

## **EMS Installation Guide**

**ENGLISH VERSION** 



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### **ENERGY MANAGEMENT SOLUTIONS**

## **Purpose and Scope of the Document**

The purpose of this document is to outline the instructions for the installation of the Energy Management Solutions.

To install an MID meter, refer to the relevant **Installation Guide**.

#### **INSTALLATION**

## **Getting started**

### **Important Notes**

- Install the charger following the instructions listed in the chargers'

  Installation Guide. Refer to the user guide on the Wallbox Academy page for more information.
- Only energy meters provided by Wallbox are compatible with Wallbox chargers.
- Installations should be performed only by qualified personnel in accordance with applicable local regulations.
- Update the Wallbox charger with the latest software version before installing the energy meter. Refer to the instructions for updating the charger on the Wallbox Academy page for more information.
- Ensure that the charger is powered off and its cover is removed before connecting the energy meter. Close the charger properly after the installation.
- After installing the charger, connect the energy meter before closing your charger. In case the energy meter is to be connected to a previously installed charger, open it to connect the energy meter.

#### **Inside the Package**



**Energy Meter** 



**Grommet** 



**Meter Wiring Guide** 

### **INSTALLATION**

## **Getting started**

# General Characteristics (Pulsar Plus, Commander 2, Copper SB and Quasar)

|  | Power<br>Boost  | Eco-Smart   | V2H   | Power<br>Sharing  | Dynamic<br>Power<br>Sharing   |
|--|---|---|---|---|---|
| Primary Chargers   | 1   | 1   | 1   | 1   | 1   |
| Secondary Chargers   | -   | -   | -   | 1-24  | 1-24  |
| Communication protocol between chargers  | -   | -   | -   | CAN   | CAN   |
| Communication protocol<br>between the Primary<br>Charger and the Energy<br>Meter       | Modbus<br>RTU   | Modbus<br>RTU   | Modbus<br>RTU   | -   | Modbus<br>RTU   |
| Maximum total length of wiring CAN network   | -   | -   | -   | 250m  | 250m  |
| Maximum length between<br>the wiring of the Primary<br>charger and the Energy<br>Meter | 500m  | 500m  | 500m  | -   | 500m  |
| Terminating Chargers   | 1   | 1   | 1   | 2   | 2   |
| Maximum Phase Current configurable   | Minimum<br>between main<br>switch rated<br>(MCB) and the<br>contract tariff |
| Configurable installation maximum current  |   |   | Installation main<br>switch rated<br>current (MCB)                          | Installation main<br>switch rated<br>current (MCB)                          | Installation main<br>switch rated<br>current (MCB)                          |
| myWallbox  | Super admin or<br>admin account<br>and basic<br>subscription                | Super admin or<br>admin account<br>and standard<br>subscription             |

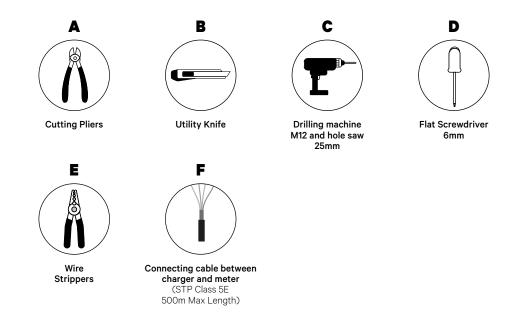
### **Compatibility Table**

| Meters                | Power Boost | Eco-Smart | V2H      | Dynamic<br>Power Sharing |
|-----------------------|-------------|-----------|----------|--------------------------|
| EM340                 | ✓           | ✓         | <b>✓</b> | ✓                        |
| EM112                 | <b>✓</b>    | ✓         | ✓        | <b>✓</b>                 |
| SPM1-100-AC           | ✓           | X         | ×        | ✓                        |
| EM330 CTA 5X 250 A 5A | <b>✓</b>    | <b>✓</b>  | <b>✓</b> | <b>✓</b>                 |
| EM330 CTA 6X 400 A 5A | <b>✓</b>    | ✓         | <b>✓</b> | ✓                        |
| EM330 CTA 6X 600A 5A  | <b>✓</b>    | ✓         | <b>✓</b> | <b>✓</b>                 |
| N1CT                  | ✓           | ✓         | ✓        | ✓                        |
| PRO2 MOD              | ✓           | ✓         | ✓        | ✓                        |
| PRO380 MOD            | ✓           | ✓         | <b>✓</b> | ✓                        |

### **INSTALLATION WITH PULSAR PLUS**

## **Power Boost and Eco-Smart**

### **Tools**

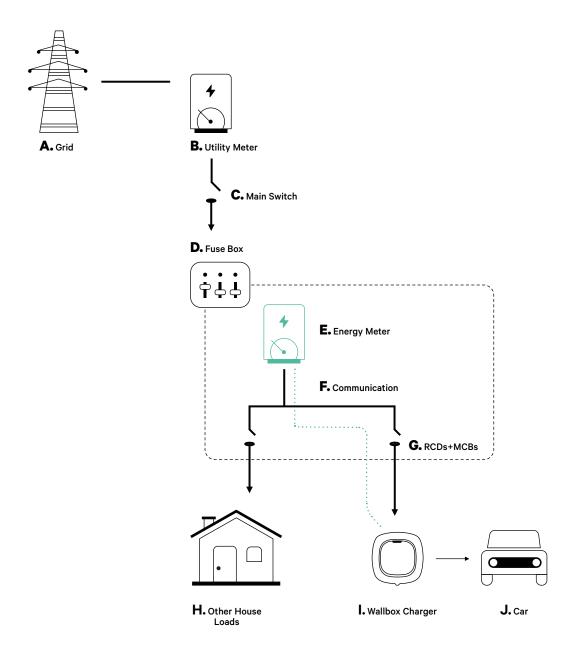


Refer to the **<u>Pulsar Plus Installation Guide</u>** to know more about the tools to install the charger.

### **INSTALLATION WITH PULSAR PLUS**

## **Power Boost and Eco-Smart**

Place the energy meter after the mains supply and before the fuse box.



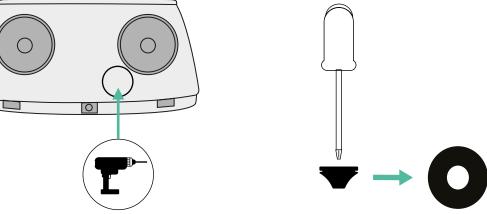
# INSTALLATION WITH PULSAR PLUS Power Boost and Eco-Smart

#### **Before Installation**

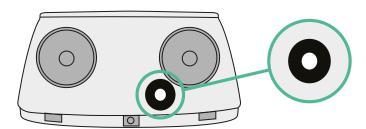
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

#### **Preparation**

- Make a hole at the bottom of the charger using a M12 drill.
- **2.** With a flat screwdriver, make an incision in the grommet included in the meters package.



3. Insert the **grommet** in the bottom hole of the charger.



#### **INSTALLATION WITH PULSAR PLUS**

## **Power Boost and Eco-Smart**

#### **Pulsar Plus Installation Guide**

Install the charger following the instructions in the **Pulsar Plus Installation Guide**.

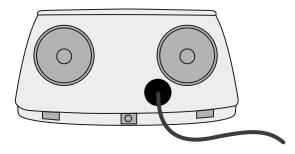


#### **Important**

Ensure not to close the cover of the charger.

#### Communication wiring between the charger and the meter

- **1.** Keep the power turned off during the installation.
- 2. Insert the communication wire through the grommet.



- Install the meter following the instructions in the Meter Wiring Guide included in the package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



#### **Important**

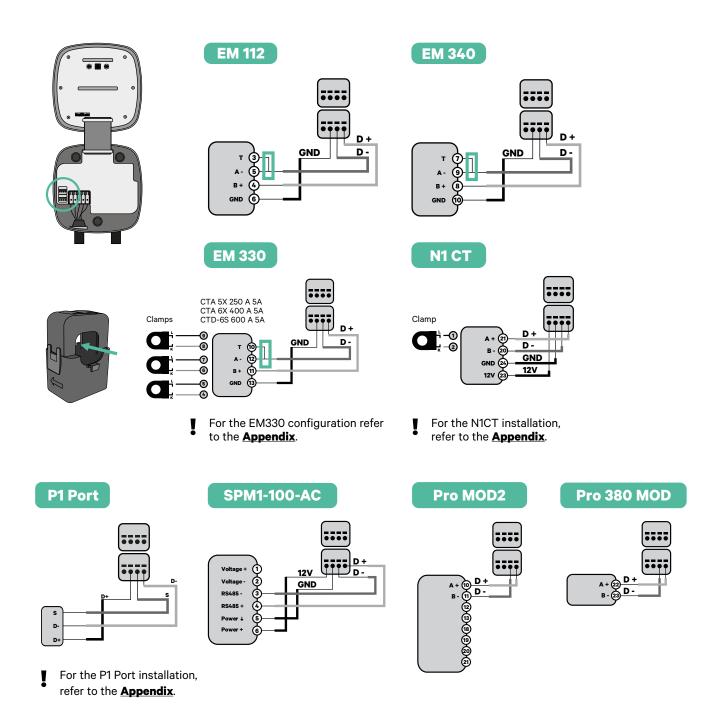
It is mandatory to use an STP class 5E cable. Employ only 1 wire of each twisted pair and keep in mind that the communication wiring must not be more than 500m long.



#### **Important**

Insert only one cable for each grommet.

# INSTALLATION WITH PULSAR PLUS Power Boost and Eco-Smart





#### **Important**

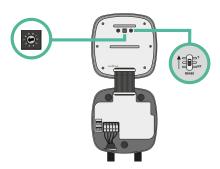
Remember to check the Compatibility Table of each meter.

### INSTALLATION WITH PULSAR PLUS

## **Power Boost and Eco-Smart**

#### Terminating resistance activation and current selector configuration

- Put the RS485 switch into position T.
- 2. Put the rotary switch into a position between 1 and 7, depending on the maximum current that can be supplied from the charging network.



3. See the matrix below. This value must be equal or lower than the MCB protecting the Wallbox power line.

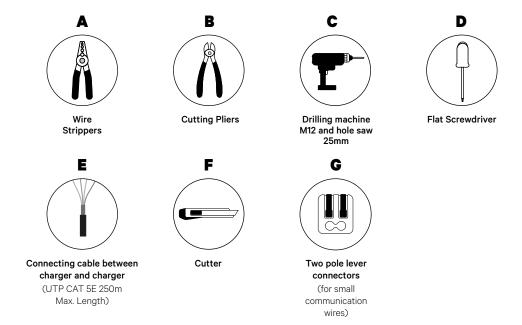
| POSITION    | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 |  |
|-------------|---|---|----|----|----|----|----|----|---|---|--|
| CURRENT (A) | R | 6 | 10 | 13 | 16 | 20 | 25 | 32 | R | R |  |

**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubt, contact Wallbox Service.

Close the cover of the charger following the instructions in the charger's **Installation Guide**.

# INSTALLATION WITH PULSAR PLUS Power Sharing

### **Tools**



Refer to the **Pulsar Plus Installation Guide** to know more about the tools to install the charger.

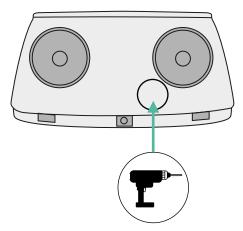
# Power Sharing

#### **Before Installation**

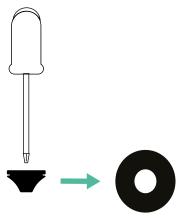
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

#### **Preparation**

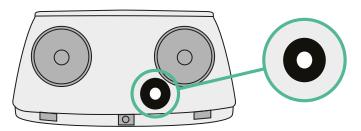
Make a hole at the bottom of the charger using a M12 drill.



With a flat screwdriver, make an incision in the grommet included in the meter's package.



Insert the **grommet** in the bottom hole of the charger.



#### **Pulsar Plus Installation**

Install the charger following the instructions in the **Pulsar Plus Installation Guide**.



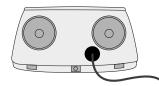
#### **Important**

Ensure not to close the cover of the charger.

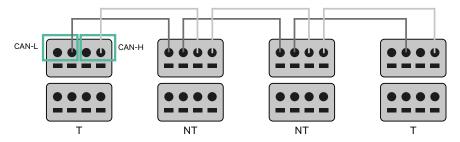
# Power Sharing

#### Wiring the system

- Ensure that the power is turned off during the installation.
- Insert the communication wire (UTP 5E cable) through the grommet.



- Check the position of CAN L and CAN H indicated above the connector. Remember: the sequence in the connector can be different depending on each product.
- Once located the connector, start cabling the primary charger (the first of the chain). Use a UTP 5E cable (a pair), then, insert one of the cables in CAN-L and the other in CAN-H. After, connect the other chargers of the chain following the scheme below. As you may notice, all the chargers have CAN-L and a CAN-H inputs and outputs, except for the first and the last ones.





#### **Important**

- Make sure to connect each CAN-L to the respective CAN-L connector of all the chargers. Do the same for CAN-H.
- Power sharing works up to 25 chargers for each installation. Among them, one is primary and 24 are secondary. The maximum distance the communication wiring can reach is 250m.

|       | CAN-L | CAN-H |
|-------|-------|-------|
| CAN-L | ~     | ×     |
| CAN-H | ×     | ~     |

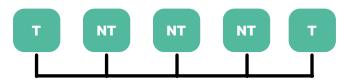
Note: Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

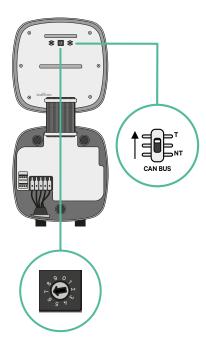
Refer to the **Installation Guide** for more information.

# INSTALLATION WITH PULSAR PLUS Power Sharing

### **Terminating settings**

Once the cabling is completed, you need to activate the termination resistors. The first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.





# Power Sharing

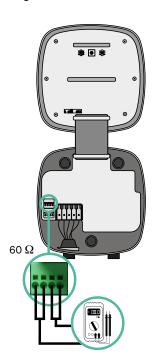
2. Once the termination resistors are set up, place the current selector of each charger following the information. The first charger of the chain is the primary charger, the others are secondary.

