

enel x



JUICEBOX PRO & JUICEBOX PLUS

Installer Manual

In this document

Purpose of this document	6
Installation Process	6
Document Structure	6
A. JuiceBox Pro & JuiceBox Plus – Installation Manual	8
1 JuiceBox	9
1.1 Features	10
1.2 Dimensions	11
2 Important safety information	12
2.1 Electric and electronic equipment end of life user’s information	12
3 Package Contents	13
4 Tools Needed	14
5 Installation Prerequisites	15
5.1 Protections	16
5.2 Power and signal cables	18
5.3 JB4Installers App	18
5.4 JuicePass App	18
6 Standard Installation	19
7 Special Installation Cases	36
7.1 Three phase JuiceBox installed on a Single-phase or Bi-phase supply system	36
7.2 Other special cases	36
8 Firmware Update	36
9 Load Optimization Pro	37
10 JuiceBox Commissioning through the JuicePass App	38
10.1 Commissioning via Cellular Connectivity	38
10.2 Commissioning via Wi-Fi Connectivity	44
10.3 Procedure for Unpairing the JuiceBox from the JuicePass Account	51
11 Charging Test	53
11.1 Charging in Unlock to Charge mode	54
11.2 Charging in Connect&Charge Mode	56
11.3 Recording the Charging Session in the Charging history	57

11.4 Checking Charging Power	58
11.5 Testing Load Optimization Pro	58
12 LED indicator	59
B. JuiceMeter- Installation Manual	60
1 JuiceMeter	61
1.1 Electric and electronic equipment end of life user's information	61
2 Single-phase JuiceMeter	62
2.1 Features	62
2.2 Installation	64
2.3 JuiceBox connection diagrams	68
3 Three-phase JuiceMeter	70
3.1 Features	70
3.2 Installation	72
3.3 JuiceBox connection diagrams	77
C. JuiceBox Pro & JuiceBox Plus – JB4Installers App Manual	80
1 Purpose of the Manual	81
2 Pre-requisites	81
3 Login	81
4 New firmware download	83
5 Loading the JuiceBox serial on the app	84
6 Connecting the JuiceBox to the App	86
7 Firmware Update	89
8 JuiceBox Connectivity Check for Cellular Versions	92
9 JuiceBox Configuration	94
9.1 Configuration of the "Supply System" Parameter	94
9.2 Wi-Fi Configuration	95
9.3 JuiceMeter Configuration (for JuiceBox Pro)	96
9.4 Configuration of the JuiceBox in Standalone Mode	97
9.5 Configuration of the JuiceBox in Absence of Cellular Connectivity	98
9.6 Configuration of the JuiceBox in case of installation on the IT network or in absence	

of neutral	102
9.7 GPD disabling procedure	102
10 Viewing JuiceBox Diagnostics	103
D. JuiceBox Pro & JuiceBox Plus – JuiceBox Web Manager manual	104
1 Procedure for accessing the Web Manager tool	105
2 Procedure for setting the JuiceBox in “standalone” mode in case of lack of connectivity and for commissioning	106
3 Setting the JuiceBox access mode, power, and Supply System	107
4 Association of the JuiceBox with JuiceMeter	110
5 Wi-Fi	113
E. JuiceBox Pro & JuiceBox Plus – Procedure for installing the external protection release solution for JuiceBox with control board	114
1 Introduction	115
2 Procedure for installing the external protection release solution	115
3 Composition of Siemens Protection Kits	117
F. JuiceBox Pro & JuiceBox Plus – HW GPD Deactivation Procedure	119
1 GPD Deactivation Procedure	120
G. JuiceBox Pro & JuiceBox Plus – What-if Manual – Special installation cases	123
1 Purpose of the Manual and Method	124
2 List of Special Installation Cases	125
2.1 Data network signal with SIM is insufficient	126
2.2 Single-phase IT power grid	127
2.3 Customer smartphone connectivity not adequate	128
2.4 Lockable garage with shutter (or other type) that weakens signal	129
2.5 Single-phase TT/TN power grid	130
2.6 Three-phase TT/TN power grid	131
2.7 Single-phase TT electrical grid without neutral	132
2.8 JuiceBox with control board in Italy and in Holland	132

2.9 EV ready Installation	133
2.10 JuiceBox with Load Optimization Pro (without photovoltaics)	133
2.11 JuiceBox with Load Optimization Pro (with photovoltaics)	134
2.12 Customer's vehicle not available during installation	134
2.13 Renault Zoe, Smart 22 kW, Twingo Electric	135
2.14 Load Optimization Pro with transformer	135

H. JuiceBox Pro & JuiceBox Plus – Installer checklist **136**

1 Installer checklist example **137**

Purpose of this document

The purpose of this manual is to provide the installer with all the information necessary for the correct installation and commissioning of the JuiceBox Pro and JuiceBox Plus charging stations.

Installation Process

The following process is recommended to carry out the installation operations:

1. Please read this Installer Manual.
2. Carry out a feasibility inspection at the installation site by filling out a checklist provided for this purpose by Enel X (see [Installer Checklist example](#)). This checklist allows you to find out whether you can proceed with standard installation (see [Standard Installation](#)) or whether you need to follow the special installation procedures (see [What-if Manual](#));
3. Obtain tools, materials, apps, and everything needed for installation (see [Tools Needed](#));
4. Proceed with installation, commissioning, configurations, testing, and acceptance test.

Document Structure

The manuals that comprise this document are listed below.

DOCUMENT SECTION	MANUAL	TOPIC
Section A	JuiceBox Pro & JuiceBox Plus Installation Manual	Physical installation of the JuiceBox, introduction to configurations, commissioning via JuicePass app, and charging test
Section B	JuiceMeter Installation Manual	Physical installation of single-phase and three-phase JuiceMeter device to enable Load Optimization Pro feature (available only with JuiceBox Pro)

Section C	JuiceBox4Installer App Manual	Guide for the use of the "JuiceBox4Installer" app, necessary to carry out the JuiceBox configuration activities (if not carried out with the JuicePass app) and JuiceMeter
Section D	JuiceBox Web Manager Manual	Guide for the use of the "JuiceBox Web Manager" web app, which can be used by all users to carry out the JuiceBox configuration activities (if not carried out with the JuicePass app) and JuiceMeter
Section E	Procedure for installing the external protection release solution for JuiceBox with control board	Guide to install protection components for JuiceBox equipped with control board
Section F	HW GPD Deactivation Procedure	Guide to disable the Ground Presence Detector in the JuiceBox to be followed in the cases indicated in this manual
Section G	What-if Manual - Special installation cases	Procedures to be followed after verification of a non-standard installation case
Section H	Installer checklist example	Checklist to be filled in during the inspection to determine the JuiceBox installation method (standard or procedures for special cases)

A. JuiceBox Pro & JuiceBox Plus – Installation Manual

1 JuiceBox

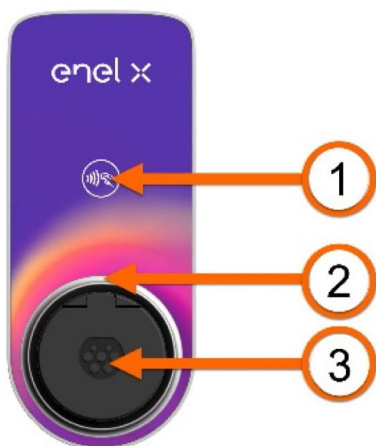
JuiceBox Pro and JuiceBox Plus charging stations are available in two versions.

JUICEBOX CABLE VERSION (1):



1	Cable
2	RFID reader
3	LED indicator
4	Connector

JUICEBOX SOCKET VERSION (2):



1	RFID reader
2	LED indicator
3	Socket

The JuiceBox Pro differs from the JuiceBox Plus by the possibility to enable the Load Optimization Pro feature, which allows the Customer to always charge at the maximum available power without triggering the meter. The activation of this function requires the installation of an additional device, the JuiceMeter.

- > **JuiceBox Pro installation:** hardware installation of the JuiceBox, hardware installation of the JuiceMeter, configuration, testing and acceptance test
- > **JuiceBox Plus installation:** hardware installation of the JuiceBox, configuration, testing and acceptance test

JuiceBox with control board: The cable version JuiceBox to be installed in Italy and Holland has the control board.

JuiceBox to be installed according to EV ready requirements also are equipped with the control board.

1.1 Features

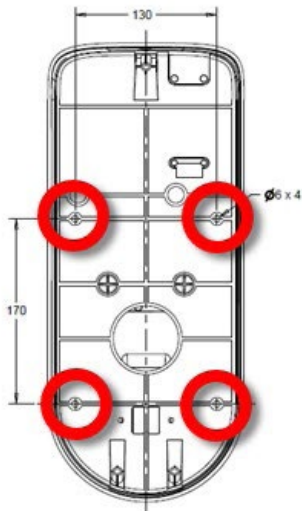
Output power	Single-phase	Up to 3.7 kW, 16 A
		Up to 7.4 kW, 32 A
	Three-phase	Up to 22 kW, 32 A
Input voltage	Single-phase	230 VCA
	Three-phase	400 VCA
Charging mode	Mode 3	
LED	Dynamic LEDs indicating charging status	
Protezione	IP55, IK08	
	<p>The JuiceBox has an internal detector for DC fault currents above 6 mA.</p> <p>The following external protections are required:</p> <ul style="list-style-type: none"> > Type A residual current device (RCD) > Curve C Miniature Circuit Breaker (MCB) <p>NOTE:</p> <p>Some countries may require the installation of a Type B RCD instead of the type A.</p>	
Operating temperature	From -40 °C to +60 °C	
Standards and certifications	IEC 61851-1	
	CE Certification	

1.2 Dimensions

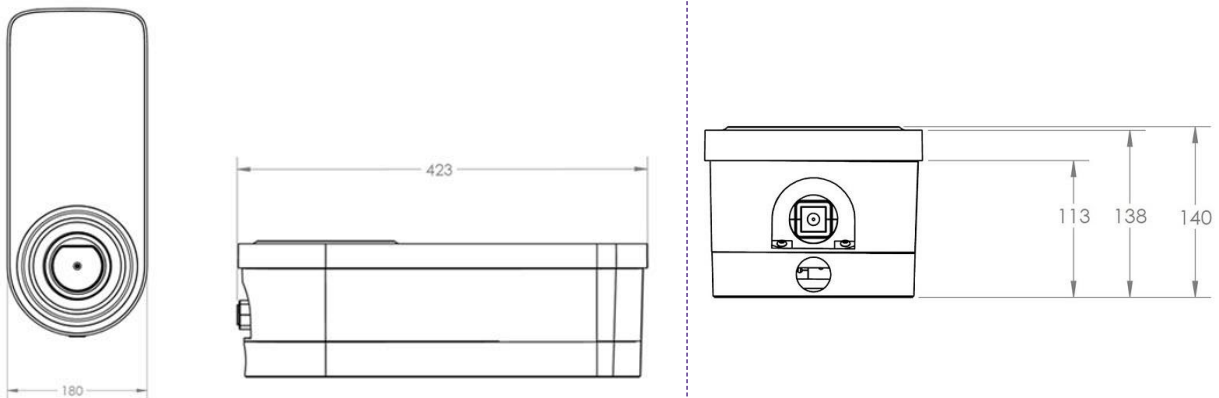
NOTE:

All dimensions are in mm.

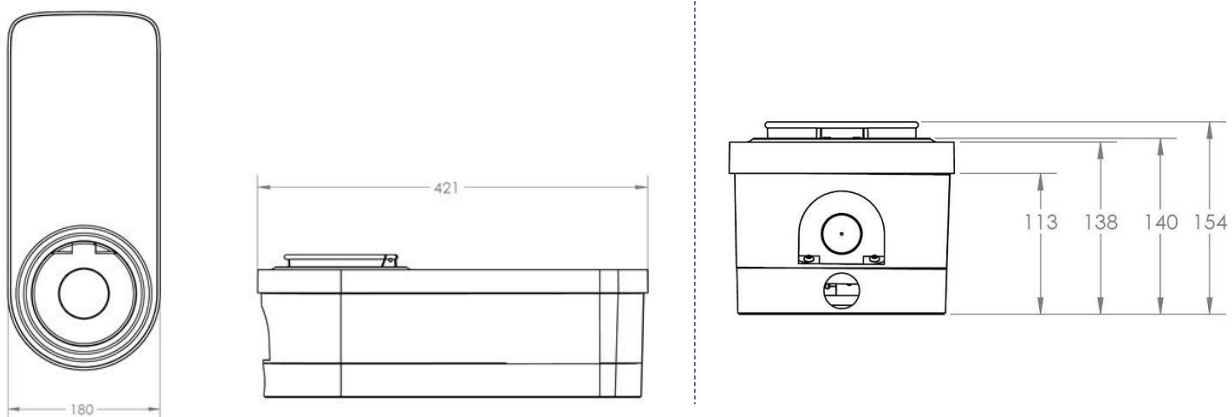
> Base (mounting holes circled in red)



> JuiceBox cable version



> JuiceBox socket version and JuiceBox socket version with control board



2 Important safety information

Read all safety information before installing the product.

- > **WARNING:** Do not leave this unit unattended if children are nearby.
- > **WARNING:** Do not put your fingers into the electric vehicle connector.
- > **WARNING:** Do not use this product if the flexible power cord is frayed, has damaged insulation, or shows other signs of damage.
- > **WARNING:** For use with electric vehicles only.
- > **WARNING:** Do not use this unit with an extension cord.
- > **WARNING:** Do not remove the cover or attempt to open the housing. There are no user-serviceable parts inside. Refer all servicing to qualified service personnel.
- > **WARNING:** Install and use the JuiceBox away from flammable, explosive, irritating, or combustible chemicals, materials, or vapors.
- > **WARNING:** Do not turn on the JuiceBox outside of its operating temperature range of -40 °C to +60 °C.
- > **WARNING:** This unit is intended only for electric vehicles that do not require ventilation while charging.
- > **WARNING:** This product must be grounded. In the event of a failure or breakdown, grounding ensures a path of least resistance for electrical current to reduce the risk of electric shock.
- > **WARNING:** Improper connection of the equipment-grounding conductor may result in a risk of electric shock. If you are unsure whether the product is properly grounded, consult a qualified electrician or service technician.

2.1 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

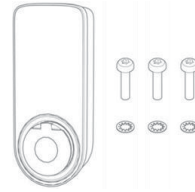


equipment or on its packaging means that the product shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of product at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health

and the environment.

3 Package Contents

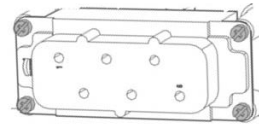
JuiceBox charging station with M3-0.5 x 12 mm screws (x3) and washers (x3)



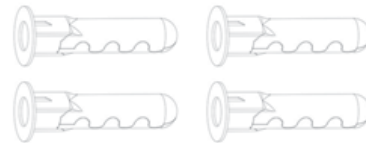
Base with M5 x 50 mm screws (x4) and washers (x4)



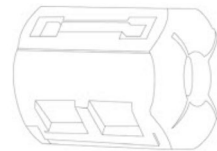
Terminal block



Dowels M8 x 40 mm (x4)



Ferrite



Terminals (x5)

NOTE:

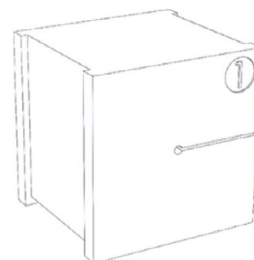
These terminals must be used only when using cables with a cross section of 4 mm² and 6 mm²



Watertight gasket for external antenna

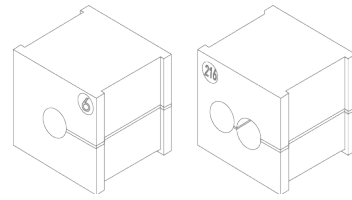
NOTE:

This item must be installed in case you need an external antenna.



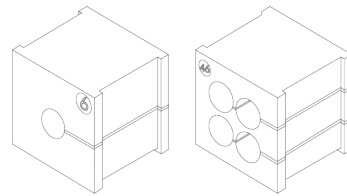
Gasket kit for single-phase JuiceBox installation with 10 mm² cross section cables

- > Gasket 6 for PE
- > Gasket 2/6 for L1 and N/L2



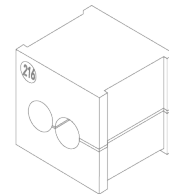
Gasket kit for three-phase JuiceBox installation with 10 mm² cross section cables

- > Gasket 6 for PE
- > Gasket 4/6 for L1, L2, L3, N



Gasket for installation of connection cables with control board (included only in versions with control board)

- > Gasket 2/3



4 Tools Needed

- > Phillips screwdriver.
- > Flat screwdriver.
- > Pencil or marker.
- > Hex wrench size 4.
- > Wrench size 8.
- > Phillips screwdriver (dynamometric 1.3 Nm).
- > Crimping tool.
- > Wire stripper.
- > Electrician's scissors.
- > Silicone.
- > Android smartphone (required for configuration tasks).
- > Measuring tape and level.

For masonry or concrete buildings:

- > Hammer.
- > Drill bit for M8 wall plugs.

5 Installation Prerequisites

The JuiceBox must be installed in accordance with the following specifications:

- > Within a useful distance of the vehicle's charging port.
- > For Wi-Fi enabled units: Within range of local Wi-Fi network (supports IEEE 802.11b/g/n at 2.4 GHz).
- > For units equipped with a cellular data connection (JuiceBox Pro Cellular and JuiceBox Plus Cellular): in an area with good mobile data network coverage. If the reception is not sufficient, an external antenna will also need to be installed and connected to the JuiceBox. The optimal signal strength is greater than or equal to -80 dBm (e.g. -75 dBm is greater than -80 dBm, because of the minus sign). If the measured signal is less than -80 dBm (e.g. -85 dBm) could be necessary to install a dedicated external antenna. Anyway, also if an antenna is installed it could not be sufficient.

NOTE:

JuiceBox Pro, Pro Cellular, Plus and Plus Cellular all have Wi-Fi connectivity, except in Italy and Spain. In these two countries, only Cellular connectivity is available and currently only JuiceBox Pro Cellular and JuiceBox Plus Cellular are installed.

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

DISTRIBUTION		NEUTRAL	VOLTAGE
Single-phase	TT	Yes	230 VAC
Three-phase		Yes	400 VAC
Single-phase	TN-S TN-C-S	Yes	230 VAC
Three-phase		Yes	400 VAC
Single-phase	IT	No	230 VAC

NOTE:

The system shall be installed in accordance with applicable local codes.

 **WARNING**

Some electric vehicles require the Neutral (N) on the charging station to have direct contact with the Ground. This has an impact on charging in case of IT networks. In this case, a transformer must be installed upstream of the RCD and MCB and the JuiceBox to have a local TN system.

5.1 Protections

The installation of the JuiceBox should include dedicated protection devices. Below are the recommended protections for the installation:

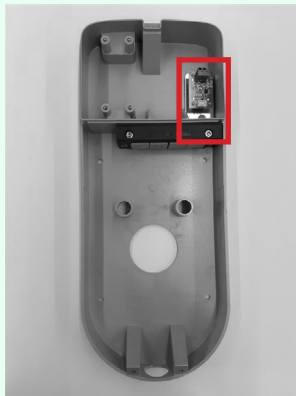
JUICEBOX		MINIATURE CIRCUIT BREAKER	RESIDUAL CURRENT DEVICE
Single-phase	Up to 3.7 kW, 16 A	<ul style="list-style-type: none"> > Curve C > ICC: 10 kA > In: 20 A > Poles: 2 	<ul style="list-style-type: none"> > Type A > Id: 30 mA > In: 20/25 A > Poles: 2
	Up to 7.4 kW, 32 A	<ul style="list-style-type: 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
Three-phase	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

NOTE:

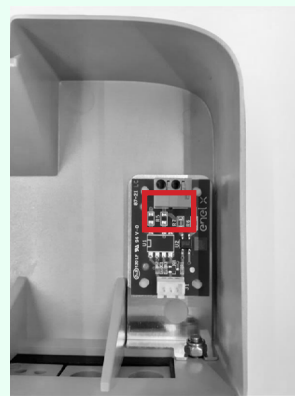
MCB shall have a magnetic throughput energy $I^2 t \leq 60000 \text{ A}^2 \text{ s}$

JUICEBOX WITH CONTROL BOARD

JuiceBox with control board are equipped with a clean contact on the board itself that changes its status from NO (normally open) to closed in case of a fault on the internal contactor of the JuiceBox. In this case, the control board is used to command the opening of a protection (differential or magnetothermal) to cut off the power supply circuit.



Control board location



Clean contact on control board

The characteristics of the clean contact of the control board are as follows:

- > The contact is NO (normally open).
- > The maximum voltage the contact can withstand is 60V.
- > The maximum sustained current in continuous mode is 100 mA.
- > The cross-section of the connecting cables to the contact is between 1 mm² and 1,5 mm².
- > The diameter of the connecting cables is between 3 mm and 3.5 mm.

The change in status of this contact is used to control an external release solution (motor with MCB adapter). For more information on the installation of the release device, please refer to [“Procedure for installing the release solution for external protections for JuiceBox cable version and socket version with control board”](#).

5.2 Power and signal cables

The choice of cross-sections, insulating materials and composition of the power cables shall be made in line with the size of the switches and in accordance with local standards in force.

The following table shows the minimum recommended cross sections for a standard installation using copper cables.

JUICEBOX		MINIMUM SECTION
Single-phase	Up to 3.7 kW, 16 A	4 mm ²
	Up to 7,4 kW, 32 A	6 mm ²
Three-phase	Up to 22 kW, 32 A	6 mm ²

NOTE:

The maximum conductor cross-section of cables that can be used for JuiceBox is 10 mm². In this case the maximum conductor diameter shall be 4 mm.



JUICEBOX WITH CONTROL BOARD:

JuiceBox with control board require signal cables with section between 1 and 1.5 mm² and external diameter between 2.5 and 3.5 mm.

5.3 JB4Installers App

Enel X partners will need to install the JB4Installers app on their smartphone to perform JuiceBox configuration and diagnostic tasks. To use the app, they will need to receive authorization from Enel X and complete a registration process. Please refer to the [JB4Installers App Manual](#) for more information.

5.4 JuicePass App

Enel X partners will need to install the JuicePass app on their smartphone to perform JuiceBox configuration tasks. JuicePass is available on the [iOS App Store](#) e [Google Play](#). For more information, see [section 10](#) of this manual.

6 Standard Installation

The following is the standard installation procedure, valid for all versions of JuiceBox in this manual. The procedure also includes optional steps, which must be carried out only in the following cases:

- > Installation of a JuiceBox with control board.
- > Installation of an external antenna.

NOTE:

The JuiceBox must be installed by a qualified electrician.

1. Make sure no voltage is applied to the input cable.

WARNING

Do not continue this procedure until you are certain that no voltage is present at the input cable.

2. When installing 4 mm² and 6 mm² cross-section cables, install the terminals on the input cable wires with the crimping tool.

NOTE:

When installing 10 mm² cables, strip only the cables, do not install the terminals.





3. Remove the gasket block cover using a 4mm hex wrench.



4. Identify the nut screws that secure the gasket block. Hold the nut in place with a size 8 wrench, then loosen the screw with a size 4 hex wrench.





For the screw on the left, the nut is located behind the base:



NOTE:

It is not necessary to remove the fastener altogether, as it will be retightened later.

5. Remove the 2 perforated gaskets from the block.

NOTE:

These gaskets have a printed code to identify the hole diameter. Gaskets with a single hole have a single digit that identifies the hole diameter in mm. Multi-hole gaskets have 2 digits: the first digit identifies the number of holes, the second digit identifies the hole diameter (e.g. 2/6, gasket with 2 holes 6 mm in diameter).



NOTE:

These gaskets must be replaced according to the type of installation as shown in the table below:

TYPE OF INSTALLATION	GASKET REQUIREMENTS
Single-phase JuiceBox installation with cables up to 6 mm²	Do not replace gaskets
Three-phase JuiceBox installation with cables up to 6 mm²	Do not replace gaskets
Single-phase JuiceBox installation with 10 mm² cables	<ul style="list-style-type: none"> > Replace gasket 5 with gasket 6 > Replace gasket 2/4 with gasket 2/6
Three-phase JuiceBox installation with 10 mm² cables	<ul style="list-style-type: none"> > Replace gasket 5 with gasket 6 > Replace gasket 4/4 with gasket 4/6
Three-phase JuiceBox installation in single-phase mode with cables up to 6 mm²	<ul style="list-style-type: none"> > Replace gasket 4/4 with gasket 2/4
Three-phase JuiceBox installation in single-phase mode with 10 mm² cables	<ul style="list-style-type: none"> > Replace gasket 5 with gasket 6 > Replace gasket 4/4 with gasket 2/6

ONLY IN CASE OF EXTERNAL ANTENNA INSTALLATION:

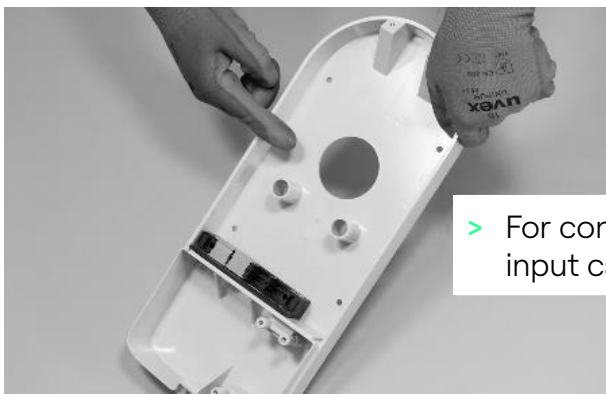
Remove also the third gasket (without holes) from the block. A single hole gasket, contained in the package, will be installed in place of this one.



6. Place power cables and other signal cables (external antenna cable or signal cables in case you are installing a cable version and socket version with control board JuiceBox), if any, in the appropriate holes.

NOTE:

Do not secure the base at this stage.



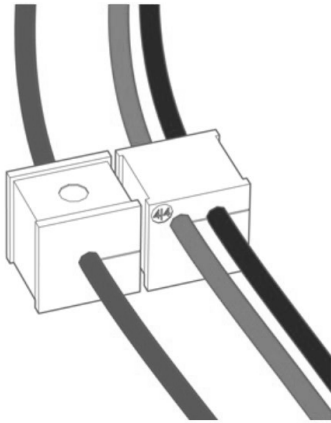
> For concealed
input cables



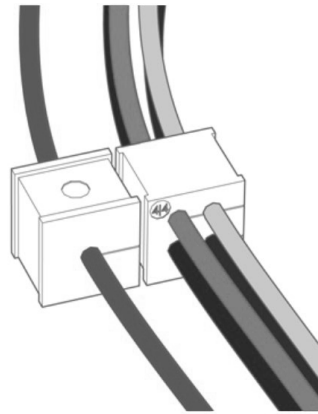
> For non-concealed
input cables

7. Arrange the input wires through the gaskets:

- > **1-hole gasket:** grounding wire.
- > **2- or 4-hole gasket:** conductors (phase and neutral) The position of the individual conductors in the gasket is not relevant. In the case of single-phase installation on 4-hole gaskets, an appropriate closing plug must be inserted into the empty gaskets.



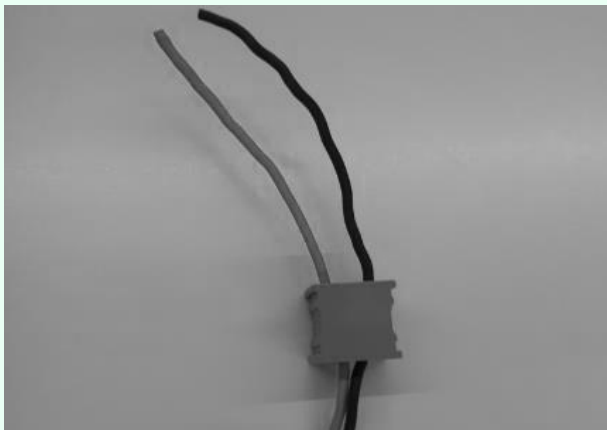
Single-phase installation



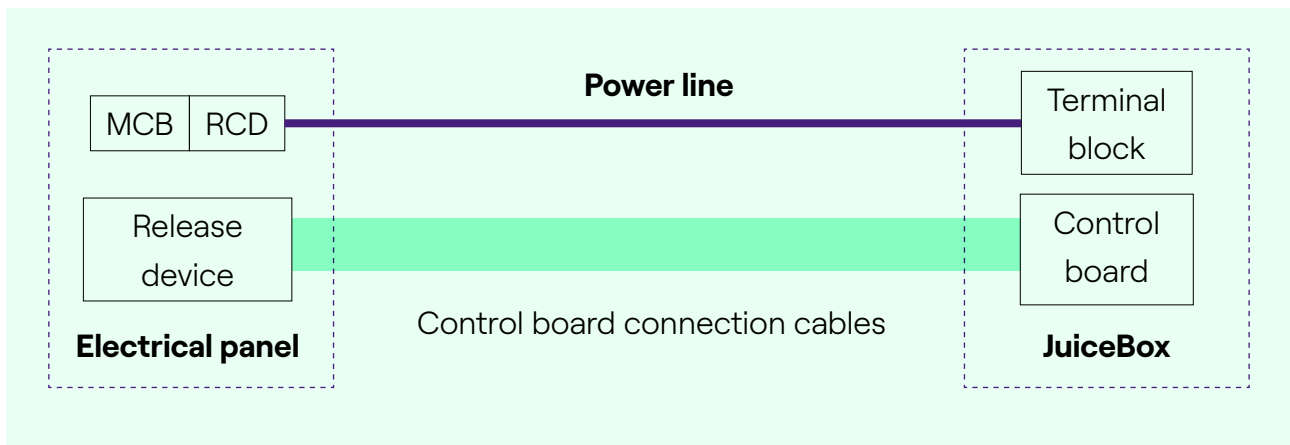
Three-phase installation

ONLY IN THE CASE OF INSTALLATION OF A JUICEBOX WITH CONTROL BOARD:

Run the two connection cables of the clean contact through the dedicated two-hole grommet.



The clean contact connection cables are used to bring the control signal to the protection panel and control the release solution.

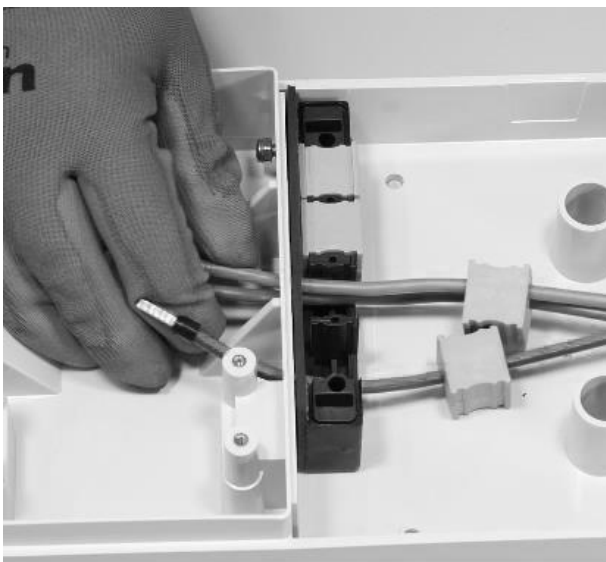


FOR OUTDOOR ANTENNA INSTALLATION ONLY:

Route the cable through the included grommet.

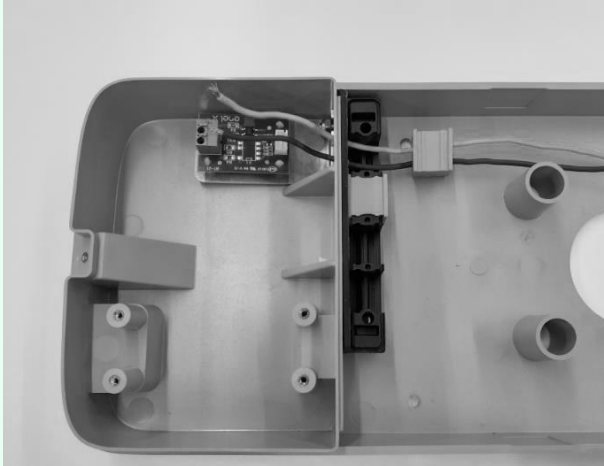


8. Route the power cords through the partition in the upper section of the housing, as shown.



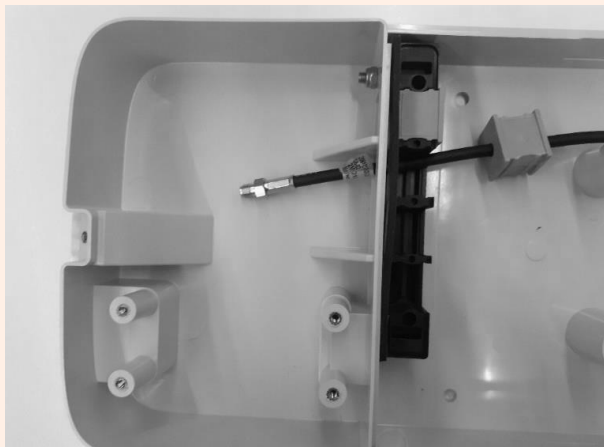
FOR INSTALLATION OF A JUICEBOX WITH CONTROL BOARD ONLY:

Run the two clean contact connection cables through the partition in the upper section of the housing, as shown.

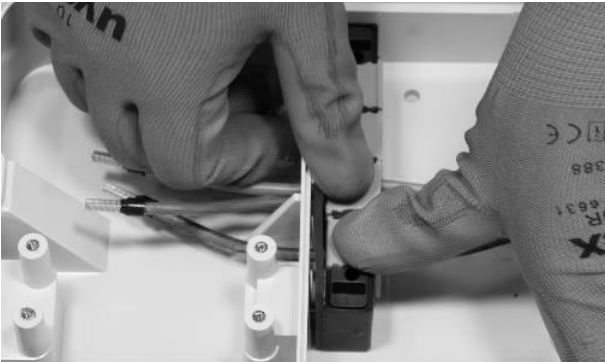


FOR EXTERNAL ANTENNA INSTALLATION ONLY:

Also route the antenna cable through the partition in the top section of the housing, as shown.

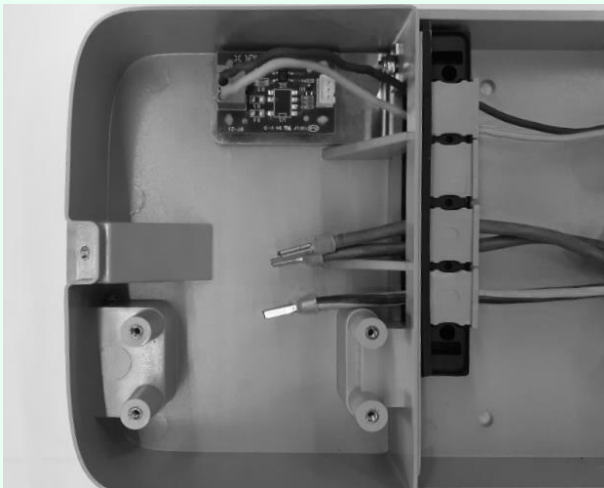


9. Pull the wires as far as possible into the top section of the housing, then install the gaskets into the block.



ONLY FOR THE INSTALLATION OF A JUICEBOX WITH CONTROL BOARD:

Install also the gasket that houses the two connection cables to the dry contact. Also install the two connection cables (red and black) to the clean contact as shown in the figure.

