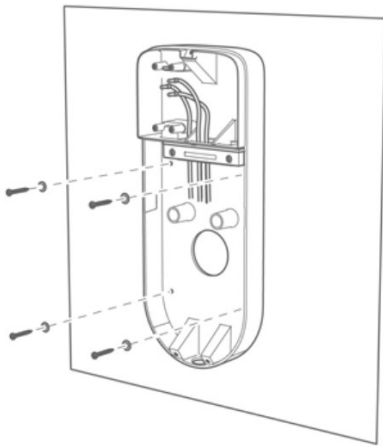
Ferrite installation with card connection cables with optoMOS

15. Position the wall frame in the desired position at a height of at least 90 cm between the ground and the lower edge of the wall frame. While holding the wall frame in place, use the 4 mounting holes in the wall frame as a template to mark drill points on the wall.

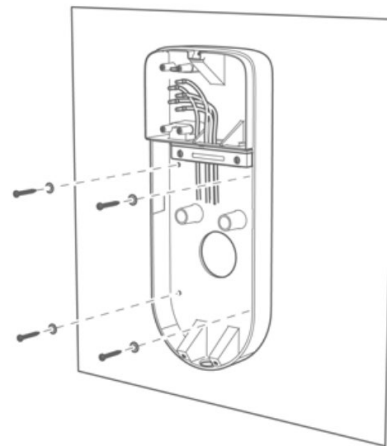
16. Using an 8 mm bit, drill holes 50 mm deep in the wall at the points marked in the previous step. Install the 4 wall anchors.



17. Use the screws and washers to install the wall frame.



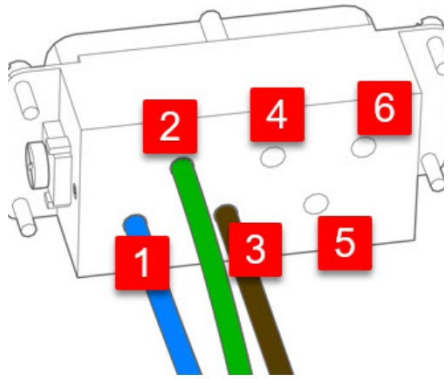
1-Phase Installation



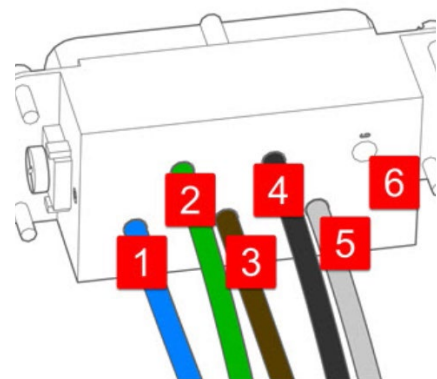
3-Phase Installation

18. Loosen the terminal screws on the sides of the terminal block (x6). Install the wires into the terminal block. Ensure that each wire snaps into place, then tighten its corresponding terminal screw. Perform a pull-test to ensure that the wires are secure.

| TERMINAL BLOCK POSITION | CABLE (1-PHASE) | CABLE (3-PHASE) |
|-------------------------|-----------------|-----------------|
| 1 | Neutral/L2 | Neutral |
| 2 | Earth | Earth |
| 3 | L1 | L1 |
| 4 | Not used | L2 |
| 5 | Not used | L3 |
| 6 | Not used | Not used |