The **primary charger** will be set on position 8 or 9.

The **secondary chargers** will be set on position 0.

| POSITION    | 0   | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   |  |
|-------------|-----|---|----|----|----|----|----|----|-----|-----|--|
| MAX CURRENT | *PS | 6 | 10 | 13 | 16 | 20 | 25 | 32 | *PS | *PS |  |

To ensure a proper set-up the measured resistance between CAN-H and CAN-L must be near te 60 Ohms. If it differs from that, recheck the proper wiring and the T/NT configuration.



4. Close the cover of your charger by following the instructions in the respective **Installation Guide.** 

# Power Sharing

#### Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Power Sharing.

Option 1: Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need of reopening the existing chargers and hence it is the recommended option.

Option 2: Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below.

- **1.** Open the charger following the installation guide of your Pulsar Plus charger.
- 2. Set the terminating resistance into NT, make the communication wiring as explained above and then close the charger.



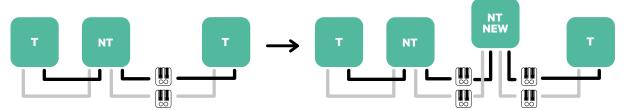
#### **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

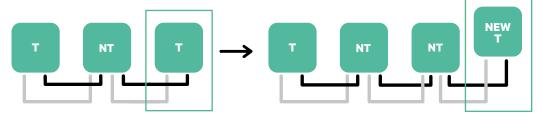
- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

#### **Option 1:**



#### **Option 2:**

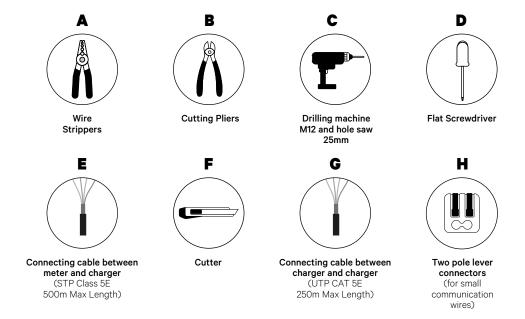


Open this existing chargers

New charger as a (T)

# INSTALLATION WITH PULSAR PLUS Dynamic Power Sharing

### **Tools**



Refer to the **Pulsar Plus Installation Guide** to know more about the tools to install the charger.

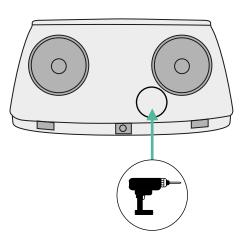
# INSTALLATION WITH PULSAR PLUS Dynamic Power Sharing

#### **Before Installation**

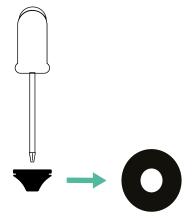
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

#### **Preparation**

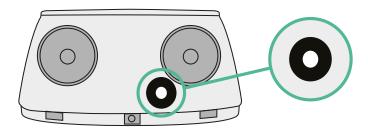
 Make a hole at the bottom of the charger using a M12 drill.



**2.** With a flat screwdriver, make an incision in the grommet included in the meters package.



**3.** Insert the **grommet** in the bottom hole of the charger.



#### INSTALLATION WITH PULSAR PLUS

## **Dynamic Power Sharing**

#### **Pulsar Plus Installation Guide**

Install the charger following the instructions in the **Pulsar Plus Installation Guide**.

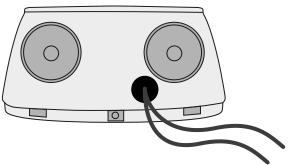


#### **Important**

Ensure not to close the cover of the charger.

#### Communication wiring between the charger and the meter

- **1** Keep the power turned off during the installation.
- 2. Insert through the grommet the two communication wires, one for meter communication and the other one for communication between chargers.



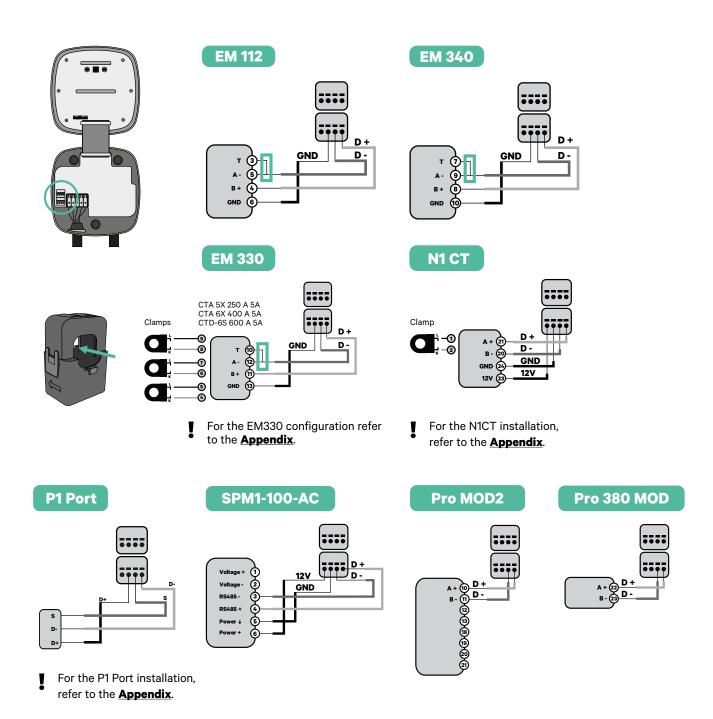
- **3.** Install the meter following the instructions in the Meter Wiring Guide included in the package.
- 4. Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



#### **Important**

It is mandatory to use an STP class 5E cable. Employ only 1 wire of each twisted pair and keep in mind that the communication wiring must not be more than 500m long.

# INSTALLATION WITH PULSAR PLUS Dynamic Power Sharing





#### **Important**

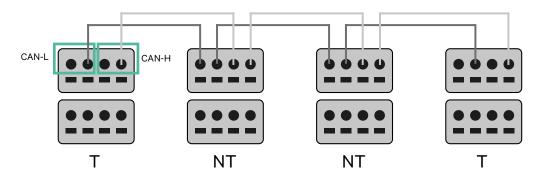
Remember to check the Compatibility Table of each meter.

#### **INSTALLATION WITH PULSAR PLUS**

## **Dynamic Power Sharing**

#### Wiring the system

- **1** Ensure that the power is turned off during the installation.
- Check the position of CAN L and CAN H indicated above the connector.
  Remember: the sequence in the connector can be different depending on each product.
- Once located the connector, start cabling the primary charger (the first of the chain). Use a UTP 5E cable (a pair), then, insert one of the cables in CAN-L and the other in CAN-H. After, connect the other chargers of the chain following the scheme below. As you may notice, all the chargers have CAN-L and a CAN-H inputs and outputs, except for the first and the last ones.





#### **Important**

- Make sure to connect each CAN-L to the respective CAN-L connector of all the chargers. Do the same for CAN-H.
- Power sharing works up to 25 chargers for each installation.
   Among them, one is primary and 24 are secondary. The maximum distance the communication wiring can reach is 250m.

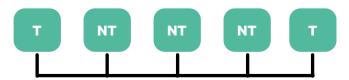
|       | CAN-L | CAN-H |
|-------|-------|-------|
| CAN-L | ~     | ×     |
| CAN-H | ×     | ~     |

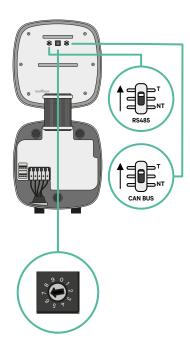
**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

# INSTALLATION WITH PULSAR PLUS Dynamic Power Sharing

### **Terminating settings**

Once the cabling is complete, you need to activate the terminating resistors. First set up RS485 into T only for the charger that is connected into meter. Then set up the CAN BUS, the first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.





# Dynamic Power Sharing

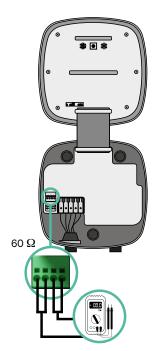
2. Once the termination resistors are set up, place the current selector of each charger following the information. The first charger of the chain is the primary charger, the others are secondary.

The **primary charger** will be set on position 8 or 9.

The **secondary chargers** will be set on position 0.

| POS | SITION    | 0   | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   |  |
|-----|-----------|-----|---|----|----|----|----|----|----|-----|-----|--|
| МА  | X CURRENT | *PS | 6 | 10 | 13 | 16 | 20 | 25 | 32 | *PS | *PS |  |

**3.** To ensure a proper set-up the measured **resistance between CAN-H and** CAN-L must be near te 60 Ohms. If it differs from that, recheck the proper wiring and the T/NT configuration.



4. Close the cover of your charger by following the instructions in the respective Installation Guide.

#### **INSTALLATION WITH PULSAR PLUS**

## **Dynamic Power Sharing**

#### Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Dynamic Power Sharing.

**Option 1:** Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need of reopening the existing chargers and hence it is the recommended option.

**Option 2:** Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below.

- 1. Open the charger following the installation guide of your Pulsar Plus charger.
- **2.** Set the terminating resistance into NT, make the communication wiring as explained above and then close the charger.



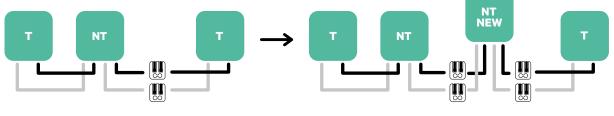
#### **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

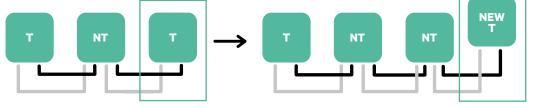
- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

#### Option 1:



#### Option 2:



Open this existing chargers

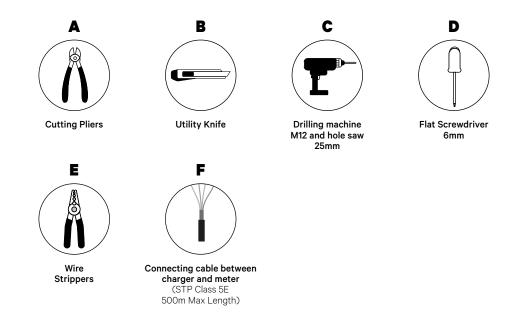
New charger as a (T)

Once you finish the extension of the existing installation, continue with steps on the next page for setting up the chargers.

To install Dynamic Power Sharing with four chargers, check the **Appendix**.

## **Power Boost and Eco-Smart**

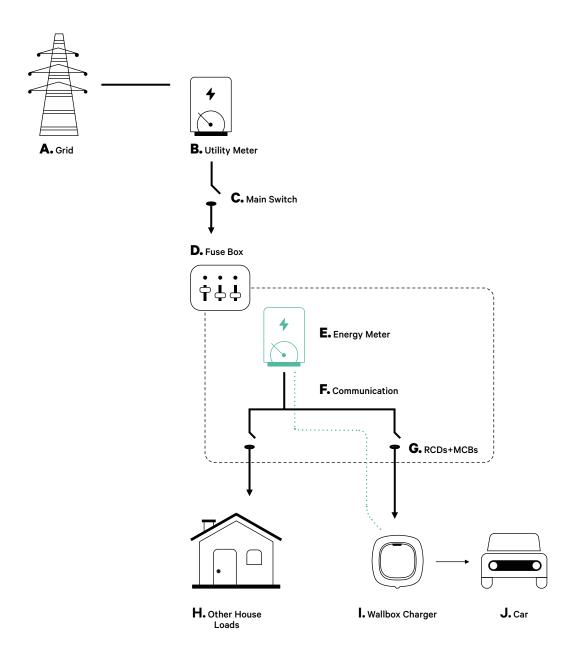
### **Tools**



Refer to the **Commander 2 Installation Guide** to know more about the tools to install the charger.

## **Power Boost and Eco-Smart**

Place the energy meter after the mains supply and before the fuse box.



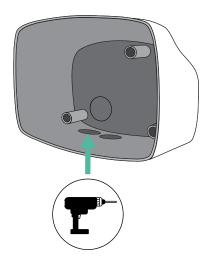
## **Power Boost and Eco-Smart**

#### **Before Installation**

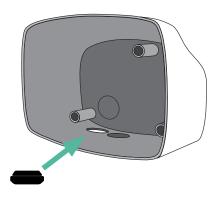
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

#### **Preparation**

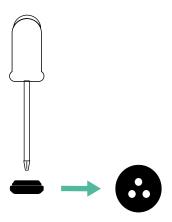
Remove the plastic knock-out at the bottom of the charger using a 25mm drill bit hole saw drill.



**3.** Insert the **grommet** in the hole at the bottom of the charger.



2. Using a flat screwdriver, make an incision in the 3-exit grommet. Remember, that you need to use only one hole of the 3-exit grommet by each communication line.



## **Power Boost and Eco-Smart**

#### **Commander 2 Installation**

Install the device following the instructions in the **Commander 2 Installation Guide**.

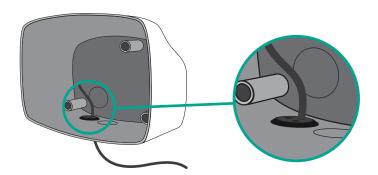


#### **Important**

Ensure not to close the cover of the charger.

#### Communication wiring between the charger and the meter

- **1.** Keep the power turned off during the installation.
- 2. Insert the communication wire through the grommet.