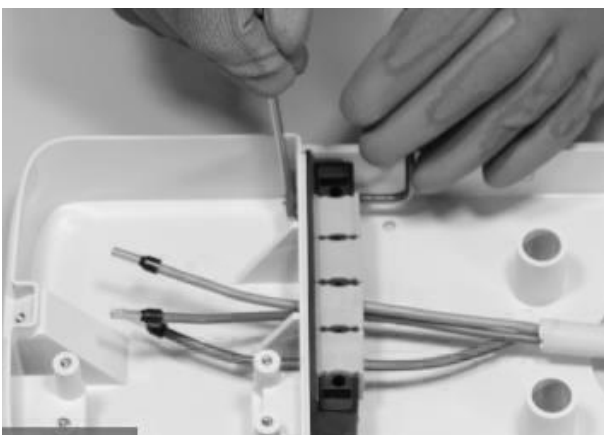
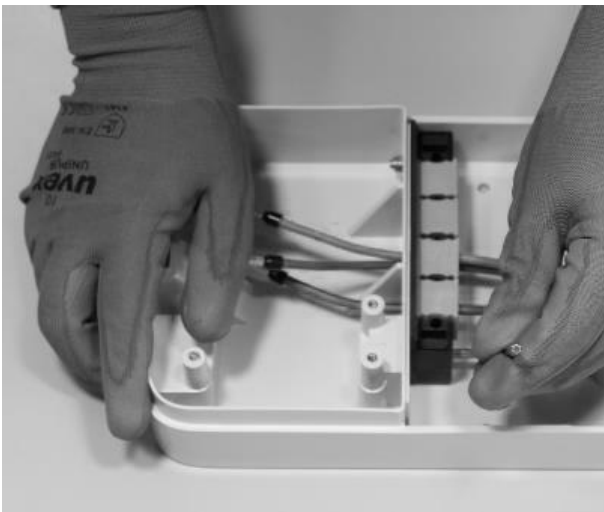


FOR OUTDOOR ANTENNA INSTALLATION ONLY:

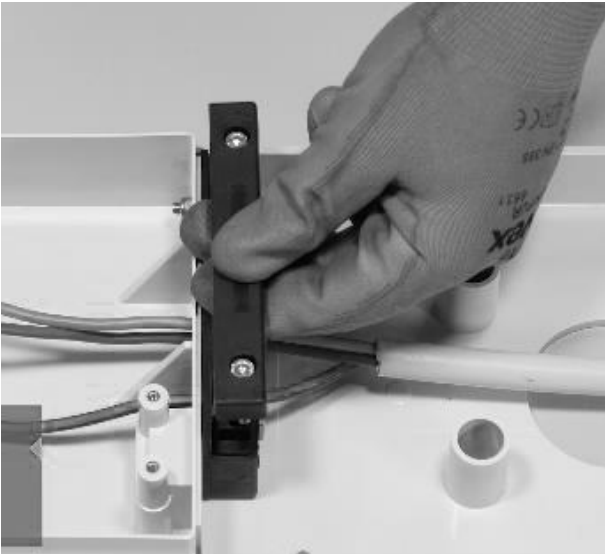
Also install the gasket that houses the coaxial cable extension.



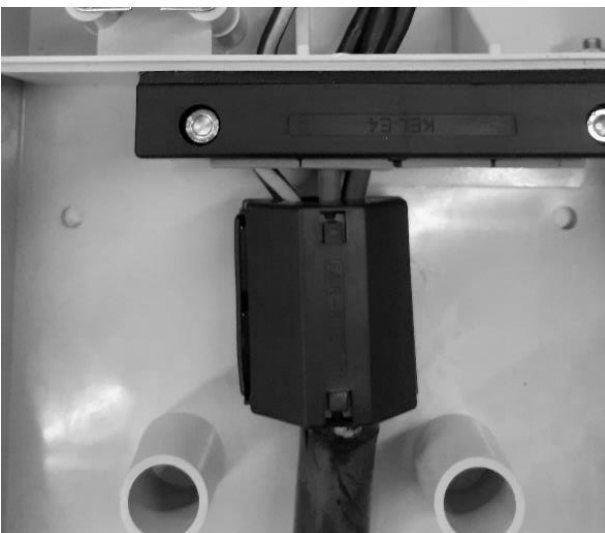
10. Attach the gasket block to the base, using an 8mm wrench to hold the nut in place while tightening the screw with a 4mm hex wrench (see step 5).



11. Install the gasket block cover (x2) with the size 4 hex key (see step 4).

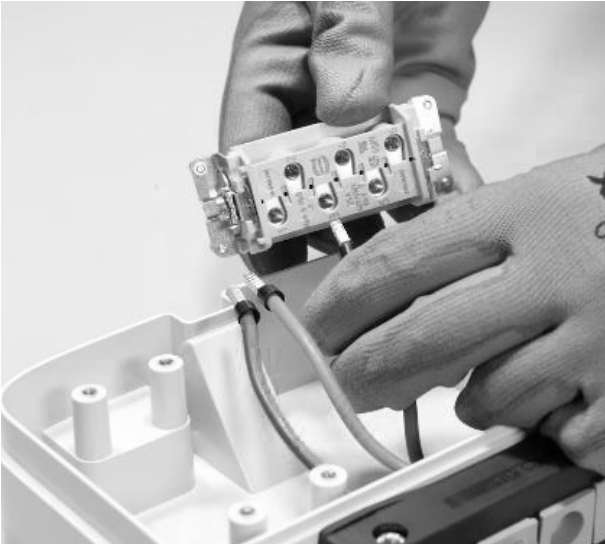


12. Install the ferrite around the power cables at the base of the gasket block.



In case of external antenna installation, it is not necessary to include the antenna cable inside the ferrite.

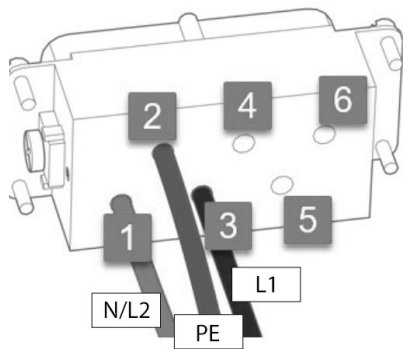
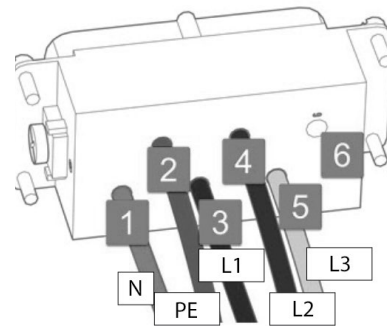
13. Loosen the terminal screws on the sides of the terminal block (x6). Install the wires into the terminal block. Make sure each wire snaps into place, then tighten the corresponding screw.



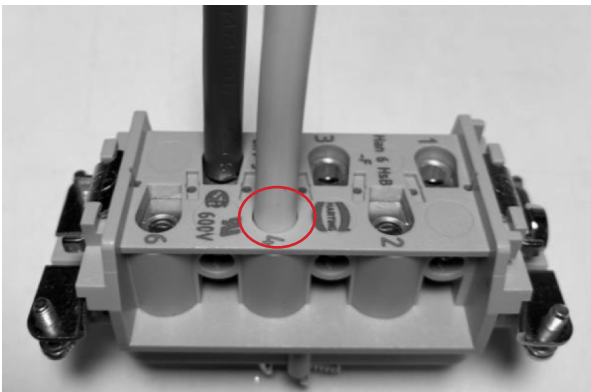
⚠ WARNING

In case of single-phase installation the voltage between L1 and L2/N must be max 230 V.

POSITION IN THE TERMINAL BLOCK	SINGLE-PHASE INSTALLATION	THREE-PHASE INSTALLATION
1	Neutral/L2	Neutral
2	Ground	Ground
3	L1	L1
4	Not used	L2
5	Not used	L3
6	Not used	Not used

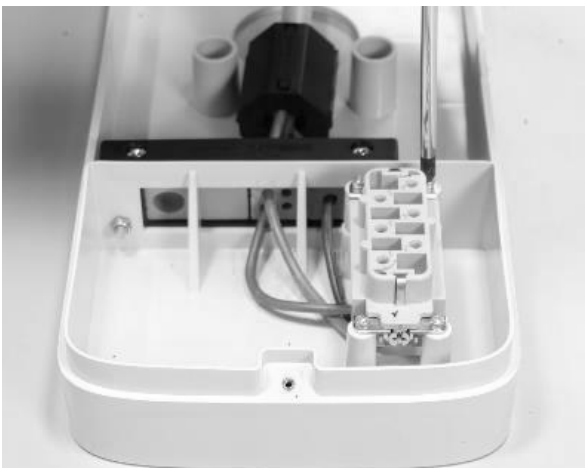
**Single-phase installation****Three-phase installation****NOTE:**

In case of installation of cables with section 10 mm², the installer must insert the conductors with due accuracy, verifying that they are properly arranged and inserted, i.e. that the copper of the cable enters completely into the terminal, that the insulating sheath enters the "drop" of the plastic insert and operating without excessive strain.



14. Perform a pull test to check that the wires are secure.

15. Secure the terminal block with the Philipps screwdriver.



16. Place the base in the desired position at a height of at least 90 cm between the floor and the bottom edge of the base. While holding the base steady, use the 4 mounting holes as a guide to mark the points to be drilled in the wall.



17. Using an 8 mm drill bit, drill 50 mm deep holes in the previously marked locations on the wall. Install the 4 wall plugs.

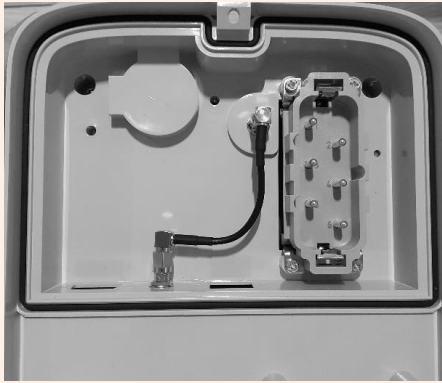
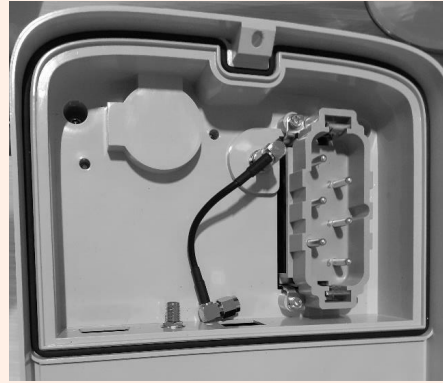
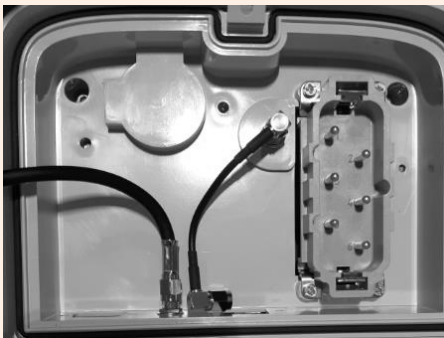


18. Use the screws and washers to install the base.

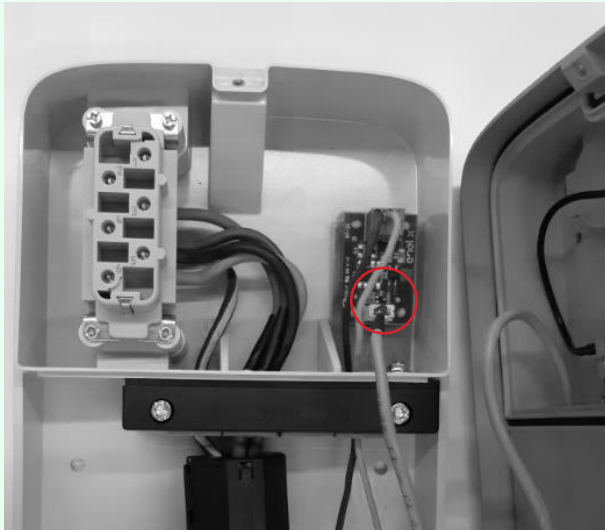


ONLY WHEN INSTALLING AN EXTERNAL ANTENNA:

Also disconnect the internal antenna from the connector on the back of the JuiceBox allowing the cable to hang freely. Connect the external antenna cable to the connector on the back of the JuiceBox.

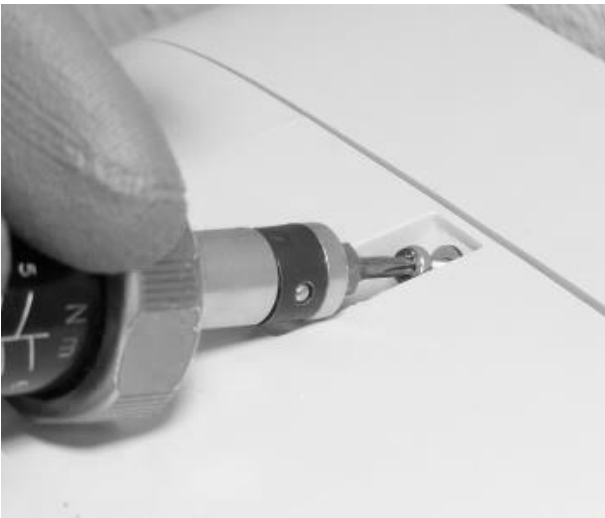
**Connecting internal antenna****Disconnecting internal antenna****Connecting external antenna cable**

Only for the installation of a JuiceBox with control board, before securing the JuiceBox on the base, connect the connection cable coming out of the JuiceBox case to the header of the board with clean contact as shown in the picture.



19. Install the JuiceBox on the base. Use the washers and fastening screws (2 at the bottom, 1 at the top) that secure the JuiceBox to the base (use torque wrench 1.3 Nm).





20. Apply voltage to the power cord. Check that the LED indicator of the JuiceBox turns solid purple within two minutes.



7 Special Installation Cases

7.1 Three phase JuiceBox installed on a Single-phase or Bi-phase supply system

In the case of installation of a three-phase JuiceBox on a Single-phase or Bi-phase supply system **it is mandatory** to set up the parameter "Supply system" after the Firmware Update and prior to commissioning of the JuiceBox. The supply system must be configured as:

- > "Monophase" in case of installation on a single-phase supply system ($V_{ph}=230\text{ V}$, $V_n=0$)
- > "Biphase" in case of installation on a bi-phase supply system ($V_{ph1}=127\text{ V}$, $V_{ph2}=127\text{ V}$) through one of the following methods:
- > Configuration of the "Supply System" parameter through the "JB4Installers" smartphone app (reserved for Enel X partners). To proceed with the configuration please refer to the [JB4Installer App Manual](#).
- > Configuration of the "Supply System" parameter through the "Web Manager" Web App (usable by all users). To proceed with the configuration please refer to the [JuiceBox Web Manager Manual](#).

7.2 Other special cases

Should the installer verify the presence of one of the special cases indicated in the [What-if manual](#), please refer to the procedure defined for the specific case described in the same manual.

8 Firmware Update

Once the JuiceBox is installed, it is necessary to perform a firmware update using the JB4Installers app. To do this, it is necessary to:

- > Make sure you have the JB4Installers app installed on your smartphone and the necessary credentials to log in.
- > Download the latest available firmware.
- > Add the serial number of the JuiceBox in the app.
- > Proceed with updating the JuiceBox firmware.

For the detailed procedure, please refer to the [JB4Installers App Manual](#).

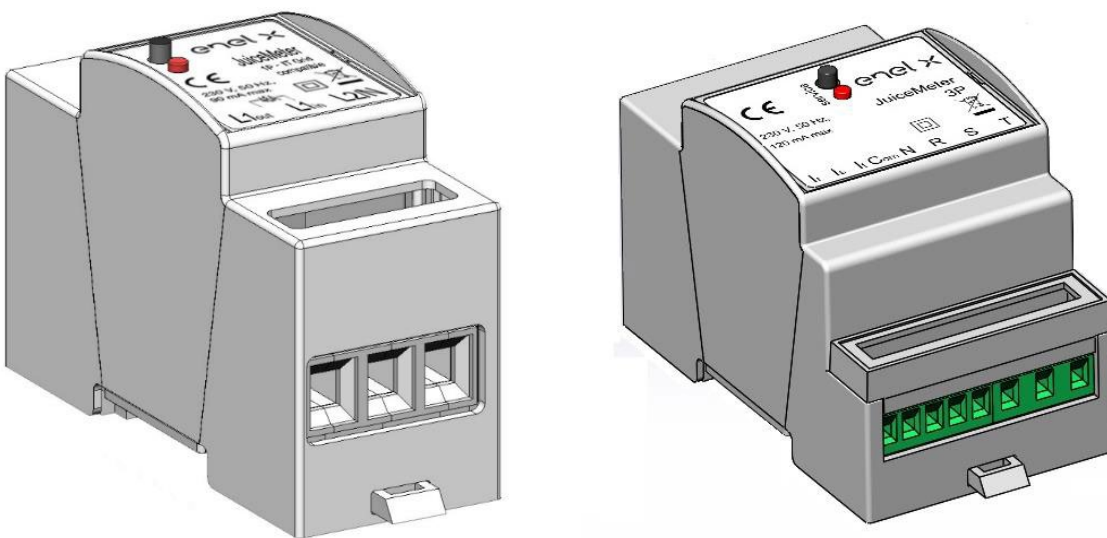
9 Load Optimization Pro

NOTE:

The information in this paragraph, and the instructions in the linked manuals, should only be considered if the Load Optimization Pro feature is scheduled to be activated for the Customer. Only JuiceBox Pro and JuiceBox Pro Cellular allow Load Optimization Pro to be activated.

This feature allows the JuiceBox to adapt its power level based on the consumption of other devices connected to the same power line. In this way, it is possible to charge at the maximum available power while avoiding the risk of triggering the meter.

The JuiceMeter device must be installed to use this feature. In the case of JuiceBox Plus and JuiceBox Plus Cellular, since this feature is not available, the JuiceMeter device will not be installed.



To install this device, please refer to the [JuiceMeter Installation Manual](#) and follow the relevant procedure depending on whether the device is single-phase or three-phase.

Configuration tasks can be performed in one of the following ways:

- > Configuration of the JuiceBox and JuiceMeter through the "JB4Installers" smartphone app (reserved for Enel X partners). To proceed with the configuration please refer to the [JB4Installers App Manual](#).
- > Configuration of the JuiceBox and JuiceMeter through the "Web Manager" Web App (usable by all users). To proceed with the configuration please refer to the [JuiceBox Web Manager Manual](#).

10 JuiceBox Commissioning through the JuicePass App

Once the JuiceBox has been installed, the Enel X partner must pair it with its JuicePass account by following the steps indicated in the next paragraph.

IMPORTANT NOTE:

In case of installation of a three-phase JuiceBox in single-phase mode, before commissioning the JuiceBox, it will be necessary to perform the configuration presented at [paragraph 7.1](#).

WARNING

After pairing the JuiceBox with its JuicePass account, the Enel X partner must proceed to unpair it from the same, otherwise the Customer will not be able to pair it to its own account.

To use the JuicePass app, the charging station must be connected online and the phone on which the app is installed must have Internet connectivity available.

You can commission your JuiceBox through the JuicePass app with 2 methods:

1. Via Cellular connectivity.
2. Via Wi-Fi connectivity.

NOTE:

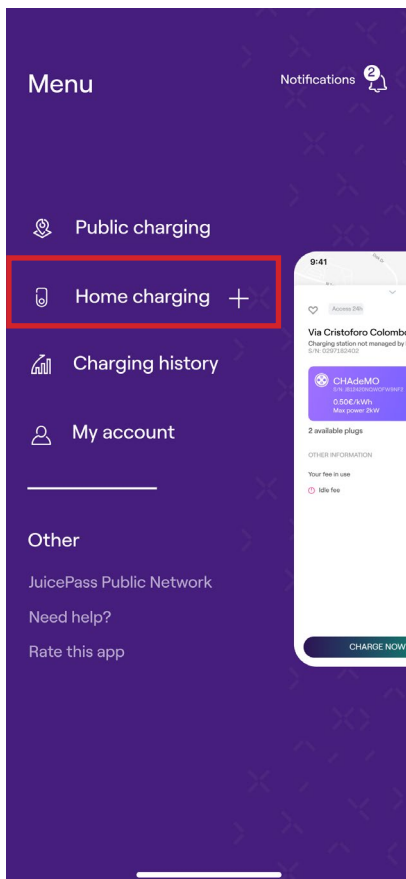
At present in Italy and Spain, the only method available to commission the JuiceBox is via Cellular connectivity.

10.1 Commissioning via Cellular Connectivity

1. Log in to the JuicePass app with your account.
2. In the top left corner of the main page of the JuicePass app, select the **3 horizontal lines** > **Home charging**.

NOTE:

If you have already paired another JuiceBox to the same account, click on the + symbol next to **Home charging**.

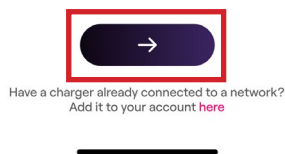
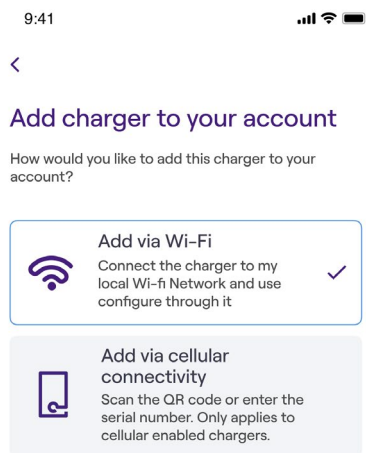
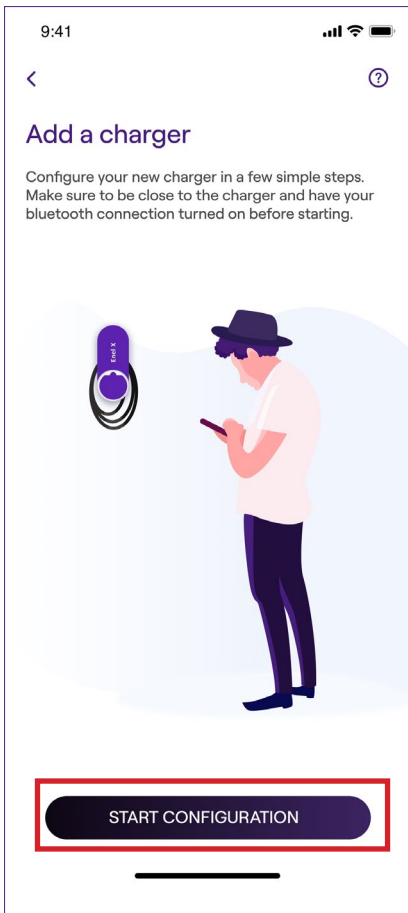


3. Select **START CONFIGURATION**.

4. Select **Add via cellular connectivity**. Once done, proceed by clicking on the arrow.

NOTE:

Currently in Italy and Spain, the only method available to commission the JuiceBox is via cellular connectivity. In these countries, JuicePass will not require you to select the method for commissioning and you will be directed directly to step 5 of this procedure.



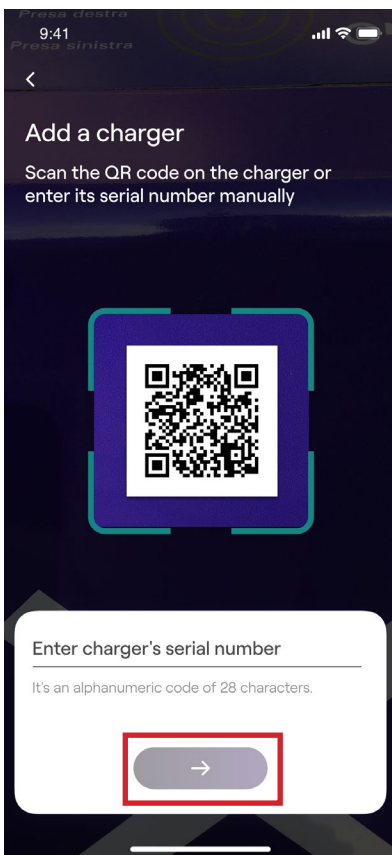
5. Scan or insert the serial number of the JuiceBox. Once done, proceed by clicking on the **arrow**.

NOTE:

The serial number can be found on the label attached to the side of the JuiceBox.

6. On the configuration screen, follow the steps below, then proceed by clicking on the arrow.

- > Enter a name for the JuiceBox
- > Check the installation address given (if the address is not accurate, you can change it)
- > Select the desired power level for the JuiceBox

**NOTE:**

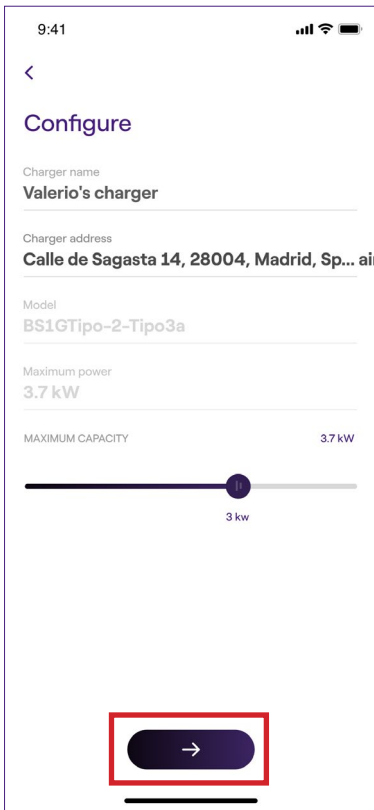
The desired power level, expressed in kW, defines the actual power that is delivered by the station.

**NOTE VALID FOR JUICEBOX PRO AND JUICEBOX PRO CELLULAR ONLY:**

If a JuiceMeter is installed to enable the Load Optimization Pro feature, the maximum power delivered by the JuiceBox will correspond to the minimum between the power limit configured during JuiceMeter installation and the power level selected through the JuicePass app.

NOTE:

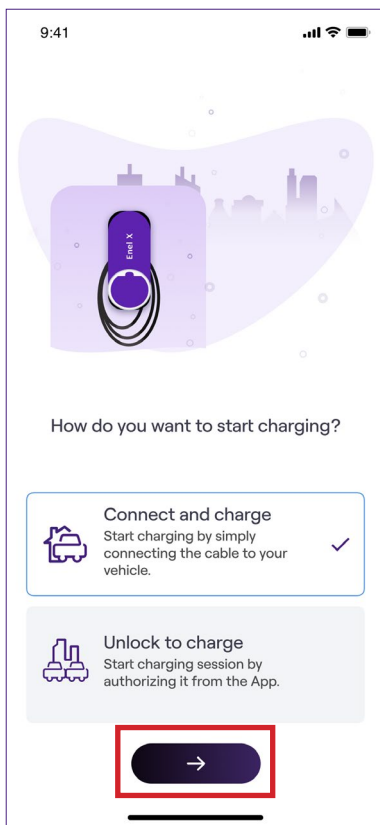
Model and maximum power information is automatically populated and cannot be changed.



7. Select the mode of use of the JuiceBox, choosing between **Connect&Charge** and **Unlock To Charge**. Then continue by clicking on the arrow.

NOTE:

For more information on the two modes of use, please refer to [paragraph 11](#) of this manual.



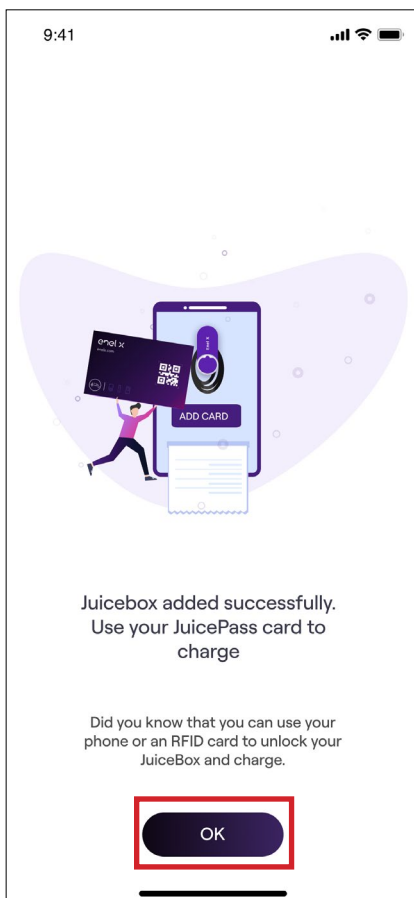
8. If the **Unlock To Charge** mode has been selected, the JuiceBox charging session can also be started via RFID card (if available).

NOTE:

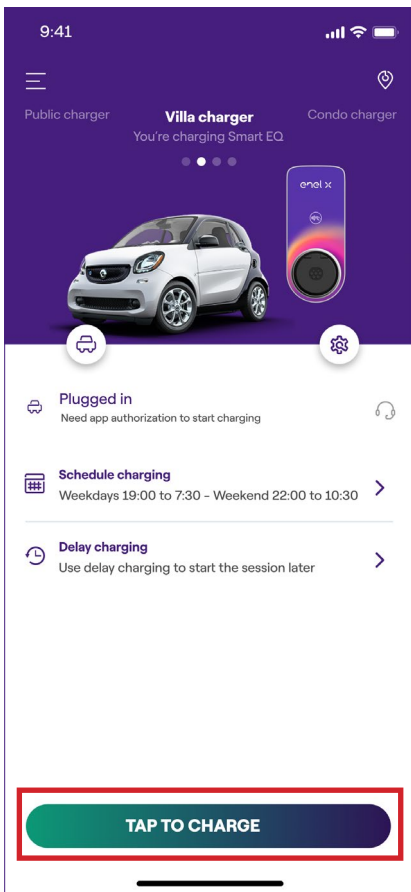
It is possible to pair an RFID card to a JuicePass account at any time in the **My Account > JuicePass Card** menu section and by following the steps outlined in the JuicePass App Instructions for Use available in the Support Hub.

NOTE:

If the JuiceBox is set to **Unlock To Charge** and no RFID card is paired, it is possible to still start a charging session by sending a start charging command from the JuicePass app.



9. JuiceBox is now online and ready to charge.

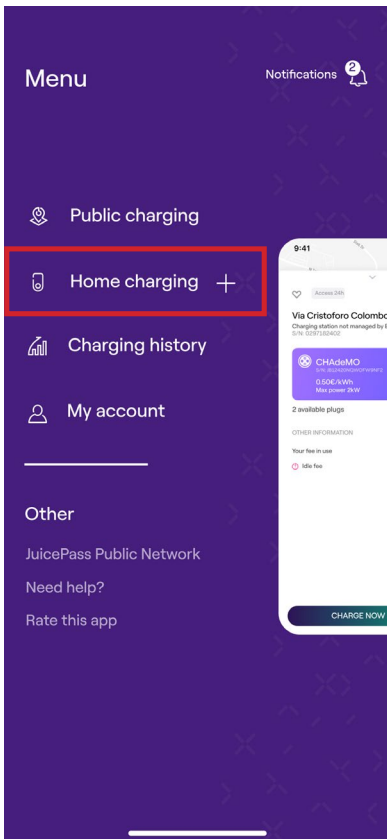


10.2 Commissioning via Wi-Fi Connectivity

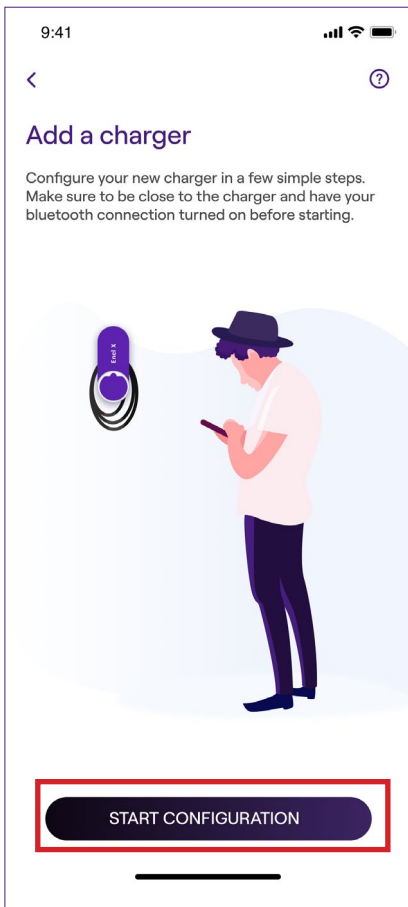
1. Log in to the JuicePass app with your account.
2. In the top left corner of the main page of the JuicePass app, select the **3 horizontal lines** > **Home charging**.

NOTE:

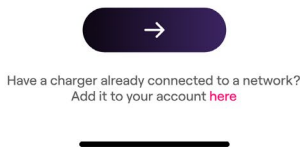
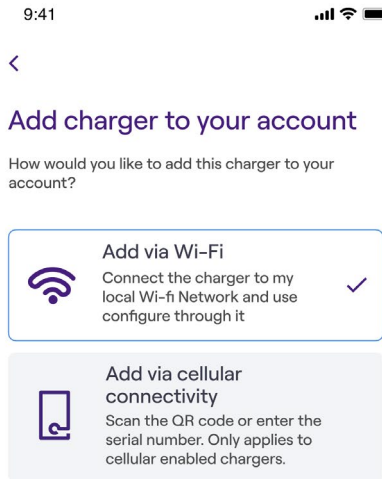
If you have already paired another JuiceBox to the same account, click on the + symbol next to **Home charging**.



3. Select **START CONFIGURATION**.



4. Select **Add via Wi-Fi**. Once done, proceed by clicking on the arrow.



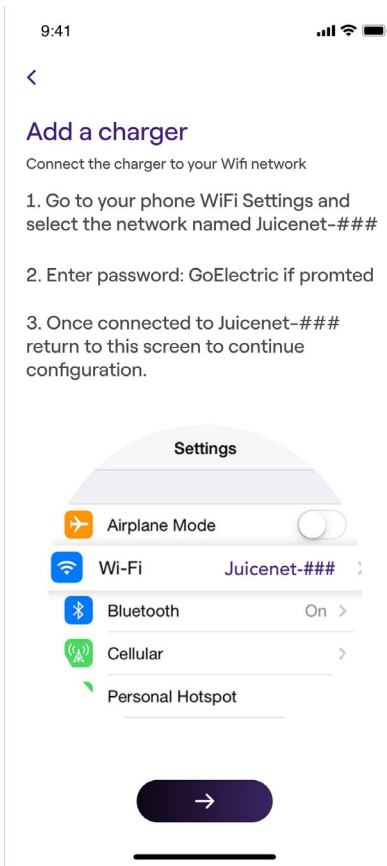
 **NOTE:**

Before proceeding to the next step, go to your smartphone's settings and disable, for the device, automatic connection to known Wi-Fi **networks in the area**. After the process is complete, when the JuiceBox is connected, you can re-enable the automatic connection of the smartphone to known networks.

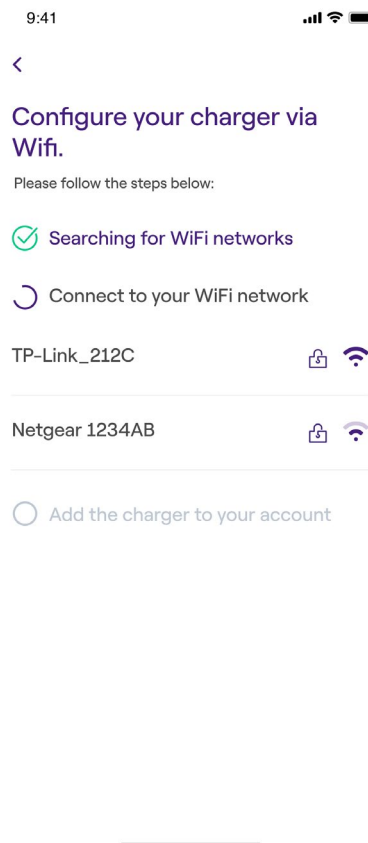
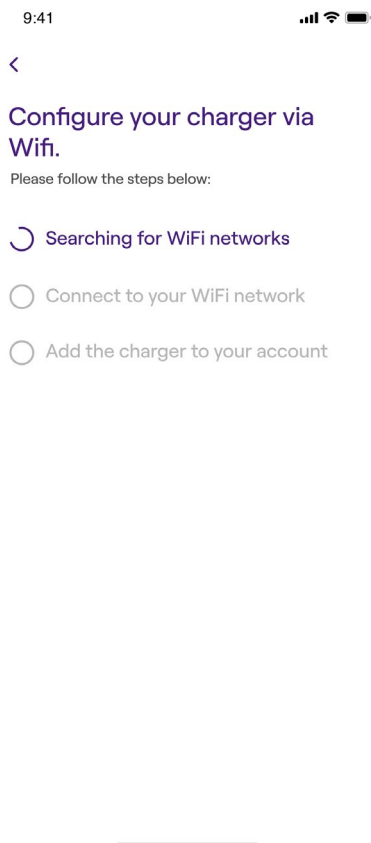
5. Follow the on-screen instructions to connect your smartphone to the JuiceBox hotspot. Once done, proceed by clicking on the arrow.

 **NOTE:**

You can access the hotspot for 1 minute from when the JuiceBox is turned on. If a device is connected to the hotspot during the 1-minute period, the hotspot will remain active for 10 minutes. If the JuiceBox was already on before this step, turn it off by removing power from it and then turn it back on before proceeding to the next step.




