

# Installation manual - Annex

Advanced functionalities setup



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## 1. INTRODUCTION

Dynamic Power Management (DPM) is a smart function that allows you to recharge your electric vehicle using only the power available at home, modulating the charging power and avoiding unpleasant blackouts. If you are using other appliances during the charging session, the system can modulate the charging power towards the car, even suspending temporarily the charging session. As soon as the other domestic appliances are switched off, the session will resume at maximum power.

Load unbalance detection, is a specific function for power management. According to relevant standards for specific countries, the current unbalance among the phases must not differ by more than a fixed value (different for each country). This function avoids single phase on board chargers to be withdrawn from the grid an unbalanced current higher than prescribed by local regulation.



**Do not try to install the Power Meter if you are not qualified as a professional electrician. Such behavior can cause serious danger and harm to you and to the people, things or animals around you.**



**The wallbox can work without Dynamic Power Management. In this case, the installation of a dedicated PowerMeter is not necessary, but avoidance of blackouts is not guaranteed. Please refer to local regulations and user and wallbox installer manuals on [www.esolutions.free2move.com/document-library/](http://www.esolutions.free2move.com/document-library/) for more information about the installation process.**



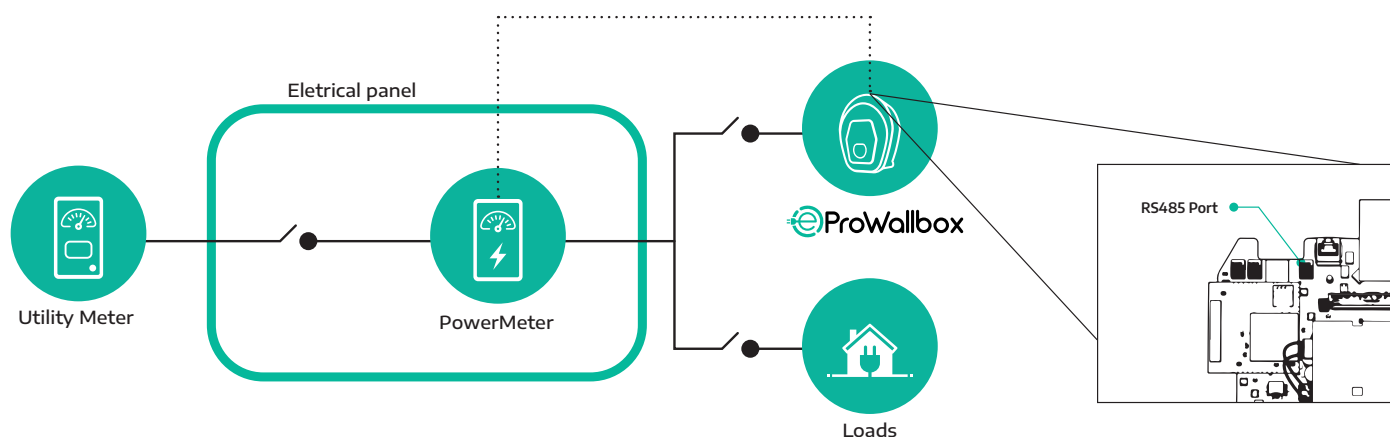
**Only Power Meters provided by Free2move eSolutions S.p.A. are compatible. Installation must be performed by qualified personnel in accordance with local regulations.**