- Install the meter following the instructions in the Meter Wiring Guide included in the package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



#### **Important**

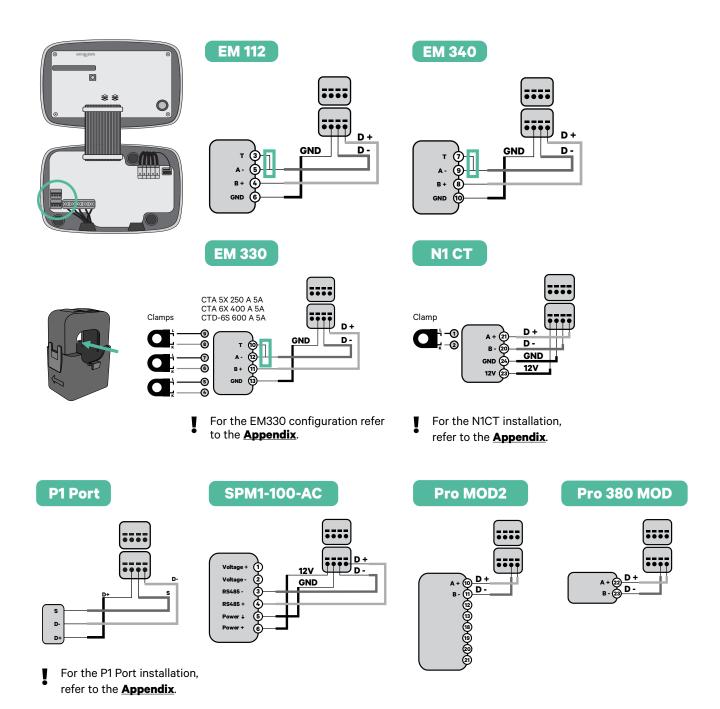
It is mandatory to use an STP class 5E cable. Employ only 1 wire of each twisted pair and keep in mind that the communication wiring must not be more than 500m long.



#### **Important**

Insert only one cable for each grommet.

## **Power Boost and Eco-Smart**





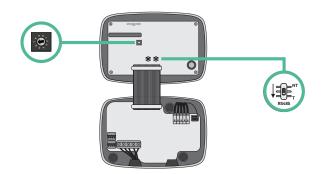
#### **Important**

Remember to check the Compatibility Table of each meter.

## **Power Boost and Eco-Smart**

#### Terminating resistance activation and current selector configuration

- Put the RS485 switch into position T.
- 2. Put the rotary switch into a position between 1 and 7, depending on the maximum current that can be supplied from the charging network.



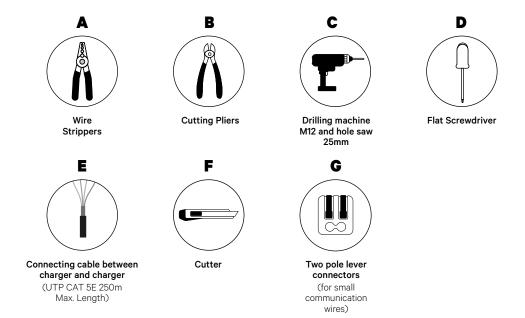
3. See the matrix below. This value must be equal or lower than the MCB protecting the Wallbox power line.

| POSITION    | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 |  |
|-------------|---|---|----|----|----|----|----|----|---|---|--|
| CURRENT (A) | R | 6 | 10 | 13 | 16 | 20 | 25 | 32 | R | R |  |

**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubt, contact Wallbox Service.

4. Close the cover of the charger following the instructions in the **Installation Guide**.

### **Tools**



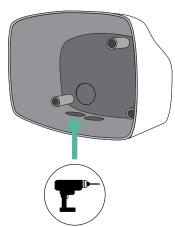
Refer to the **Commander 2 Installation Guide** to know more about the tools to install the charger.

#### **Before Installation**

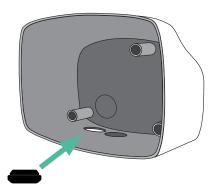
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

#### **Preparation**

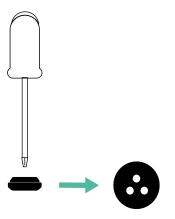
Remove the plastic knockout at the bottom of the charger using a 25mm drill bit hole saw drill.



Insert the **grommet** in the hole at the bottom of the charger.



Using a flat screwdriver, make an incision in the 3-exit grommet. Remember, that you need to use only one hole of the 3-exit grommet by each communication line.



### **Commander 2 Installation**

Install the charger following the instructions in the **Commander 2 Installation Guide**.

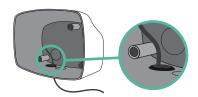


#### **Important**

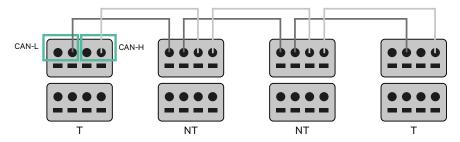
Ensure not to close the cover of the charger.

#### Wiring the system

- Ensure that the power is turned off during the installation.
- Insert the communication wire (UTP 5E cable) through the grommet.



- Check the position of CAN L and CAN H indicated above the connector. Remember: the sequence in the connector can be different depending on each product.
- Once located the connector, start cabling the primary charger (the first of the chain). Use a UTP 5E cable (a pair), then, insert one of the cables in CAN-L and the other in CAN-H. After, connect the other chargers of the chain following the scheme below. As you may notice, all the chargers have CAN-L and a CAN-H inputs and outputs, except for the first and the last ones.





#### **Important**

- Make sure to connect each CAN-L to the respective CAN-L connector of all the chargers. Do the same for CAN-H.
- Power sharing works up to 25 chargers for each installation. Among them, one is primary and 24 are secondary. The maximum distance the communication wiring can reach is 250m.

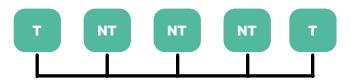
|       | CAN-L | CAN-H |
|-------|-------|-------|
| CAN-L | ~     | ×     |
| CAN-H | ×     | ~     |

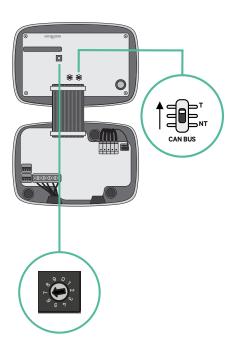
Note: Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

Refer to the **Installation Guide** for more information.

### **Terminating settings**

Once the cabling is completed, you need to activate the termination resistors. The first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.





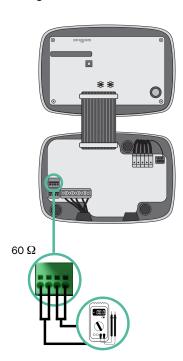
2. Once the termination resistors are set up, place the current selector of each charger following the information. The first charger of the chain is the primary charger, the others are secondary.

The **primary charger** will be set on position 8 or 9.

The **secondary chargers** will be set on position 0.

| POSITION    | 0   | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   |  |
|-------------|-----|---|----|----|----|----|----|----|-----|-----|--|
| MAX CURRENT | *PS | 6 | 10 | 13 | 16 | 20 | 25 | 32 | *PS | *PS |  |

To ensure a proper set-up the measured resistance between CAN-H and CAN-L must be near te 60 Ohms. If it differs from that, recheck the proper wiring and the T/NT configuration.



4. Close the cover of your charger by following the instructions in the respective **Installation Guide.** 

## Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Power Sharing.

Option 1: Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need of reopening the existing chargers and hence it is the recommended option.

Option 2: Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below.

- 1. Open the charger following the installation guide of your Commander 2 charger.
- 2. Set the terminating resistance into NT, make the communication wiring as explained above and then close the charger.



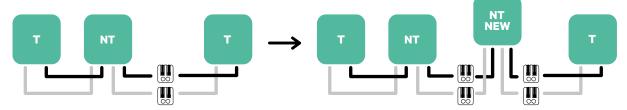
### **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

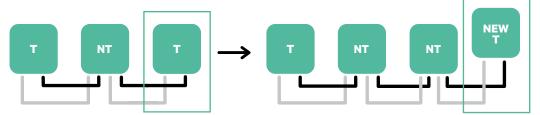
- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

# Option 1:



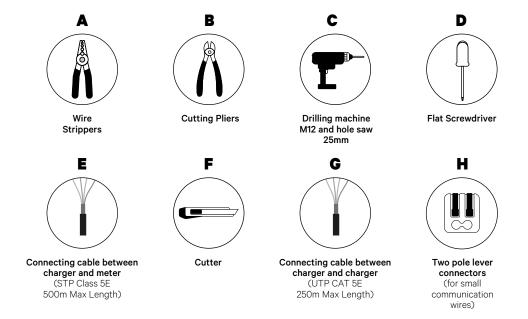
## **Option 2:**



Open this existing chargers

New charger as a (T)

# **Tools**



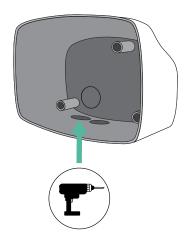
Refer to the **Commander 2 Installation Guide** to know more about the tools to install the charger.

## **Before Installation**

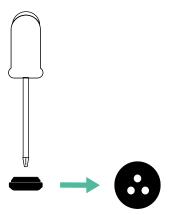
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

# **Preparation**

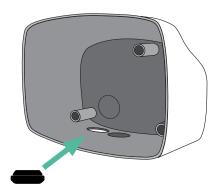
Remove the plastic knockout at the bottom of the charger using a 25mm drill bit hole saw.



2. Using a flat screwdriver, make an incision in the 3-exit grommet. Remember, that you need to use only one hole of the 3-exit grommet by each communication line.



**3.** Insert the **grommet** in the bottom hole of the charger.



# Dynamic Power Sharing

### **Commander 2 Installation**

Install the device following the instructions in the **Commander 2 Installation Guide**.

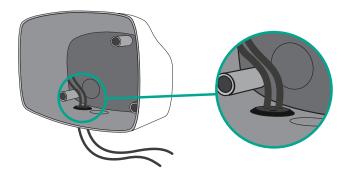


### **Important**

Ensure not to close the cover of the charger.

## Communication wiring between the charger and the meter

- Keep the power turned off during the installation.
- Insert through the grommet the two communication wires, one for meter communication and the other one for communication between chargers.



- Install the meter following the instructions in the Meter Wiring Guide included in the package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



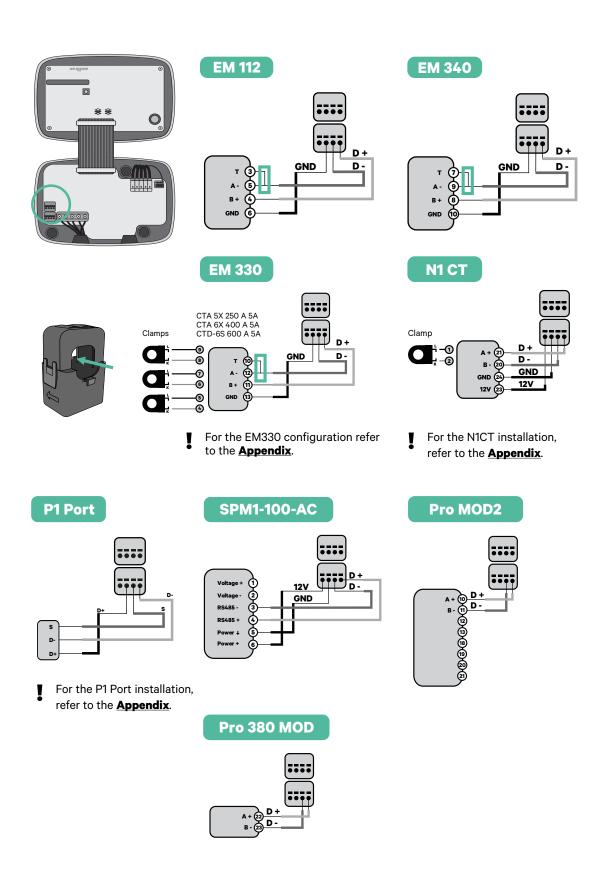
## **Important**

It is mandatory to use an STP class 5E cable. Employ only 1 wire of each twisted pair and keep in mind that the communication wiring must not be more than 500m long.



### **Important**

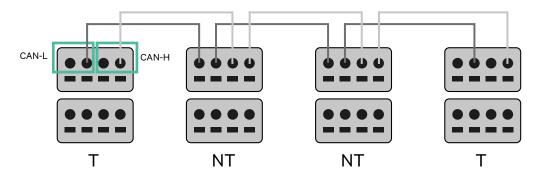
Insert only one cable for each grommet.



# Dynamic Power Sharing

# Wiring the system

- Ensure that the power is turned off during the installation.
- Check the position of CAN L and CAN H indicated above the connector. Remember: the sequence in the connector can be different depending on each product.
- Once located the connector, start cabling the primary charger (the first of the chain). Use a UTP 5E cable (a pair), then, insert one of the cables in CAN-L and the other in CAN-H. After, connect the other chargers of the chain following the scheme below. As you may notice, all the chargers have CAN-L and a CAN-H inputs and outputs, except for the first and the last ones.





## **Important**

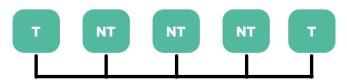
- Make sure to connect each CAN-L to the respective CAN-L connector of all the chargers. Do the same for CAN-H.
- Power sharing works up to 25 chargers for each installation. Among them, one is primary and 24 are secondary. The maximum distance the communication wiring can reach is 250m.

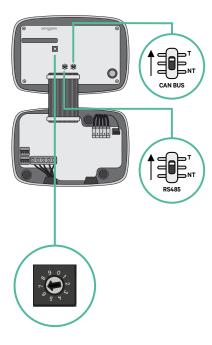
|       | CAN-L | CAN-H |
|-------|-------|-------|
| CAN-L | ~     | ×     |
| CAN-H | ×     | ~     |

Note: Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

# **Terminating settings**

Once the cabling is complete, you need to activate the terminating resistors. First set up RS485 into T only for the charger that is connected into meter. Then set up the CAN BUS, the first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.





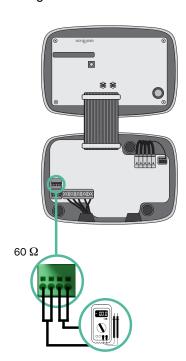
2. Once the termination resistors are set up, place the current selector of each charger following the information. The first charger of the chain is the primary charger, the others are secondary.

The **primary charger** will be set on position 8 or 9.

The **secondary chargers** will be set on position 0.

| POSITION    | 0   | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   |  |
|-------------|-----|---|----|----|----|----|----|----|-----|-----|--|
| MAX CURRENT | *PS | 6 | 10 | 13 | 16 | 20 | 25 | 32 | *PS | *PS |  |

To ensure a proper set-up the measured resistance between CAN-H and CAN-L must be near te 60 Ohms. If it differs from that, recheck the proper wiring and the T/NT configuration.



4. Close the cover of your charger by following the instructions in the respective **Installation Guide**.

## Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Dynamic Power Sharing.

Option 1: Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need of reopening the existing chargers and hence it is the recommended option.

Option 2: Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below.