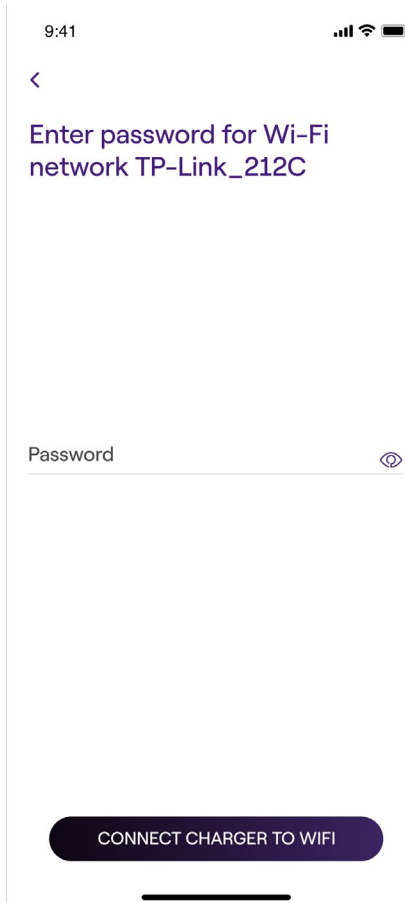
6. The existing Wi-Fi networks are detected and listed on the screen. Select the network you want to connect the JuiceBox to.



7. Enter the password of the selected network and **CONNECT CHARGER TO WI-FI**

NOTE:

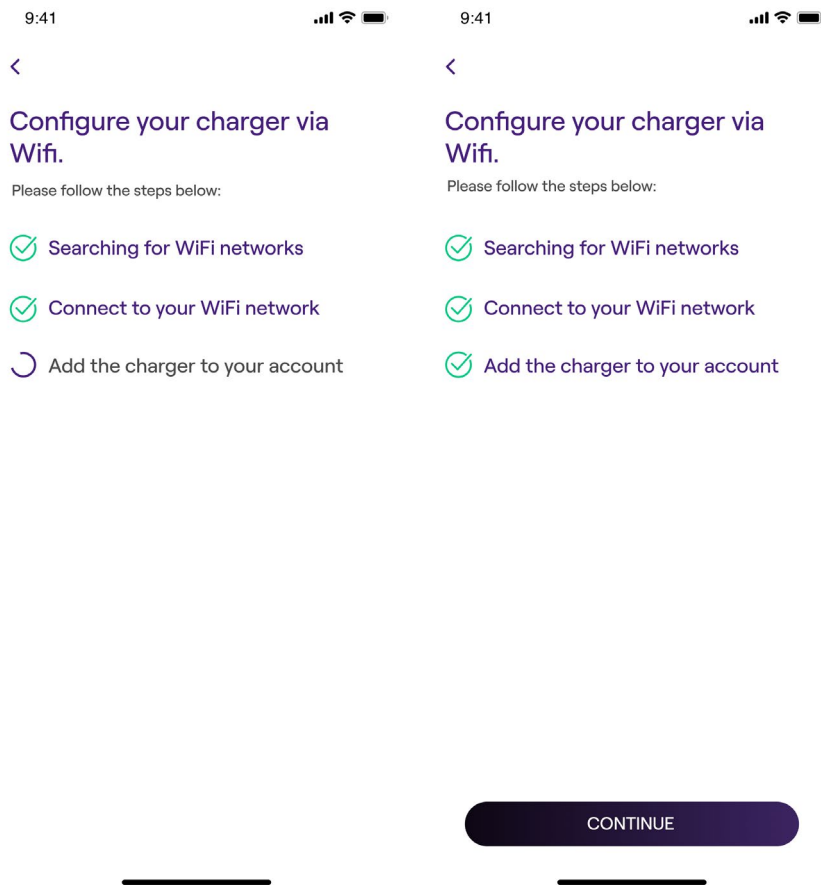
 When the password verification is complete, your smartphone could possibly not reconnect automatically to the JuiceBox hotspot. After 20 seconds, if you still do not see the next screen, go to your smartphone's settings and re-establish the connection to the JuiceBox hotspot.



8. JuiceBox is now connected to Wi-Fi. Select **CONTINUE** to proceed with setting up the JuiceBox.

 **NOTE:**

Upon completion of this step, the JuiceBox will restart itself and the LED will first show a blue color, and then flash red for a few seconds.



9. On the configuration screen, follow the steps below, then proceed by clicking on the arrow.

- > Enter a name for your JuiceBox
- > Check the installation address given (if the address is not accurate, you can change it)
- > Select the desired power level for the JuiceBox

NOTE:

The desired power level, expressed in kW, defines the actual power that is delivered by the station.



NOTE VALID FOR JUICEBOX PRO AND JUICEBOX PRO CELLULAR ONLY:

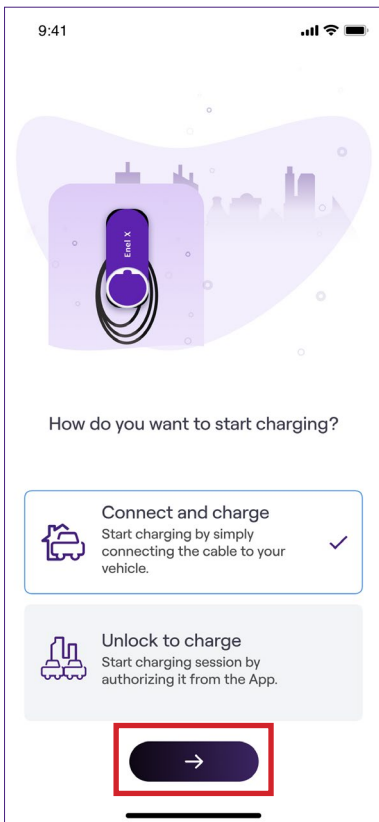
If a JuiceMeter is installed to enable the Load Optimization Pro feature, the maximum power delivered by the JuiceBox will correspond to the minimum between the power limit configured during JuiceMeter installation and the power level selected through the JuicePass app.

NOTE:

Model and maximum power information is automatically populated and cannot be changed.



10. Select the mode of use of the JuiceBox, choosing between **Connect&Charge** and **Unlock To Charge**. Then continue by clicking on the arrow.



NOTE:

For more information on the two modes of use, please refer to [paragraph 11](#) of this manual.

11. If the **Unlock To Charge** mode has been selected, the JuiceBox charging session can also be started via RFID card (if available).

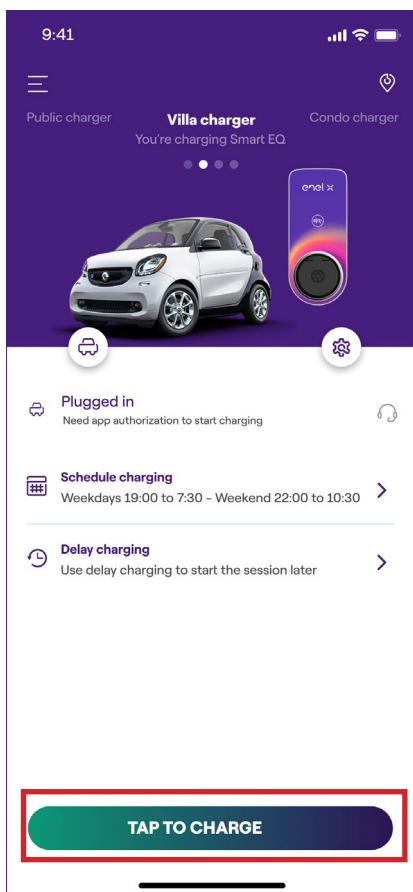
NOTE:

It is possible to pair an RFID card to a JuicePass account at any time in the **My Account > JuicePass Card** menu section and by following the steps outlined in the JuicePass App Instructions for Use available in the Support Hub.

NOTE:

If the JuiceBox is set to Unlock To Charge and no RFID card is paired, it is possible to start a charging session by sending a start charging command from the JuicePass app.

12. The JuiceBox is now online and ready to charge.

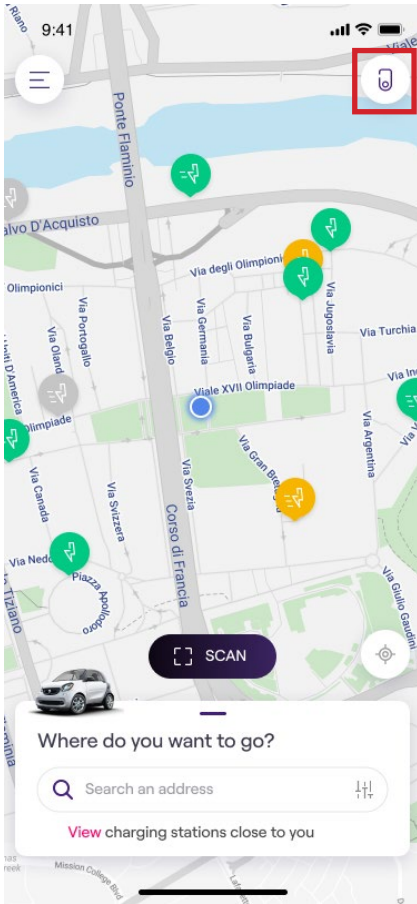


10.3 Procedure for Unpairing the JuiceBox from the JuicePass Account

From the JuicePass app, you can open the JuiceBox page by following the steps below:

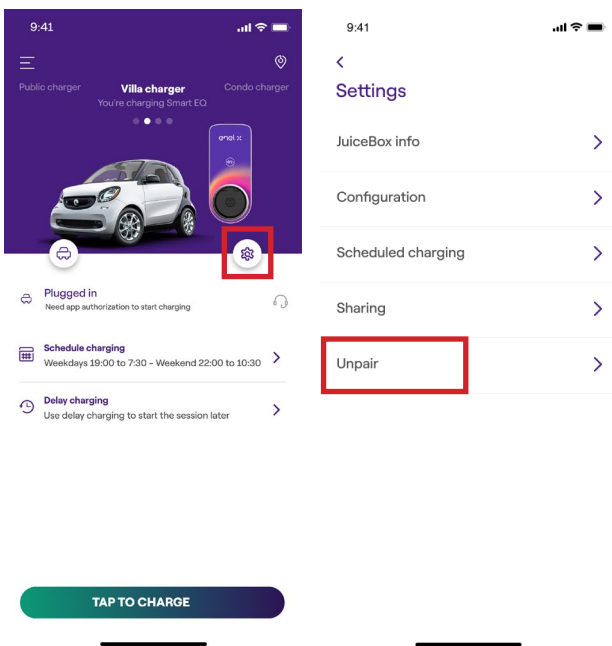
1. Log in to the JuicePass app with your account.

2. In the upper right corner of the main page, select the JuiceBox icon, or



3. In the upper left corner of the main page, select the **3 horizontal lines** -> **Home charging**.

4. To access the JuiceBox **Settings** menu, click above the caster logo next to the JuiceBox image.



5. To unpair the JuiceBox from your JuicePass account select **Unpair** and confirm.

11 Charging Test

Once the JuiceBox is installed, you can test your first charge via EV, if available.

It will be necessary to verify the operation of the station in the Connect&Charge and UnlockToCharge modes and the actual maximum power configuration described in the JuiceBox user manual.

NOTE:

If there is no JuiceBox connectivity, the allowed mode will be Connect&Charge.

The following table shows the tests to be performed in relation to whether there is any connectivity or none.

	JUICEBOX CONNECTED	JUICEBOX NOT CONNECTED
Charging in Unlock To Charge mode, with charging session started from JuicePass app	X	
Charging in Unlock To Charge mode, with charging session started from RFID card (if RFID card available)	X	
Charging in Connect&Charge mode	X	X
Verify that the charging session is correctly recorded in the JuicePass charging history	X	
Checking Charging Power	X	X
Check correct operation in case of Load Optimization Pro	X	X

11.1 Charging in Unlock to Charge mode

This section describes how to charge a vehicle using the JuiceBox in Unlock To Charge mode, using the JuicePass app or an RFID card.

NOTE:

This mode is suggested when the JuiceBox is installed in areas with public access or for use of the Scheduled Charging feature.

In Unlock To Charge mode, the JuiceBox charges only after recognizing an authorized user. Charging sessions are then started and stopped using an authorized profile on the JuicePass App or an RFID card paired with the JuiceBox.

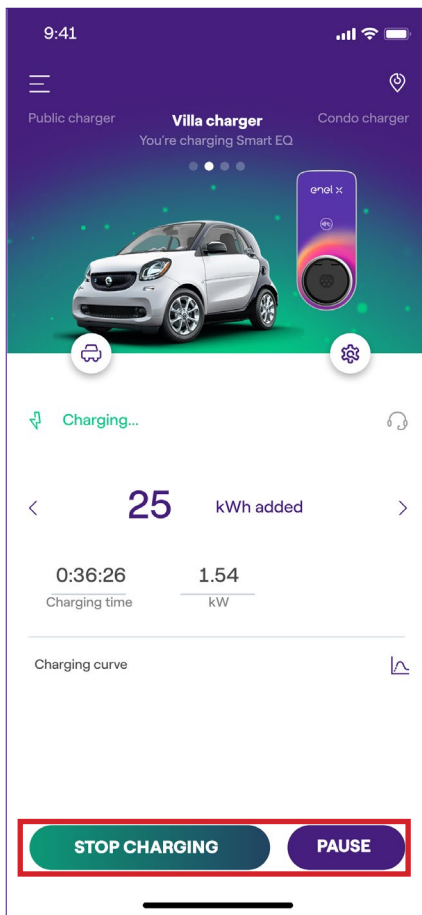
CHARGING USING THE JUICEPASS APP

To start charging, open the **Home charging** section and **TAP TO CHARGE**.

Connect the vehicle within 90 seconds of unlocking.

- > **Cable version:** Connect the JuiceBox cable to the vehicle;
- > **Socket version:** Connect the charging cable to the socket on the JuiceBox and the vehicle.

Charging begins automatically. Once started, you can monitor the charging session on-screen.



To stop charging select STOP CHARGING. Charging stops automatically and the charging cable can be removed.

NOTE:

You can also stop charging sessions from the vehicle.

CHARGING USING AN RFID CARD (IF AVAILABLE)

The JuicePass card only allows you to start the JuiceBox charging session if:

- > the JuiceBox has been paired with the JuicePass account
- > the "Unlock to Charge" charging mode has been selected.
- > the JuicePass card has been paired with the JuicePass account.

To start charging, bring the card close to the JuiceBox RFID reader. Connect the vehicle within 90 seconds of authorizing the RFID card:

- > **Cable version:** Connect the JuiceBox cable to the vehicle;
- > **Socket version:** Connect the charging cable to the socket on the JuiceBox and the vehicle.

Charging begins automatically. Through the JuicePass app, you can track your charging sessions. To do this, access the **Home Charging** section.

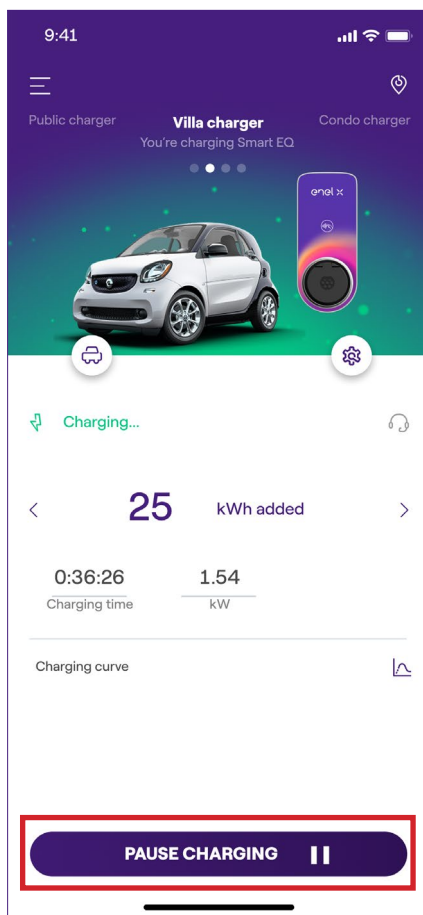
To stop charging, bring the card again close to the JuiceBox RFID reader. Charging stops automatically and the charging cable can be removed.

NOTE:

You can also stop charging by sending a stop command (from the JuicePass app or vehicle).

11.2 Charging in Connect&Charge Mode

This section describes how to charge a vehicle using the JuiceBox in Connect&Charge mode.

**NOTE:**

This mode is suggested when the JuiceBox is installed in a private area.

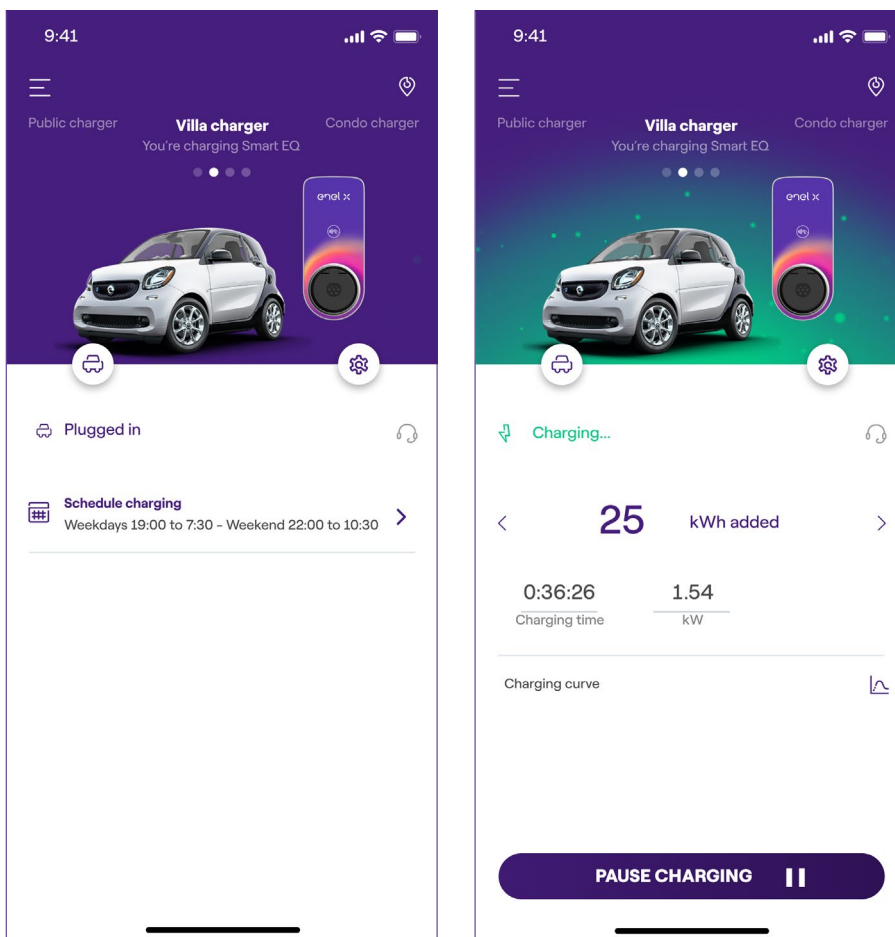
This mode does not require any authentication to start or stop a recharge. In this mode, you cannot set scheduled charging sessions.

JuiceBox is set to operate in Connect&Charge mode when it is first started. However, it is recommended that you carry out the steps for commissioning the JuiceBox via the JuicePass app (see [paragraph 10.1](#) of this manual) in order to remotely manage charging, configure JuiceBox settings and other parameters.

To start charging, connect the vehicle to the JuiceBox:

- > **Cable version:** Connect the JuiceBox cable to the vehicle;
- > **Socket version:** Connect the charging cable to the socket on the JuiceBox and the vehicle.

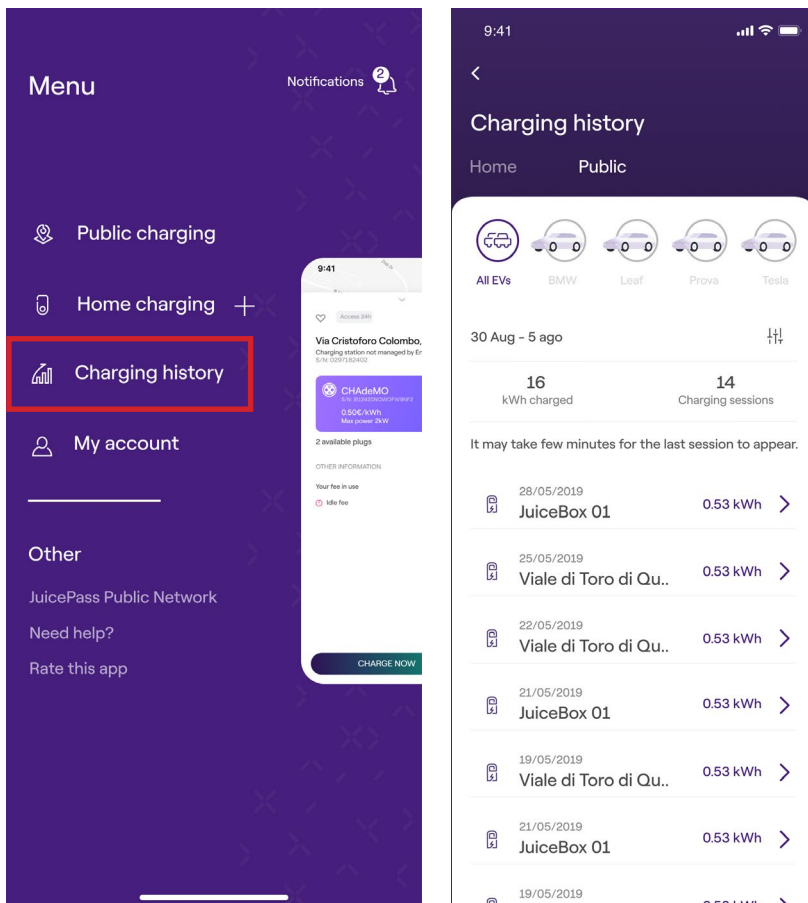
Charging begins automatically. Through the JuicePass app, you can track your charging sessions. To do this, access the **Home Charging** section.



To stop charging, send a stop command from the vehicle, then disconnect the vehicle from the JuiceBox.

11.3 Recording the Charging Session in the Charging history

To view the log of charging sessions performed in the JuicePass app, select the **3 horizontal lines > Charging history** from the JuicePass app menu. The list of all charging sessions performed will appear, from which you can verify the correctness of charging data.



11.4 Checking Charging Power

From the JuicePass app, you can check during charging that the power delivered by the JuiceBox corresponds to the power actually set.

NOTE:

Please wait at least two minutes from the start of charging to see the correct data.

11.5 Testing Load Optimization Pro

If the Load Optimization Pro feature (available only for JuiceBox Pro and JuiceBox Pro Cellular) is activated a test must be carried out to verify its effective operation. This can be done by turning on other electrical equipment (e.g. appliances with power absorption in the order of 1 kW) in the electrical system during the test, verifying that charging occurs without exceeding the contracted power of the user and that the power available for charging is modulated correctly.

12 LED indicator

COLOR	MEANING
White	<ul style="list-style-type: none"> > Fixed: Online > Flashing (lasts 90 seconds): Online, waiting for cable to be inserted
Purple	<ul style="list-style-type: none"> > Fixed: Offline > Flashing (lasts 90 seconds): Offline, waiting for cable to be inserted
Green	<ul style="list-style-type: none"> > Fixed (duration three seconds): Start/stop command received from App or RFID card > Flashing: Charging
Yellow	<ul style="list-style-type: none"> > Flashing: Standby <p>The JuiceBox may be in "standby" mode for several reasons:</p> <ul style="list-style-type: none"> > Due to the vehicle (e.g. charged battery, high battery temperature, interruption of charging on vehicle side) > Due to JuiceBox (e.g. set Smart Charging profile, current available from Load Optimization < 6 A)
Red	<ul style="list-style-type: none"> > Fixed (lasts three seconds): Unauthorized RFID card or cable insertion time expired > Lampeggiante: Error
Blue	<ul style="list-style-type: none"> > Temporary: JuiceBox being turned on or restarted > Fixed: software error, JuiceBox to be replaced

B. JuiceMeter- Installation Manual

1 JuiceMeter

JuiceMeter is an energy meter that communicates with JuiceBox to enable the Load Optimization Pro feature.

After pairing the two devices, JuiceMeter allows JuiceBox to adapt its power level based on the consumption of other devices connected to the same power line. In this way, it is possible to charge at the maximum available power while avoiding the risk of triggering the meter.

The JuiceMeter is available in single-phase and three-phase versions. Both products are available in standard and IT GRID compatible versions depending on the type of installation.

SINGLE-PHASE JUICEMETER	Standard version
	IT GRID compatible version
THREE-PHASE JUICEMETER	Standard version
	IT GRID compatible version

1.1 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.

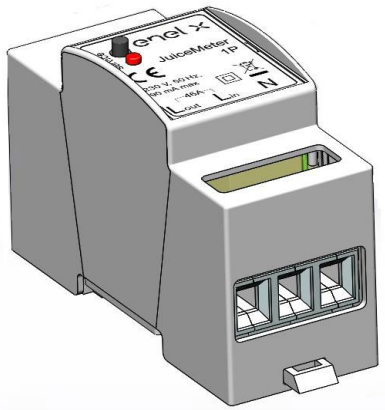
When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of product at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

2 Single-phase JuiceMeter

STANDARD VERSION

Suitable for installation in the following types of system:

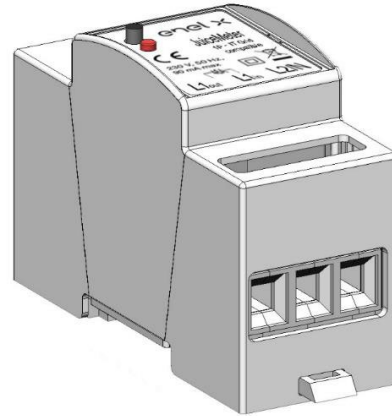
- > TT, TN, TN-S, TN-C, TN-C-S, IT with neutral



IT GRID COMPATIBLE VERSION

Suitable for installation in the following types of system:

- > TT, TN, TN-S, TN-C, TN-C-S, IT.



2.1 Features

- > **Dimensions (W x H x D):** 36.3 x 90.5 x 62 mm (excluding DIN rail spring)
- > **No. of DIN modules:** 2
- > **Weight:** 120 g
- > **Degree of protection:** IP20 (when the JuiceMeter is installed in an electrical cabinet with terminals covered by panels)
- > **Plastic housing material:** PC/ABS
- > **Flammability rating of housing:** UL94 V-0

OPERATING CONDITIONS:

- > **For Indoor use;**
- > **Operating temperature:** -20 ÷ +50 °C
- > **Storage temperature:** -30 to +70 °C
- > **Relative humidity:** 5% ÷ 95% not condensed
- > **Altitude:** ≤ 4000 m
- > **Overvoltage class:** II

- > **Pollution degree:** 2
- > **Insulation class:** II



DIRECTIVE RED 2014/53/UE

CE Marking

Product distributed by ENEL X, 00191 Roma, Viale Tor di Quinto 45/47

POWER SUPPLY:

- > **Connection:**
 - > Standard version: The device is powered between terminals "Lin" and "N", which are also used for voltage measurement.
 - > IT Grid compatible version: The device is powered between terminals "L1in" and "L2/N", which are also used for voltage measurement.
- > **Nominal voltage:** 230 Vac
- > **Voltage operating range:** -20%/+15% of the nominal voltage
- > **Frequency:** 50 Hz
- > **Power consumption:** 90 mA max
- > **Internal protections:** Integrated fuse (F1: T1A 300V) not replaceable. If the fuse is tripped, the device switches off and dynamic load modulation is lost.

CONNECTION:

- > **Connectors:** Three-way terminal
- > **Dimensions (min ÷ max):** 2.5 ÷ 10 mm²/ 12AWG ÷ 6AWG (see paragraph 2.2 "Installation" of this manual, point 4 "Wiring")

WI-FI / BLUETOOTH CONNECTIVITY (CURRENTLY NOT AVAILABLE):

- > **Functionality:** for optional configuration via APP
- > **Antenna:** integrated
- > **Frequency:** 2.4 GHz
- > **Standard:** 802.11 b/g/n

PLC NARROW BAND COMMUNICATION (CHAIN 2):

- > **Modem:** C-Band, B-PSK Modulation
- > **Application:** DLMS/COSEM IEC (IEC 62056-5-3)
- > **Data Model:** COSEM Data Model (IEC 62056-6-1, IEC 62056-6-2)
- > **Coupling:**

- > Standard version: The PLC transmission is coupled in differential mode between terminals "Lin" and "N"
- > IT GRID compatible version: The PLC transmission is coupled in differential mode between terminals "L1in" and "L2/N"

USER INTERFACE:

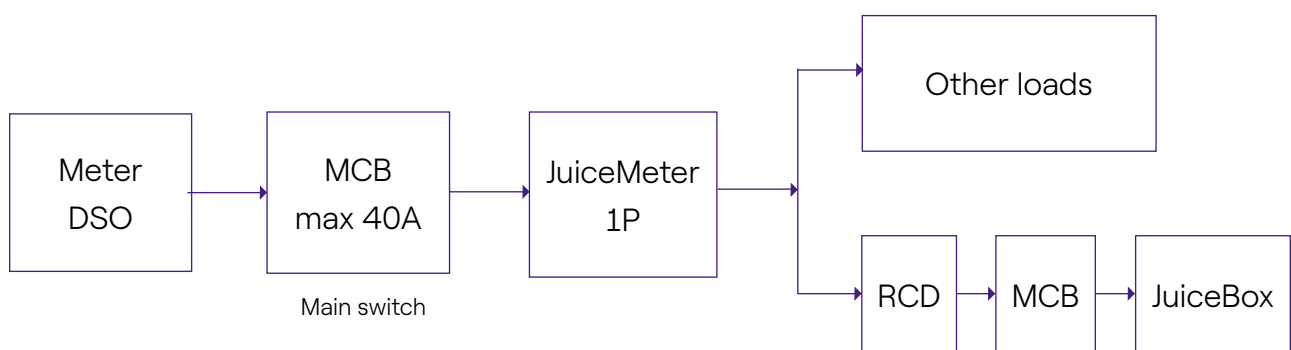
- > **Service LED:** service indicator (red)
- > **Button:** for initial configuration and reactivation of the device

REFERENCE REGULATIONS:

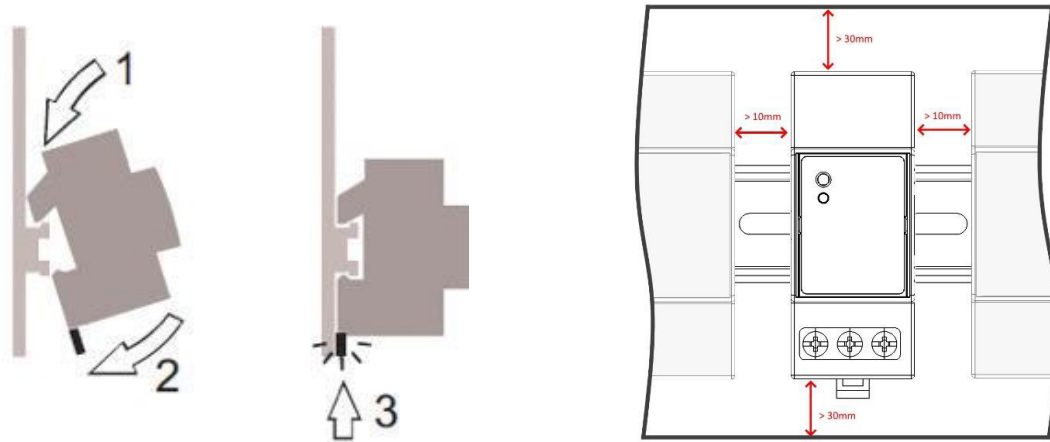
- > **Art. 3.1a Safety:** EN 61010-1:2010/A1: 2010, EN 61010-2-30:2010
- > **Art. 3.1b EMC:** EN 55032:2015/A11:2010, EN 55035:2017/A11:2010, EN 61000-3-2:2019, EN 61000-3-3:2013/A1:2019, ETSI EN 301 489-1 V2.2.3 (2019), ETSI EN 301 489-17 V3.2.2
- > **Art. 3.2 Radio:** ETSI EN 300 328
- > **Health:** EN 62311

2.2 Installation

Install the JuiceMeter downstream of the distributor's meter and the main circuit breaker to enable measurement of total consumption (see diagram below). The protection and disconnection device of the JuiceMeter will be the general MCB.



1. Read the Safety Warnings manual inside the packaging.
2. Install the product in an electrical cabinet that is accessible only to qualified personnel.
3. DIN rail mounting.
 - > The product must be installed in a vertical position on a 35mm DIN rail, with the screw terminal facing downwards.
 - > Leave at least 30mm of space above and below the JuiceMeter, and at least 10mm of space to the right and left of the product in relation to adjacent DIN modules, to ensure proper heat dissipation.
 - > It is not recommended to install the product close to heat sources. If necessary, maintain adequate distance between the JuiceMeter and such heat sources.



4. Wiring:

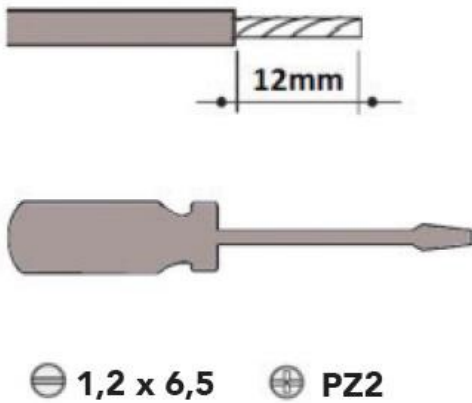
- > Use only flexible copper wires with the following cross sections for wiring the JuiceMeter

MAXIMUM PEAK CURRENT (A)	UP TO 16 A	FROM 16 A TO 25 A	FROM 25 A TO 32 A	FROM 32 A TO 46 A
Minimum wire cross-section (mm ²)	2.5	4	6	10
Minimum wire cross-section (AWG)	12	10	8	6

- > Use PVC-insulated wires able to withstand temperatures of at least 80 °C. Such as H05V2-K, AWM Style 1007, or equivalent.
- > Ensure that all stranded wires are inserted into the screw terminal to ensure good contact.

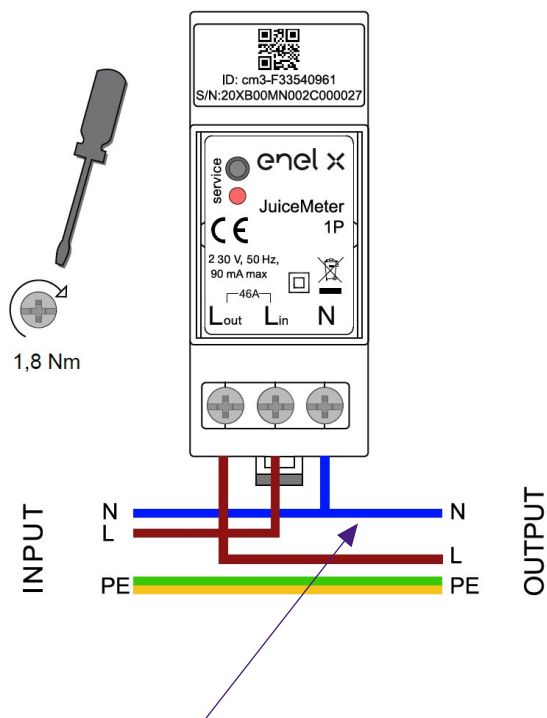
WARNING

Ensure that the terminals are tight to ensure good contact. The required tightening torque is 1.8Nm. Use a 1.2x6.5 slotted or PZ2 Phillips screwdriver.



5. Connections:

STANDARD VERSION



SINGLE-PHASE measurement method: with integrated shunt between terminals "Lin" and "Lout" for current measurement. Between terminals "Lin" and "N" (same as used for JuiceMeter power supply) for voltage measurement.

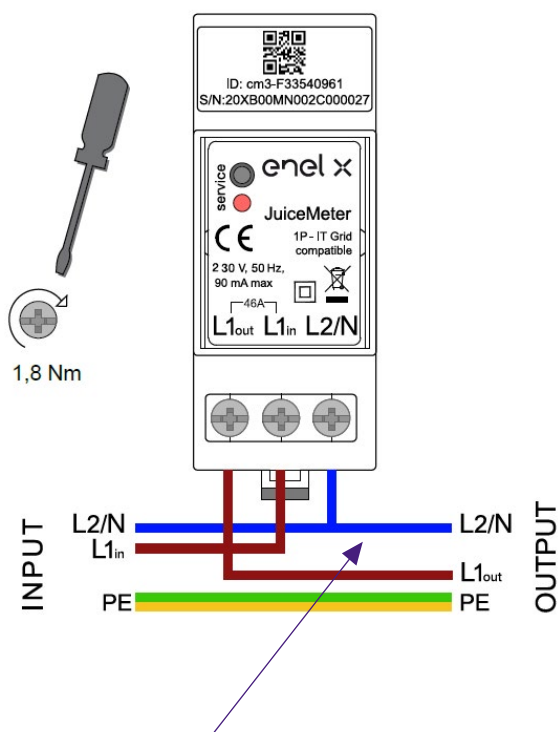
- > **Minimum current:** 100 mA
- > **Reference current:** 5 A
- > **Maximum current:** 46 A
- > **Nominal range:** 34 A; Contracted power up to 8 kW
- > **Maximum range (for short periods only):** 46 A. Power up to 10.6 KW.
- > **Accuracy:** class I ($\pm 1\%$) for active energy
- > **Measurement category:** CAT II according to EN 61010-2-030

For the neutral, the installer must make a branch from the power cable.