## 2.1 ENERGY METER INSTALLATION

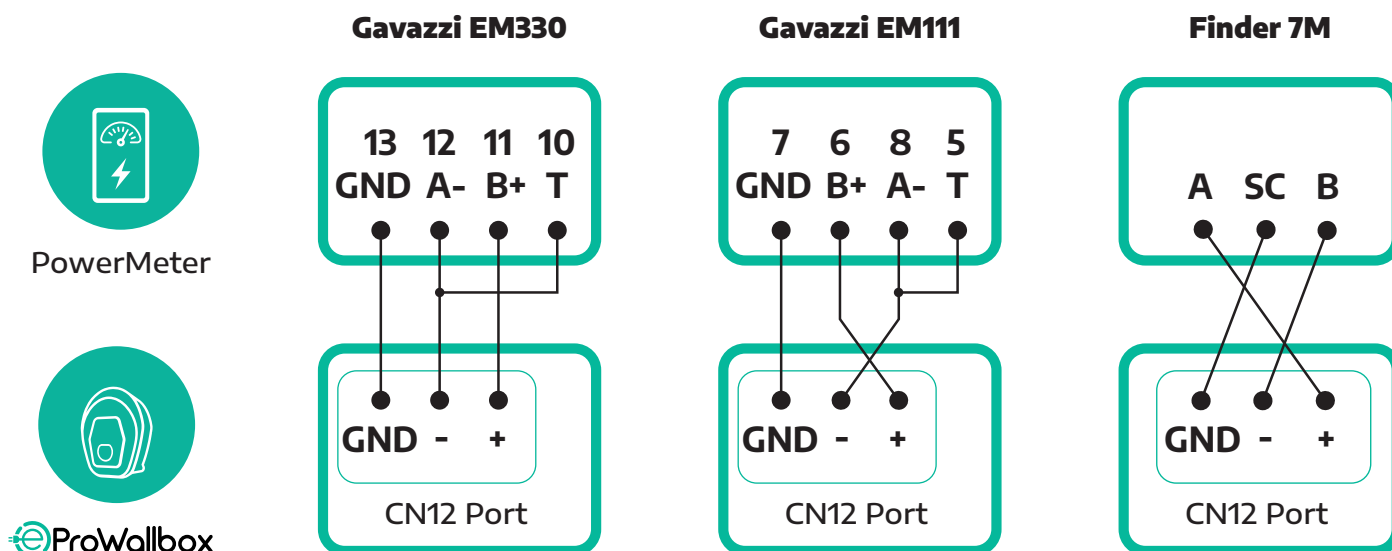


**During the installation always refer to the meter installation manual included in the package.**

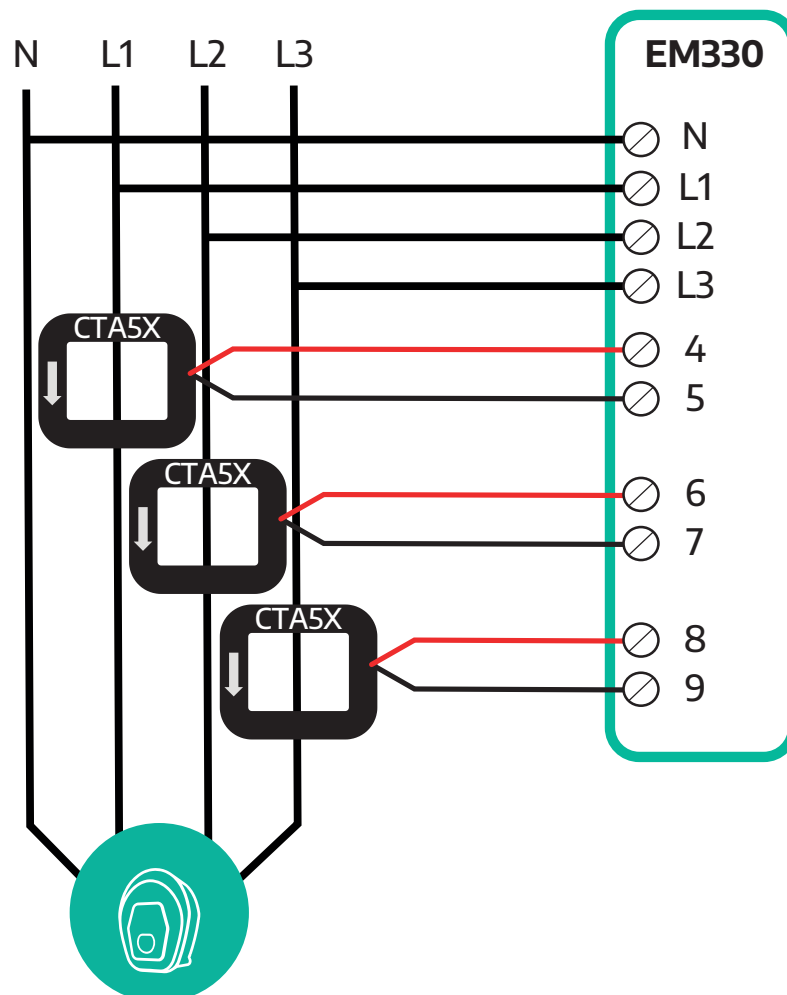
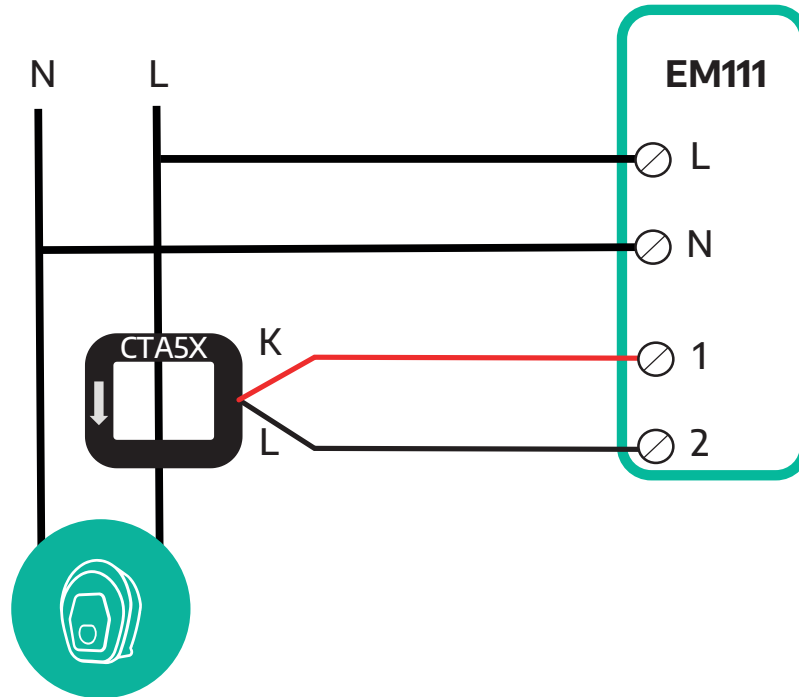
1. Place the Power Meter provided after the main utility meter and before the split power.



2. For the three-phase or single-phase electrical connection, refer to the dedicated meter installation manual included in the Power Meter package.
3. Feed the Modbus communication cables through the eProWallbox box sheath (C). Suggested cable: STP class 5E, 0.5 mm<sup>2</sup> section.
4. Use the following order for connecting the communication cables from the PowerMeter to the eProWallbox. Starting from left on the eProWallbox RS485 output port CN12.



5. If included connect the Current Transformers as indicated in the meter installation manual, paying attention to drawn through the clamp the line according to the direction indicated on the sensor. The neutral cable must not be drawn through the clamp.



## 2.1.1 ENERGY METER CONFIGURATION

1. Enter the menu by tapping&holding for 1.5 second the central display button for three-phase meter (or the lower part of the display for single-phase), until the page with the password is shown. Skip to the next page by pressing press both left and right (or upper and lower) display button.
2. Now tap on the left (or upper for single-phase) display button to navigate menu.
3. To configure the Gavazzi Meter, enter the parameters by tapping&holding the central (or lower for single-phase) display button and change them with the left (or upper for single-phase) button:
  - a. System mode: 3Pn (For three-phase meter only)
  - b. Device address: 1
  - c. BaudRate: 38.4 kbps
  - d. Parity bit: Even
4. To configure the Finder Meter select COMMUNICATION command (COMM on single-phase meter), press and hold to enter the menu. Here set:
  - a. Device address: 001
  - b. Bits per second (baud): 38400 bit/s
  - c. Parity: Even
  - d. Stop bit: 1
5. In addition to the configuration described in point 4, for three-phase Finder Meter only, select INSTALLATION, press and hold to enter the menu. Set:
  - a. Connection mode: 3L+N "Arithmetic"