- **1.** Open the charger following the installation guide of your Commander 2 charger.
- 2. Set the terminating resistance into NT, make the communication wiring as explained above and then close the charger.



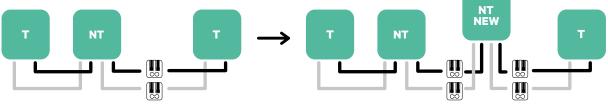
## **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

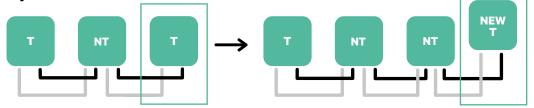
- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

# Option 1:



## **Option 2:**



Open this existing chargers

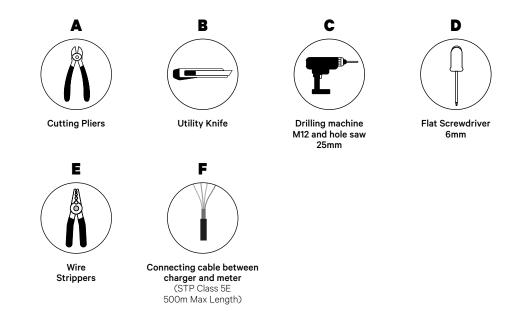
New charger as a (T)

Once you finish the extension of the existing installation, continue with steps on the next page for setting up the chargers.

To install Dynamic Power Sharing with four chargers, check the **Appendix**.

# **Power Boost and Eco-Smart**

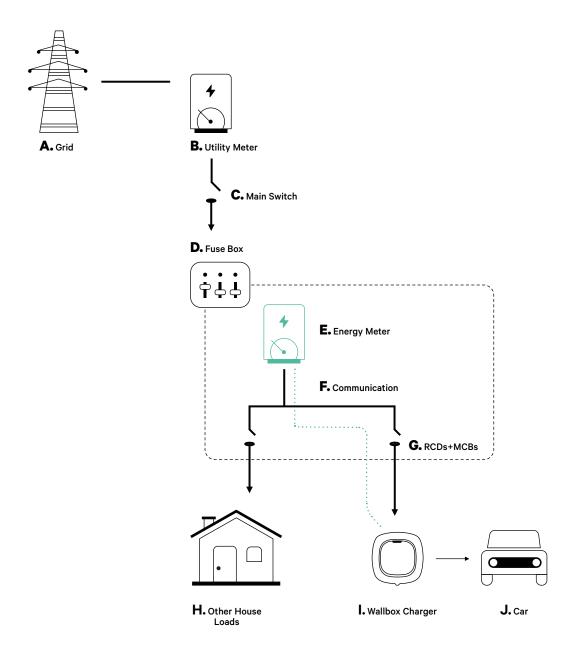
# **Tools**



Refer to the **Copper SB Installation Guide** to know more about the tools to install the charger.

# **Power Boost and Eco-Smart**

Place the energy meter after the mains supply and before the fuse box.



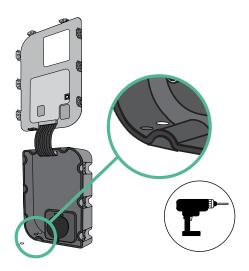
# **Power Boost and Eco-Smart**

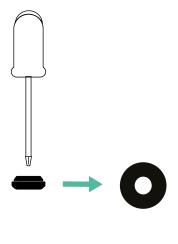
## **Before Installation**

- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

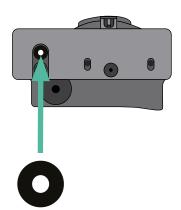
# **Preparation**

- **1.** Remove the plastic knock-out at the bottom of the charger using an M12 drill bit.
- 2. Make a hole in the grommet using a flat screw driver.





3. Insert the **grommet** in the hole at the bottom of the charger.



# **Power Boost and Eco-Smart**

# **Copper SB Installation**

Install the device following the instructions in the **Copper SB Installation Guide**.

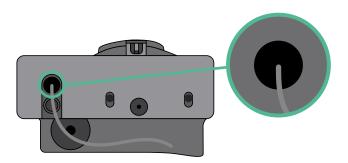


## **Important**

Ensure not to close the cover of the charger.

# Communication wiring between the charger and the meter

- 1. Keep the power turned off during the installation.
- 2. Insert the communication wire through the grommet.



- Install the meter following the instructions in the Meter Wiring Guide included in the package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



# **Important**

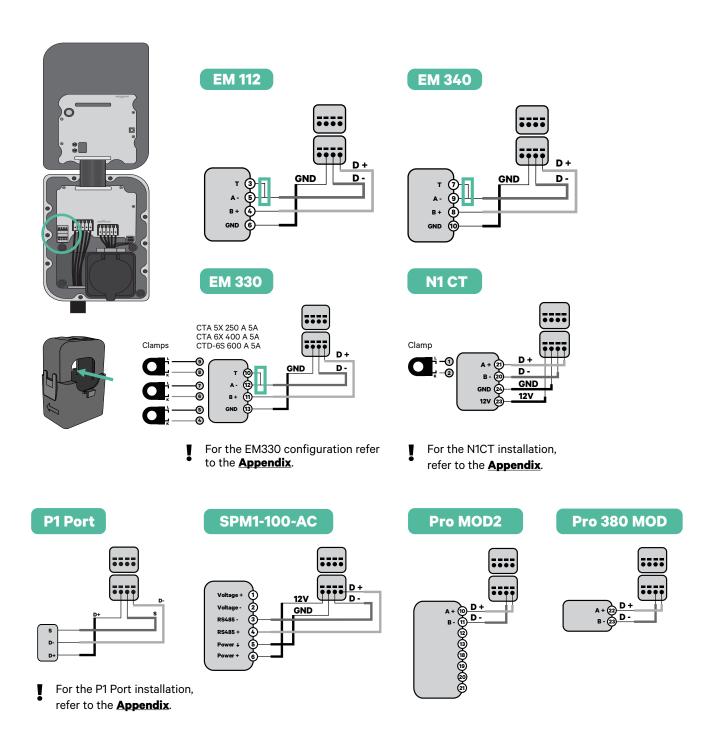
It is mandatory to use an STP class 5E cable. Employ only 1 wire of each twisted pair and keep in mind that the communication wiring must not be more than 500m long.



### **Important**

Insert only one cable for each grommet.

# INSTALLATION WITH COPPER SB Power Boost and Eco-Smart





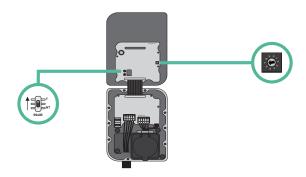
# **Important**

Remember to check the Compatibility Table of each meter.

# **Power Boost and Eco-Smart**

# Terminating resistance activation and current selector configuration

- Put the RS485 switch into position T.
- 2. Put the rotary switch into a position between 1 and 7, depending on the maximum current that can be supplied from the charging network.



**3.** See the matrix below. This value must be equal or lower than the MCB protecting the Wallbox power line.

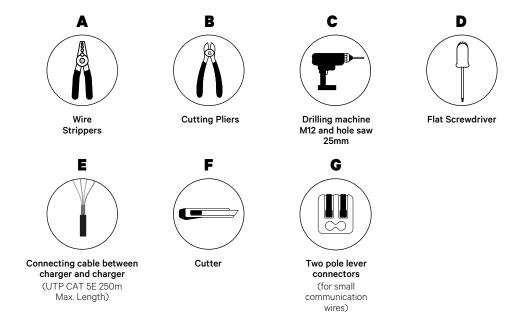
| ( | POSITION    | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 |  |
|---|-------------|---|---|----|----|----|----|----|----|---|---|--|
|   | CURRENT (A) | R | 6 | 10 | 13 | 16 | 20 | 25 | 32 | R | R |  |

**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

4. Close the cover of the charger following the instructions in the **Installation Guide**.

# INSTALLATION WITH COPPER SB Power Sharing

# **Tools**



Refer to the **Copper SB Installation Guide** to know more about the tools to install the charger.

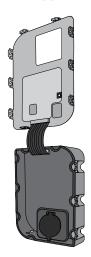
# Power Sharing

### **Before Installation**

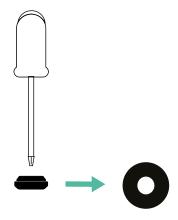
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

## **Preparation**

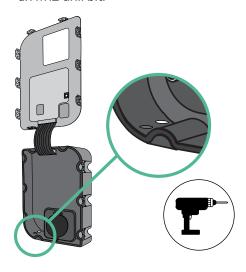
 Open the cover of the charger by following the instructions in **Copper SB Installation Guide.** 



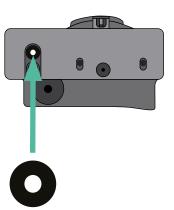
**3.** Make a hole in the grommet using a flat screw driver.



2. Remove the plastic knock-out at the bottom of the charger using an M12 drill bit.



4. Insert the **grommet** in the hole at the bottom of the charger.



# **Copper SB Installation**

Install the charger following the instructions in the **Copper SB Installation Guide**.



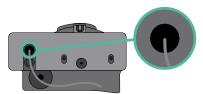
# **Important**

Ensure not to close the cover of the charger.

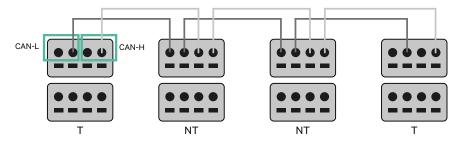
# Power Sharing

# Wiring the system

- Ensure that the power is turned off during the installation.
- Insert the communication wire (UTP 5E cable) through the grommet.



- Check the position of CAN L and CAN H indicated above the connector. Remember: the sequence in the connector can be different depending on each product.
- Once located the connector, start cabling the primary charger (the first of the chain). Use a UTP 5E cable (a pair), then, insert one of the cables in CAN-L and the other in CAN-H. After, connect the other chargers of the chain following the scheme below. As you may notice, all the chargers have CAN-L and a CAN-H inputs and outputs, except for the first and the last ones.





## **Important**

- Make sure to connect each CAN-L to the respective CAN-L connector of all the chargers. Do the same for CAN-H.
- Power sharing works up to 25 chargers for each installation. Among them, one is primary and 24 are secondary. The maximum distance the communication wiring can reach is 250m.

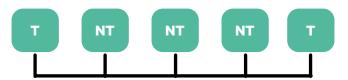
|       | CAN-L | CAN-H |
|-------|-------|-------|
| CAN-L | ~     | ×     |
| CAN-H | ×     | ~     |

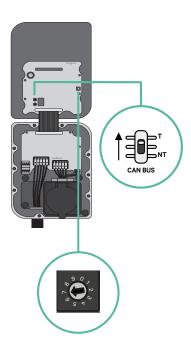
Note: Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

# Wiring the System

# **Terminating settings**

Once the cabling is completed, you need to activate the termination resistors. The first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.





# Wiring the System

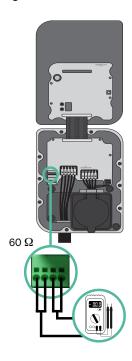
2. Once the termination resistors are set up, place the current selector of each charger following the information. The first charger of the chain is the primary charger, the others are secondary.

The primary charger will be set on position 8 or 9.

The **secondary chargers** will be set on position 0.

| POSITION    | 0   | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   |  |
|-------------|-----|---|----|----|----|----|----|----|-----|-----|--|
| MAX CURRENT | *PS | 6 | 10 | 13 | 16 | 20 | 25 | 32 | *PS | *PS |  |

To ensure a proper set-up the measured resistance between CAN-H and CAN-L must be near te 60 Ohms. If it differs from that, recheck the proper wiring and the T/NT configuration.



4. Close the cover of the charger following the instructions in the respective **Installation Guide**.

# Power Sharing

## Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Power Sharing.

Option 1: Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need of reopening the existing chargers and hence it is the recommended option.

Option 2: Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below.

- **1.** Open the charger following the installation guide of your Copper SB charger.
- 2. Set the terminating resistance into NT, make the communication wiring as explained above and then close the charger.



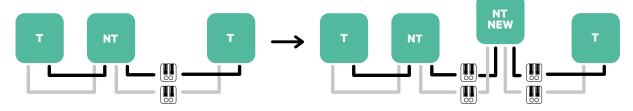
### **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

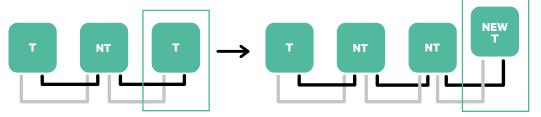
- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

## **Option 1:**



## **Option 2:**

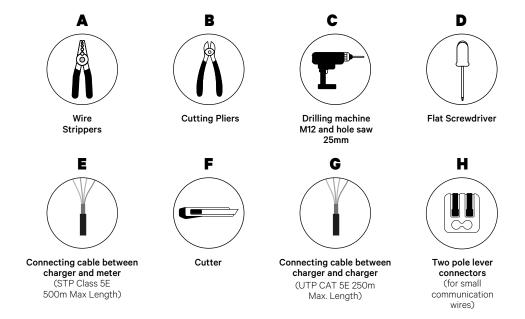


Open this existing chargers

New charger as a (T)

# INSTALLATION WITH COPPER SB Dynamic Power Sharing

# **Tools**



Refer to the **Copper SB Installation Guide** to know more about the tools to install the charger.

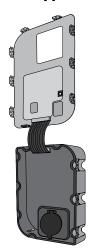
# INSTALLATION WITH COPPER SB Dynamic Power Sharing

## **Before Installation**

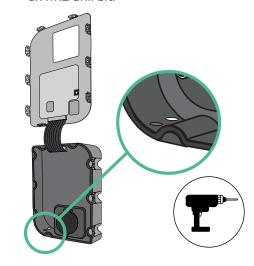
- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

# **Preparation**

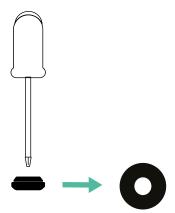
 Open the cover of the charger by following the instructions in **Copper SB Installation Guide.** 



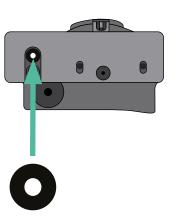
**2.** Remove the plastic knock-out at the bottom of the charger using an M12 drill bit.