WARNING

Check that there is an MCB switch in the main switchboard that is suitable for the protection/disconnection of the JuiceMeter (In max 40 A). If this is not the case, it must be replaced. The MCB must be marked as JuiceMeter disconnecting device.

IT GRID COMPATIBLE VERSION



For the neutral, the installer must make a branch from the power cable.

SINGLE-PHASE measurement method: with integrated shunt between terminals "L1in" and "L1out" for current measurement. Between terminals "L1in" and "L2/N" (same as used for JuiceMeter power supply) for voltage measurement.

- > **Minimum current:** 100 mA
- > **Reference current:** 5 A
- > **Nominal range:** 34A; Contracted power up to 8kW
- > **Maximum range (for short periods only):** 46 A. Power up to 10.6KW
- > **Accuracy:** class I ($\pm 1\%$) for active energy
- > **Measurement category:** CAT II according to EN 61010-2-030

WARNING

Check that there is an MCB switch in the main switchboard that is suitable for the protection/disconnection of the JuiceMeter (In max 40 A). If this is not the case, it must be replaced. The MCB must be marked as JuiceMeter disconnecting device.

POWER-UP AND COMMISSIONING

PLUG&PLAY PRODUCT

Power-up the product.

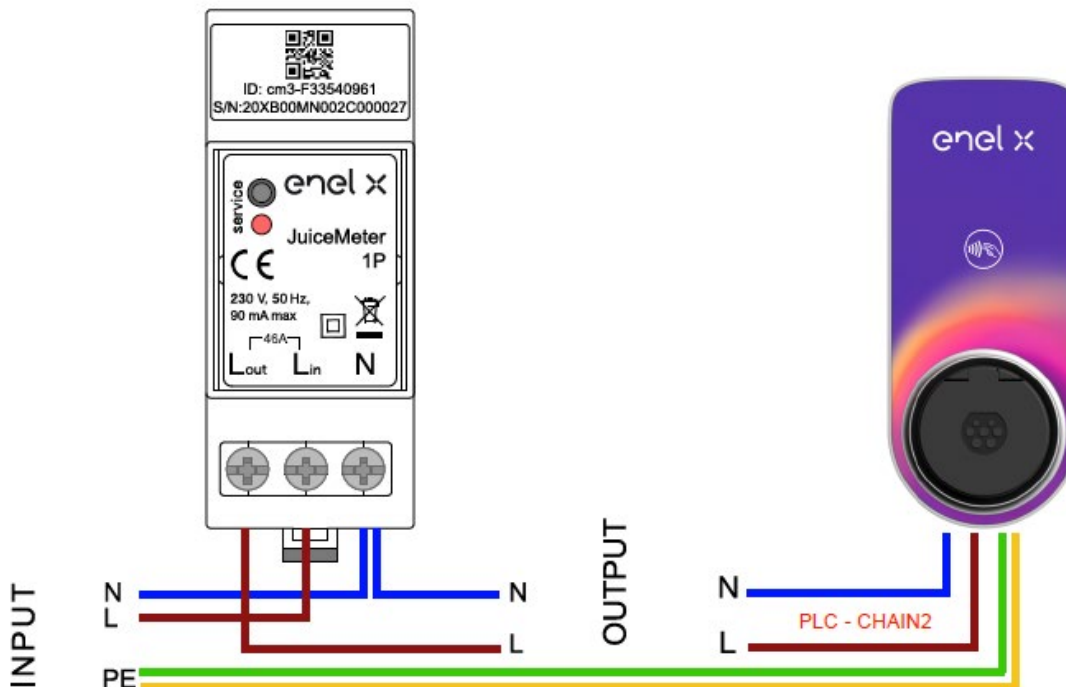
- > FIXED RED SERVICE LED: powered and operational – Active communication and data transmission to JuiceBox.
- > Flashing RED SERVICE LED (Fast blink): Modem Power Line fault.
- > BLINKING RED SERVICE LED (Slow blink): Measurement Unit fault.
- > SERVICE BUTTON: Reset button for the device (press for at least three seconds to restart the device without performing an on-off cycle).

2.3 JuiceBox connection diagrams

STANDARD VERSION

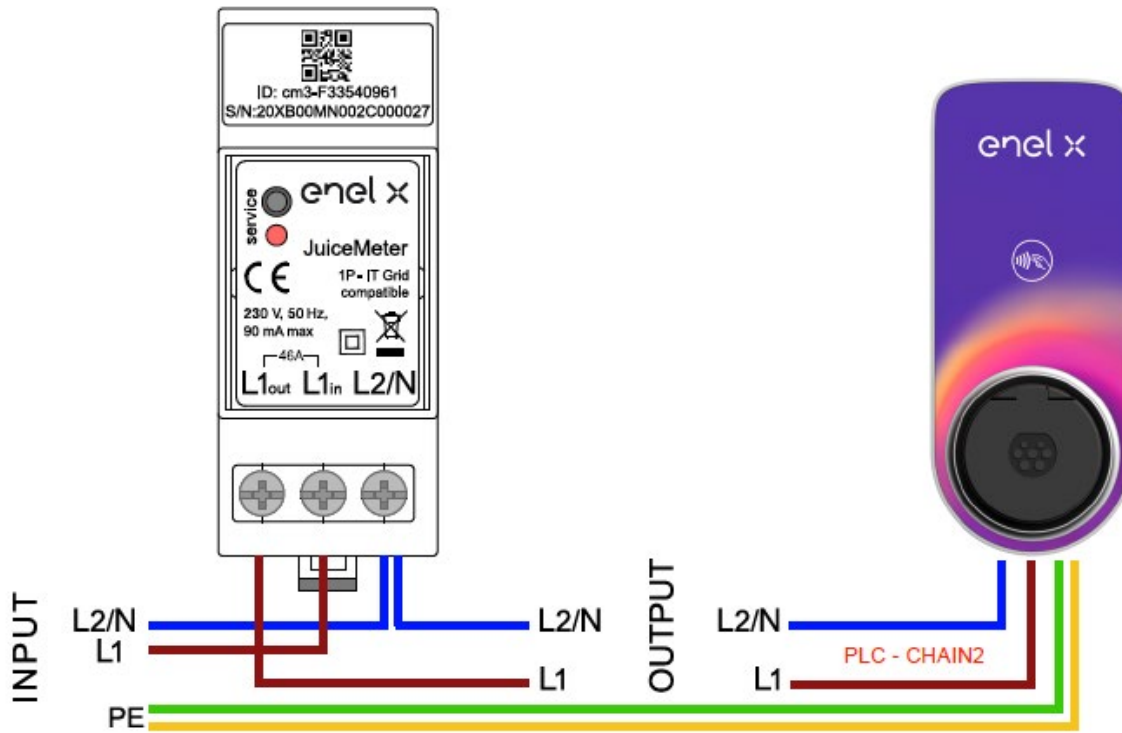
NOTE:

PLC - CHAIN2 (*) communication takes place on connections L and N.



(*) The chain2 protocol is customised with more measurement data than the standard one.

IT GRID COMPATIBLE VERSION

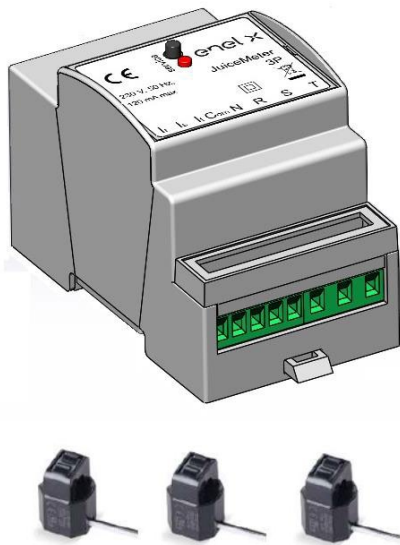


3 Three-phase JuiceMeter

STANDARD VERSION

Suitable for installation in the following types of system:

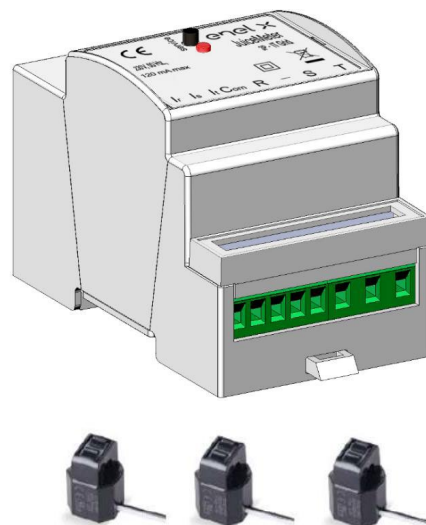
- > TT, TN, TN-S, TN-C, TN-C-S, IT with neutral.



IT GRID COMPATIBLE VERSION

Suitable for installation in the following types of system:

- > TT no neutral, IT no neutral.



3.1 Features

- > **Dimensions (W x H x D):** 53.5 x 90.5 x 62 mm (excluding DIN rail spring)
- > **No. of DIN modules:** 3
- > **Weight:** 150 g
- > **Degree of protection:** IP20 (when the JuiceMeter is installed in an electrical cabinet with terminals covered by panels)
- > **Plastic housing material:** PC/ABS
- > **Flammability rating of housing:** UL94 V-0

OPERATING CONDITIONS

- > **For Indoor use**
- > **Operating temperature:** -20 ÷ +50 °C
- > **Storage temperature:** -30 to +70 °C

- > **Relative humidity:** 5% ÷ 95% not condensed
- > **Altitude:** ≤ 4000 m
- > **Overvoltage class:** II
- > **Pollution degree:** 2
- > **Insulation class:** II

DIRECTIVE RED 2014/53/UE



CE Marking

Product distributed by ENEL X, 00191 Roma, Viale Tor di Quinto 45/47

POWER SUPPLY

- > **Connection:**
 - > STANDARD VERSION: The device is powered in single-phase between terminals "T" and "N", which are also used for voltage measurement.
 - > IT GRID COMPATIBLE VERSION: The device is powered in single-phase between terminals "T" and "R", which are also used for voltage measurement.
- > **Nominal voltage:** 230 Vac
- > **Voltage operating range:** -20%/+15% of the nominal voltage
- > **Frequency:** 50 Hz
- > **Power consumption:** 120 mA max
- > **Internal protections:** Integrated fuse (F1: T1A 300V) not replaceable. If the fuse is tripped, the device switches off and dynamic load modulation is lost.

CONNECTION

- > **Connectors:** 8-pin screw terminal
- > **Wire cross-section (min ÷ max):** 0.5 ÷ 2.5 mm²/ 22AWG ÷ 14AWG

WI-FI / BLUETOOTH CONNECTIVITY (CURRENTLY NOT AVAILABLE)

- > **Functionality:** for optional configuration via APP
- > **Antenna:** integrated
- > **Frequency:** 2.4 GHz
- > **Standard:** 802.11 b/g/n

PLC NARROW BAND COMMUNICATION (CHAIN 2)

- > **Modem:** C-Band, B-PSK Modulation
- > **Application:** DLMS/COSEM IEC (IEC 62056-5-3)

- > **Data Model:** COSEM Data Model (IEC 62056-6-1, IEC 62056-6-2)
- > **Coupling:**
 - > Standard version: The PLC transmission is coupled in differential mode between terminals "T" and "N"
 - > IT Grid compatible version: The PLC transmission is coupled in differential mode between terminals "T" and "R"

USER INTERFACE:

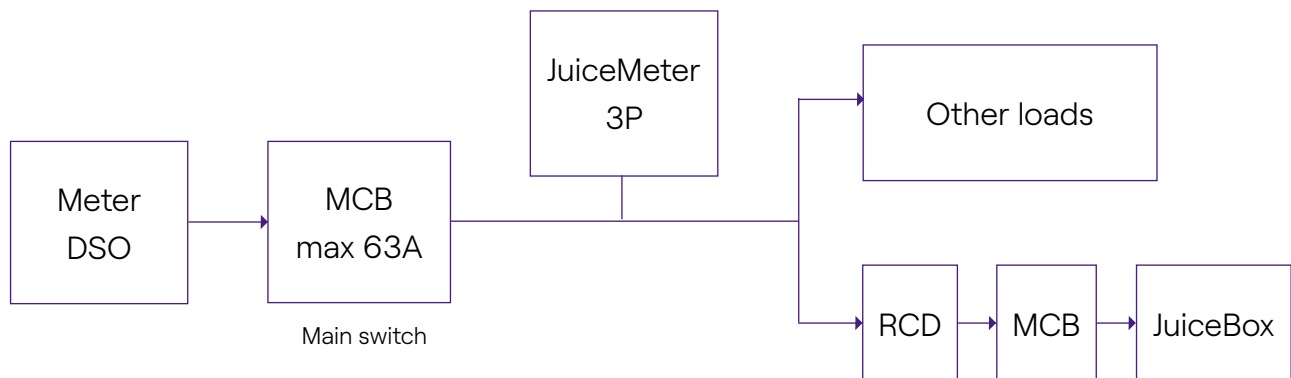
- > **Service LED:** service indicator (red)
- > **Button:** for initial configuration and reactivation of the device

REFERENCE REGULATIONS

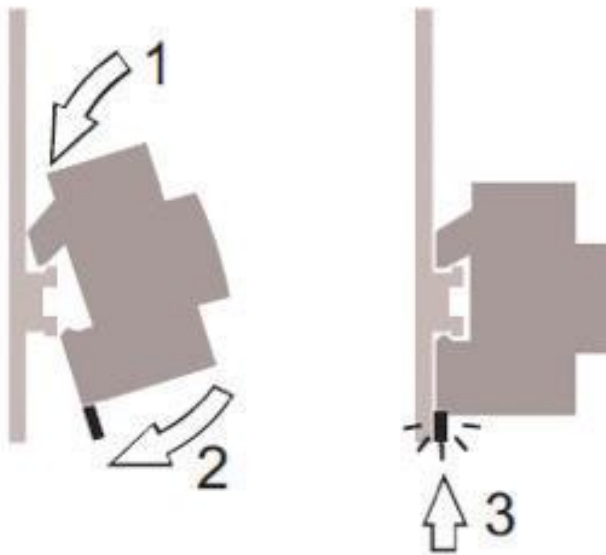
- > **Art. 3.1a Safety:** EN 61010-1:2010/A1: 2010, EN 61010-2-30:2010
- > **Art. 3.1b EMC:** EN 55032:2015/A11:2010, EN 55035:2017/A11:2010, EN 61000-3-2:2019, EN 61000-3-3:2013/A1:2019, ETSI EN 301 489-1 V2.2.3 (2019), ETSI EN 301 489-17 V3.2.2
- > **Art. 3.2 Radio:** ETSI EN 300 328
- > **Health:** EN 62311

3.2 Installation

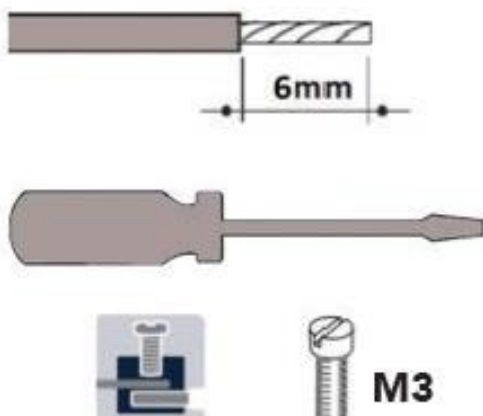
Install the JuiceMeter downstream of the distributor's meter and the main circuit breaker to enable measurement of total consumption (see diagram below). The protection and disconnection device of the JuiceMeter will be the general MCB.



1. Read the Safety Warnings manual inside the packaging before performing any work on the product.
2. Install the product in an electrical cabinet that is accessible only to qualified personnel.
3. Din rail mounting.
 - > The product must be installed in a vertical position on a 35mm DIN rail, with the screw terminal facing downwards.
 - > Leave at least 30mm of space above and below the JuiceMeter, to ensure proper heat dissipation.
 - > It is not recommended to install the product close to heat sources. If necessary, maintain adequate distance between the JuiceMeter and such heat sources.

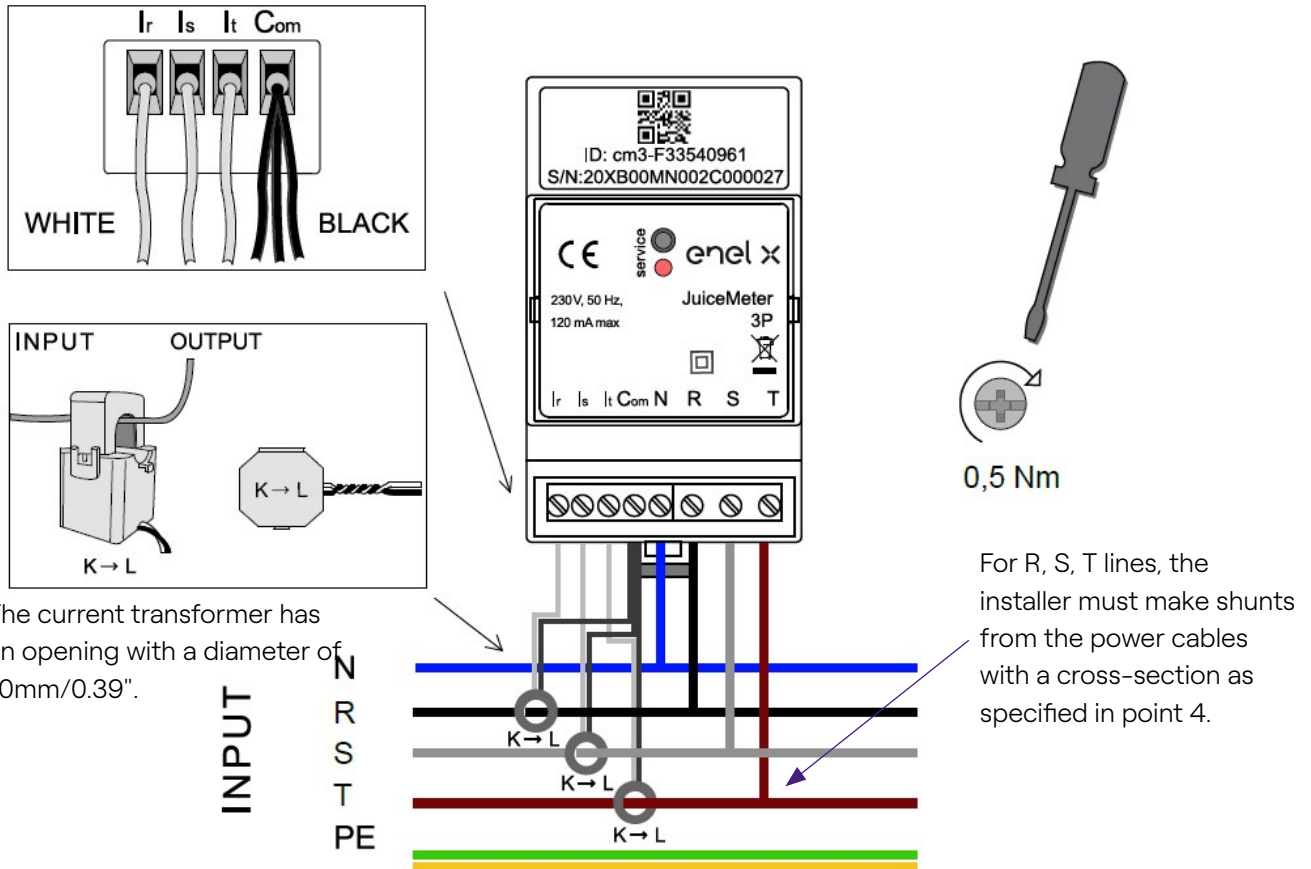


4. Nominal cross-section (min÷max): $0.5\div 2.5\text{mm}^2/22\text{AWG}\div 14\text{AWG}$



5. Connections.

STANDARD VERSION



THREE-PHASE measurement method: with "split core" current transformers for measuring current, to be connected with the black wires in common on terminal "Com" and the white wires on the respective terminals "Ir", "Is" and "It" as shown in the wiring diagram.

The voltage is measured across terminals "R" and "N", "S" and "N", "T" and "N". The latter pair is also used for the single-phase power supply of the device.

Current transformers: to be installed on the three-phase cables, as shown in the wiring diagram below. Pay attention to the "K → L" marking on the transformers. Pay attention to the terminals for connecting the current transformers, which are referred to the primary circuit. The current transformers must be wired and used inside the electrical panel that must guarantee insulation for users.

Nameplate data per phase

- > **Minimum current:** 100 mA
- > **Reference current:** 5 A
- > **Nominal range:** 45.5 A; Contracted power up to 10 kW

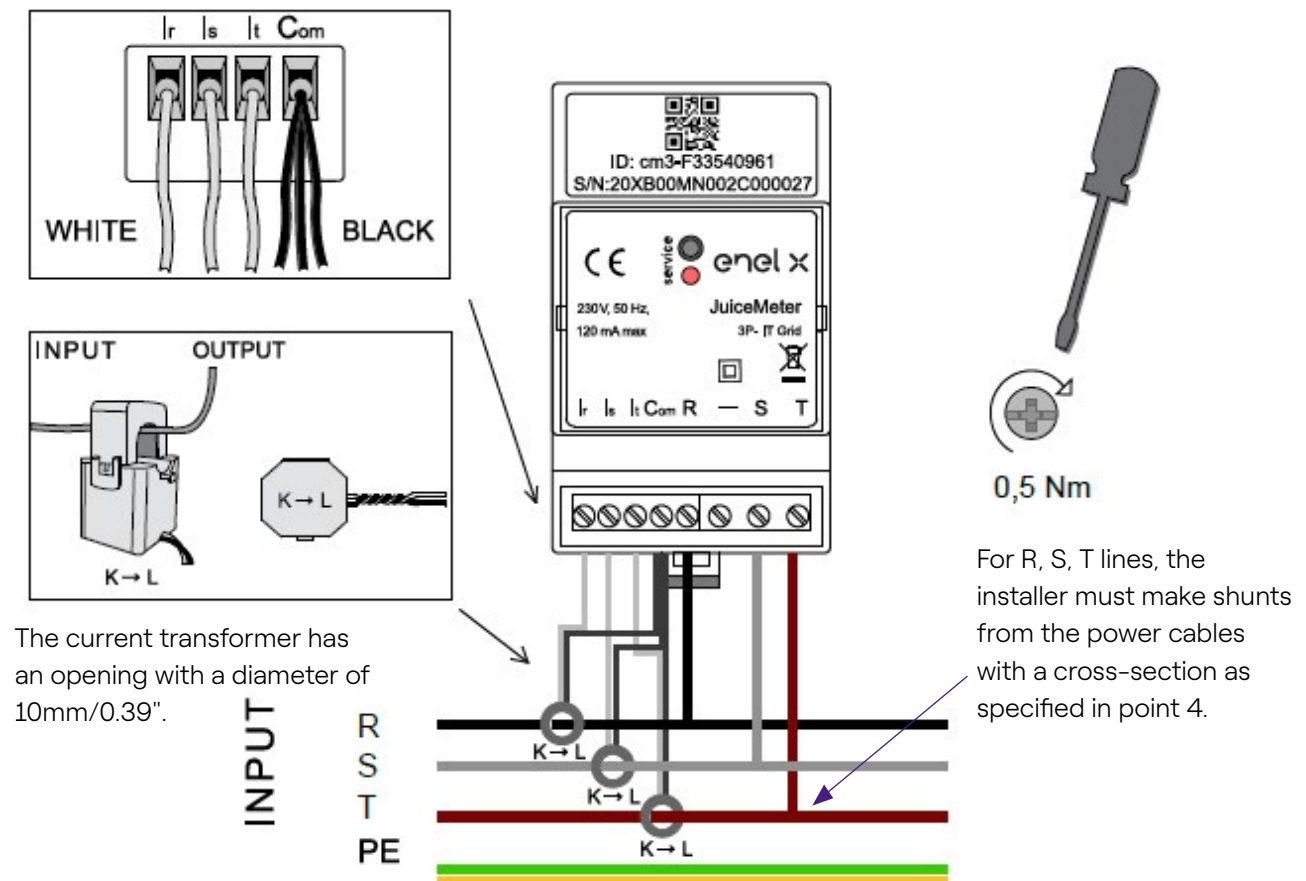
NOTE:

If connected to a single-phase mains, contracted power up to 10kW. Connect the single phase mains supply to terminals T and N of the JuiceMeter (refer to the relevant configurations in section 3.3 of this manual).

- > **Maximum Range for single phase (for short periods only):** 60 A. Power up to 13.8 KW.
- > **Accuracy:** class I ($\pm 1\%$) for active energy
- > **Measurement category:** CAT II according to EN 61010-2-030

IT GRID COMPATIBLE VERSION

Three-phase IT system without Neutral, with phase-to-phase voltage 230V.



THREE-PHASE measurement method: with "split core" current transformers for measuring current, to be connected with the black wires in common on terminal "Com" and the white wires on the respective terminals "Ir", "Is" and "It" as shown in the wiring diagram.

Voltage is measured across terminals "R" and "S", "R" and "T". The latter pair is also used for the single-phase power supply of the device.

Current transformers: to be installed on the three-phase cables, as shown in the wiring diagram below. Pay attention to the "K → L" marking on the transformers. Pay attention to the terminals for connecting the current transformers, which are referred to the primary circuit. The current transformers must be wired and used inside the electrical panel that must guarantee insulation for users.

Nameplate data per phase

- > **Minimum current:** 100 mA
- > **Reference current:** 5 A
- > **Nominal range:** 45.5 A; Contracted power up to 10 kW
- > **Maximum Range** for single phase (for short periods only): 60 A. Power up to 13.8 KW.

NOTE:

If connected to a single-phase grid, contracted power up to 10kW. Connect the single-phase mains supply to terminals T and R of the JuiceMeter (refer to the relevant configurations in section 3.3 of this manual).

- > **Accuracy:** class I ($\pm 1\%$) for active energy
- > **Measurement category:** CAT II according to EN 61010-2-030

WARNING

Check that there is an MCB switch in the main switchboard that is suitable for the protection/disconnection of the JuiceMeter (In max 63 A). If this is not the case, it must be replaced. The MCB must be marked as JuiceMeter disconnecting device.

POWER-UP AND COMMISSIONING

PLUG&PLAY PRODUCT

Power-up the product

- > **FIXED RED SERVICE LED:** powered and operational – Active communication and data transmission to JuiceBox.
- > **Flashing RED SERVICE LED (Fast blink):** Modem Power Line fault.
- > **BLINKING RED SERVICE LED (Slow blink):** Measurement Unit fault.
- > **SERVICE BUTTON:** Reset button for the device (press for at least three seconds to restart the device without performing an on-off cycle).

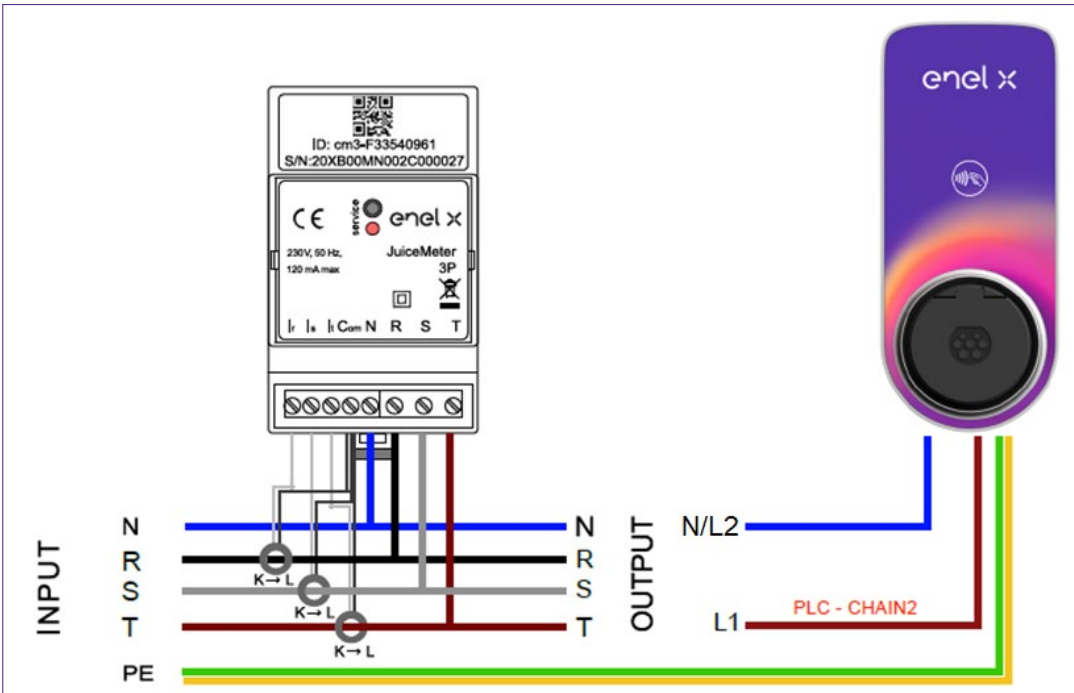
3.3 JuiceBox connection diagrams

STANDARD VERSION

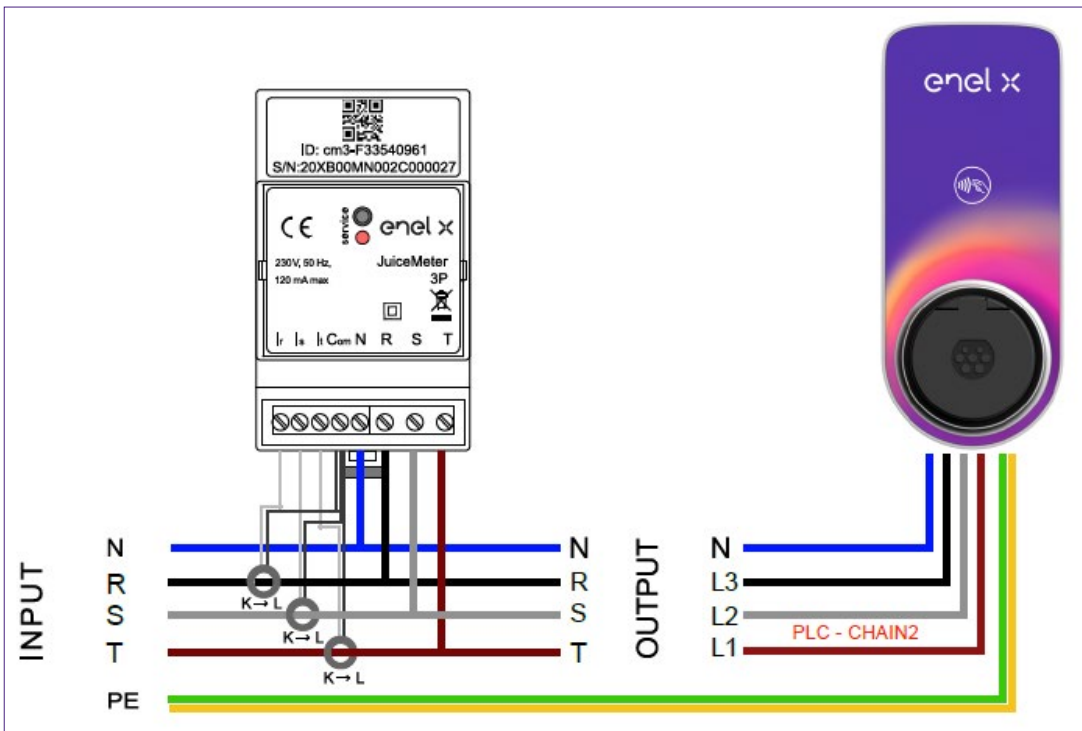
NOTE:

PLC – CHAIN2 communication (*) takes place on connections T- L1 and N.

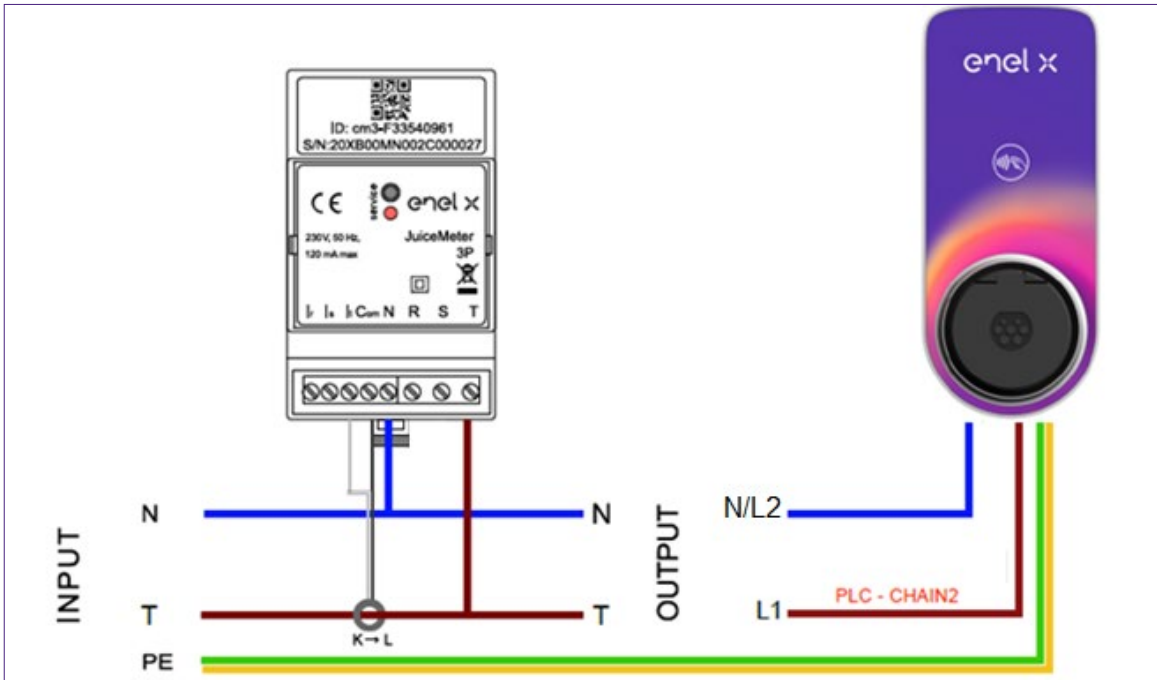
THREE-PHASE JUICEMETER + JUICEBOX 1P (three-phase mains supply)



THREE-PHASE JUICEMETER + JUICEBOX 3P (three-phase mains supply)



THREE-PHASE JUICEMETER + JUICEBOX 1P (single-phase mains supply)



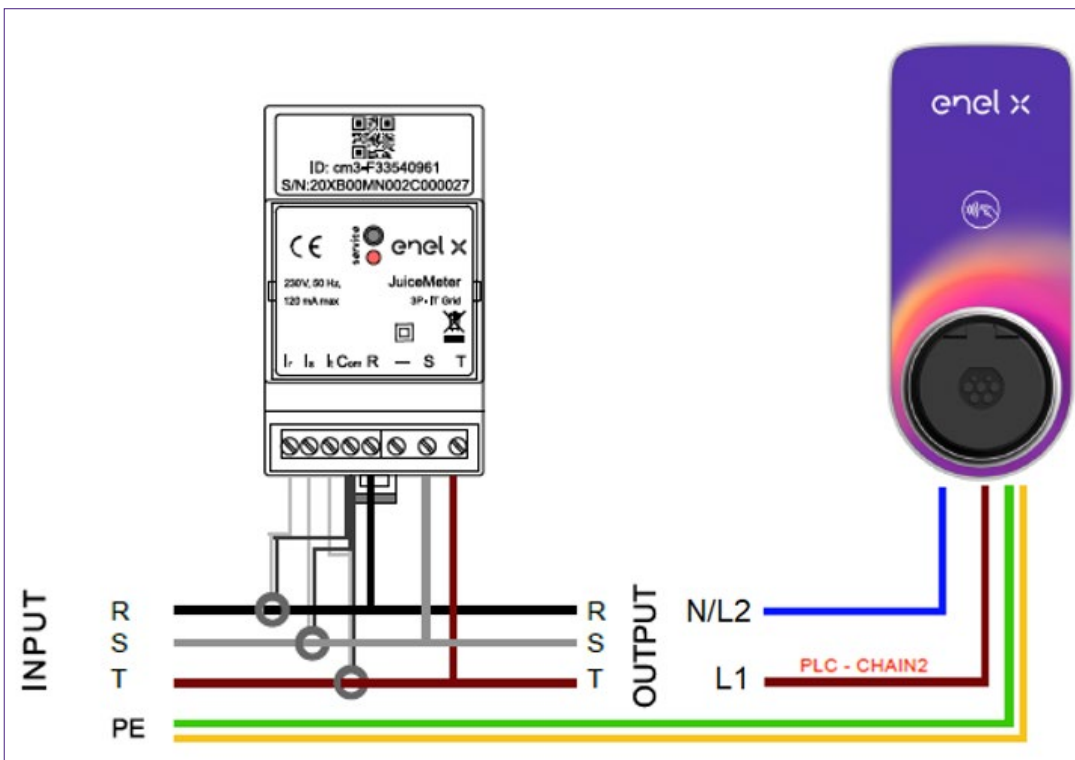
(*) The chain2 protocol is customised with more measurement data than the standard one.