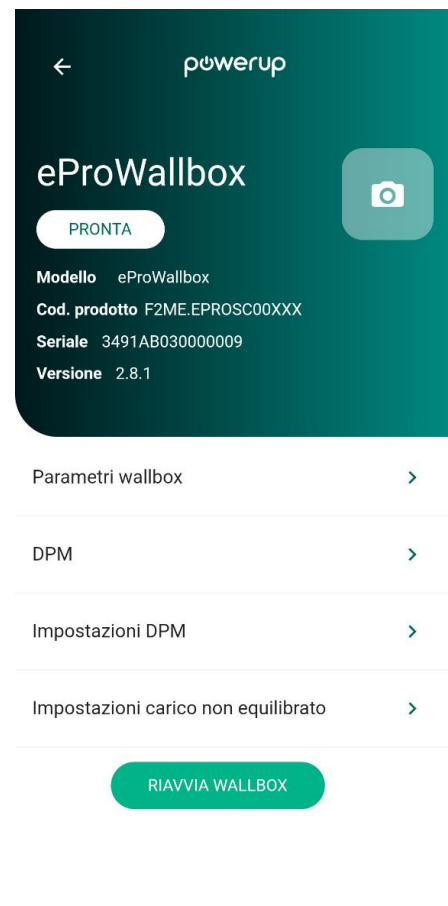
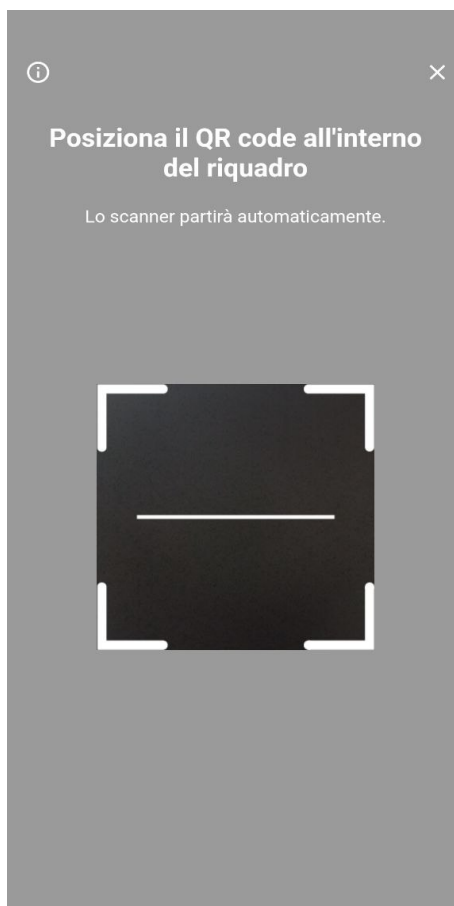


**Do not try to install the Power Meter if you are not qualified as a professional electrician. Such behavior can cause serious danger and harm to you and to the people, things or animals around you.**

## 2.2 PARAMETERS CONFIGURATION (INSTALLERS ONLY)

The wallbox final configuration after installation should be done via the dedicated PowerUp app. PowerUp is a smartphone app for qualified installers only, available via Google Play® and App Store®. It can be used to configure, monitor and set the wallbox via a Bluetooth connection. The wallbox cannot operate correctly if not configured via the app according to the following instructions. Follow the instructions below to get started with the app:

- Download the app on your smartphone from the stores
- Scan the wallbox QR code to pair it with the app. QR Code information is given on the label on the back of the charger case, or on the label on the front cover.
- In the homepage, click on the parameter to be configured



## DPM

Power value of the electricity supply contract, also configurable by the customer. It's an optional functionality to be enabled only after the installation of the Power Meter and current sensors supplied.