**3.** Make a hole in the grommet using a flat screw driver.



4. Insert the **grommet** in the hole at the bottom of the charger.



# **Dynamic Power Sharing**

# **Copper SB Installation**

Install the device following the instructions in the **Copper SB Installation Guide**.

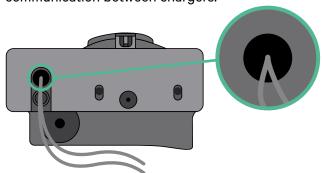


## **Important**

Ensure not to close the cover of the charger.

# Communication wiring between the charger and the meter

- 1. Keep the power turned off during the installation.
- 2. Insert through the grommet the two communication wires, one for meter communication and the other one for communication between chargers.



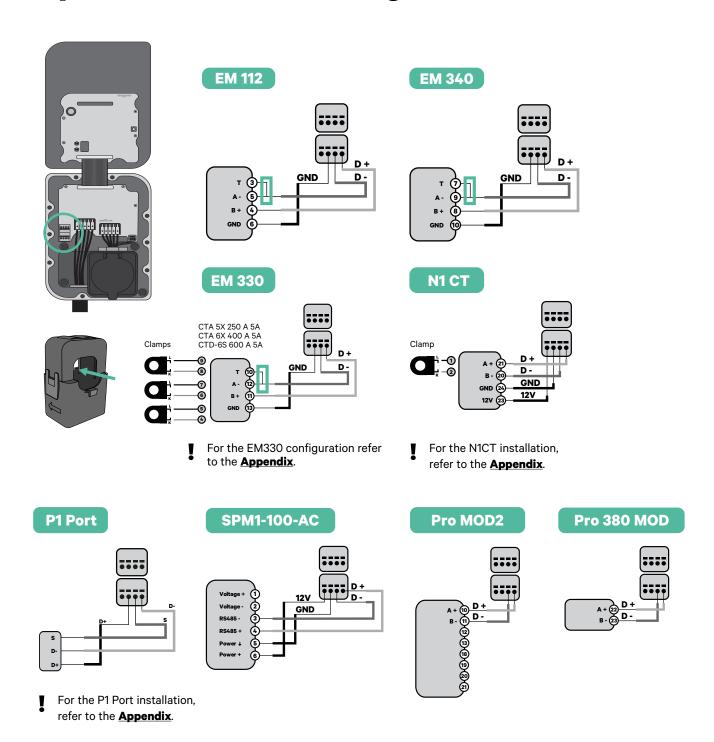
- Install the meter following the instructions in the Meter Wiring Guide included in the package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



# **Important**

It is mandatory to use an STP class 5E cable. Employ only 1 wire of each twisted pair and keep in mind that the communication wiring must not be more than 500m long.

# INSTALLATION WITH COPPER SB Dynamic Power Sharing





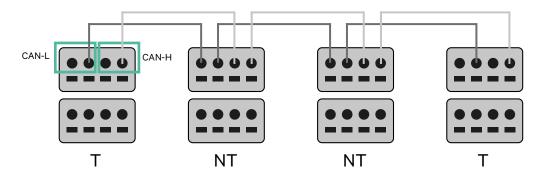
## **Important**

Remember to check the Compatibility Table of each meter.

# **Dynamic Power Sharing**

# Wiring the system

- **1** Ensure that the power is turned off during the installation.
- Check the position of CAN L and CAN H indicated above the connector.
  Remember: the sequence in the connector can be different depending on each product.
- Once located the connector, start cabling the primary charger (the first of the chain). Use a UTP 5E cable (a pair), then, insert one of the cables in CAN-L and the other in CAN-H. After, connect the other chargers of the chain following the scheme below. As you may notice, all the chargers have CAN-L and a CAN-H inputs and outputs, except for the first and the last ones.





## **Important**

- Make sure to connect each CAN-L to the respective CAN-L connector of all the chargers. Do the same for CAN-H.
- Power sharing works up to 25 chargers for each installation.
   Among them, one is primary and 24 are secondary. The maximum distance the communication wiring can reach is 250m.

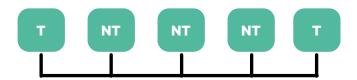
|       | CAN-L | CAN-H |
|-------|-------|-------|
| CAN-L | ~     | ×     |
| CAN-H | ×     | ~     |

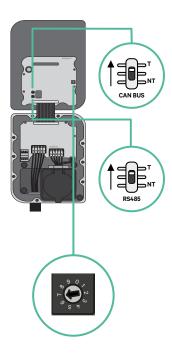
**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

# INSTALLATION WITH COPPER SB Dynamic Power Sharing

# **Terminating settings**

Once the cabling is complete, you need to activate the terminating resistors. First set up RS485 into T only for the charger that is connected into meter. Then set up the CAN BUS, the first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.





# Dynamic Power Sharing

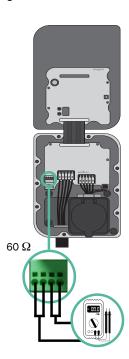
2. Once the termination resistors are set up, place the current selector of each charger following the information. The first charger of the chain is the primary charger, the others are secondary.

The **primary charger** will be set on position 8 or 9.

The **secondary chargers** will be set on position 0.

| POS | SITION    | 0   | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   |  |
|-----|-----------|-----|---|----|----|----|----|----|----|-----|-----|--|
| MA  | X CURRENT | *PS | 6 | 10 | 13 | 16 | 20 | 25 | 32 | *PS | *PS |  |

**3.** To ensure a proper set-up the measured **resistance between CAN-H and** CAN-L must be near te 60 Ohms. If it differs from that, recheck the proper wiring and the T/NT configuration.



4. Close the cover of the charger following the instructions in the respective Installation Guide.

## Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Dynamic Power Sharing.

Option 1: Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need of reopening the existing chargers and hence it is the recommended option.

Option 2: Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below.

- **1.** Open the charger following the installation guide of your Copper SB charger.
- 2. Set the terminating resistance into NT, make the communication wiring as explained above and then close the charger.



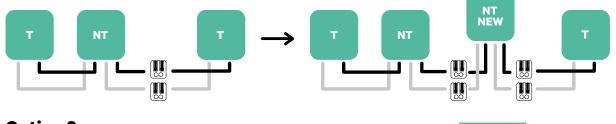
### **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

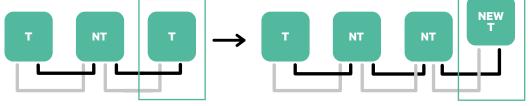
- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

# Option 1:



# **Option 2:**



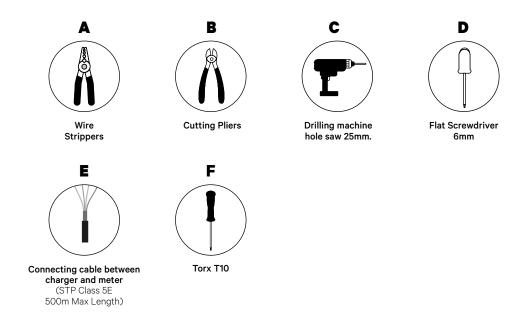
Open this existing chargers

New charger as a (T)

Once you finish the extension of the existing installation, continue with steps on the next page for setting up the chargers.

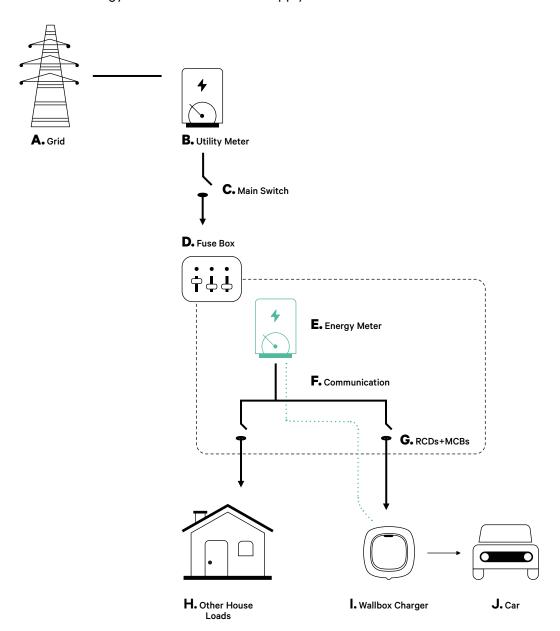
To install Dynamic Power Sharing with four chargers, check the **Appendix**.

# **Tools**



Refer to the **Quasar Installation Guide** to know more about the tools to install the charger.

Place the energy meter after the mains supply and before the fuse box.



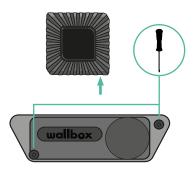
# V2H

# **Preparation**

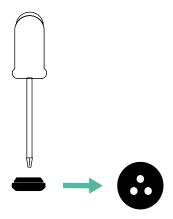
Keep the power turned off during the installation. Install the device following the instructions in the **Quasar Installation Guide**.

# Installation

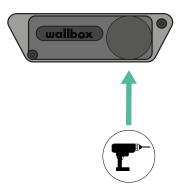
Remove the screws to open the communication lid.



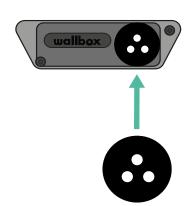
**3.** Using a flat screwdriver, make an incision in the 3-exit grommet.



2. Remove the knock-out at the bottom of the charger using a 25mm hole saw drill bit.

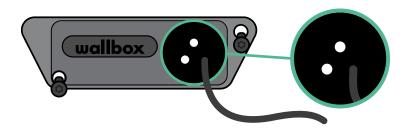


4. Insert the grommet in the hole on the communication lid.



# Communication wiring between the charger and the meter

1. Insert the communication wire through the grommet.



- 2. Install the meter following the instructions in the Meter Wiring Guide included in the package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



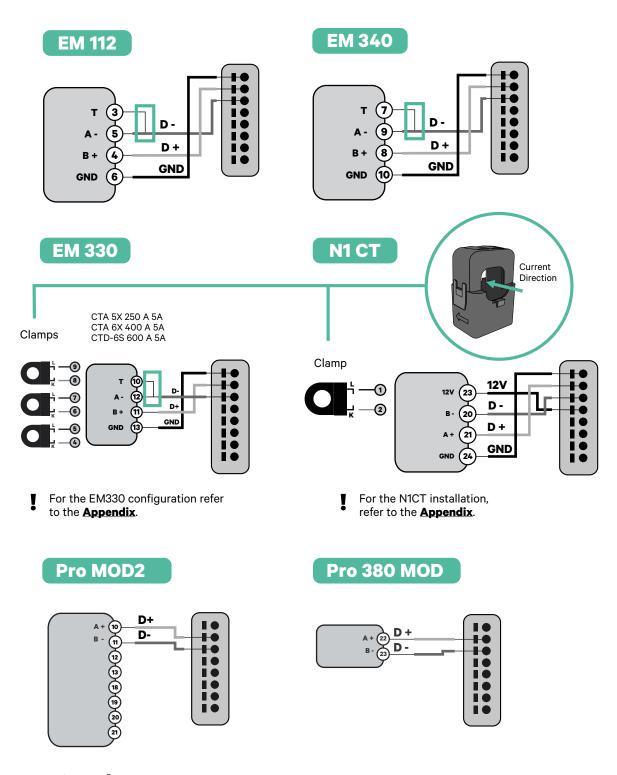
## **Important**

It is mandatory to use a STP class 5E cable, use only 1 wire of each twisted pair. Remember that the communication wiring must not be more than 500m long.



### **Important**

Remember that you need to use only one hole of the 3-exit grommet for each communication line.

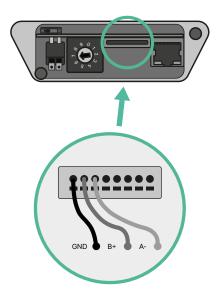


# **Important**

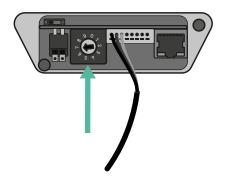
Remember to check the Compatibility Table of each meter.

# Terminating resistance activation and current selector configuration

Link the communication connector to the board. Refer to the picture below.



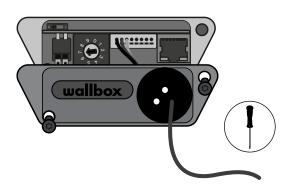
2. Put the rotary switch into a position between 1 and 7, depending on the maximum current that can be supplied from the charging network.



See the matrix below. This value must be the lower out of the main switch rated current MCB (not the RCD) and the contract tariff.

| POSITION    | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 |
|-------------|---|---|----|----|----|----|----|----|---|---|
| CURRENT (A) | R | 6 | 10 | 13 | 16 | 20 | 25 | 32 | R | R |

Close the communication lid and tighten the screws.



**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

## **INSTALLATION WITH PULSAR MAX & PULSAR PRO**

# **Getting started**

# **Important Notes**

- A. Install the charger following the instructions in the <u>Pulsar Max</u>
  <u>Installation Guide</u> or the <u>Pulsar Pro Installation Guide</u>. Refer to the user guide on the <u>Wallbox Help Center</u> for more information.
- **B** Only energy meters provided by Wallbox are compatible with Wallbox chargers.
- C. Installations should be performed only by qualified personnel in accordance with applicable local regulations.
- **D.** Update the Wallbox charger with the latest software version before installing the energy meter. Refer to the instructions for updating the charger on the **Wallbox Help Center** for more information.
- Ensure that the charger is powered off and its cover is removed before connecting the energy meter. Close the charger properly after the installation.
- After installing the charger, connect the energy meter before closing your charger. In case the energy meter is to be connected to a previously installed charger, open it to connect the energy meter.