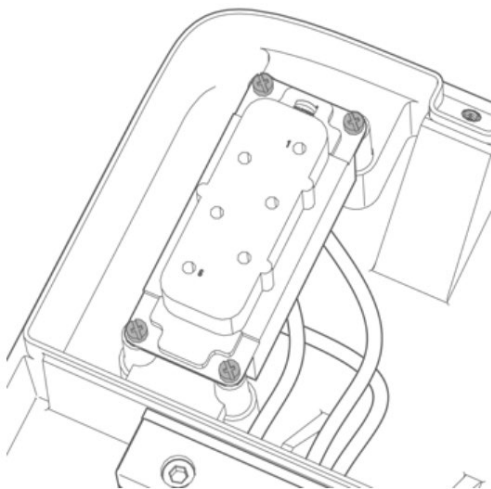


1-Phase Installation

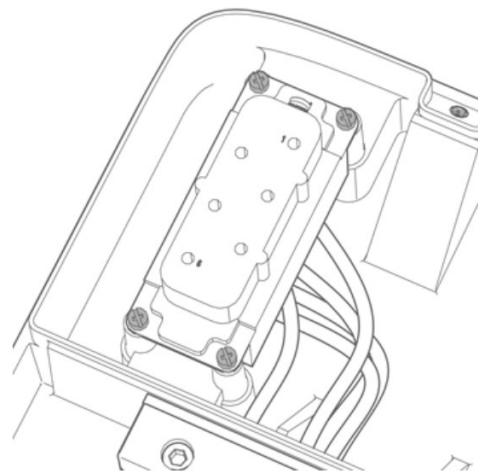


3-Phase Installation

19. Install the fasteners (x4) to secure the terminal block..

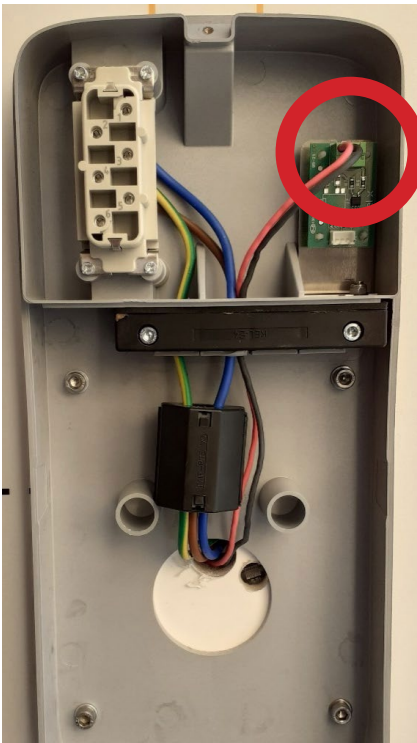


1-Phase Installation

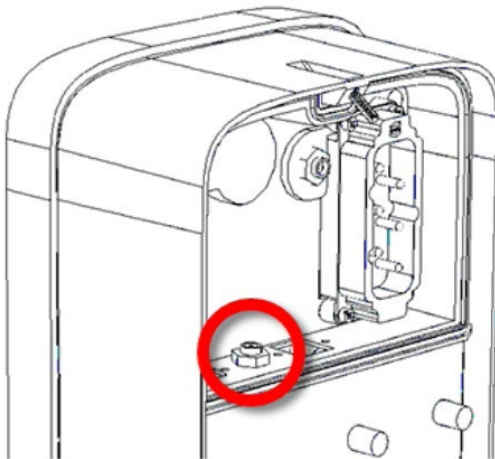


3-Phase Installation

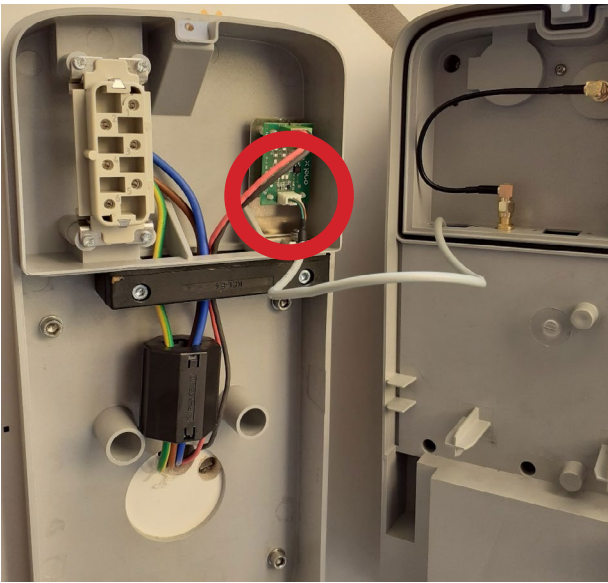
20. If installing a JuiceBox cable or socket version with optoMOS board: Install the connection wires (red and black) on the opto-MOS board as in the picture below.