IT GRID COMPATIBLE VERSION

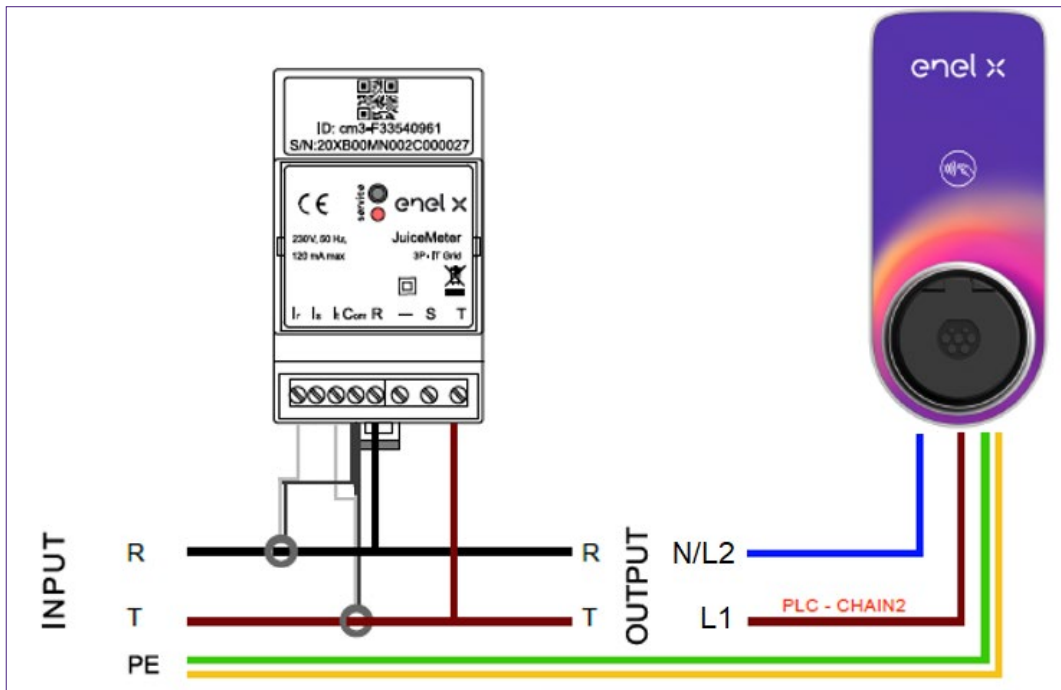
NOTE:

PLC – CHAIN2 communication (*) takes place on connections T- L1 and R.

THREE-PHASE IT GRID JUICEMETER + JUICEBOX 1P (three-phase mains supply)



THREE-PHASE IT GRID JUICEMETER + JUICEBOX 1P (single-phase mains supply)



(*) The chain2 protocol is customised with more measurement data than the standard one.

C. JuiceBox Pro & JuiceBox Plus – JB4Installers App Manual

1 Purpose of the Manual

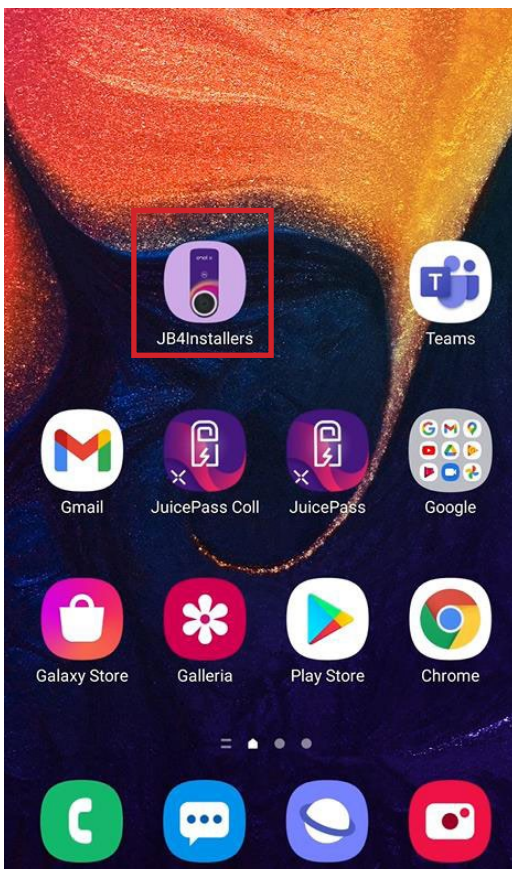
This manual outlines the steps to configure and/or update the firmware using the JB4Installers app for JuiceBox Pro and JuiceBox Plus.

2 Pre-requisites

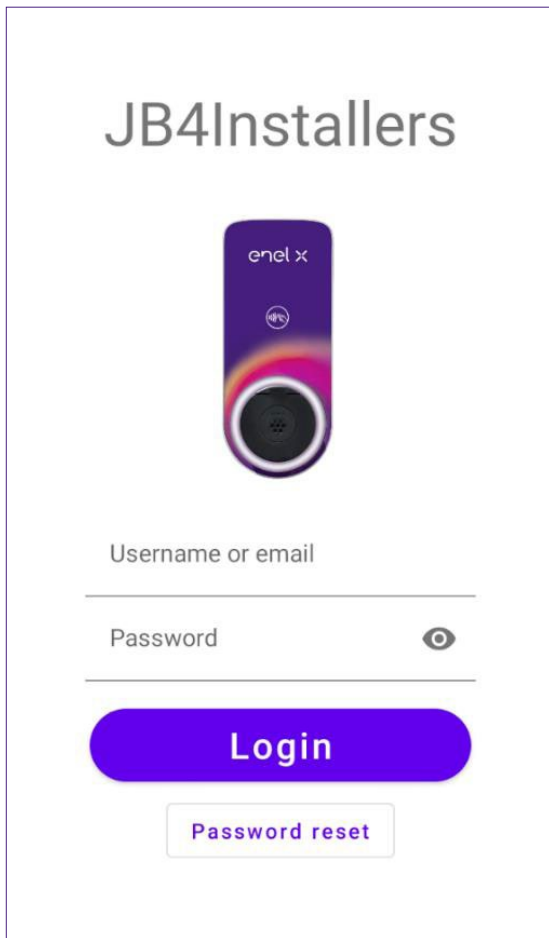
- > JuiceBox Pro or JuiceBox Plus.
- > A smartphone with Android OS.
- > Enel Authorization - Contact your Enel X contact person to request authorization to use the app. A link will be sent to the email address provided to activate the account. After registration, another email will be sent to activate the account and to download and install the JB4Installers APP.

3 Login

1. Close all apps on your smartphone.
2. From the smartphone launch the **JB4Installers** app.




3. Insert the credentials (registration username or email, and password) to access the profile and press **Login**.



JB4Installers

encl x

Username or email

Password 

Login

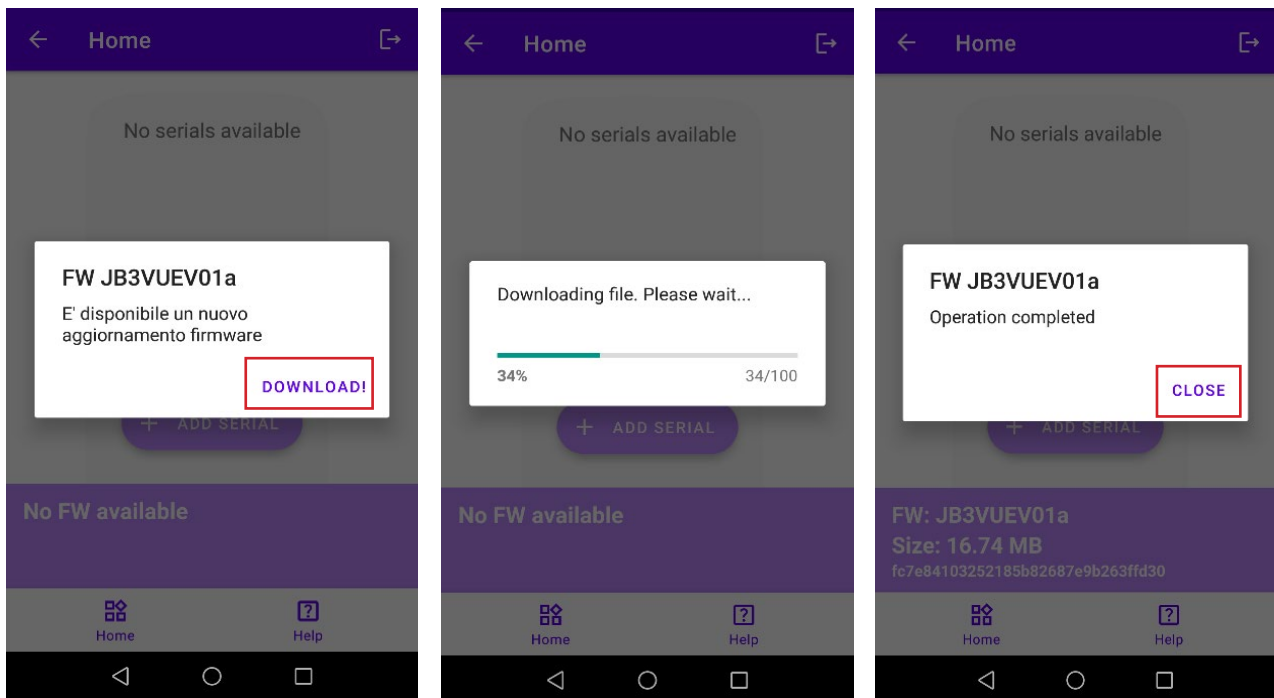
[Password reset](#)

4 New firmware download

NOTE:

To download new available firmware on the app, it's necessary to have internet connection on your smartphone.

After logging in, a pop-up will appear if a new firmware version is available. Press **DOWNLOAD!** and wait for the pop-up to confirm the completion of the download, then press **CLOSE**.



5 Loading the JuiceBox serial on the app

NOTE:

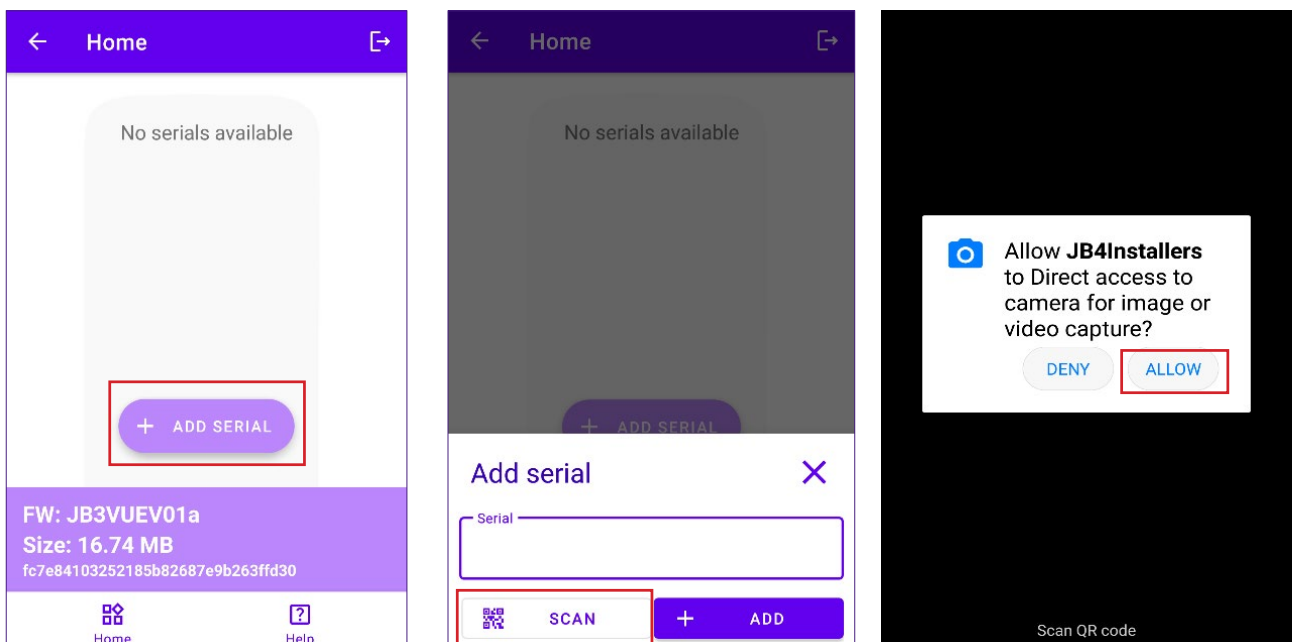
The following steps require that you have an active Internet connection on your smartphone.

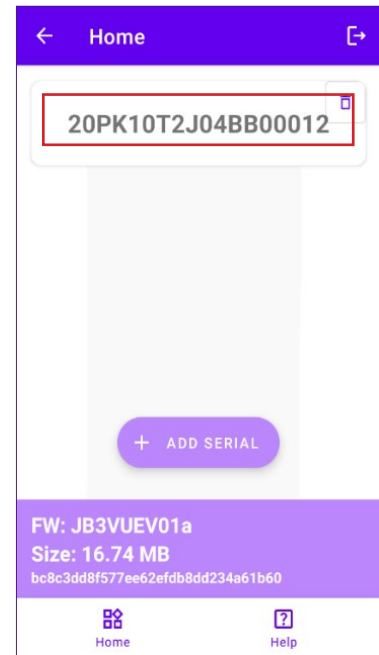
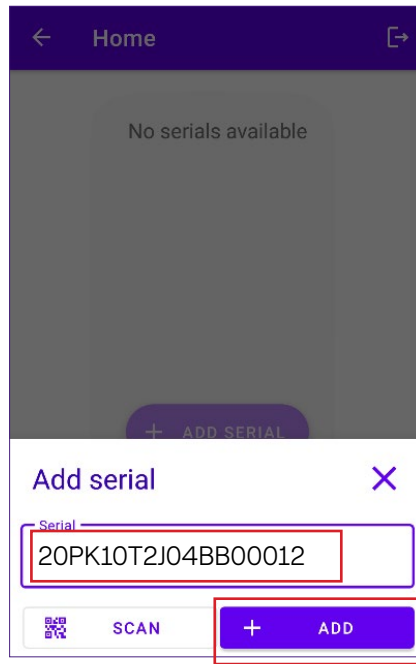
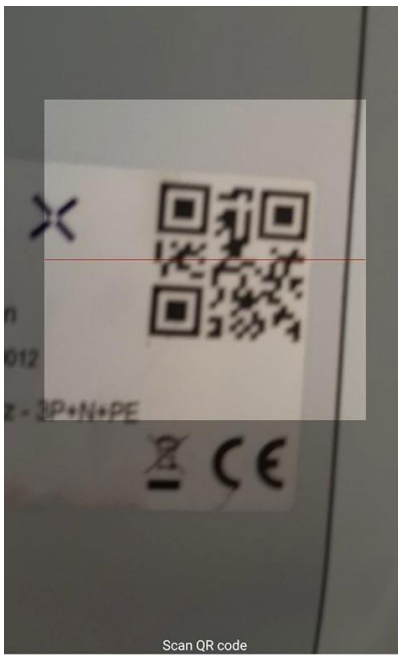
1. Select the **+ ADD SERIAL** button, enter the serial number or scan the QR code by pressing **SCAN** and use the camera to scan the JuiceBox QR code.
2. Click **+ ADD** to add the serial number of the scanned JuiceBox to complete the operation.

NOTE:

The first time you use the APP, you must grant access to the camera: press **ALLOW**.

3. After the procedure is completed, a new item with the serial number of the JuiceBox will appear on the top of the screen;



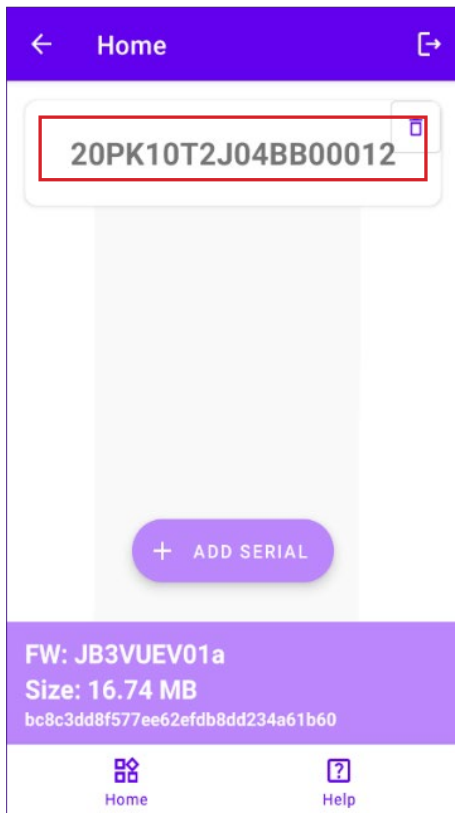


6 Connecting the JuiceBox to the App

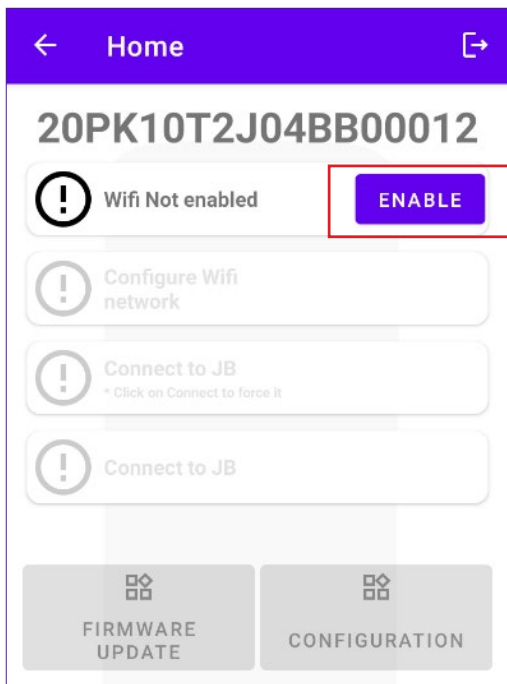
NOTE:

The following steps do not require an active Internet connection on your smartphone.

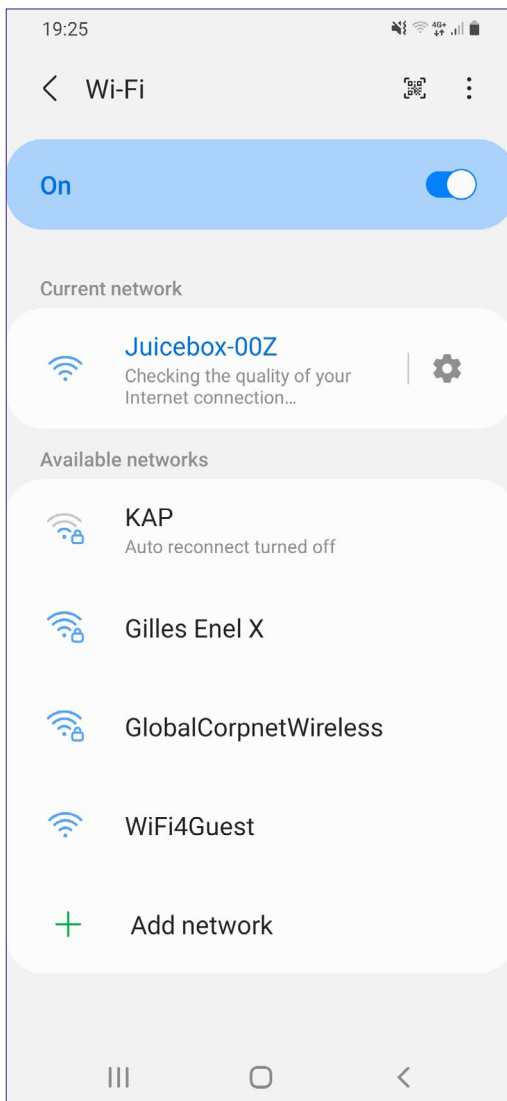
1. If Wi-Fi is turned on on your smartphone, turn it off
2. Click on the item with the S/N of the JuiceBox.




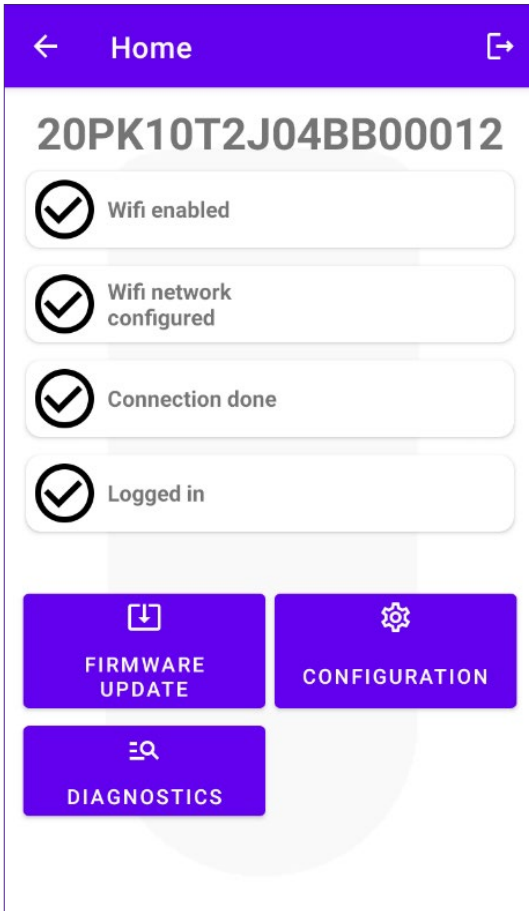
3. Power on the JuiceBox and wait around 30 seconds, so that the JuiceBox Wi-Fi hotspot is activated (the hotspot activates after the emission two acoustic signals). The hotspot remains active for 1 minute before activating on the JuiceBox.
4. Click on the button **ENABLE** on the app.



5. Enable the Wi-Fi and connect to the Juicebox Wi-Fi (the name of the Wi-Fi is Juicebox-XXX, whereas XXX are the last three digits from the Serial Number).



6. Wait for the JuiceBox Wi-Fi connection to be established. The process will be completed after all the symbols appear. 



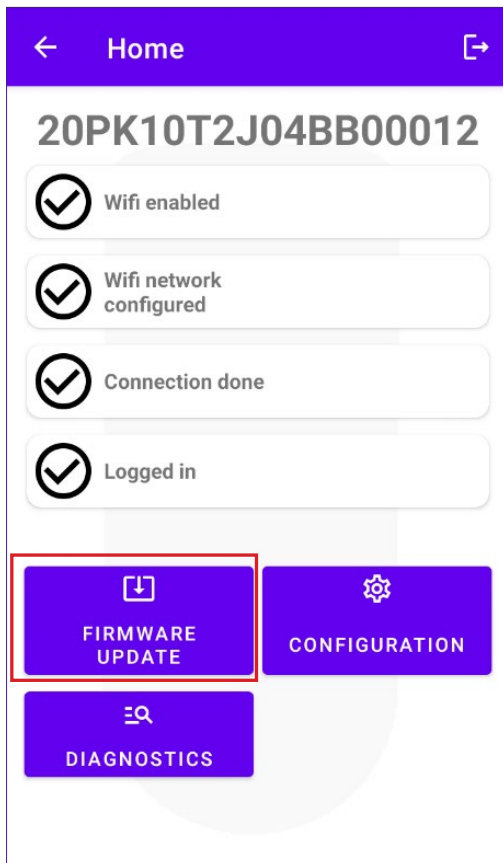
7 Firmware Update

NOTE:

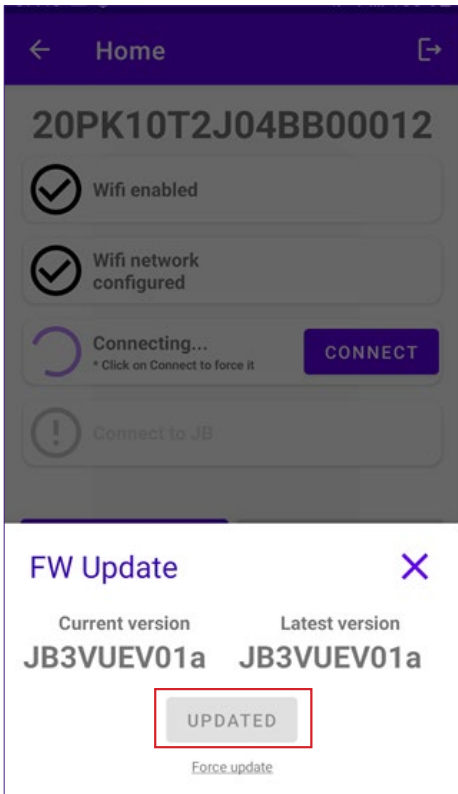
The following steps do not require an active Internet connection on your smartphone.

To update the JuiceBox firmware:

1. Click the **FIRMWARE UPDATE** button;



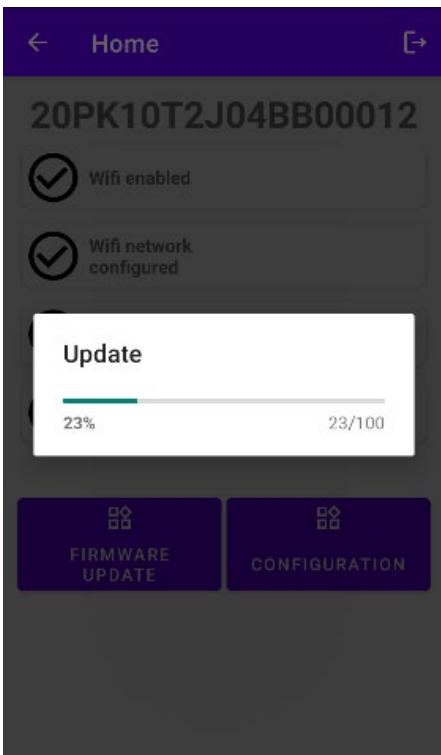
2. If a new firmware version is available, update the firmware by clicking on the **UPDATE** button;



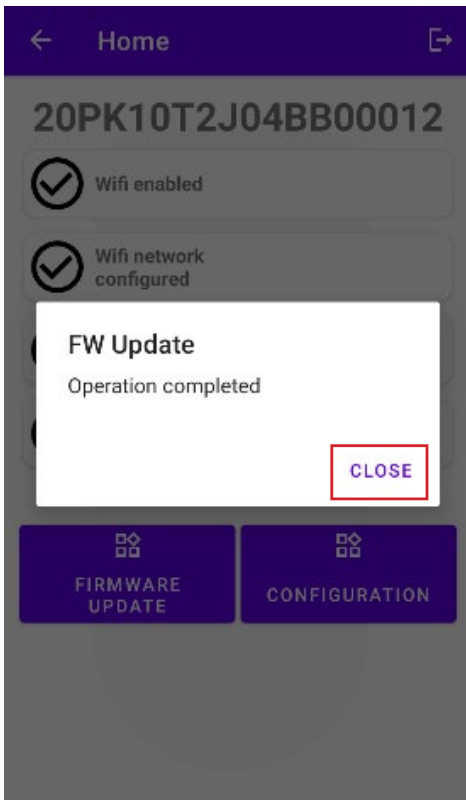
NOTE:

if the firmware is already updated it is possible to Force Update clicking on the relevant button shown in the above picture.

3. Wait for the update completion.

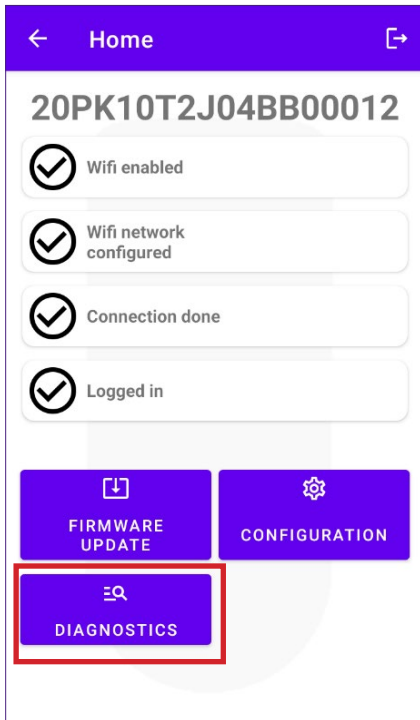


4. Press **CLOSE** to exit from the firmware update stage.

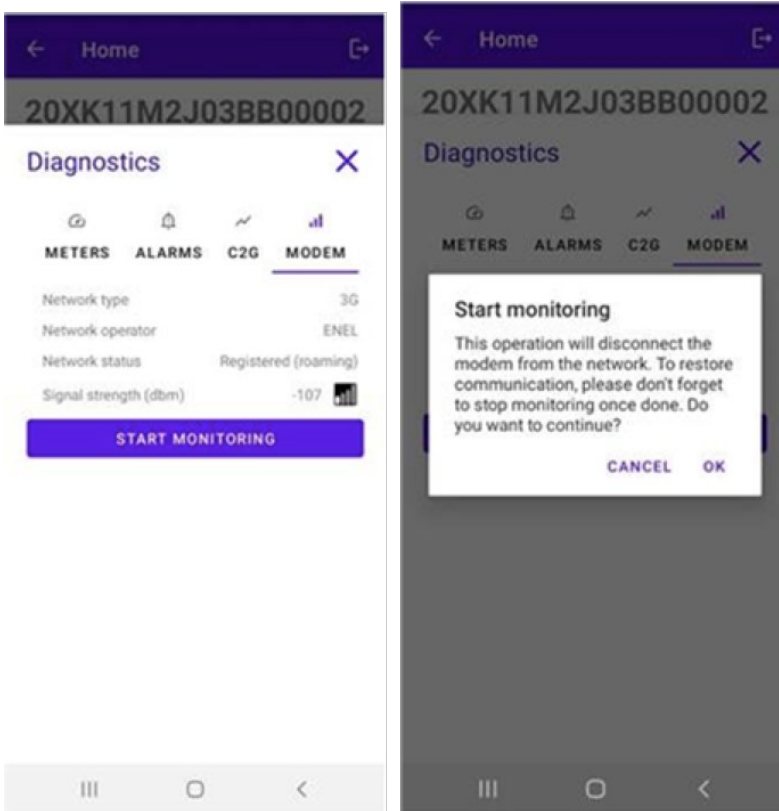


8 JuiceBox Connectivity Check for Cellular Versions

1. Click the **DIAGNOSTICS** button;

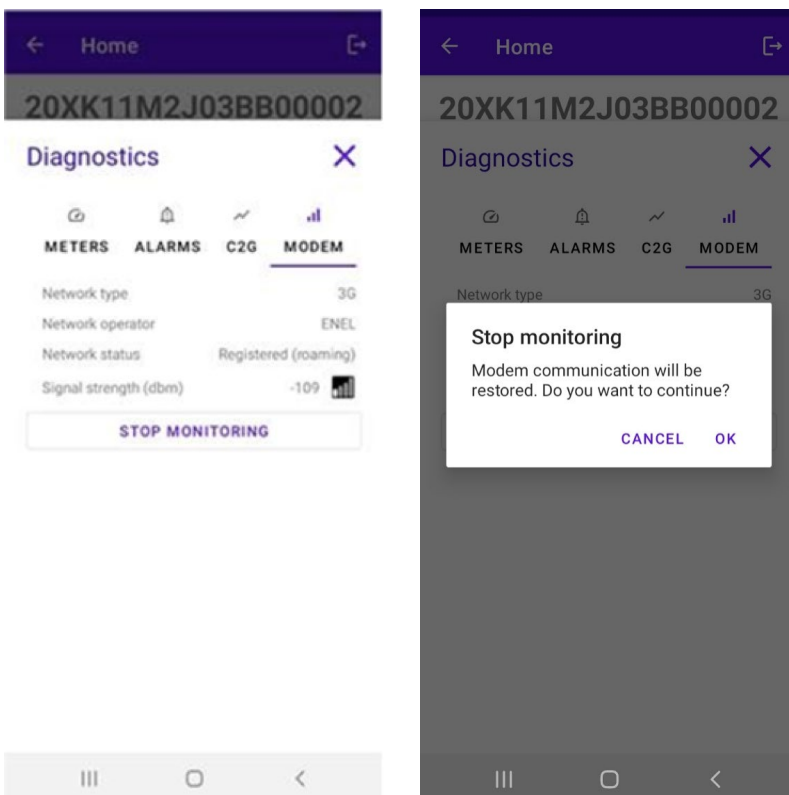


2. Select the **MODEM** button;
3. Click on the **START MONITORING** button;
4. Click **OK**;

**NOTE:**

The signal measured in dBm can be displayed in the **Signal Strength** field. The minimum signal for which the JuiceBox has sufficient connection to connect online is **-85 dBm** (an example with poor connectivity is shown in the figure (indeed, $-109 < -85$)).

5. To stop the measurement, click **STOP MONITORING** and then click **OK**.

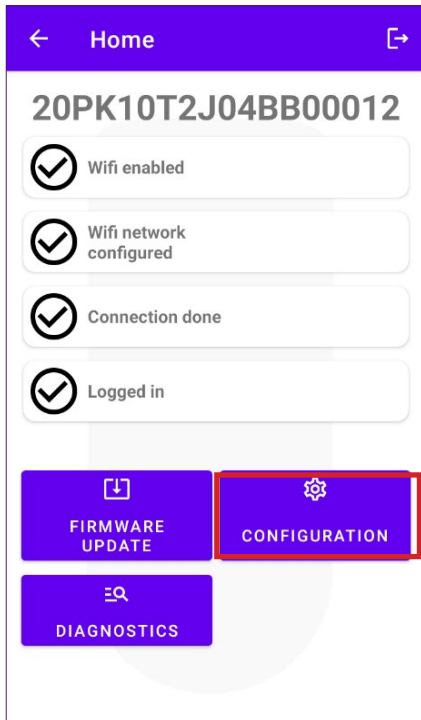


9 JuiceBox Configuration

NOTE:

The following steps do not require an active Internet connection on your smartphone.

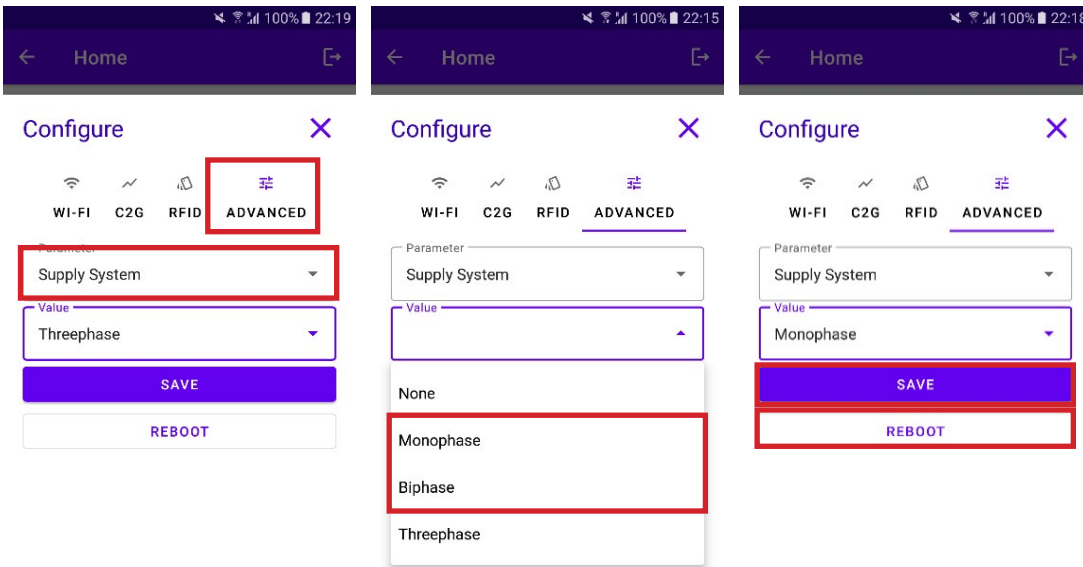
1. Select **CONFIGURATION** to enter in the Juice Box Configuration Menu;



9.1 Configuration of the "Supply System" Parameter

This configuration must be made in case of the installation of a three-phase JuiceBox on a single-phase or bi-phase supply system.