# **Inside the Package**



**Energy Meter** 



Grommet



**Meter Wiring Guide** 

## **Getting started**

### **General Characteristics**

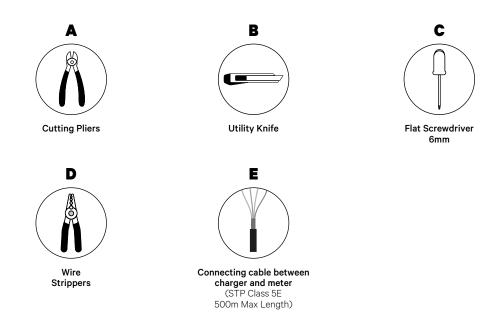
|  | Power<br>Boost   | Eco-Smart  | Power<br>Sharing   | Dynamic<br>Power<br>Sharing  |  |  |
|--|--|--|--|--|--|--|
| Primary Chargers   | 1  | 1  | 1  | 1  |  |  |
| Secondary Chargers   | -  | -  | 1-99   | 1-99   |  |  |
| Communication protocol   | Modbus RTU   | Modbus RTU   | Modbus RTU   | Modbus RTU   |  |  |
| Maximum total length<br>between the first and the<br>last charger of the chain         | -  | -  | 250m   | 250m   |  |  |
| Maximum length between<br>the wiring of the Primary<br>charger and the Energy<br>Meter | 500m   | 500m   | -  | 500m   |  |  |
| Terminating Chargers   | 1  | 1  | 2  | 2  |  |  |
| Maximum Phase Current configurable   | Minimum between<br>main switch rated<br>(MCB) and the<br>contract tariff |  |  |
| Configurable installation maximum current  | Installation main<br>switch rated<br>current (MCB)                       |  |  |
| myWallbox  | Super admin or<br>admin account and<br>basic subscription                | Super admin or<br>admin account and<br>basic subscription                | Super admin or<br>admin account and<br>basic subscription                | Super admin or<br>admin account<br>and standard<br>subscription          |  |  |

## **Meter Compatibility Table**

| Meters                | Power Boost | Eco-Smart | Dynamic Power Sharing |
|-----------------------|-------------|-----------|-----------------------|
| EM340                 | <b>✓</b>    | ✓         | ✓                     |
| EM112                 | <b>✓</b>    | <b>✓</b>  | <b>✓</b>              |
| SPM1-100-AC           | <b>✓</b>    | ×         | ✓                     |
| EM330 CTA 5X 250 A 5A | <b>✓</b>    | ✓         | ✓                     |
| EM330 CTA 6X 400 A 5A | <b>✓</b>    | <b>✓</b>  | ✓                     |
| EM330 CTA 6X 600 A 5A | <b>✓</b>    | <b>✓</b>  | ✓                     |
| N1CT                  | <b>✓</b>    | <b>✓</b>  | <b>✓</b>              |
| PRO2 MOD              | <b>✓</b>    | <b>✓</b>  | ✓                     |
| PRO380 MOD            | ✓           | <b>✓</b>  | <b>✓</b>              |

## **Power Boost and Eco-Smart**

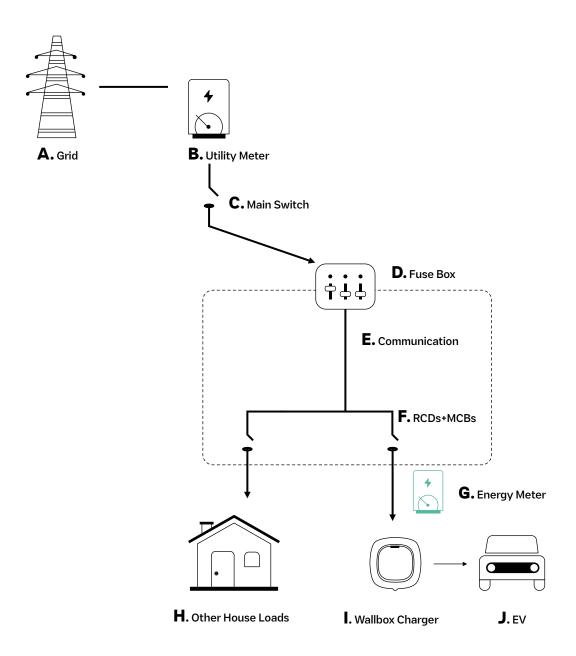
### **Tools**



Refer to the <u>Pulsar Max Installation Guide</u> or the <u>Pulsar Pro Installation</u> <u>Guide</u> to know more about the tools required to install the charger.

## **Power Boost and Eco-Smart**

Place the energy meter after the fuse box ( $\mathbf{D}$ ) and the RCDs+MCDBs ( $\mathbf{G}$ ), just before the charger ( $\mathbf{I}$ ).



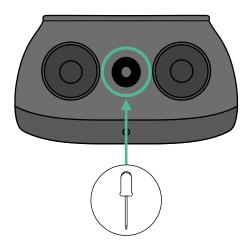
# INSTALLATION WITH PULSAR MAX & PULSAR PRO Power Boost and Eco-Smart

#### **Before Installation**

- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

### **Preparation**

**1.** Make a hole at the central grommet, using a small flat screwdriver.



## **Power Boost and Eco-Smart**

#### **Pulsar Max Installation Guide**

Install the charger following the instructions in the <u>Pulsar Max Installation Guide</u> or the <u>Pulsar Pro Installation Guide</u>.

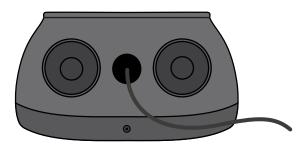


#### **Important**

Ensure to not close the cover of the charger.

#### Communication wiring between the charger and the meter

- **1.** Keep the power turned off during the installation.
- 2. Insert the communication wire through the grommet.



- Install the meter following the instructions in the Meter Wiring Guide included in its package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



#### **Important**

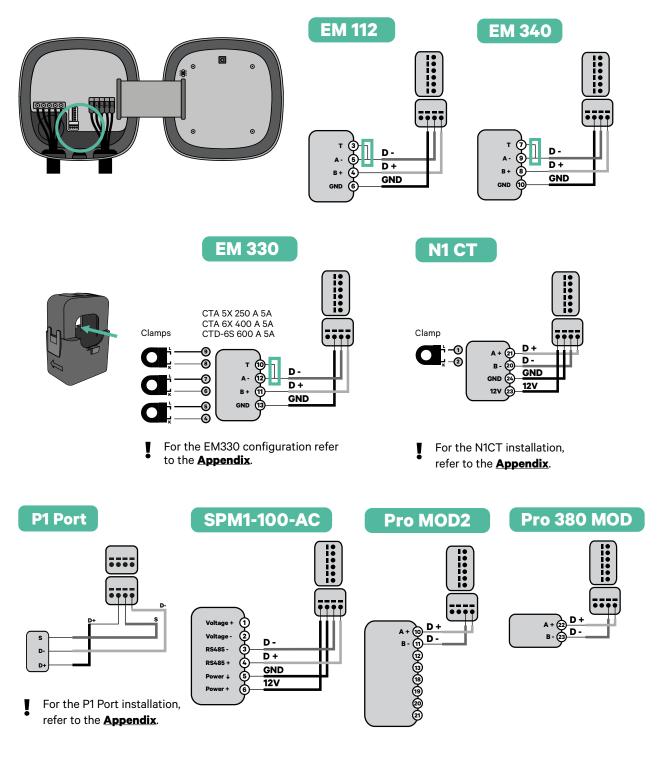
It is mandatory to use an STP class 5E cable. Employ only 1 wire of each twisted pair and keep in mind that the communication wiring must not be more than 500m long.



#### **Important**

Insert only one cable in each grommet.

## **Power Boost and Eco-Smart**



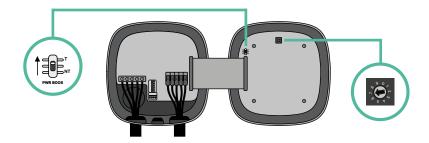
#### **Important**

Remember to check the Compatibility Table of each meter.

## **Power Boost and Eco-Smart**

### Terminating resistance activation and current selector configuration

- Put the Power Boost switch on the T position.
- 2. Put the rotary switch into a position between 1 and 7, depending on the maximum current that can be supplied from the charging network.



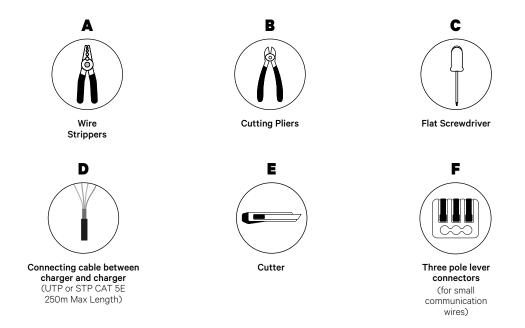
3. See the matrix below. This value must be equal or lower than the MCB protecting the Wallbox power line.

| POSITION    | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 |  |
|-------------|---|---|----|----|----|----|----|----|---|---|--|
| CURRENT (A) | R | 6 | 10 | 13 | 16 | 20 | 25 | 32 | R | R |  |

**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubt, contact Wallbox Service.

- 4 Close the cover of the charger following the instructions in the chargers' Installation guides.
- Once the installation is complete, do not forget to activate and finalise the Eco-Smart and Power Boost configuration in the myWallbox app. You can follow **this guide to the process for Eco-Smart** and **this one for Power Boost**.

#### **Tools**





The installer has the responsibility to decide if the installation requires a UTP or STP 3rd wire to be used as a reference (GND).

Refer to the **Pulsar Max Installation Guide** or the **Pulsar Pro Installation Guide** to know more about the tools required to install the charger.



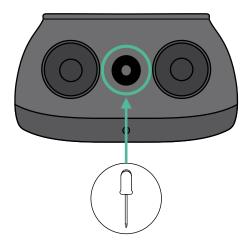
In order to use the Power Sharing function, it must be used only between Pulsar Max and Pulsar Pro, as they are compatible. Therefore they cannot be used with Power Sharing if they are paired with Pulsar Plus, Commander 2 and Copper SB.

#### **Before Installation**

- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

### **Preparation**

• Make a hole at the central grommet, using a small flat screwdriver.

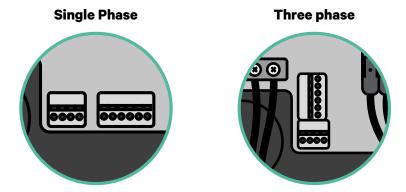


#### Wiring the system

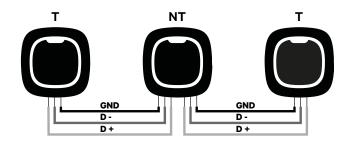
- Ensure that the power is turned off during the installation.
- Insert the communication wire (UTP or STP 5E cable) through the grommet.



Check the position of the 6 pin connector.



Once located the connector, start cabling the first charger of the chain. Check the Tools section to check if you need to use a third wire (GND).





#### **Important**

• Power sharing works up to 100 chargers for each installation. Among them, one is primary and 99 are secondary. The maximum distance the communication wiring can reach is 250m.

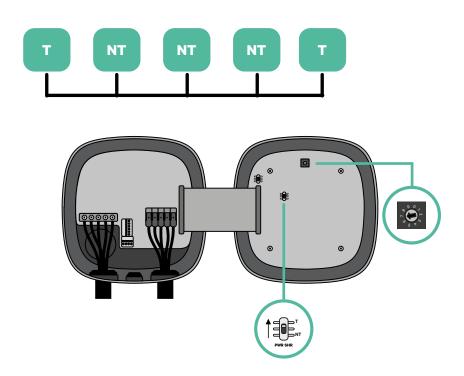
Note: Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

Refer to the chargers' Installation guides for more information.

# INSTALLATION WITH PULSAR MAX & PULSAR PRO Wiring the System

### **Terminating settings**

Once the cabling is completed, you need to activate the termination resistors. The first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.



## Wiring the System

2. Once the termination resistors are set up, place the current selector of each charger following the information. Put the rotary switch into a position between 1 and 7 depending on the maximum current that can be supplied from the charging network.

| РО | SITION    | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 |    |
|----|-----------|---|---|----|----|----|----|----|----|---|---|----|
| MA | X CURRENT | R | 6 | 10 | 13 | 16 | 20 | 25 | 32 | R | R | ١, |



#### **Important**

Make sure that the selector does not point to 0, 8 and 9.

- **3.** Close the cover of your charger by following the instructions in the respective **Installation Guide**.
- 4 Once the installation is complete, do not forget to activate and finalise the Power Sharing configuration in the myWallbox app. You can follow **this guide** to the process.

#### Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Power Sharing.

**Option 1:** Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need for reopening the existing chargers and hence is the recommended option.

Option 2: Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below:

- 1. Open the charger following the installation guide of your Pulsar Max/Pulsar Pro charger.
- 2. Set the Power Sharing terminating resistor to NT, establish the communication wiring as explained above and close the charger.



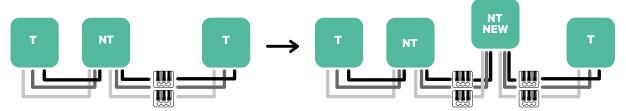
#### **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

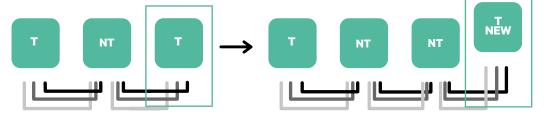
- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

#### Option 1:

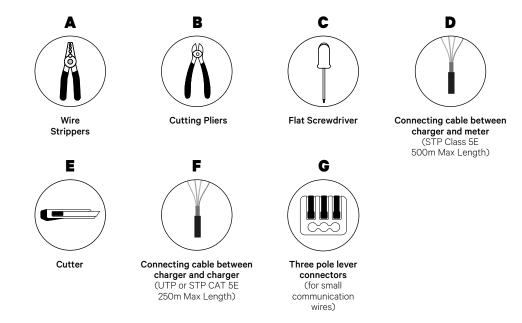


#### **Option 2:**



Open this existing chargers

#### **Tools**





The installer has the responsibility to decide if the installation requires a UTP or STP 3rd wire to be used as a reference (GND).

Refer to the Pulsar Max Installation Guide or the Pulsar Pro Installation Guide to know more about the tools required to install the charger.



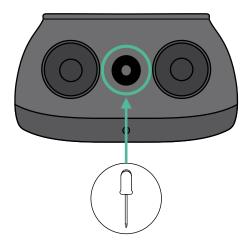
Pulsar Pro and Pulsar Max are compatible, but aren't compatible with Pulsar Plus, Commander 2 and Copper SB, so Dynamic Power Sharing should be used only between Pulsar Max and Pulsar Pro.

#### **Before Installation**

- Ensure that the power is turned off during the installation.
- Separate the communication wires from the power ones.

### **Preparation**

• Make a hole in the central grommet, using a small flat screwdriver.