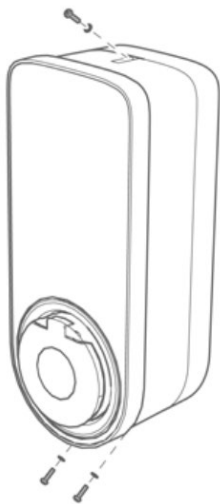
21. If installing an external antenna (JuiceBox Pro Cellular and Plus Cellular): Disconnect the internal antenna from the connector on the back of the JuiceBox and allow the antenna to hang freely. Connect the coaxial cable extender to the connector on the back of the JuiceBox.



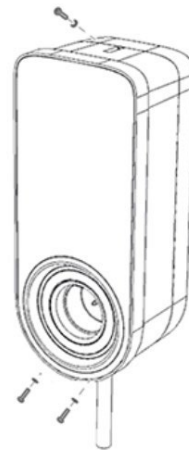
22. If installing a JuiceBox cable or socket version with optoMOS board: Connect the connection cable hanging from the JuiceBox to the header of the optoMOS board as in the picture below.



23. Install the JuiceBox onto the wall frame. Install the washers and fasteners (x2 on bottom, x1 on top) that secure the JuiceBox to the wall frame (1.3 Nm).








Socket Version



Cable Version

24. Energize the input cable. Verify that the LED light becomes a solid purple within 2 minutes.

6. LED Indicator

| COLOR | | MEANING |
|--------|---|--|
| White |  | <ul style="list-style-type: none">> Solid: Online> Blinking: Online, waiting for cable insertion (90-second duration) |
| Purple |  | <ul style="list-style-type: none">> Solid: Offline> Blinking: Offline, waiting for cable insertion (90-second duration) |
| Green |  | <ul style="list-style-type: none">> Solid: Charging complete (vehicle not drawing power)> Solid (3-second duration): Start/stop command received from app or RFID card> Blinking: Charging |
| Yellow |  | <ul style="list-style-type: none">> Blinking: Standby |
| Red |  | <ul style="list-style-type: none">> Solid (3-second duration): RFID not authorized, or vehicle was not plugged in in time> Blinking: Error |

7. Important Safety Information

Read all safety information before installing this product.

- > **WARNING:** This device should be supervised when used around children.
- > **WARNING:** Do not put fingers into the electric vehicle connector.
- > **WARNING:** Do not use this product if the flexible power cord is frayed, has broken insulation, or shows any other signs of damage.
- > **WARNING:** For use with electric vehicles only.
- > **WARNING:** Do not use this device with an extension cord.
- > **WARNING:** Do not remove cover or attempt to open the enclosure. No user serviceable parts inside. Refer servicing to qualified service personnel.
- > **WARNING:** Install and use JuiceBox away from flammable, explosive, harsh or combustible vapors, materials and chemicals.
- > **WARNING:** Do not operate the JuiceBox outside its temperature rating of -40°C to +60°C.
- > **WARNING:** This device is intended only for electric vehicles that don't require ventilation during charging.
- > **WARNING:** This product must be earthed. If it malfunctions or breaks down, earthing provides a path of least resistance for electric current to reduce the risk of electric shock.
- > **WARNING:** Improper connection of the equipment–earthing conductor is able to result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly earthed.

Electric and electronic equipment end of life user's information



Pursuant to local laws and regulations and according to art.14 of Directive 2012/19 / EU on waste electrical and electronic equipment (WEEE), crossed-out waste bin symbol on equipment or on its packaging means that the product shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of product at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.