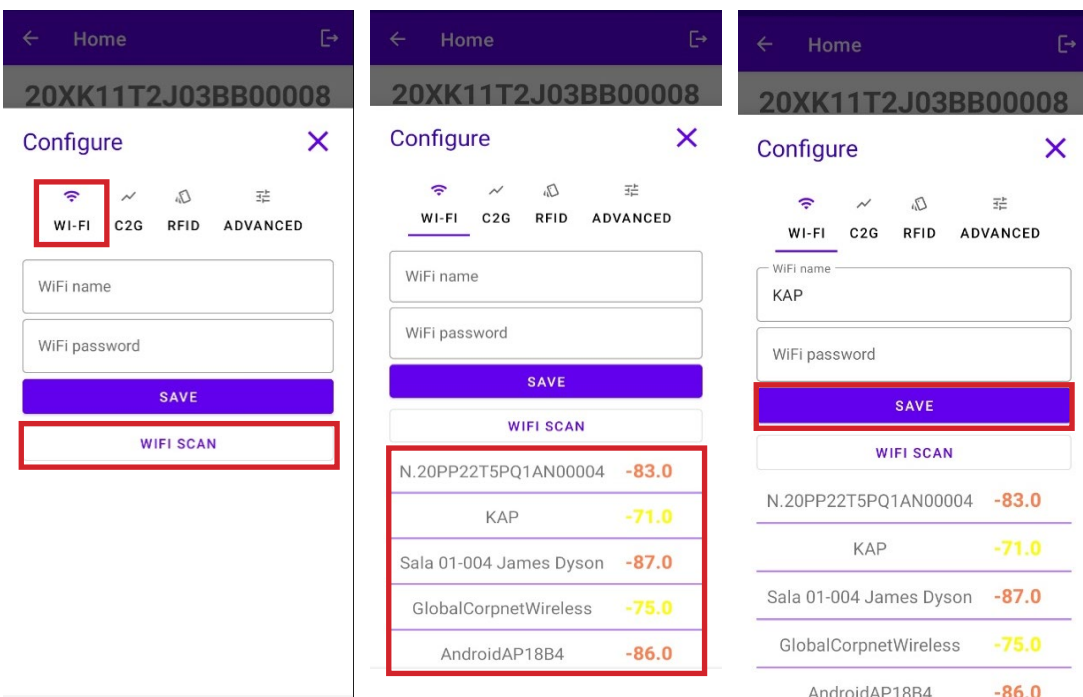
1. Select the **ADVANCED** tab.
2. Select the **Supply System** tab.
3. Set the value to:
 - 3.1 "Monophase" in case of Single-phase supply system.
 - 3.2 "Biphase" in case of a Bi-phase supply system.
4. After performing the configuration click the **SAVE** button.
5. Click the **REBOOT** button.



9.2 Wi-Fi Configuration

To configure a JuiceMeter select the **Wi-Fi** tab and fill in the required sections.

1. Select the **Wi-Fi** tab.
2. Select the Wi-Fi Scan button.
3. Select the WI-FI network.
4. Enter the password.
5. Click the **SAVE** button.



9.3 JuiceMeter Configuration (for JuiceBox Pro)

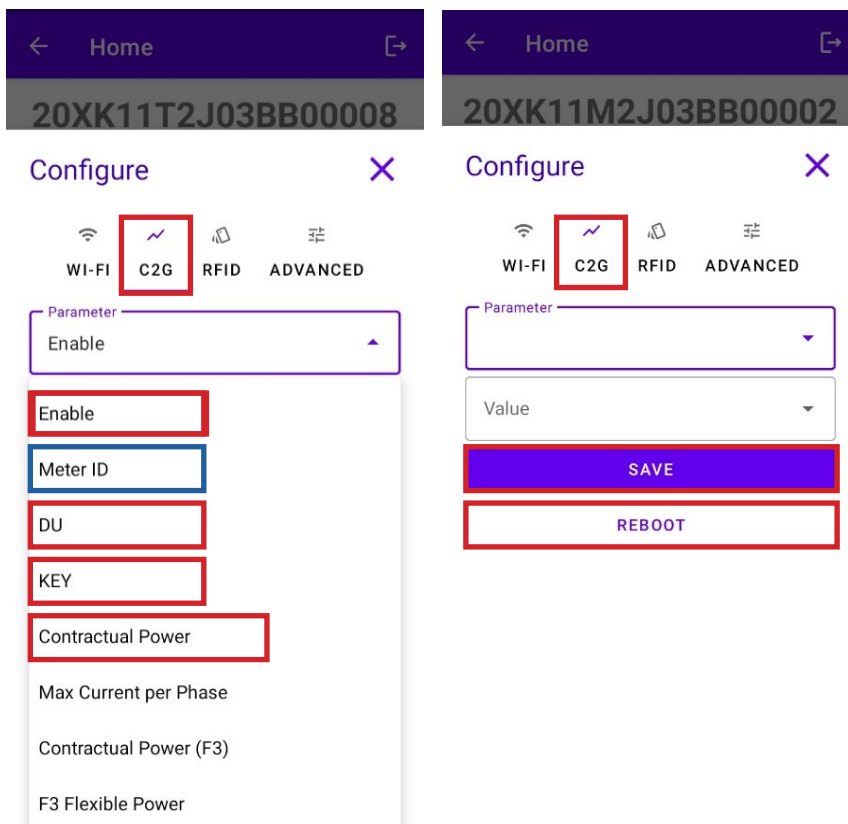
To configure a JuiceMeter select the **C2G** tab and fill in the required sections (Enable, DU, KEY, CONTRACTUAL POWER):

1. Select the **C2G** tab.
2. Select the **Enable** tab and then set the value to **True**.
3. Insert the JuiceMeter's **DU** and **KEY** parameters that are printed in the label inside the JuiceMeter's packaging.

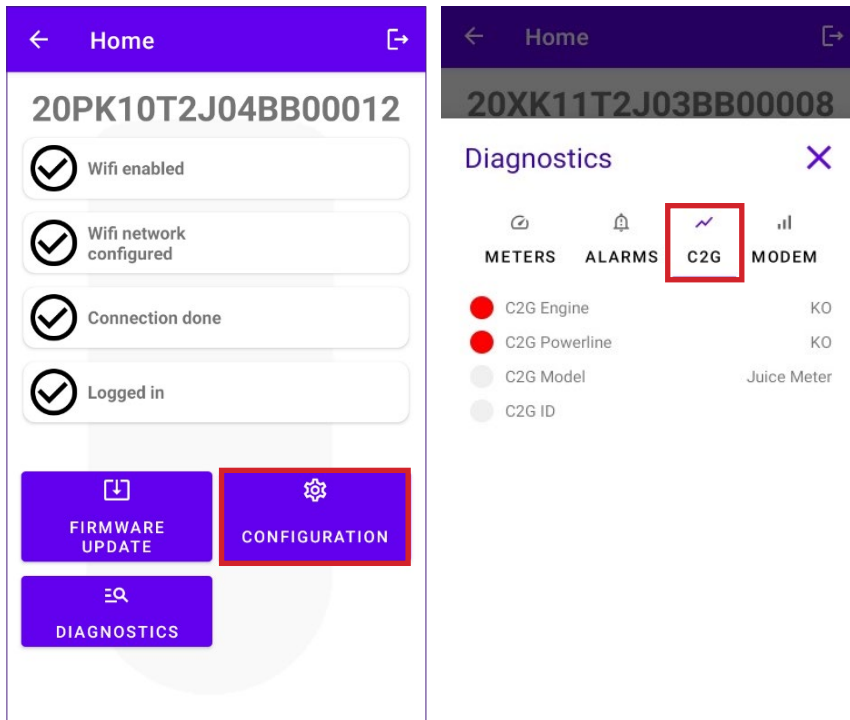
NOTE:

As an alternative to the DU and KEY parameters, it is possible to enter only the **Meter ID** parameter directly on the JuiceMeter.

4. Insert the **CONTRACTUAL POWER** value expressed in W (Watt) (e.g. to configure a 3.3kW Contractual Power the value to be inserted is 3300).
5. After performing the configuration click the **SAVE** button.
6. Click the **REBOOT** button.



7. Check in the diagnostics section that the communication between the JuiceBox and the JuiceMeter is working properly (**C2Engine** and **C2G Powerline** should be green with the word OK).



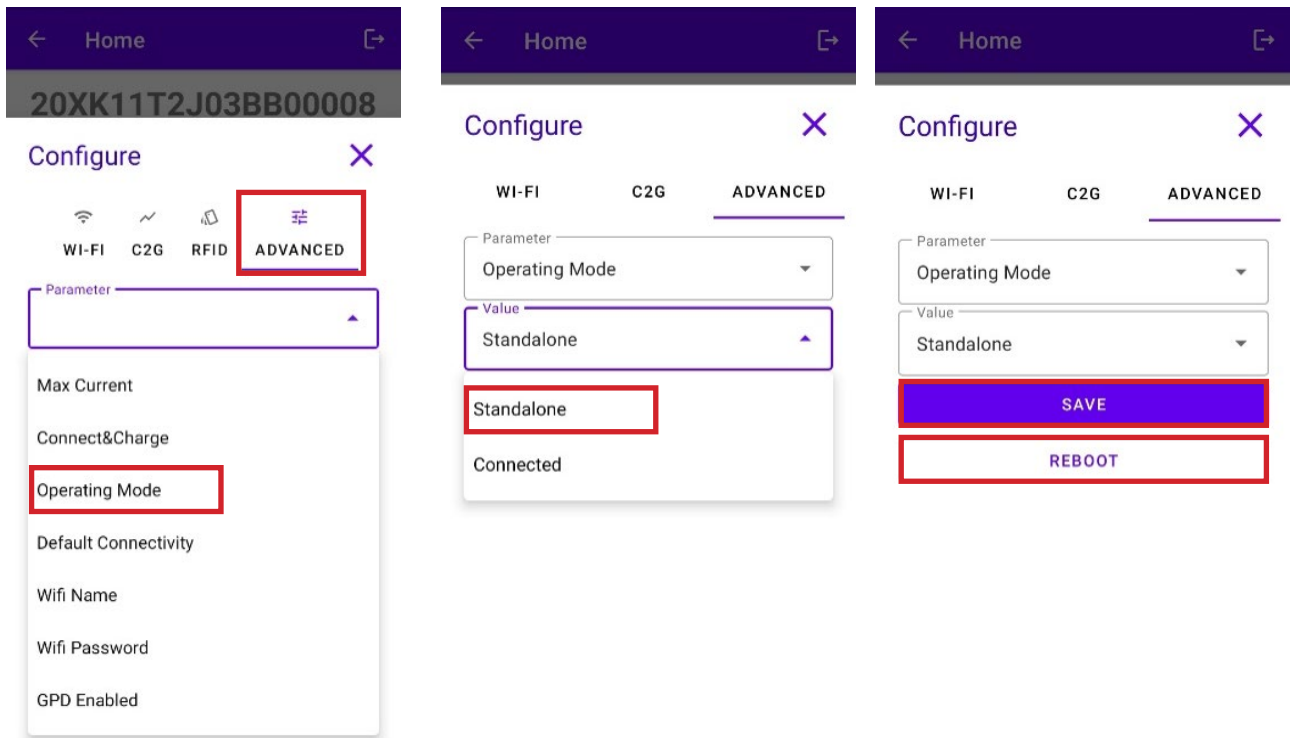
9.4 Configuration of the JuiceBox in Standalone Mode

NOTE:

Follow this procedure in case you need to configure a station that has been already commissioned in absence of cellular connectivity.

Configuration of the JuiceBox in Standalone Mode:

1. Select the **ADVANCED** tab.
2. Select the **OPERATING MODE** tab.
3. Set the value to **Standalone**.
4. After performing the configuration click the **SAVE** button.
5. Click the **REBOOT** button.



9.5 Configuration of the JuiceBox in Absence of Cellular Connectivity

NOTE:

The following steps do not require an active Internet connection on your smartphone.

NOTE:

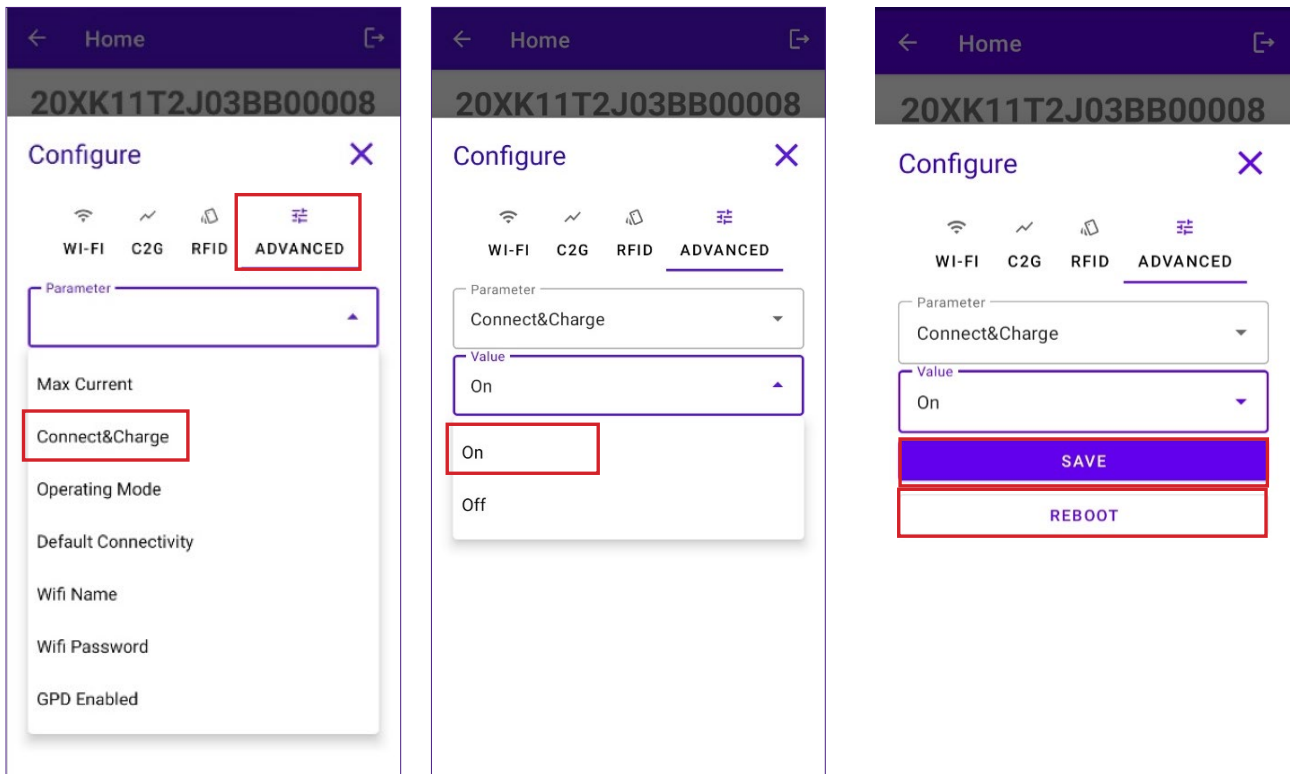
You can configure the following parameters only if the station has not been commissioned yet. If the station has already been commissioned in the back-end, the following configuration will have no effect unless the Standalone mode of operation is configured first (see the [section 9.4](#) of this manual).

First of all, make sure that the firmware version of the JuiceBox is up to date (follow the procedure in section 7 of this manual).

9.5.1 CONNECT&CHARGE MODE CONFIGURATION

Configuration of the JuiceBox in Connect&Charge Mode:

1. Select the **ADVANCED** tab.
2. Select the **Connect&Charge** tab.
3. Set the value to **On**.
4. After performing the configuration click the **SAVE** button.
5. Click the **REBOOT** button.



9. 5.2 MAXIMUM CURRENT CONFIGURATION

To configure the maximum current value:

1. Select the **ADVANCED** tab.
2. Select the **Max Current** tab.
3. Set the value according to the table below.

NOTE:

The maximum current selected, expressed in Amps, determines the maximum charging power that can be delivered by the JuiceBox.

NOTE:

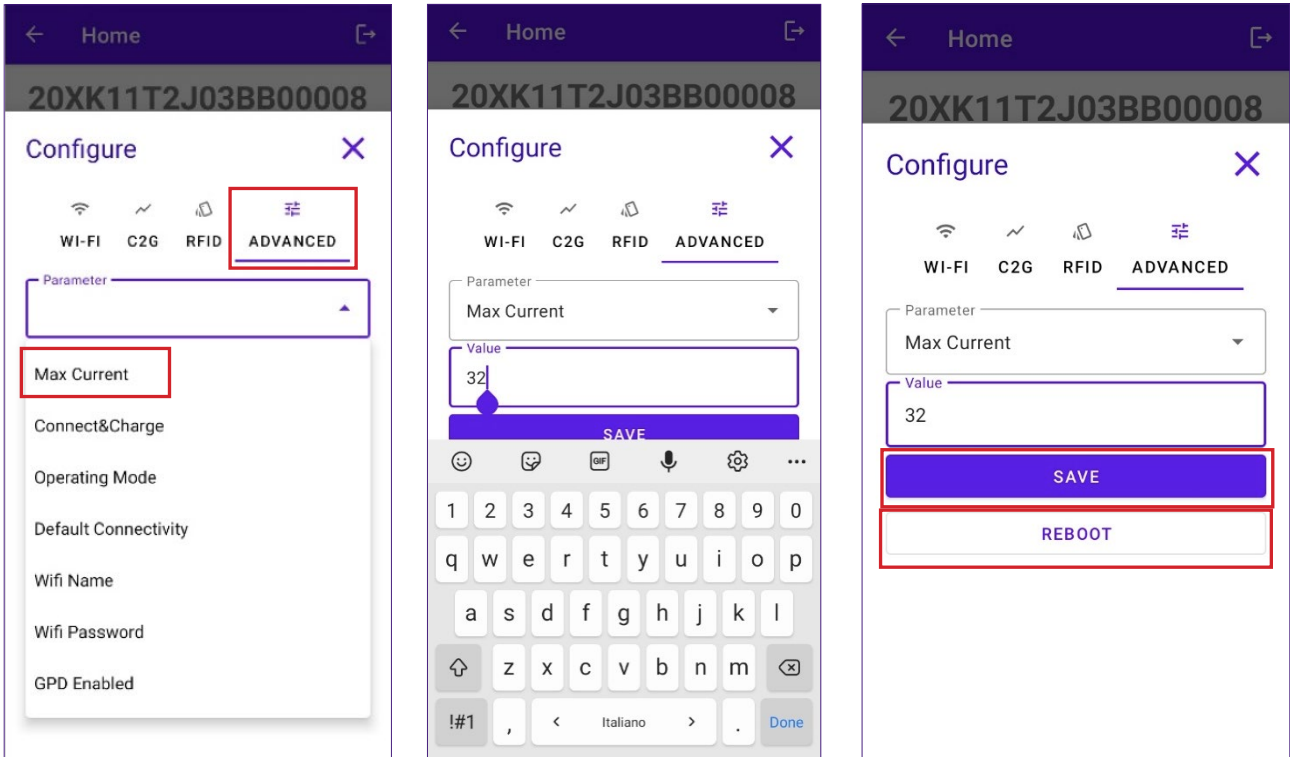
The table provides power ratings corresponding to different current levels (Amperes). You can select any current value between 6 and 32 A.

	Current (Ampere)	6	8	10	12	14	16	18	20	22	24	26	28	30	32
POWER (KW)	1-PH (230 V)	1.4	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.0	5.5	6.0	6.4	6.9	7.3
	3-PH (400 V)	4.1	5.5	6.9	8.3	9.7	11.1	12.4	13.8	15.2	16.6	18.0	19.4	20.7	22.1

IMPORTANT NOTE:

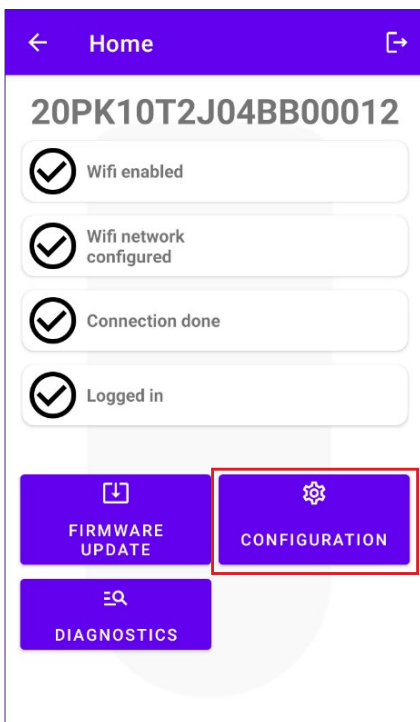
if the JuiceBox has been previously commissioned make sure that the JuiceBox has been first configured in standalone operating mode (see [section 9.4](#) of this manual).

4. Click **SAVE**.
5. Click the **REBOOT** button.

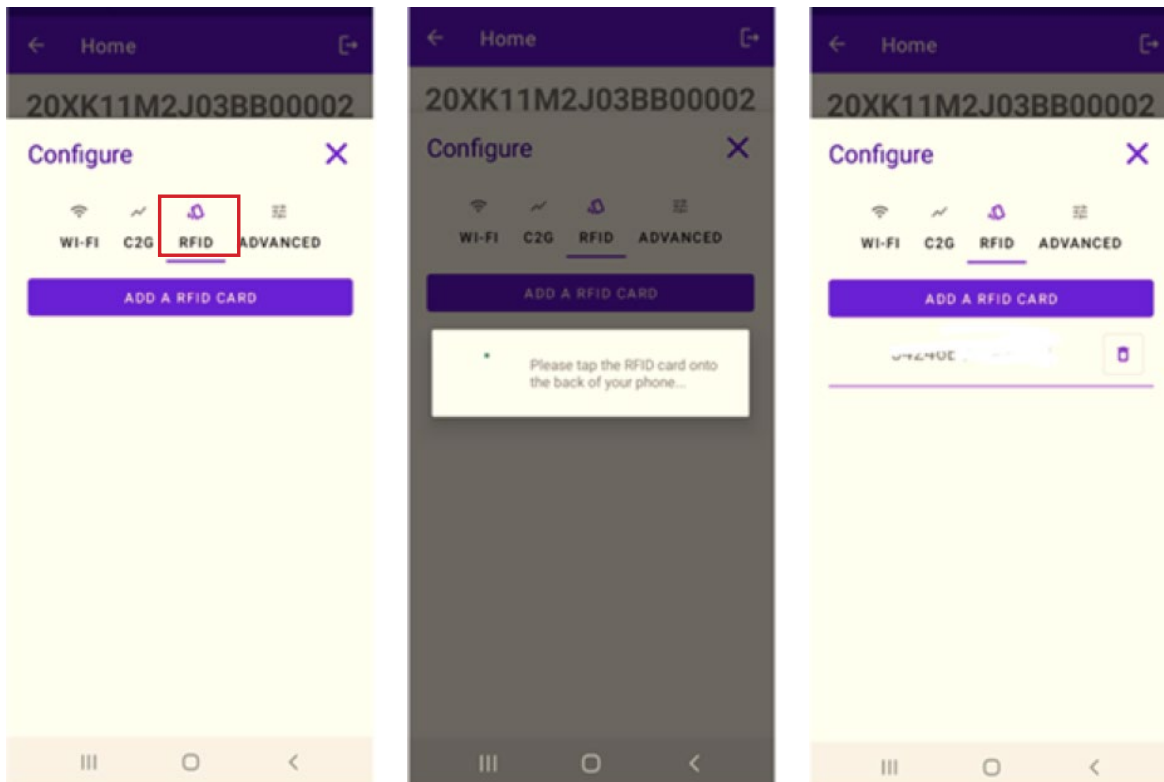


9.5.3 ADDING THE RFID CARD TO WHITELIST

1. Click on **CONFIGURATION** button;



2. Select the **RFID** button.
3. Click the **ADD A RFID CARD** button.
4. Place the RFID card on the back of your phone at the NFC reader on your smartphone.



9.6 Configuration of the JuiceBox in case of installation on the IT network or in absence of neutral

It will be necessary to disable GPD by following the procedure in the next paragraph, if the JuiceBox is installed in one of the following scenarios:

- > Single-phase JuiceBox installed on the IT network.
- > JuiceBox installed on a network without neutral (for example between two phases).

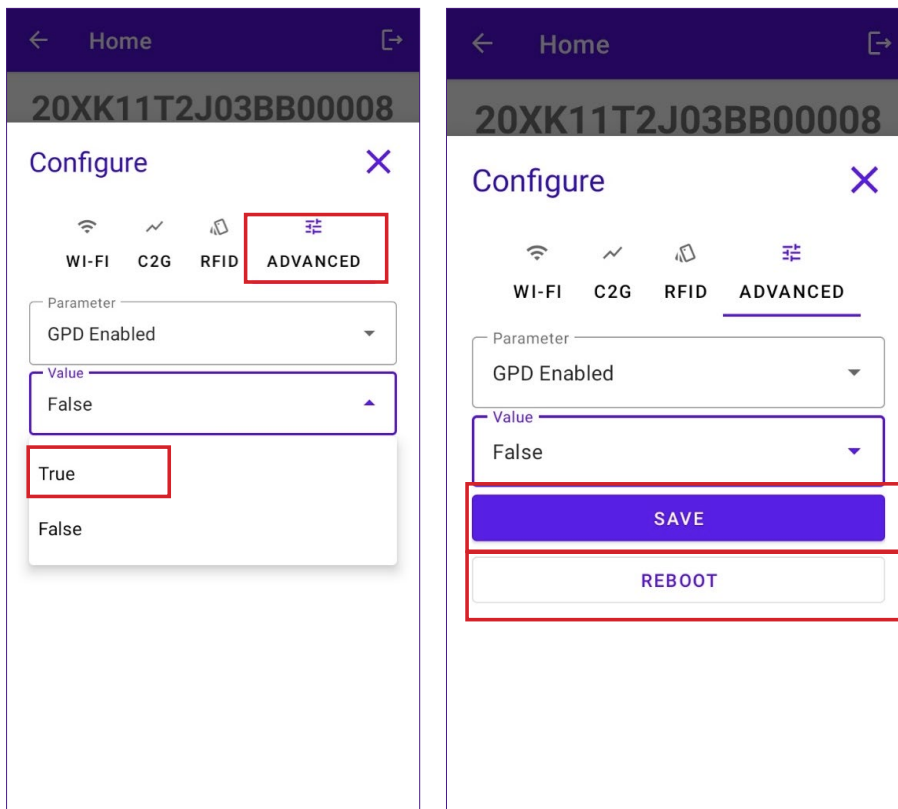
9.7 GPD disabling procedure

NOTE:

This configuration is available only for JB3VUEV02c Firmware version and newer.

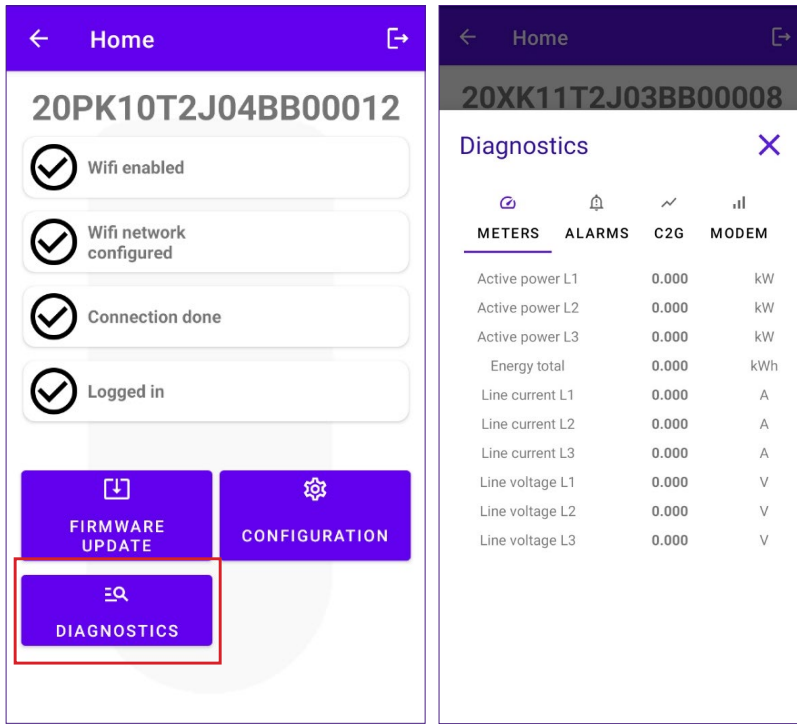
To disable the GPD:

1. Select the **ADVANCED** tab;
2. Select the **GPD Enabled** tab;
3. Set the value to **False**;
4. Click **SAVE**;
5. Click the **REBOOT** button.

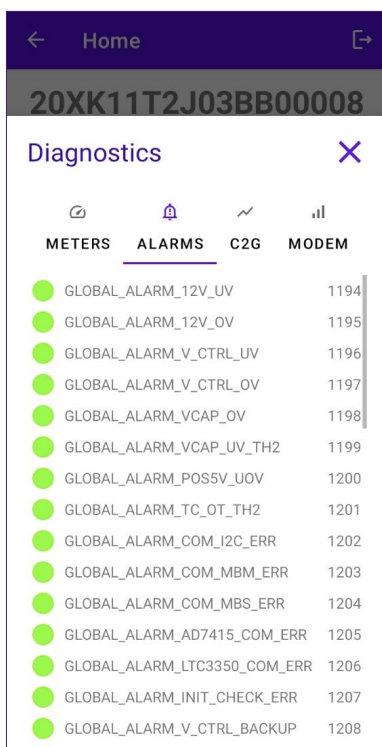


10 Viewing JuiceBox Diagnostics

In the **DIAGNOSTICS** section it's possible to view meter data such as current or power during the charging session.



In the diagnostic section it's possible to view the alarms of the JuiceBox.

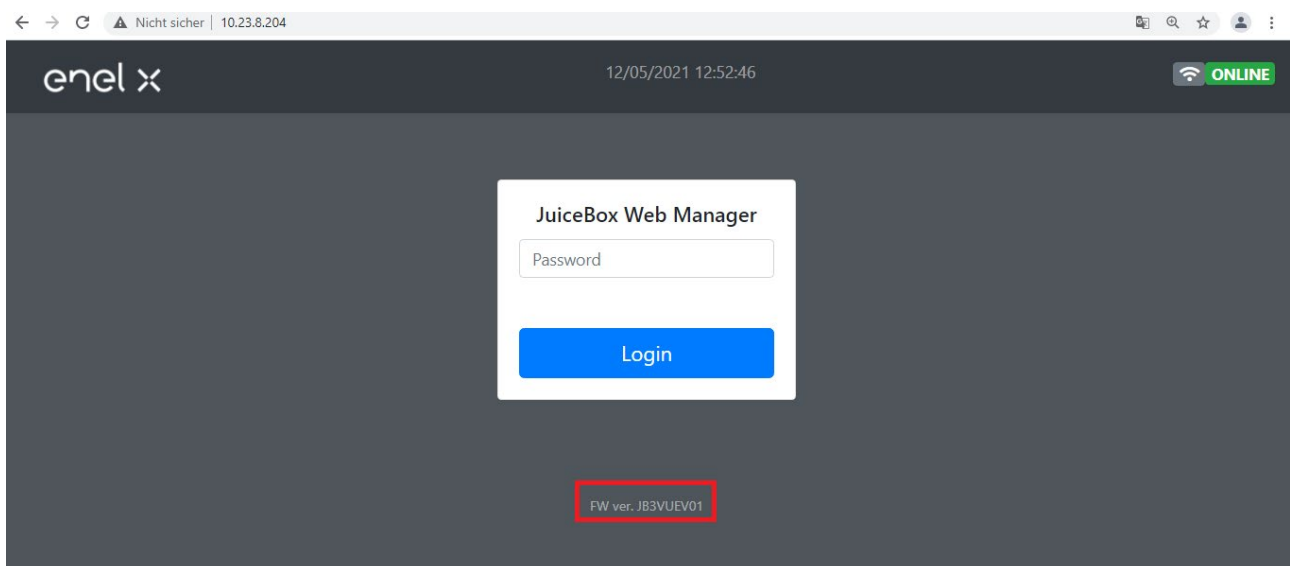


D. JuiceBox Pro & JuiceBox Plus – JuiceBox Web Manager manual

1 Procedure for accessing the Web Manager tool

Provide power to the JuiceBox to turn it on and wait approx. 30 seconds for its WiFi hotspot to activate (the hotspot will activate after a beep sound from the JuiceBox). The hotspot remains active for 1 minute after powering on.

1. Connect via smartphone or PC to the WiFi hotspot **“JuiceBox-###” with ### that corresponds to the last three digits of the JuiceBox’s serial number. Once connected to the WiFi hotspot, the connection remains active for 10 minutes.**
2. Access <http://10.10.10.1> through a browser to use the JuiceBox Web Manager tool.
3. Enter the password **000000** and click **Login**.



NOTE:

The firmware version of the JuiceBox is highlighted in the red box.

2 Procedure for setting the JuiceBox in “standalone” mode in case of lack of connectivity and for commissioning

NOTE:

To see the firmware version, you must connect to the WebManager tool to view the version that appears under the login fields.

“Setting the JuiceBox access mode, power and Supply System” is only available for firmware versions equal or higher than JB3VUEV01a. This section is necessary if JuiceBox are to be commissioned but cannot be connected to the internet due to lack of connectivity. If performing commissioning in the absence of connectivity for firmware versions prior to JB3VUEV01a, it is necessary to configure the JuiceBox in standalone mode through the following procedure:

1. Power the station in a place with cellular connectivity.
2. Contact your Enel X local support: specifying to set the station identified with its “standalone” serial number and requesting to make all the SW updates available.
3. Wait for a reply indicating that the activity is finished.

Following the procedure indicated above, it will be possible to set the parameters indicated in the section **“Setting the JuiceBox access mode, power and Supply System”**.

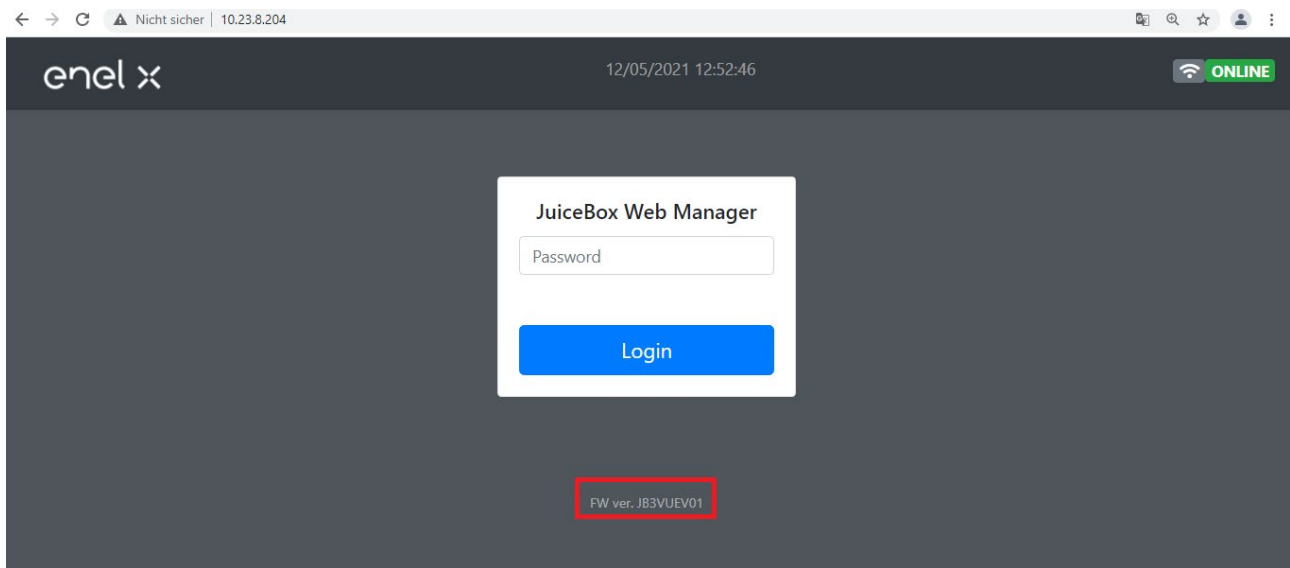
NOTE:

It is necessary to request to put the JuiceBox in standalone mode only when cellular coverage is not possible. The UnlockToCharge function will not be available in this case.