#### **Pulsar Max & Pulsar Pro Installation Guide**

Install the charger as detailed in the **Pulsar Max Installation Guide** or the **Pulsar Pro Installation Guide.** 



#### **Important**

Ensure not to close the cover of the charger.

### Communication wiring between the charger and the meter

- 1. Keep the power turned off during the installation.
- Insert through the grommet the two communication wires, one for meter communication and the other one for communication between chargers.



- Install the meter following the instructions in the Meter Wiring Guide included in the package.
- Wire the meter and the charger by following the relevant scheme below based on the model of your meter.



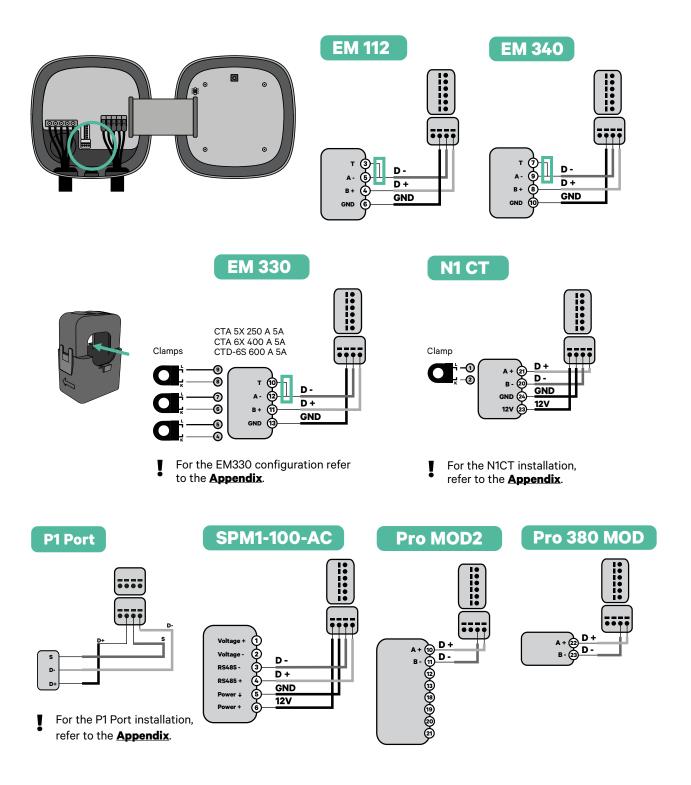
#### **Important**

For the communication with the meter it is mandatory to use STP class 5E cable and remember the communication wiring must not be longer than 500 meters.



#### **Important**

For the communication between chargers it is mandatory to use UTP or STP class and remember that all the chargers chain must not be longer than 250 meters.





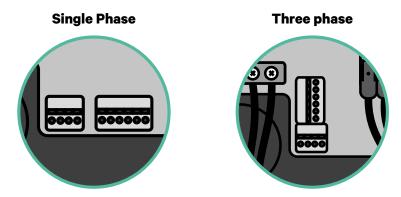
#### **Important**

Remember to check the Compatibility Table of each meter.

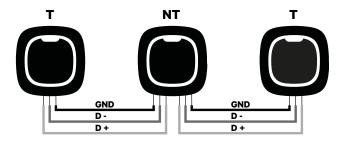
# Dynamic Power Sharing

#### Wiring the system

- Ensure that the power is turned off during the installation.
- Check the position of the 6 pin connector.



Once located the connector, start cabling the the first charger of the chain. Check the Tools section to check if you need to use a third cable (GND).





#### **Important**

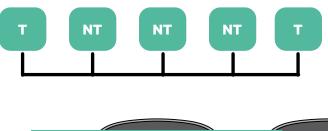
• Dynamic Power Sharing works up to 100 chargers for each installation. Among them, one is primary and 99 are secondary. The maximum distance the communication wiring can reach is 250m.

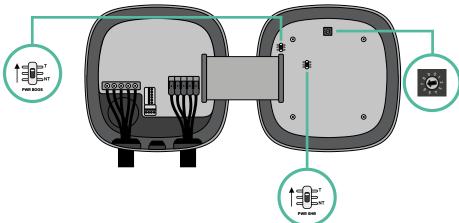
**Note:** Only Max Current > 6A per phase is accepted for a correct performance. In case of doubts, contact Wallbox Service.

Refer to the **Pulsar Max Installation Guide** or the **Pulsar Pro Installation Guide** for more information.

### **Terminating settings**

Once the cabling is complete, you need to activate the terminating resistors. First set up Power Boost into T only for the charger that is connected into meter. Then, set up Power Sharing, the first and the last charger will always be terminating (T) with non terminating (NT) chargers between them.







### **Important**

Only for Pulsar Max Rev A with a Temco clamp, set up the Power Boost into NT.

2. Once the termination resistors are set up, place the current selector of each charger following the information. Put the rotary switch into a position between 1 and 7 depending on the maximum current that can be supplied from the charging network.

| POSITION    | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 |  |
|-------------|---|---|----|----|----|----|----|----|---|---|--|
| MAX CURRENT | R | 6 | 10 | 13 | 16 | 20 | 25 | 32 | R | R |  |



#### **Important**

Make sure that the selector does not point to 0, 8 and 9.

- Close the cover of your charger by following the instructions in the respective **Installation Guide**.
- 4. Once the installation is complete, do not forget to activate and finalise the Dynamic Power Sharing configuration in the myWallbox app. You can follow **this** guide to the process.

# Dynamic Power Sharing

#### Adding chargers in the future:

If you anticipate adding chargers to the system in the future, there are two ways you can prepare the system now to make it ready for Dynamic Power Sharing.

Option 1: Place a bus disconnecter to accommodate future chargers as shown in the option 1 wiring scheme below. This option avoids the need of reopening the existing chargers and hence it is the recommended option.

Option 2: Truncate the existing bus to add new charger(s) as shown in the option 2 wiring scheme below.

- 1. Open the charger following the installation guide of your Pulsar Max/Pulsar Pro charger.
- 2. Set the terminating resistor Power Sharing into NT, make the communication wiring as explained above and then close the charger.



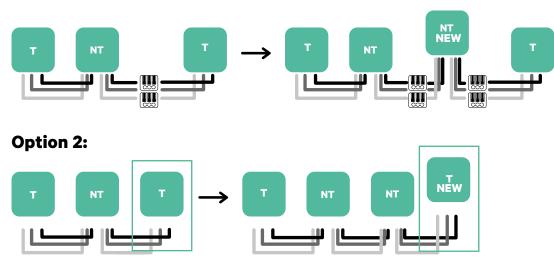
#### **Important**

New chargers may be placed anywhere physically in relation to the existing chargers as long as you follow these rules:

- You maintain the logic of the daisy chain.
- You respect the cabling polarity as described above under "Installation".

Wherever a future added charger is placed, the most important rule to follow is the logic of the daisy chain. For example, in the image below, the new charger is placed before the Terminating charger on the right side of the daisy chain.

#### **Option 1:**



Open this existing chargers

Note: Check the terminating settings on page 83 to know when to set T or NT on the first and last charger of the installation.

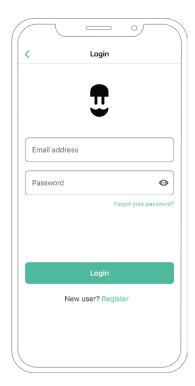
To install Dynamic Power Sharing with four chargers, check the **Appendix**.

## **Power Boost**

#### **Enabling Power Boost**

Follow these steps to activate Power Boost once you have installed your charger and its compatible energy meter:

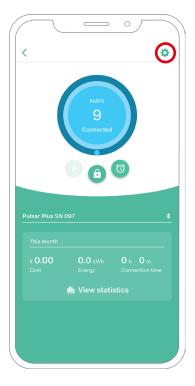
- Make sure your Wallbox charger and myWallbox mobile app have the latest version available (you can check its version in your Play Store or App Store).
- **2.** Connect to your charger via Bluetooth.
- **3.** Log into the myWallbox app by filling in your credentials, or <u>register</u> if you do not have an account yet. If your charger is a Commander 2, you can also configure Power Boost on its touchscreen directly.



## **Power Boost**

- 4 Select the charger you want to enable Power Boost for and stay within its Bluetooth range during all the following steps. If you did not link your charger to your myWallbox account yet, please follow these instructions to do so.
- **5.** Once the synchronization between your charger and your App is complete, go to Settings.

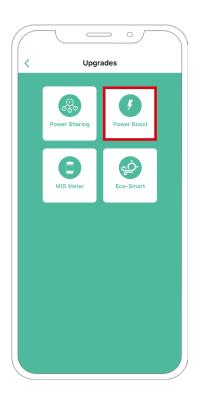




# CONFIGURATION Power Boost

- **6.** Then click Upgrades.
  - Configuration

**7.** Click the Power Boost icon.



## **Power Boost**

**8.** Enable the Power Boost feature by switching the button to the ON position. In the Max current per phase field, specify the main breaker rated current or subscribed current (in amps), whichever is lower. Then, click Accept to enable Power Boost.

**Important** 

Only Max Current per phase greater than 6 amps is accepted for correct performance. In case of doubt, contact Wallbox Customer Service.



### Troubleshooting steps in case Power Boost icon is not selectable

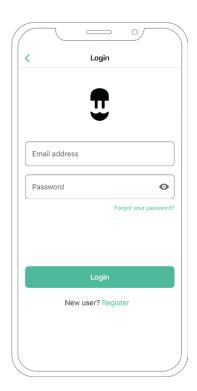
- **1.** Power off and power on your charger.
- 2. Check all cables for correct installation.
- 3. Check if correct cable type is used.
- 4. Check if switch is settled correctly to "T" or "NT".
- **5.** Check if your charger <u>software</u> is up to date.
- 6. Make sure that you are connected through Bluetooth.

## **Eco-Smart**

### **Enabling Eco-Smart**

Follow these steps to activate Eco-Smart once you have installed your charger and its compatible energy meter:

- 1 Make sure your Wallbox charger and myWallbox mobile app have the latest version available (you can check its version in your Play Store or App Store).
- **2.** Connect to your charger via Bluetooth.
- **3.** Log into the myWallbox app by filling in your credentials, or <u>register</u> if you do not have an account yet.



## **Eco-Smart**

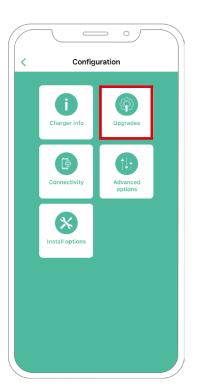
- On the charger screen, select the charger you wish to activate the Eco-Smart feature for. If you did not link your charger to your myWallbox account yet, please follow these instructions to do so.
- **5.** Once synchronization is complete, tap the cogwheel to access the Settings.



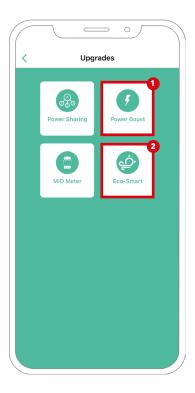


# CONFIGURATION Eco-Smart

**6.** Click Upgrades.

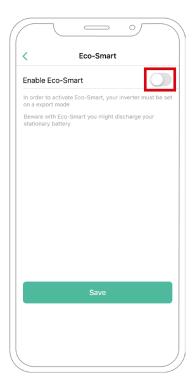


**7.** It is recommended to activate Power Boost (1) before enabling Eco-Smart. Once Power Boost is activated tap the Eco-Smart (2) feature to access its settings.



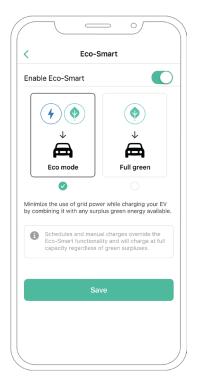
# CONFIGURATION Eco-Smart

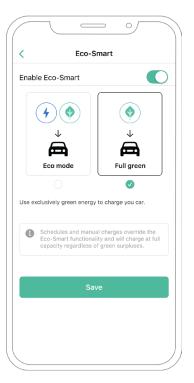
- **8.** Tap "Let's start" to start using Eco-Smart.
  - 0) Eco-Smart Welcome to Eco-Smart Charge your EV using the surpluses of your PV/Wind green energy installation
- **9.** Enable the Eco-Smart feature by switching the button to the ON position.



## **Eco-Smart**

10. You now have a choice to select two Eco-Smart modes. Select the mode that you wish to use, Eco or Full-Green.





Then click Save. The Eco-Smart feature is now activated with the mode you have selected.

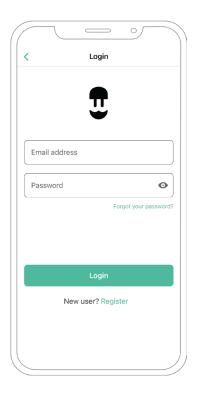
### Troubleshooting steps in case the Eco-Smart icon is not selectable

- 1. Power off and power on your charger.
- 2. Check all the cables for correct installation.
- **3.** Check if the correct cable type is used.
- 4. Check if the switch is settled correctly to "T" or "NT".
- **5.** Check if your charger <u>software</u> is up to date.
- 6. Make sure that you are connected using Bluetooth.

### **Enabling Vehicle to Home**

Follow these steps to activate Vehicle to Home for your Quasar:

- Make sure your Wallbox charger and myWallbox mobile app have the latest version available (you can check its version in your Play Store or App Store).
- **2.** Connect to your charger via Bluetooth.
- **3.** Log into the myWallbox app by filling in your credentials, or <u>register</u> if you do not have an account yet.

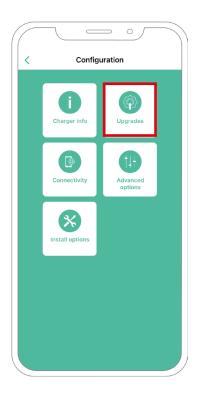


- Select your charger and stay within its Bluetooth range during all the following steps. If you did not link your charger to your myWallbox account yet, please follow these instructions to do so.
- **5.** To activate Vehicle to Home, you will first need to enable Power Boost. Please refer to the Power Boost article to learn how to activate it.



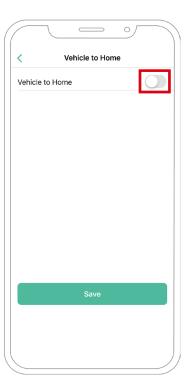


- Once you have configured
  Power Boost properly and the
  synchronization between the
  charger and the app is complete (the
  charging wheel turns green), go to
  Settings.
- **7.** Click Upgrades.