- **DPM enabling:** click on the toggle to activate the functionality
- **DPM Pmax:** use the scrolling button to set the value of the user contractual power

## DPM Type selection

Select from the drop down menu the Power Meter model installed. Only Power Meters compatible with the type of wallbox installation will be shown.

## Transformer ratio KI

set the Current Transformer ratio according to the values printed on the installed sensors. E.g. 100/5: Ki = 20



Once the functionality is enabled, to make the changes effective, always restart the wallbox through the dedicated button in the homepage.



Tipo di sonda

FINDER 7M.38.8.400.0212

Rapporto di corrente del trasformatore

1



DPM



Limite DPM

4.3 kW



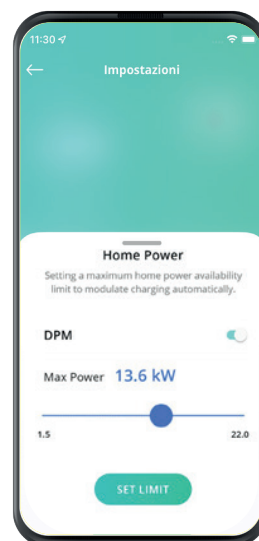
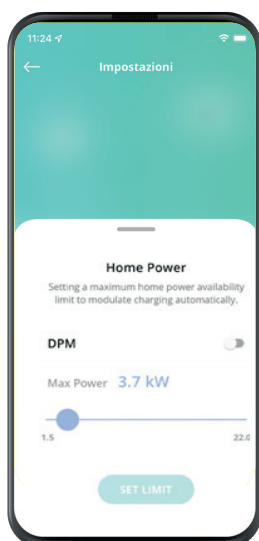
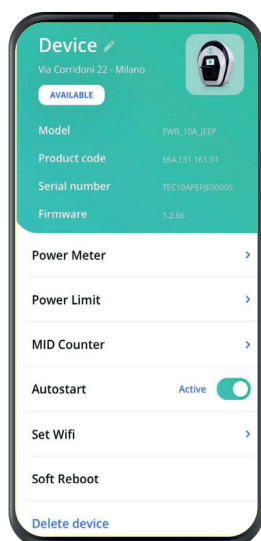


## 3. DPM USER CONFIGURATION

Download **eSolutions Charging**, a dedicated App available for Android and iOS that allows you to configure your wallbox and monitor the operating parameters



1. Log in on the App and associate the wallbox to your profile by scanning the personal QR code printed on your wallbox, on the back of the external cover.
2. Select the wallbox connected to the PowerMeter and go to settings. Then click on Home Power.



3. Set your Contractual Power value in kW as indicated in your electricity bill by moving the scroll button. This parameter allows the wallbox to understand the power value not to exceed.
4. Click on DPM to enable the Home Power functionality.

## 4. LOAD UNBALANCE

To enable the load unbalance function and configure the maximum current phase unbalance according to local regulations. This configuration is mandatory in the following countries:

- Germany
- Austria
- Switzerland
- Netherlands

The functionality is off by default. To activate it, click on the drop down menu and select the current value according to the maximum allowable current unbalance between the phases.

This value is 20A for Germany and 16A for Austria, Switzerland and Netherlands.



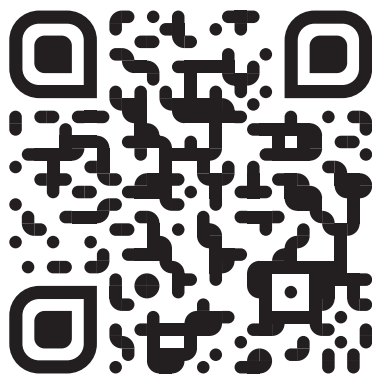
Once the functionality is enabled, to make the changes effective, always restart the wallbox through the dedicated button in the homepage.



Off

16A

20A



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