3 Setting the JuiceBox access mode, power, and Supply System

NOTE:

The features described in this paragraph are only available for connected JuiceBox from firmware version JB3VUEV01a. To view the firmware version, you must connect to the WebManager and view the version that appears below the login fields.



Setting the JuiceBox access mode and power is necessary if you do not have connectivity during installation and commissioning. If you have connectivity, setting the access mode and power must be done through the app and therefore it is possible to skip this section.

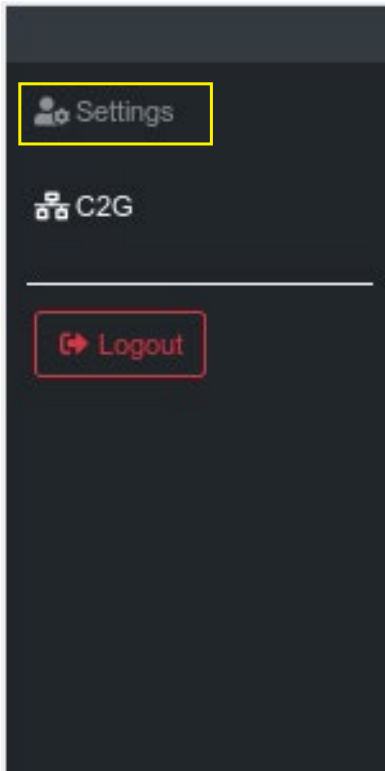
NOTE:

Make sure JuiceBox is updated to the latest version.

NOTE:

If the login screen does not show firmware version JB3VUEV01a (or higher) in the red box, this means that the JuiceBox is not updated to the latest version and therefore it is not possible to change lmax and access mode.

1. Access the Web Manager following **“Procedure for accessing the Web Manager tool”**
2. Select **Settings** from the quick menu on the left of the screen.



3. Access the **System** window (top left) to configure the JuiceBox access mode (plgch), maximum charging current (imax) and the Supply System.

enel x 23/12/2021 13:59:50 ONLINE

Settings WiFi System Whitelist

Save Restart

Name	Variable	Value	New value
Plug and Charge	plgch	On	On
Max current	imax	32	32
Supply System	SupplySystem	None	None

- > JuiceBox access mode (Connect and Charge or Plug and Charge field):
 - > Connect and Charge (or Plug and Charge) On: to start a charge simply connect JuiceBox to the vehicle, without any authentication.
 - > Connect and Charge (or Plug and Charge) Off: to start a charge, it is necessary to use an RFID card associated with the JuiceBox (if the JuiceBox version supports the RFID feature), or to start the charge via the App.

- > Maximum charging current (Max current field): the maximum current selected, expressed in Amperes, determines the maximum charging power that can be delivered by JuiceBox..

NOTE:

The table below provides power ratings corresponding to different current levels (Amperes). You can select any current value between 6 and 32 A.

	Current (Ampere)	6	8	10	12	14	16	18	20	22	24	26	28	30	32
POWER (KW)	1-PH (230 V)	1.4	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.0	5.5	6.0	6.4	6.9	7.3
	3-PH (400 V)	4.1	5.5	6.9	8.3	9.7	11.1	12.4	13.8	15.2	16.6	18.0	19.4	20.7	22.1

NOTE:

When the JuiceBox is commissioned via the app, the current value indicated in the I_{max} parameter of the WebManager is no longer taken into consideration. The current/power value taken into consideration is the lower of the one set in the app, the one set by the ENEL control room, the one selected via JuiceMeter and the JuiceBox rating. If, due to connectivity problems, the JuiceBox is offline, the current value used will be the lower of the one used in the last charge and the one communicated by the JuiceMeter (if C2G is active).

- > Supply System (Supply System field): this configuration must be made in case of the installation of a three-phase JuiceBox on a single-phase or bi-phase supply system.

Set the value to:

- > Monophase" in case of Single-phase supply system.
- > "Biphase" in case of a Bi-phase supply system.

4. When you have finished the changes, press **Save** above the settings configured in the previous point. Restart the device by powering off/on and check that parameters have been saved.

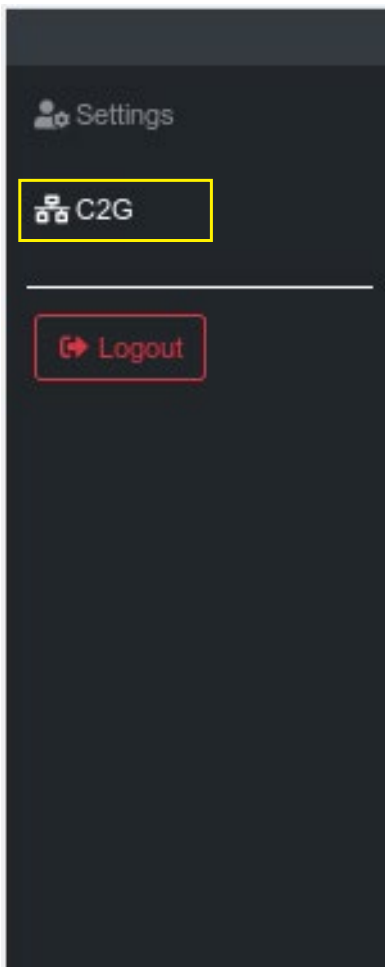
NOTE (VALID FROM FIRMWARE VERSION JB3VUEV01A):

Please note that if there is no connectivity when installing the JuiceBox, there is no need to request that the JuiceBox be set to standalone mode. The standalone mode does not allow use of the JuicePass app and therefore it is not possible to monitor consumption. The JuiceBox works correctly even if it is in connected mode but not commissioned. The maximum current delivered will be that set by the I_{max} parameter. If connectivity is subsequently restored (e.g. via an external antenna), the customer will be able to carry out commissioning via the app.

4 Association of the JuiceBox with JuiceMeter

The association with a JuiceMeter allows the JuiceBox to adapt its power level based on the consumption of other devices connected to the same power line. In this way, it is possible to charge with the maximum available power while avoiding the risk of tripping the meter. Follow the steps below to associate the JuiceMeter with the JuiceBox.

1. Access the Web Manager following **“Procedure for accessing the Web Manager tool”**
2. Select **C2G** from the quick menu on the left of the screen



3. In the fields indicated below, enter the related parameters:

- > **Model:** select JuiceMeter from the drop-down menu.
- > **Contractual Power:** available contractual power of the meter to which the JuiceBox is connected.
- > **MetID:** Enter the serial ID on the meter label.



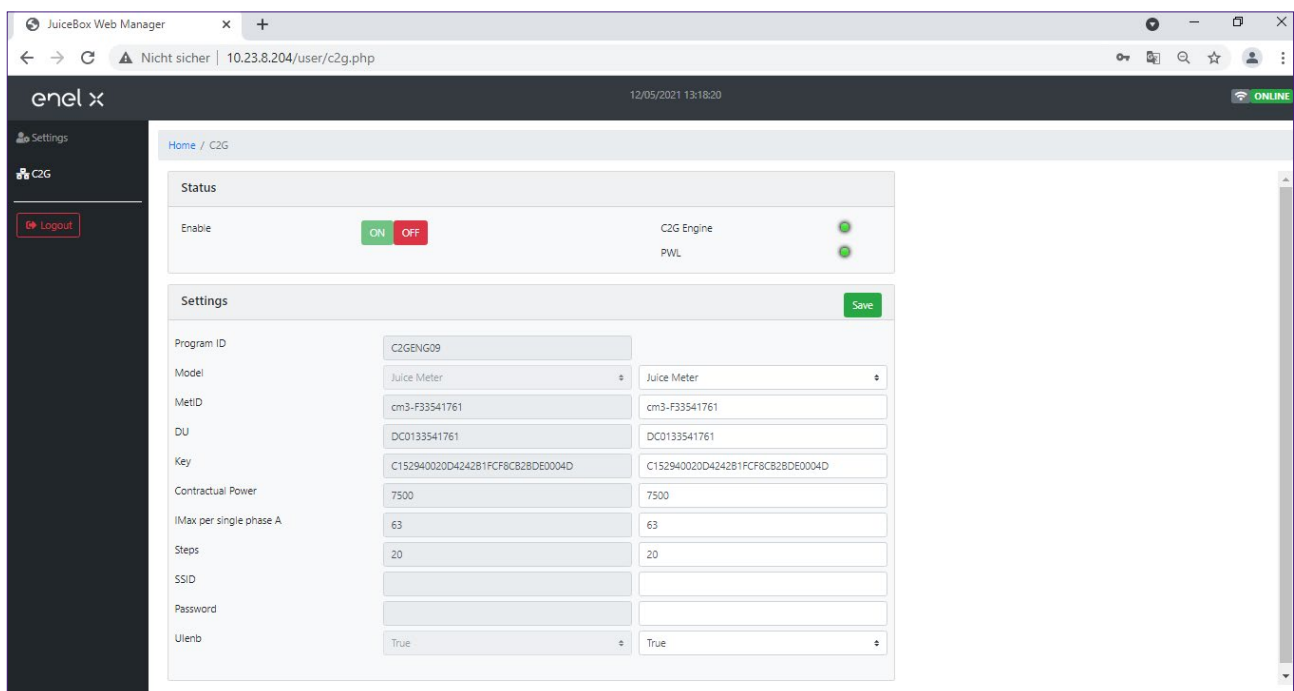
NOTE:

As an alternative to entering the MetID it is possible to enter DU and Key in the respective fields. DU and Key of the JuiceMeter are printed on the label inside the JuiceMeter packaging and are made available to the installer according to the process defined by the product supplier.

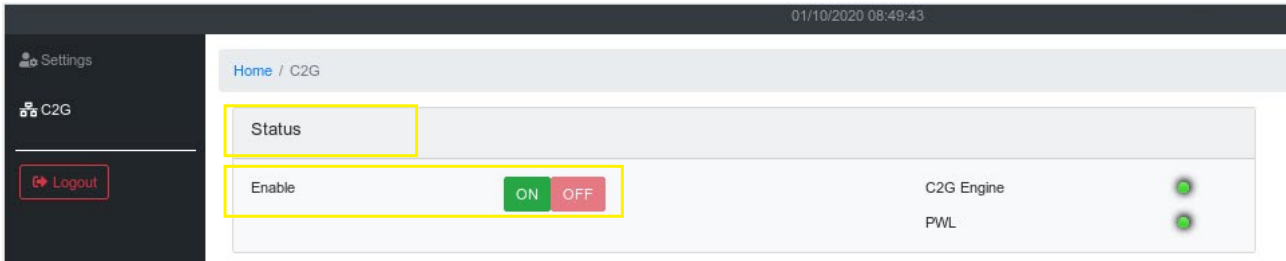
NOTE:

In the Contractual Power field, the unit of measure used is W (Watt).

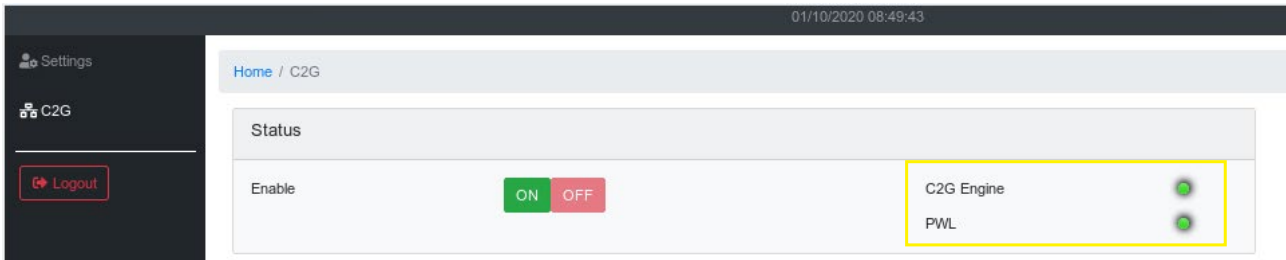
Example: to enter a contractual power available of 3.3 kW, the value 3300 must be entered.



- When you have finished the changes, press the **Save** button above the settings configured in the previous point.
- Make sure the **Enable** field is set to **ON**.



- To verify the correctness of the configuration, make sure that the indicators **C2G Engine** and **PWL** turn green.

**NOTE:**

The C2G Engine indicator updates instantly.

NOTE:

The PWL indicator updates after the first message received from the JuiceMeter. The JuiceMeter sends messages every time the load changes, or every 15 minutes.

NOTE:

In case of JuiceMeter installation: on the JuiceMeter, the lit "service" LED indicates correct operation.

NOTE:

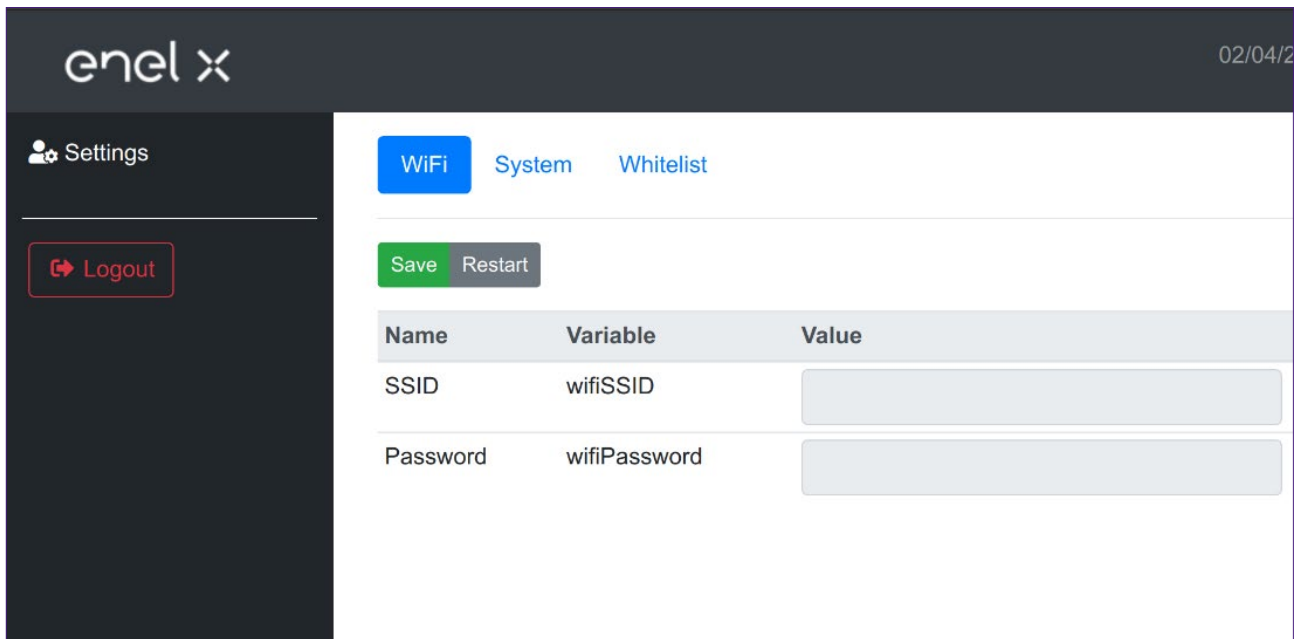
If a JuiceBox V.1 is installed but the JuiceMeter is not installed, the C2G functionality must be disabled.

5 Wi-Fi

NOTE:

A WiFi section appears in the Web Manager tool next to the System tab.

This section cannot be used at the moment.



The screenshot shows the enel x Web Manager interface. The top header displays the enel x logo and the date 02/04/2024. The left sidebar contains a 'Settings' menu and a 'Logout' button. The main content area features three tabs: 'WiFi' (selected), 'System', and 'Whitelist'. Below the tabs are 'Save' and 'Restart' buttons. A table with three columns: 'Name', 'Variable', and 'Value' is displayed. The table contains two rows: 'SSID' with variable 'wifiSSID' and 'Password' with variable 'wifiPassword'. Each row has an empty input field for the value.

Name	Variable	Value
SSID	wifiSSID	<input type="text"/>
Password	wifiPassword	<input type="text"/>

E. JuiceBox Pro & JuiceBox Plus – Procedure for installing the external protection release solution for JuiceBox with control board

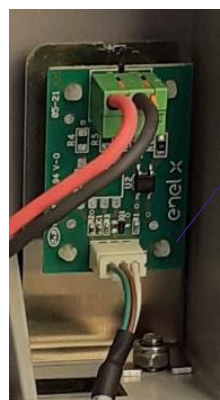
1 Introduction

This procedure must be followed only in case a JuiceBox cable version installed in Italy or in Holland or a JuiceBox installed according to "EV ready" technical requirements.

2 Procedure for installing the external protection release solution



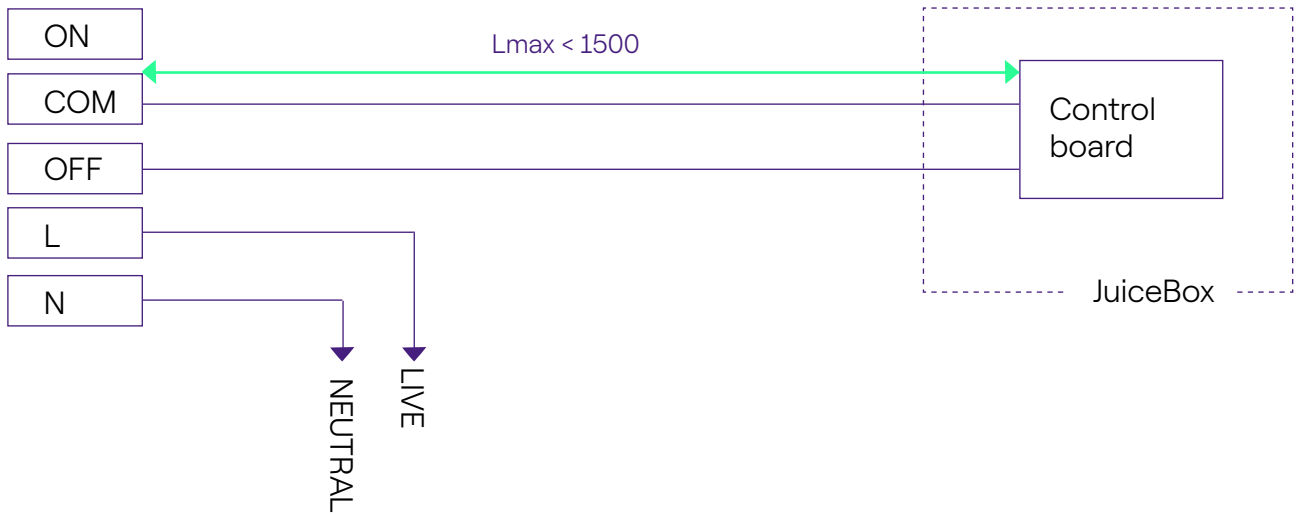
Remote control BASIC AC 230V



Connection cables
for motor control

Control board

1. Pay particular attention to the safety instructions and warnings in the **5ST3054** "Basic AC 230V Remote Control" product manual..
2. Proceed with the assembly of component **5ST3054** "Basic AC 230V Remote Control" as indicated in the installation manual of the component by coupling it with the magneto-thermic switch:
 - a. through adapter **5ST38202** in case of 4P switch.
 - b. through adapter **5ST38206** in case of 2P switch.
3. Proceed with product wiring by connecting the 230 VAC single-phase power supply to the "L" and "N" terminals and the 1-1.5mm² connection cables coming out of the control board to the "OFF" and "COM" terminals of the terminal block of the **5ST3054** component. The maximum length of the connecting cables between the control board and the component's terminal block is 1500 m.



NOTE:

The power supply of the motor must be taken downstream of the protections dedicated to the JuiceBox.

4. Set the switch on component **5ST3054** "Basic AC 230V Remote Control" to the "RC ON" position.

3 Composition of Siemens Protection Kits

1. JuiceBox socket version 3.7 kW

CODE	COMPONENT
5SL42207	Magneto-thermic switch 10 kA, 2-pole, C-curve, 20A
5SM23236	Pure Residual Current Device Id=0.03 A, 2-pole, type A, 40 A

2. JuiceBox cable version and JuiceBox socket version with control board 3.7 kW

CODE	COMPONENT
5SL42207	Magneto-thermic switch 10 kA, 2-pole, C-curve, 20A
5SM23236	Pure Residual Current Device Id=0.03 A, 2-pole, type A, 40 A
5ST3054	Modular motor control BASIC version for 5SY, 5SL
5ST38206	Motor control adapter for 5SL 2P

3. JuiceBox socket version 7.4 kW

CODE	COMPONENT
5SL42407	Magneto-thermic switch 10 kA, 2-pole, C-curve, 40A
5SM23236	Pure Residual Current Device Id=0.03 A, 2-pole, type A, 40 A

4. JuiceBox cable version and JuiceBox socket version with control board 7.4 kW

CODE	COMPONENT
5SL42407	Magneto-thermic switch 10 kA, 2-pole, C-curve, 40A
5SM23236	Pure Residual Current Device Id=0.03 A, 2-pole, type A, 40 A

5ST3054	Modular motor control BASIC version for 5SY, 5SL
5ST38206	Motor control adapter for 5SL 2P

5. JuiceBox socket version 22 kW

CODE	COMPONENT
5SL44407	Magnetothermic switch 10 kA, 4-pole, C-curve, 40A
5SM23436	Pure Residual Current Device Id=0.03 A, 4-pole, type A, 40 A

6. JuiceBox cable version and JuiceBox socket version with control board 22 kW

CODE	COMPONENT
5SL44407	Magnetothermic switch 10 kA, 4-pole, C-curve, 40A
5SM23436	Pure Residual Current Device Id=0.03 A, 4-pole, type A, 40 A
5ST3054	Modular motor control BASIC version for 5SY, 5SL
5ST38207	Motor control adapter for 5SL 4P

F. JuiceBox Pro & JuiceBox Plus – HW GPD Deactivation Procedure

1 GPD Deactivation Procedure



This procedure must be carried out with mains turned off and with the JuiceBox disconnected from any kind of power supply!

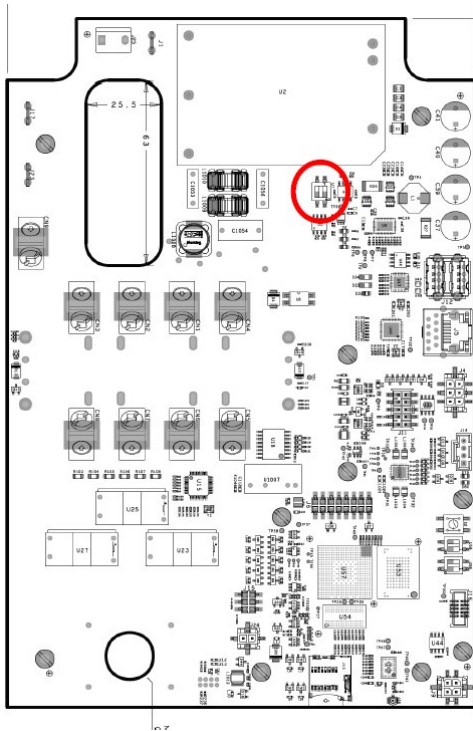


The procedure must be carried out with the utmost caution, taking care not to damage any internal component of the device.

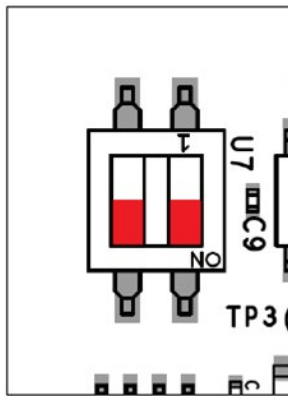
1. Take a picture before opening.
2. Open the JuiceBox (top cover) by removing the 4 Allen screws shown in the photo.



3. Locate the GPD on the board (See figure).



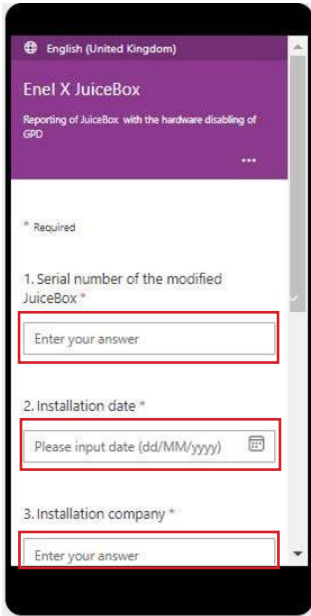
4. Take a picture before the switch is changed.
5. Bring the switch to the ON position, i.e. GPD deactivated, using a small screwdriver.



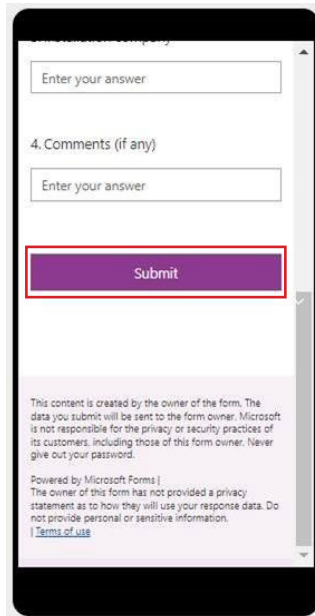
6. Take a picture after the switch is changed.
7. Before assembly, make sure that the Scame cables (orange circle in photo) and the yellow-green ground cable (yellow circle in photo) are not damaged when reassembling the top cover.
8. Take a picture once the JuiceBox is reassembled.
9. Photos must be included in the final photo report.
10. Send to Enel X the serial number of the JuiceBox on which the change has been made through the following link <https://forms.office.com/r/75BuVKw5wB> or by scanning with your smartphone the following QR code:



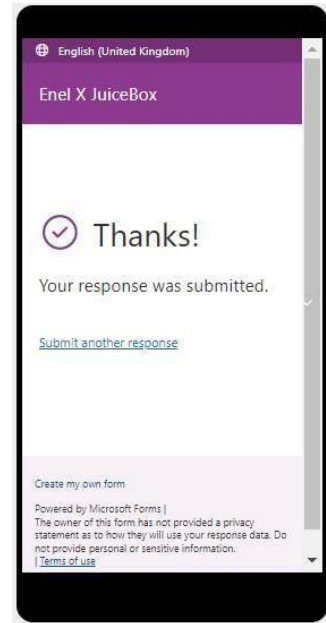
Follow the procedure on the webpage:



Fill in the required fields



Press the Send button



Make sure the response is sent and this page is shown

G. JuiceBox Pro & JuiceBox Plus – What-if Manual – Special installation cases

1 Purpose of the Manual and Method

This **What-if manual** brings together the most frequent particular cases and is a useful aid for quick and intuitive orientation towards the most suitable solution. For each special case, the best procedure to follow, the additional material required, the relevant section of the installation manual or its annex are indicated.

The installation manual, the installer checklist, the JuiceBox Web Manager procedure, the JuicePass app user procedure, the JB4installers app, the GPD deactivation procedure, the training sessions, the video tutorials and any other official document provided by Enel X remain the main and indispensable source of information even for standard cases.

This **What-if manual** is based on **two simple logical steps**:

- > **The verification of a context condition** (e.g. no connection) useful to identify the particular case.
- > **A binary question** (the only possible answers are Yes or No) to identify the solution.

Then the arrows will indicate which operations to carry out, which manual/document to consult for details, which additional tools or materials to use.

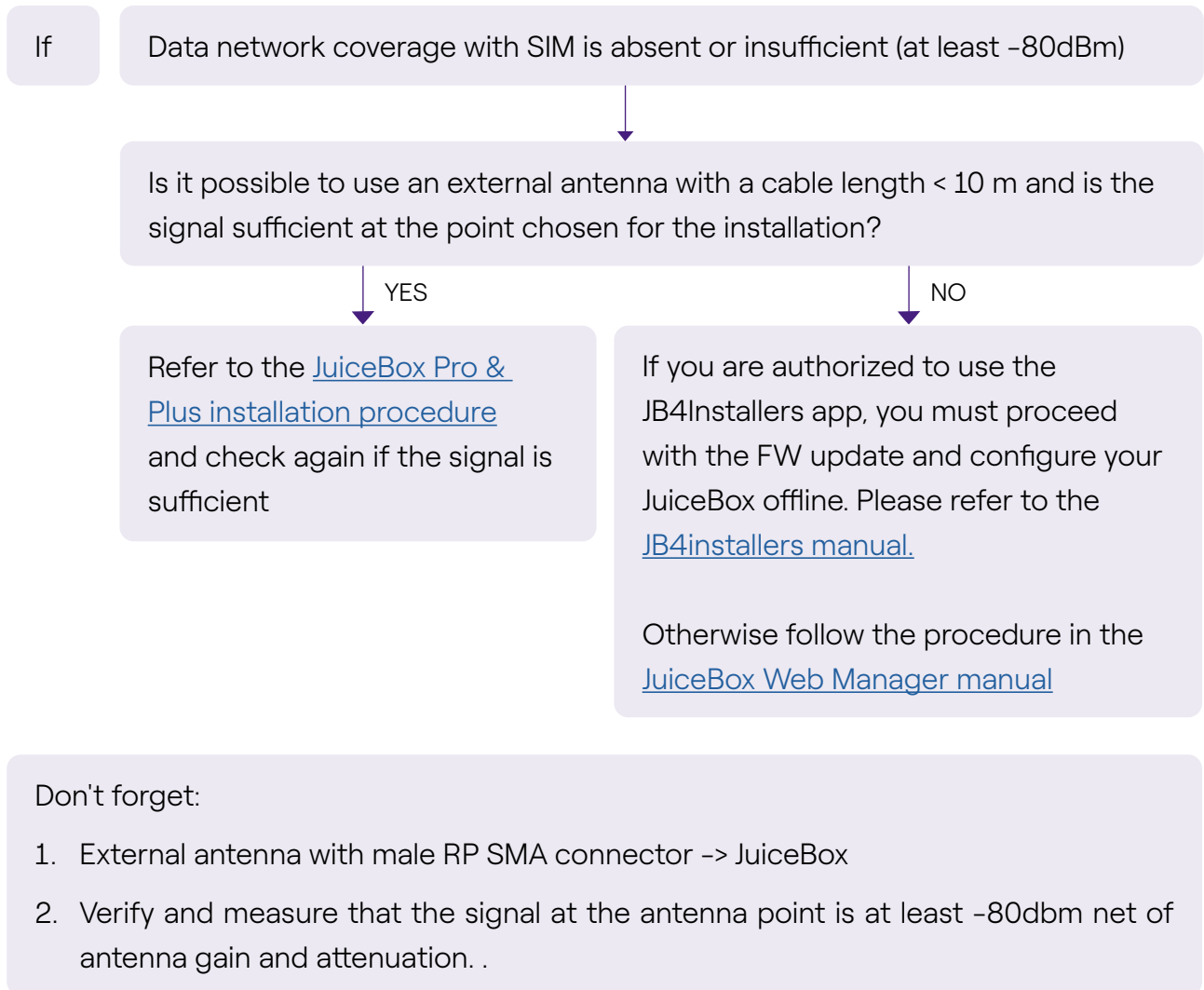
2 List of Special Installation Cases

The following are the contextual conditions that determine a special installation case.

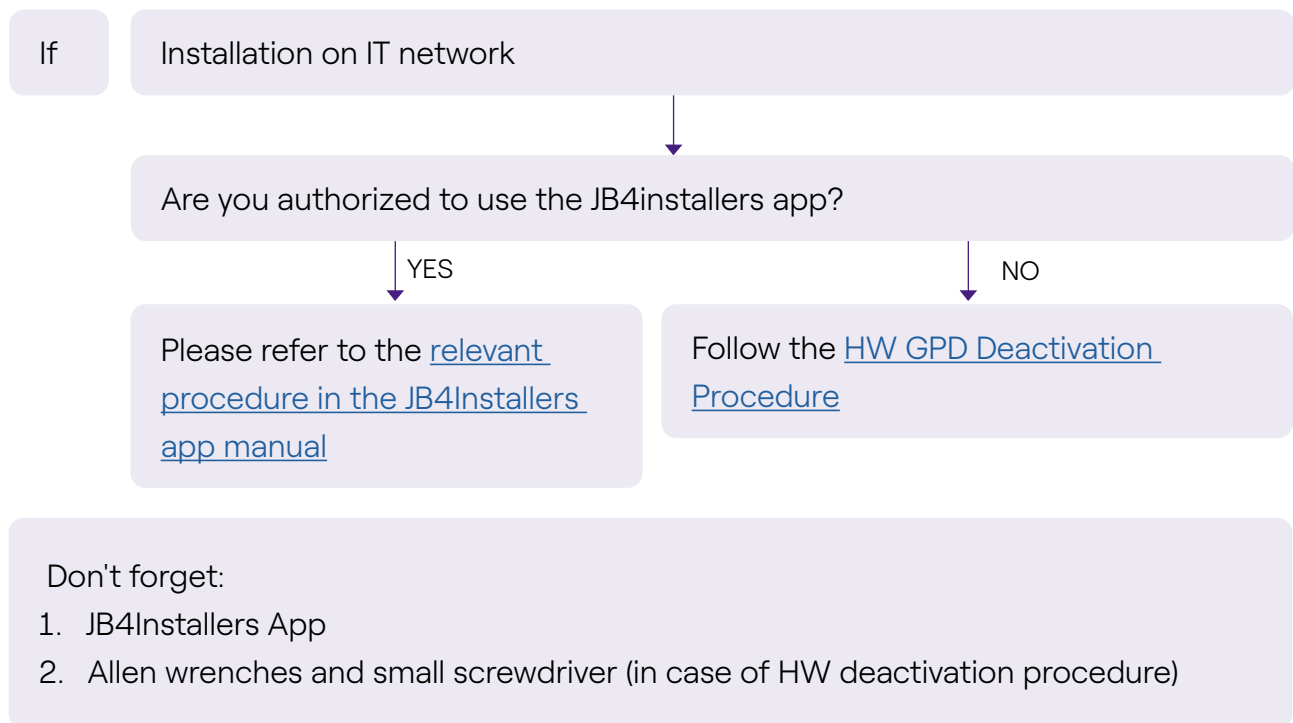
1. Data network with SIM is insufficient (valid for JuiceBox Plus Cellular and JuiceBox Pro Cellular).
2. Single-phase IT power grid.
3. Customer smartphone connectivity not adequate.
4. Lockable garage with shutter (or other type) that weakens signal.
5. Single-phase TT/TN power grid.
6. Three-phase TT/TN power grid.
7. Single-phase TT electrical network without neutral.
8. JuiceBox with control board in Italy and in Holland.
9. EV Ready installation.
10. JuiceBox with Load Optimization Pro (without photovoltaics).
11. JuiceBox with Load Optimization Pro (with photovoltaics).
12. Customer's vehicle not available during installation.
13. Renault Zoe, Smart 22 kW, Twingo Electric.
14. Load Optimization Pro with transformer.

The relevant procedure to be followed for each of the special cases of installation is described in the following paragraphs.

2.1 Data network signal with SIM is insufficient



2.2 Single-phase IT power grid



2.3 Customer smartphone connectivity not adequate

If

JuiceBox has sufficient connectivity, but the smartphone does not have sufficient connectivity

Is there an area with good smartphone connectivity in the immediate vicinity of the JuiceBox?

↓ YES

The Customer, with the support of the installer, will be able to proceed with the commissioning of the JuiceBox through its serial number and the JuicePass app, configuring the access mode and the maximum current (see the [JuiceBox commissioning through JuicePass](#) paragraph in the installation manual). The Customer will later be able to configure the access mode and maximum charging power as desired.