- **8.** Then click Vehicle to Home.
- **9.** Enable the Vehicle to Home feature by switching the button to the ON position.





- 10. In Max Current per phase of installation (in amps), specify the main breaker rated current. The value specified has to be equal to or greater than the MAX. CURRENT PER PHASE (in amps) set for Power Boost. Click Save.
  - Vehicle to Home

    Vehicle to Home

    Max current per phase of installation [A]

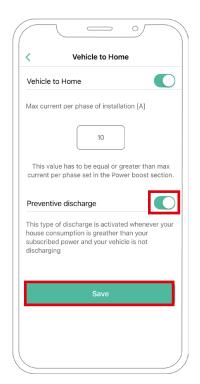
    This value has to be equal or greater than max current per phase set in the Power boost section.

    Preventive discharge

    This type of discharge is activated whenever your house consumption is greather than your subscribed power and your vehicle is not discharging

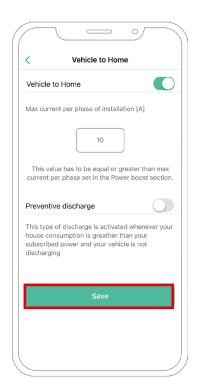
    Save

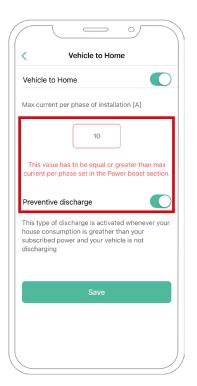
11. CASE 1: If Max Current per phase of the installation is greater than Power Boost current, you need to turn on the Preventive discharge feature. Once done, click SAVE and Vehicle to Home will be fully configurated.



## V2H

- 11. CASE 2: If Max Current per phase set in Vehicle to Home is equal to Power Boost current per phase, just click SAVE and Vehicle to Home will be activated.
- of installation set in Vehicle to
  Home is lower than Power Boost
  current per phase, you will not be
  able to save this configuration and
  an error message will display. Set
  a value greater or equal to Power
  Boost current per phase to enable
  Vehicle to Home.





### Troubleshooting steps in case the Vehicle to Home icon is not selectable

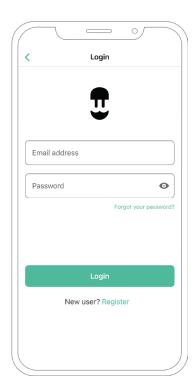
- **1.** Power off and power on your charger.
- 2. Check all cables for correct installation.
- 3. Check if the correct cable type is used.
- **4.** Check if the switch is settled correctly to "T" or "NT".
- 5. Check if your charger software is up to date.
- 6. Make sure that you are connected through Bluetooth.

## CONFIGURATION Power Sharing

### **Enabling Power Sharing**

Follow these steps to activate Power Sharing for your charger:

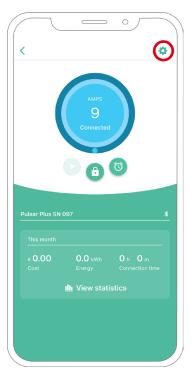
- **1** Make sure your Wallbox charger and myWallbox mobile app have the latest version available (you can check its version in your Play Store).
- **2.** Connect to your charger via Bluetooth.
- **3.** Log into the myWallbox app by filling in your credentials, or <u>register</u> if you do not have an account yet.



### **Power Sharing**

- 4 With Pulsar Plus, Commander 2
  and Copper SB select the primary
  charger of the chain and stay within its
  Bluetooth range during all the following
  steps. With Pulsar Max, select any
  charger of the chain. If you did not
  link your charger to your myWallbox
  account yet, please follow these
  instructions to add your charger.
- Once your charger and myWallbox App are synchronized (the charging wheel will turn green on your app), go to Settings.

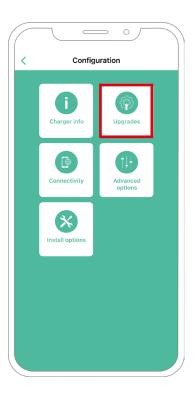




## CONFIGURATION Power Sharing

**6.** Click Upgrades.

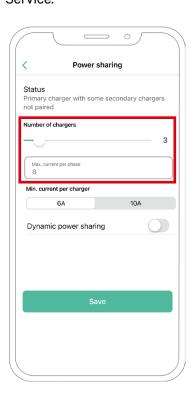
**7.** Then click the Power Sharing icon.

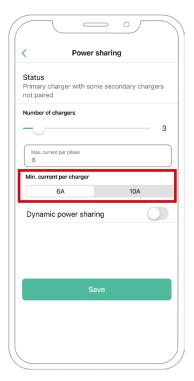




### **Power Sharing**

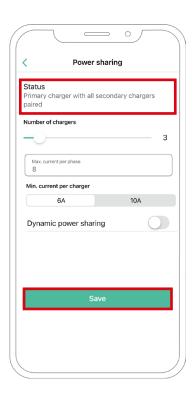
- 8. Indicate the Number of chargers that are present on the installation. In the Max. current per phase field, specify the max. rated current of the protection installed (MCB) to protect all chargers installation. Please note that only maximum current per phase greater than 6 amps is accepted for correct performance. In case of doubt, contact Wallbox Service.
- **9.** Define the Min. current per charger (in amps) that each charger will operate.





### **Power Sharing**

10. Once you go through all the steps, click Save and ensure that the status "Primary charger with all secondary chargers paired" appears.

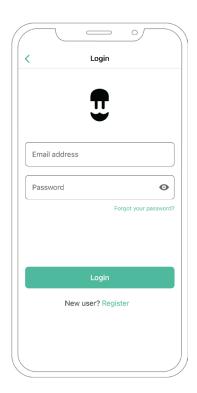


## **Troubleshooting steps in case the Power Sharing icon is not selectable**

- 1. Power off and power on your charger.
- 2. Check all cables for correct installation.
- 3. Check if the correct cable type is used.
- **4.** Check if the switch is settled correctly on "T" or "NT".
- 5. Check if your charger software is up to date.
- **6.** Make sure that you are connected through Bluetooth.

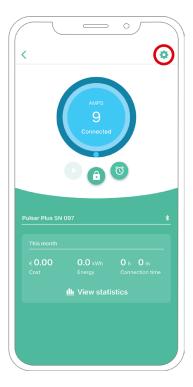
### **Enabling Dynamic Power Sharing**

- Make sure your Wallbox charger and myWallbox mobile app have the latest version available (you can check its version in your Play Store)
- 2. Connect to your charger via Bluetooth.
- 3. Log into the myWallbox app by filling in your credentials, or register if you do not have an account yet. If your charger is a Commander 2, you can also configure Dynamic Power Sharing on its touchscreen directly.



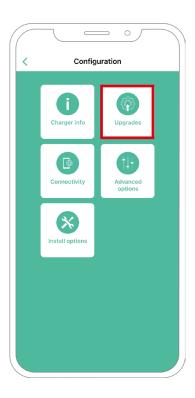
- 4. Select the charger that is connected to the meter and stay within its Bluetooth range during all the following steps. If you did not link your charger to your myWallbox account yet, please follow these instructions to do so.
- **5.** Once your charger and myWallbox App are synchronized, go to Settings.

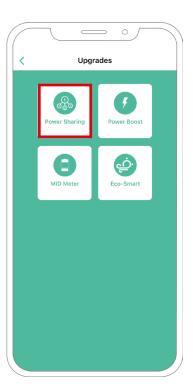




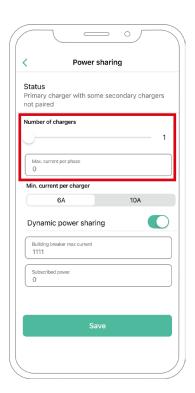
**6.** Click Upgrades.

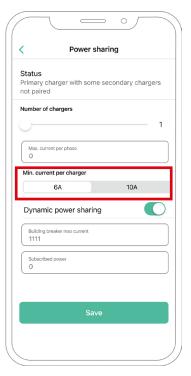
**7.** Click the Power Sharing icon.





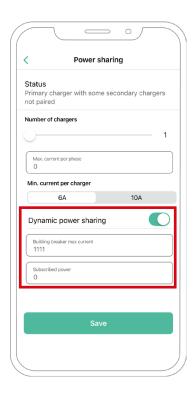
- **8.** Indicate the Number of chargers present on the installation. In the Max. current per phase field, specify the max. rated current of the protection installed (MCB) to protect all chargers installation. Please note that only Max. current per phase greater than 6 amps is accepted for correct performance. Contact Wallbox Service in case of doubts.
- **9.** Define the Min. current per charger (in amps) that each charger will operate.

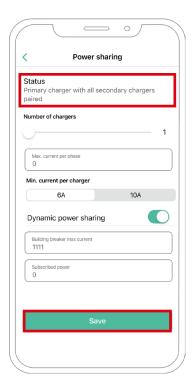




## **Dynamic Power Sharing**

- **10.** Turn on Dynamic Power Sharing. Specify the Building breaker max current (in amps).
- Click Save and ensure that the status "Primary charger with all secondary chargers paired" appears.





### Troubleshooting steps in case the Power Sharing icon is not selectable

- 1. Power off and power on your charger.
- 2. Check all cables for correct installation.
- 3. Check if the correct cable type is used.
- 4. Check if the switch is settled correctly on "T" or "NT".
- **5.** Check if your charger <u>software</u> is up to date.
- 6. Make sure that you are connected through Bluetooth.

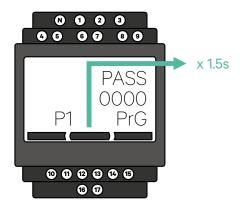
# **Appendix**

### INSTALLATION WITH PULSAR PLUS, COMMANDER 2, QUASAR AND COPPER SB

# Applicable to Power Boost, Eco-Smart, V2H, Dynamic Power Sharing

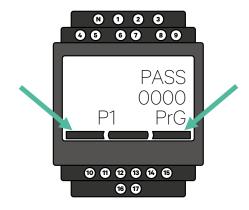
### **EM330 Configuration**

Press the button in the middle for 1.5 seconds to enter the password confirmation screen.

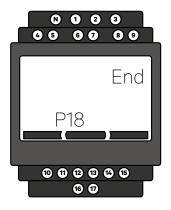


The pre-defined password is 0000.

Just press the left and the right button at the same time to confirm.



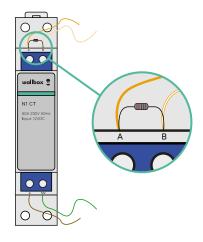
- Using the right and left buttons, scroll up to the "Ct rAt lo" item. Press the middle button for 1.5 second and modify the value using the left and right buttons. Set it to 50 for 250A, to 80 for the 400A clamp, or 120 for the 600A clamp. Press the middle button to confirm the value.
- FOR ECO-SMART ONLY: Access the "MEASURE" menu. Hold down the middle button for 1.5 seconds to adjust values using the left and right buttons. Change the default "A" value to "B," then press the middle button to confirm.
- Scroll down to the "end" option and press enter to exit the programming menu.



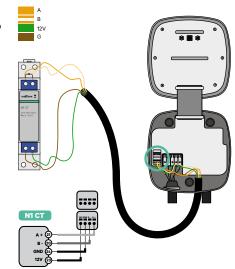
## INSTALLATION WITH PULSAR PLUS, COMMANDER 2, COPPER SB, PULSAR MAX AND QUASAR

### **How to install N1 CT**

1.



2.

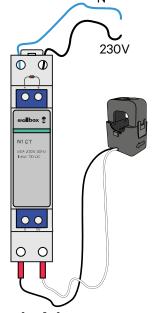


 $\triangle$ 

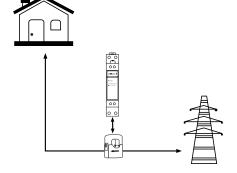
#### **Important**

Communication end resistor: the 1200hms resistor included is to be added between the A-B connectors of the meter.

3.



4.





#### Disclaimer

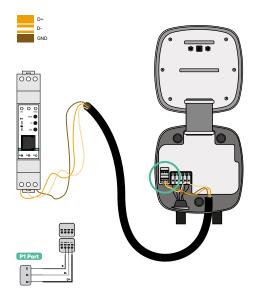
The connection of the 230V AC wires is only needed when Eco-Smart is activated. This connection is not needed for activating Power Boost.

## INSTALLATION WITH PULSAR PLUS, COMMANDER 2, COPPER SB, PULSAR MAX, AND QUASAR

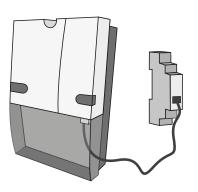
### **How to install P1 Port**

- Depending on the country, the P1 port can be already activated or not. Contact the utility company to check the status and proceed with the activation when needed.
  - HAN/PI Smart meter
- 3. Look at the diagram to check how to

wire P1 Port to a charger.



2. Fix the P1 Port meter to the DIN rail. Then, connect the RJ12 connector to the utility meter and the Wallbox P1 metering solution.





#### **Disclaimer**

The P1MB is connected via an RJ12 connection to the P1 Port. The device is powered by the +5V of the P1 Port of the connected smart meter. If not available, the P1MB can optionally be powered by an external adapter connected to the DC power interface.

## INSTALLATION WITH PULSAR PLUS, COMMANDER 2, COPPER SB, PULSAR MAX, AND QUASAR

### **How to install P1 Port**

Once the installation is completed and the charger is configured, check the P1 Port's led lights:

#### **Power Status Led - Yellow**

If the yellow light is on, the P1 Port is powered, while the device is not powered, in case the led is off.



#### **Modbus Status LED - Red**

If the red light is on, a valid Modbus request was received within the last minute. If it is blinking, some data was received, but no valid Modbus request was received. If it is off, no data was received in the past 6 minutes.



#### P1 Status Led - Green

If the green light is on, P1 data was received with the correct CRC.

If it is off, no P1 data was received from the smart meter within the last minute.



### PULSAR PLUS, COMMANDER 2, COPPER SB AND PULSAR MAX

# **Installing Dynamic Power Sharing with 4 chargers**