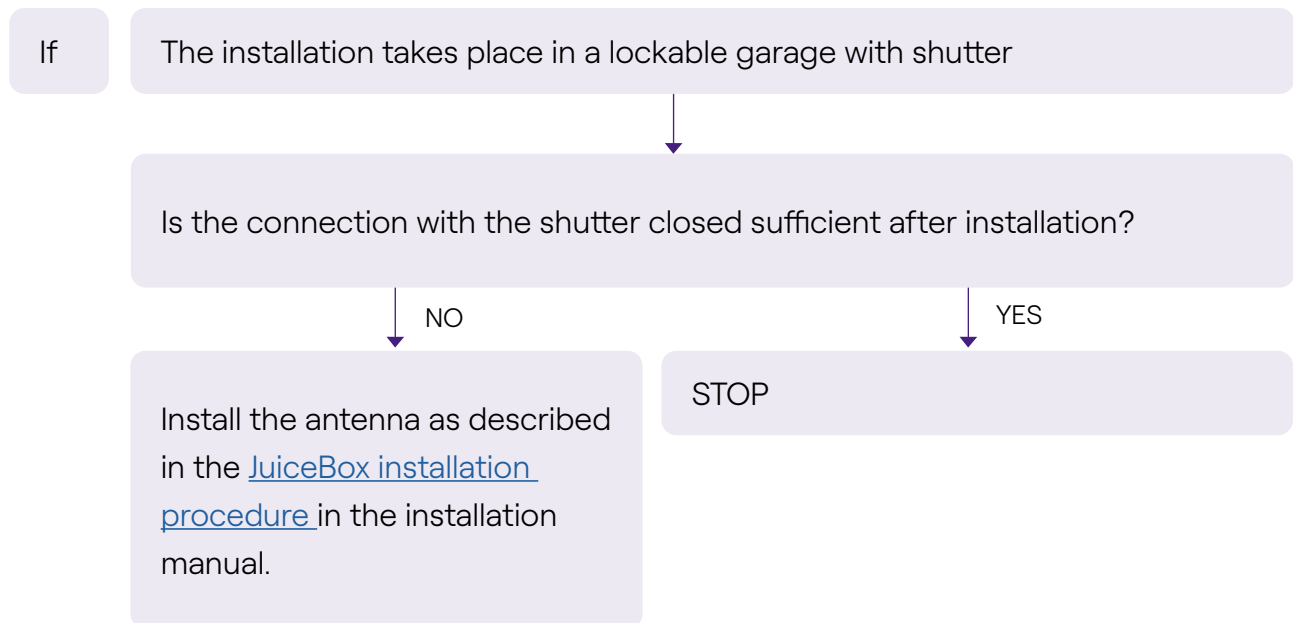
↓ NO

Commission the JuiceBox using its serial number and JuicePass app in an area away from the JuiceBox where there is connectivity. In this case, charging tests can be performed in Connect&Charge at maximum current. The Customer will later be able to configure the access mode and maximum charging power as desired. If the Customer's smartphone does not have connectivity in the immediate vicinity of the JuiceBox, the Customer will not be able to start charging from the app, but only by RFID card or in Connect&Charge mode.

Don't forget:

1. Make sure you can move to an area covered by data connection
2. JuicePass App
3. JuiceBox serial number

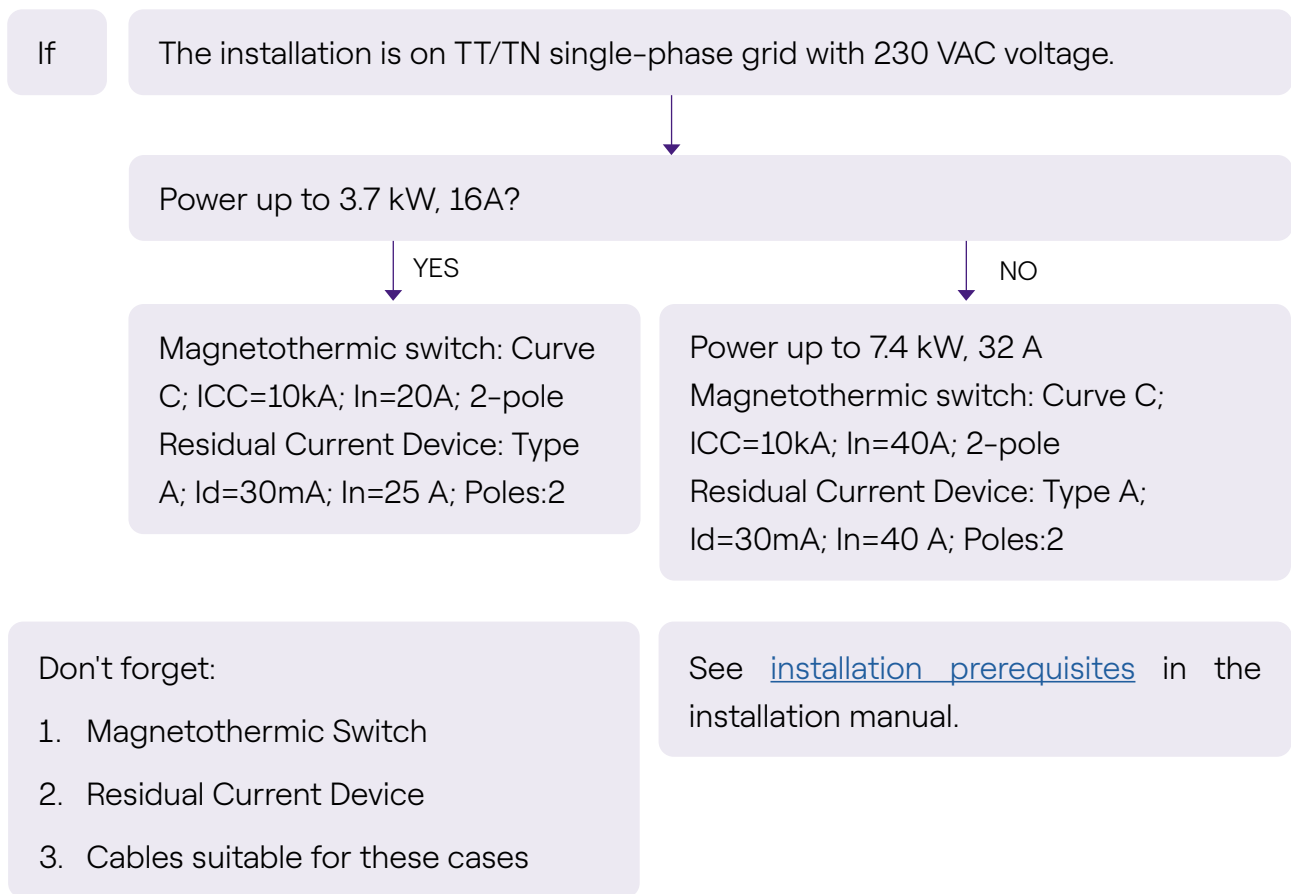
2.4 Lockable garage with shutter (or other type) that weakens signal



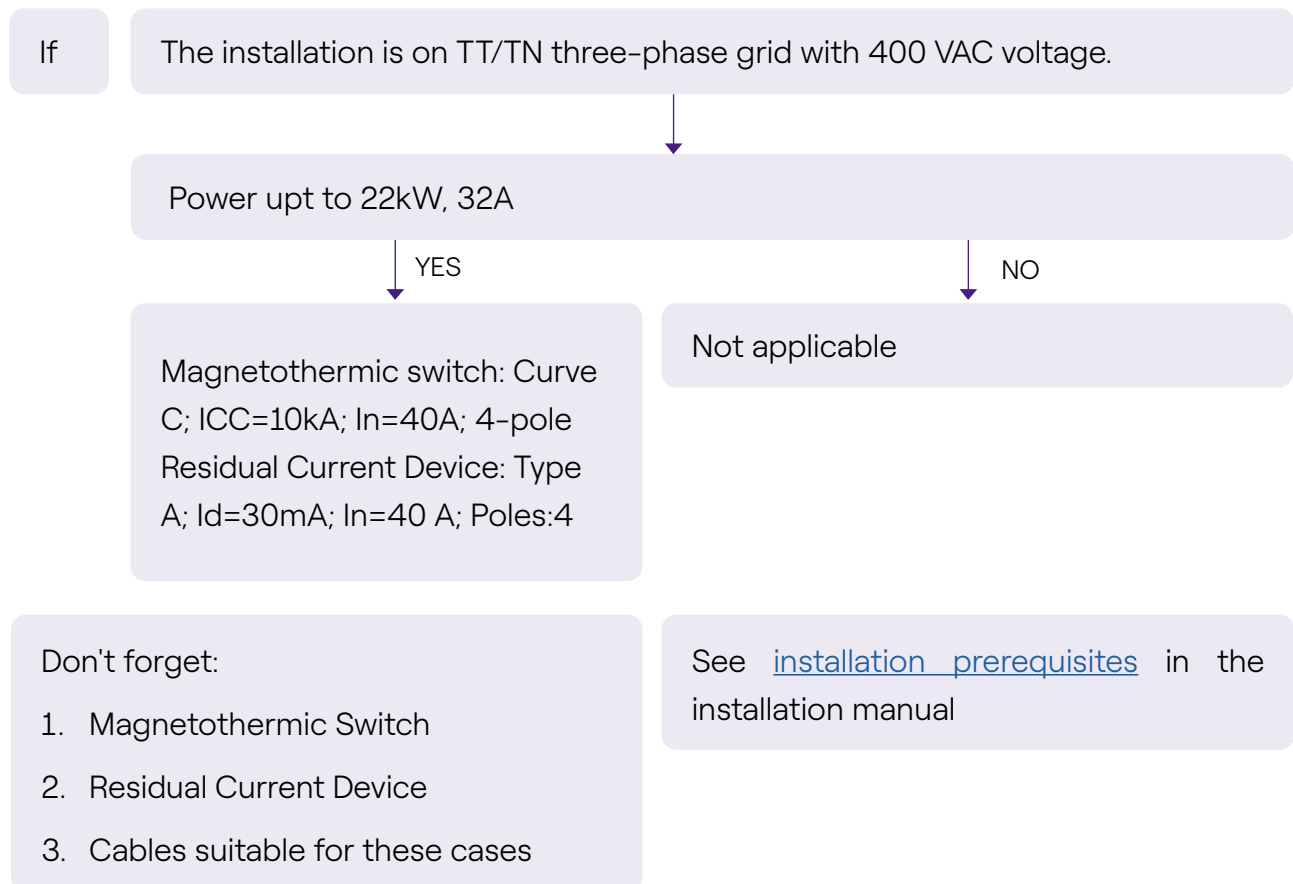
Don't forget:

1. Follow the steps for the no coverage and antenna installation procedure

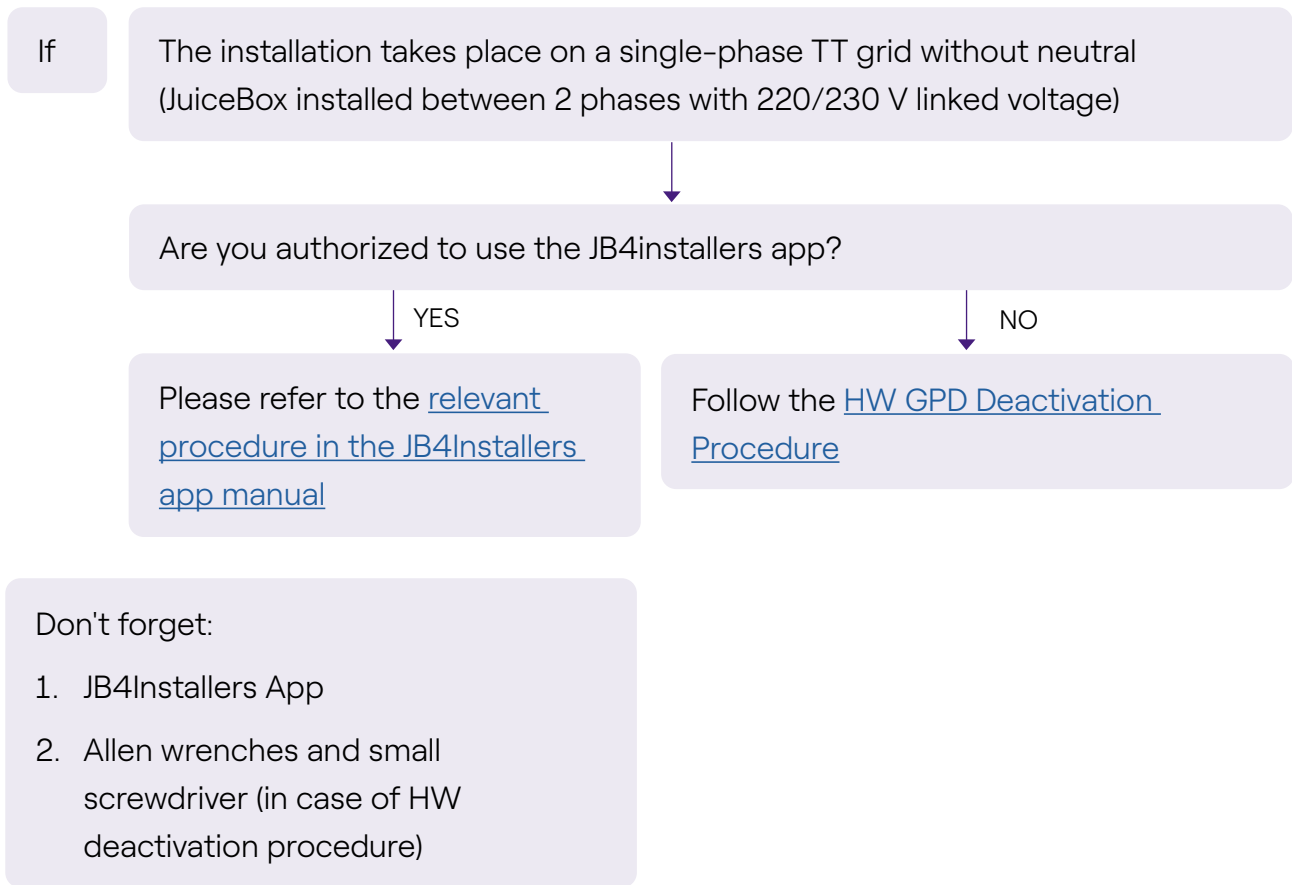
2.5 Single-phase TT/TN power grid



2.6 Three-phase TT/TN power grid



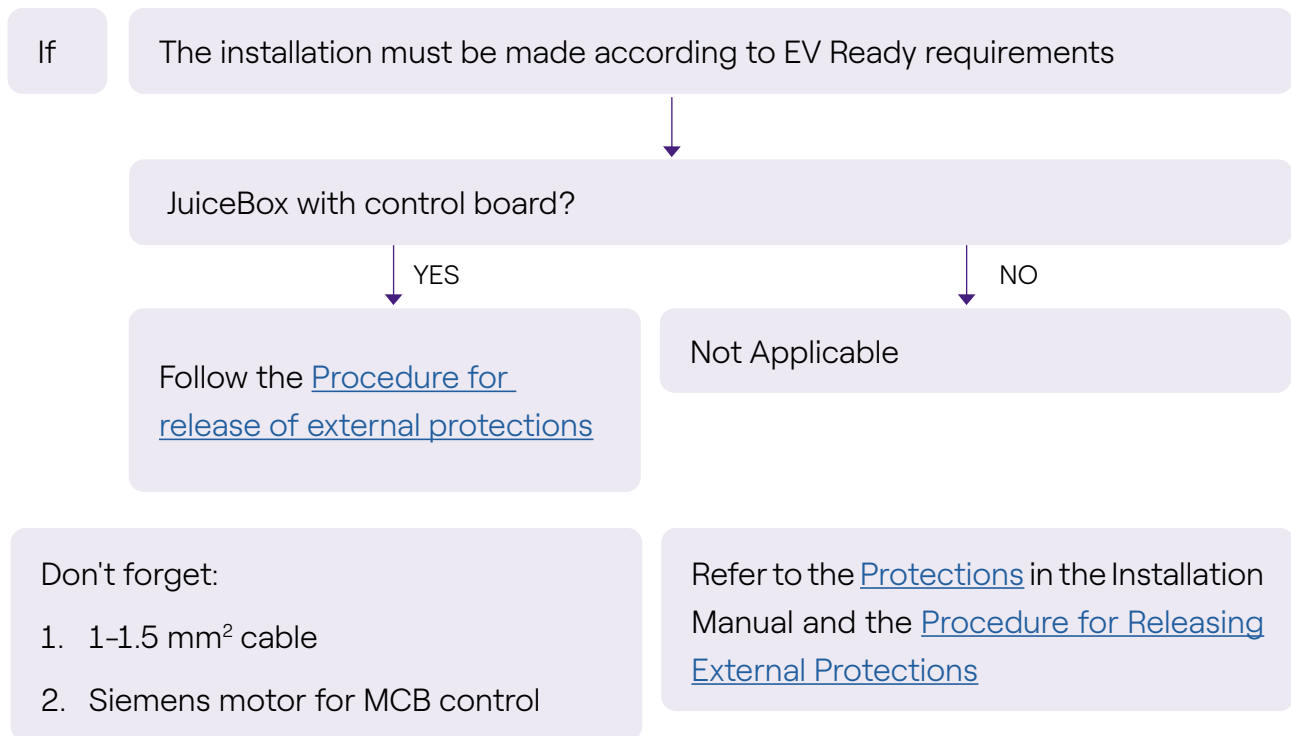
2.7 Single-phase TT electrical grid without neutral



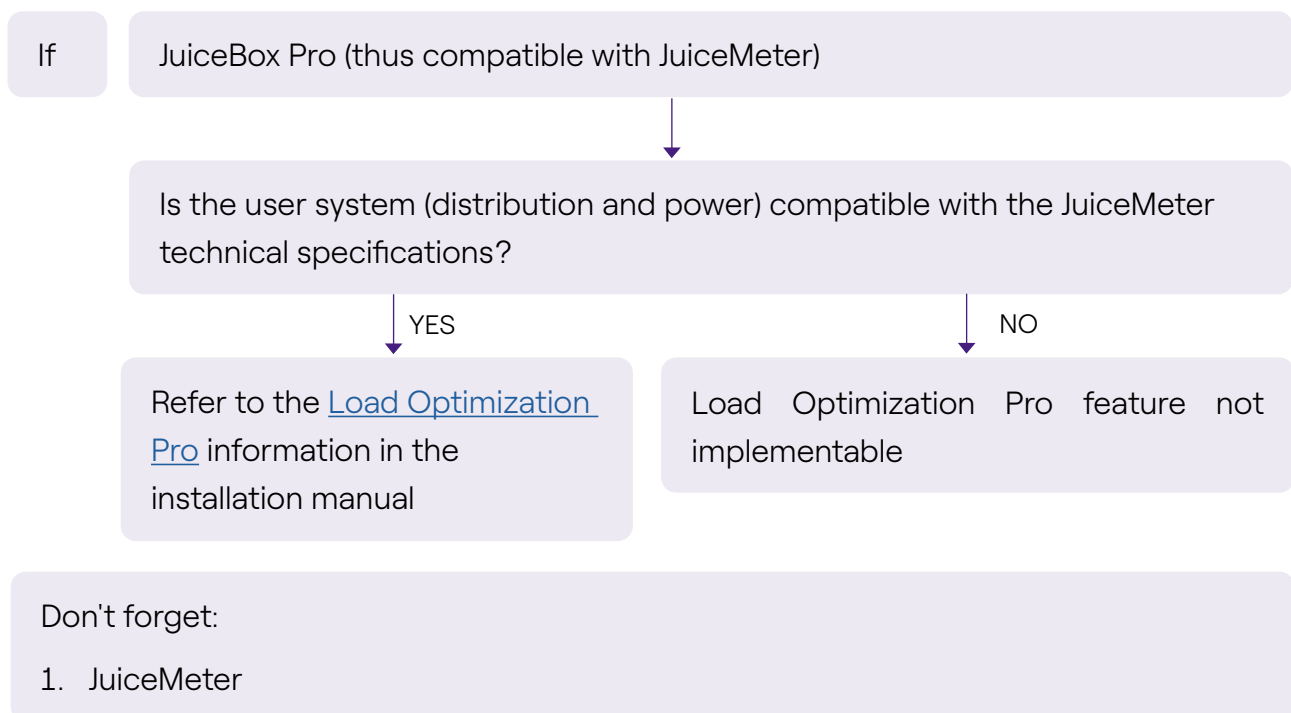
2.8 JuiceBox with control board in Italy and in Holland



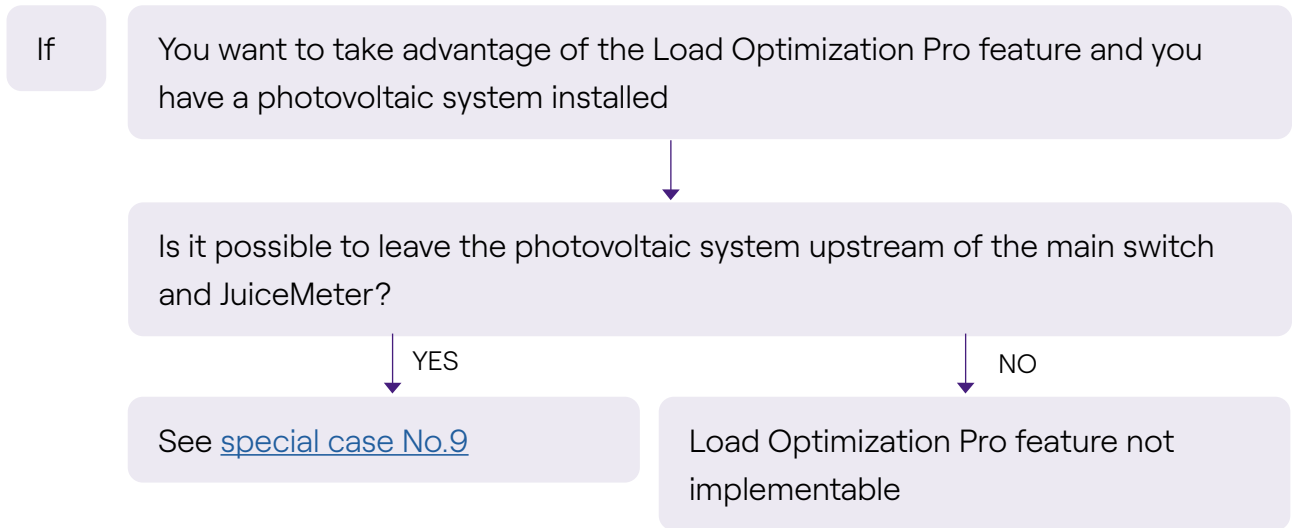
2.9 EV ready Installation



2.10 JuiceBox with Load Optimization Pro (without photovoltaics)



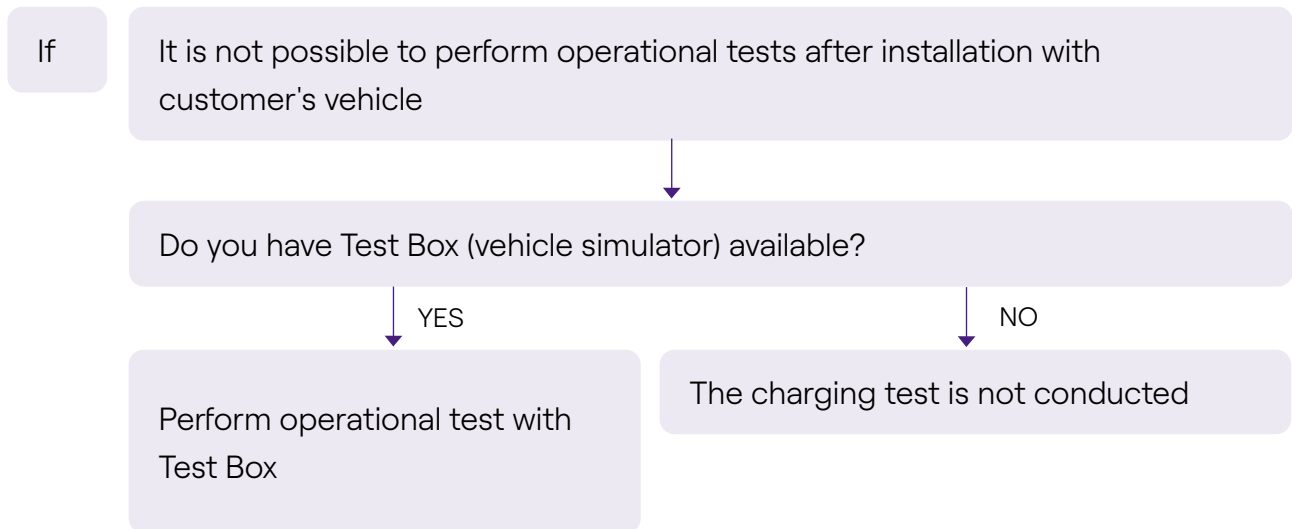
2.11 JuiceBox with Load Optimization Pro (with photovoltaics)



Don't forget:

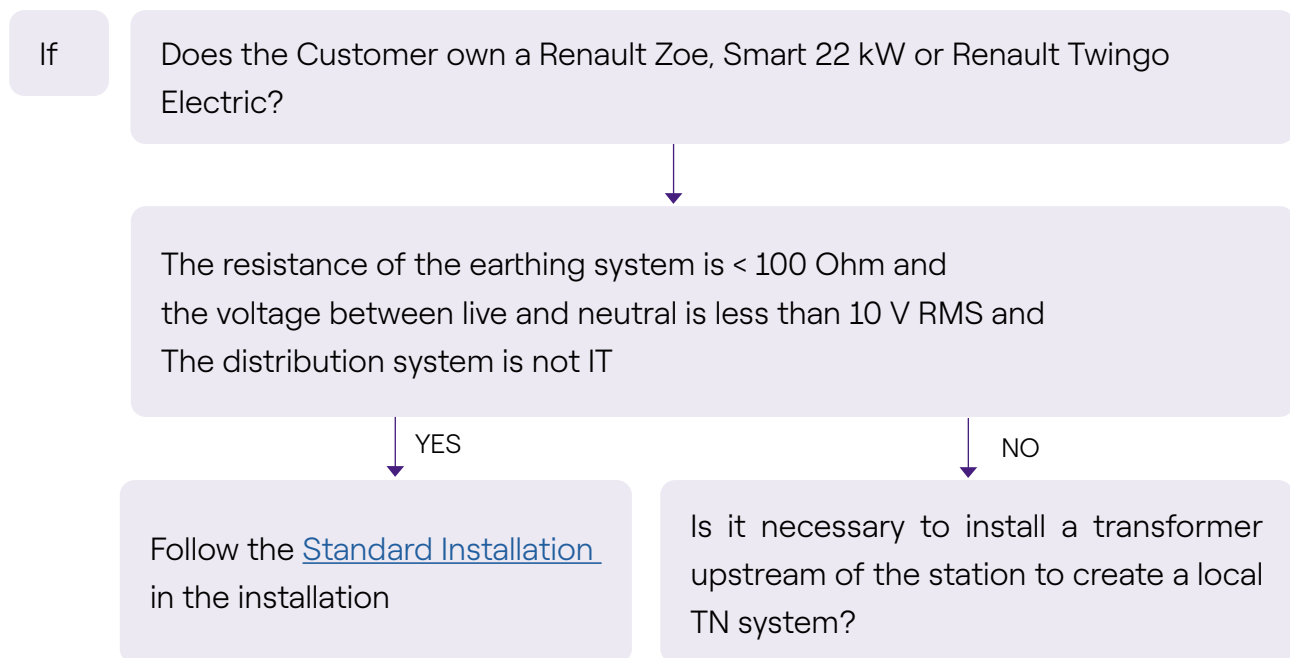
1. JuiceMeter

2.12 Customer's vehicle not available during installation

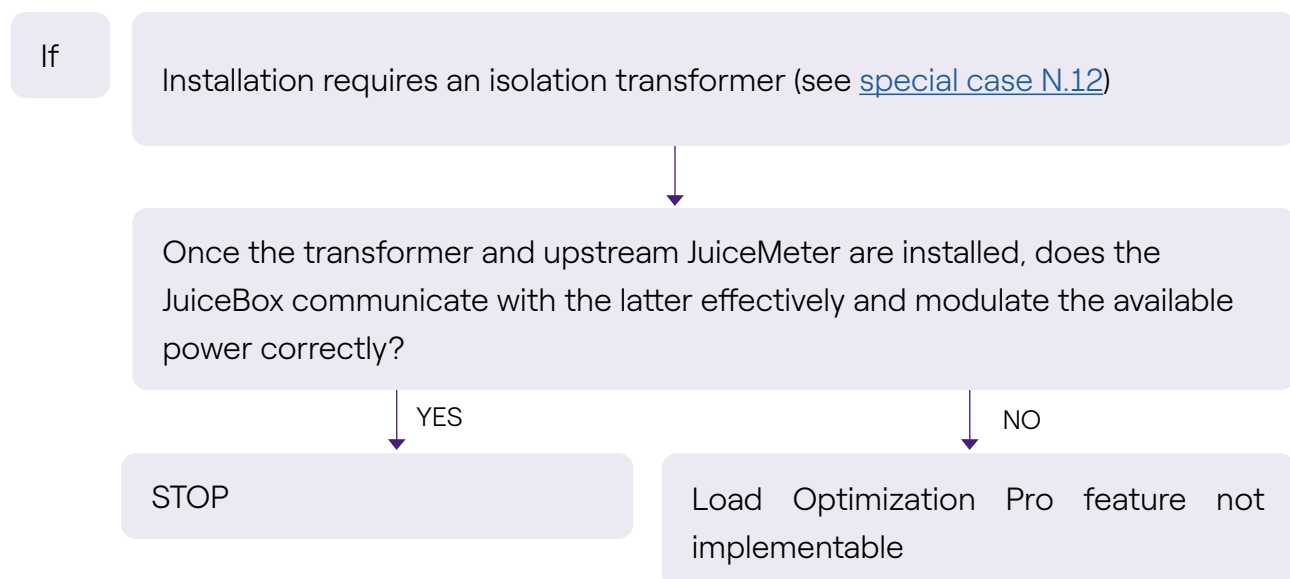


See the [Charging Test](#) section of the installation manual

2.13 Renault Zoe, Smart 22 kW, Twingo Electric



2.14 Load Optimization Pro with transformer



H. JuiceBox Pro & JuiceBox Plus – Installer checklist

1 Installer checklist example

JUICEBOX - INSTALLER CHECKLIST

Customer	Surname and Name:	Street _____	
	Date:	N°__ ZIP_____	City_____
Installer	Company Identifier:	Technician:	
JuiceBox Power	Single-phase	<input type="checkbox"/> up to 3,7 kW	<input type="checkbox"/> up to 7,4 kW
	Three-phase	<input type="checkbox"/> up to 22 kW	

CHECK PRODUCT INSTALLABILITY

ID	CHECK	RESULT	DETAILS AND NOTES
7A	Is sufficient wall space available for installation (L > 50 cm; H > 70 cm)?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, skip to the next question > If NO, not installable
8A	Is the installation wall stable and able to support the device?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, skip to the next question > If NO, not installable
10A	The place chosen for the installation has a Wifi Signal or a sufficient signal (-80 dBm) to connect the JuiceBox via Cellular connectivity (available only for Cellular versions) online.	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, skip to question 13A > If NO, skip to the next question
11A	<p>For Cellular versions: Could the installation of an external antenna guarantee a sufficient signal?</p> <p>NOTE: The maximum length of the external antenna cable to be considered is 10 mt. If there is no place where the antenna with this length can be installed, it will not be installed and the connectivity of the JuiceBox will not be guaranteed.</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, arrange for antenna and skip to question 13A <p>NOTE: If even after the installation of the antenna the signal is not sufficient, the only adoptable solution will be the one indicated in the question 12A</p> <ul style="list-style-type: none"> > If NO, skip to the next question.

<p>12A</p>	<p>Is the JuiceBox used exclusively by the customer?</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<p>> If YES, configurable in Connect&Charge. Skip to the next question.</p> <p>NOTE: In this case the JuiceBox will not be connected so it will not be updatable, will not send diagnostics, and will not be manageable via JuicePass app.</p> <p>> If NO, not installable</p>
<p>13A</p>	<p>The customer has a vehicle that requires the presence of the neutral to enable charging (e.g., Renault Zoe, Smart at 22 kW)</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<p>> If YES, please specify the car model in detail and skip to the next question.</p> <p>> If NO, skip to question 16A</p>
<p>14A</p>	<p>Does the utility actually have the neutral available and is grounded?</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<p>> If YES, skip to question 16A</p> <p>> If NO, it may be necessary to install additional components (e.g. transformer and additional supplies) upstream of the JuiceBox at the customer's expense with a cost of (___€) . Skip to the next question</p>
<p>19A</p>	<p>Was the JuiceBox sold to the customer with the JuiceMeter (Load Optimization Pro feature)? (Functionality of dynamic modulation of the power supplied by JuiceBox according to the power available on the electricity supply)</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<p>> If YES, skip to the next question</p> <p>> If NO, skip to question 23A</p>
<p>20A</p>	<p>The user's system does NOT have a photovoltaic system.</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<p>> If YES (no PV is present), skip to the next question</p> <p>> If NO, the JuiceMeter must be installed downstream of the photovoltaic and upstream of all loads. Skip to the next question.</p>

21A	The distance between the main switchboard where the JuiceMeter is located and the JuiceBox is \leq 50 m	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, skip to the next question > If NO, JuiceMeter not installable, skip to question 23A 														
22A	Is there enough room in the main switchboard to accommodate the JuiceMeter?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, please provide the JuiceMeter accessory and the JuiceBox V1 version and proceed to the next question. > If NO, the JuiceMeter cannot be installed at this time unless the customer upgrades the switchboard. If Customer is not willing to adjust the main switchboard, plan to use JuiceBox V0 and move on to the next question 														
22 bis A	<p>Choose the JuiceMeter based on the grid on which you are installing the JuiceBox.</p> <p>NOTE: In single-phase systems with contractual power greater than 8 kW, a three-phase JuiceMeter must be installed.</p>		<ul style="list-style-type: none"> > Single-phase JuiceMeter > Three-phase JuiceMeter > Three-phase JuiceMeter IT 														
23A	<p>Installability assessment for a JuiceBox with control board</p> <p>Is there sufficient space in the switchboard to install the solution identified for the release of protections (e.g. release motor)?</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, JuiceBox cable version installable. Skip to the next question. > If NO, JuiceBox cable version not installable. Skip to the next question. 														
24A	<p>The grid on which the JuiceBox is to be installed is one of the following:</p> <table border="1" data-bbox="167 1787 694 2078"> <thead> <tr> <th>Distribution system</th> <th>Neutral</th> <th>Voltage</th> </tr> </thead> <tbody> <tr> <td rowspan="2">TT</td> <td>Single-phase</td> <td>Yes 230 VAC</td> </tr> <tr> <td>Three-phase</td> <td>Yes 400 VAC</td> </tr> <tr> <td>TN-S</td> <td>Single-phase</td> <td>Yes 230 VAC</td> </tr> <tr> <td>TN-C-S</td> <td>Three-phase</td> <td>Yes 400 VAC</td> </tr> </tbody> </table>	Distribution system	Neutral	Voltage	TT	Single-phase	Yes 230 VAC	Three-phase	Yes 400 VAC	TN-S	Single-phase	Yes 230 VAC	TN-C-S	Three-phase	Yes 400 VAC	<input type="checkbox"/> YES <input type="checkbox"/> NO	<ul style="list-style-type: none"> > If YES, skip to question 1B > If NO, skip to the next question
Distribution system	Neutral	Voltage															
TT	Single-phase	Yes 230 VAC															
	Three-phase	Yes 400 VAC															
TN-S	Single-phase	Yes 230 VAC															
TN-C-S	Three-phase	Yes 400 VAC															

25A	<p>The grid on which the JuiceBox is to be installed is one of the following:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<ul style="list-style-type: none"> > If YES, you will have to follow a specific procedure for deactivating the internal GPD. See What-if Manual > If NO, skip to the next question 						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0ffe0;"> <th style="text-align: left;">Distribution system</th> <th style="text-align: left;">Neutral</th> <th style="text-align: left;">Voltage</th> </tr> </thead> <tbody> <tr> <td>IT</td> <td>Single-phase</td> <td>No 230 VAC</td> </tr> </tbody> </table>				Distribution system	Neutral	Voltage	IT	Single-phase	No 230 VAC
Distribution system	Neutral	Voltage							
IT	Single-phase	No 230 VAC							
26A	<p>The grid on which the JuiceBox is to be installed is one of the following:</p> <p>TT Single-phase with phase-to-phase voltage 220 VAC</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<ul style="list-style-type: none"> > If YES, you will have to follow a specific procedure for deactivating the internal GPD. See What-if Manual > If NO, the JuiceBox is not compatible and therefore not installable. 						