



IT EN ES PT

# POWER **SHARING**

---

User manual

V.1  
10/03/2023

# SUMMARY

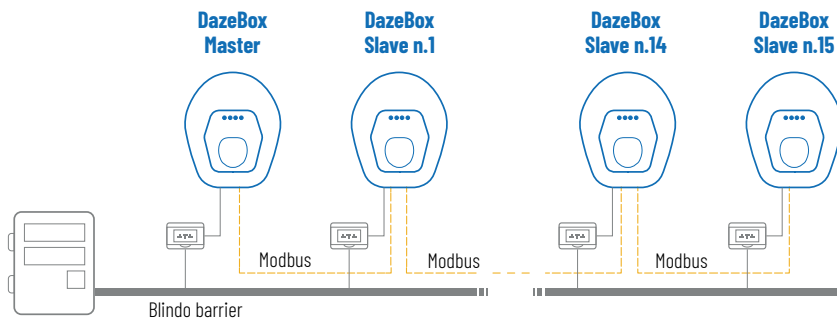
<b>01</b>	<b>INTRO</b>	3
<b>02</b>	<b>INSTALLATION</b>	3
<b>03</b>	<b>SETUP</b>	6
	<b>03.1 CREATION OF A NEW NETWORK</b>	
	<b>03.2 MASTER ASSOCIATION AND CONFIGURATION</b>	
	<b>03.3 SLAVE ASSOCIATION</b>	
<b>04</b>	<b>OPERABILITY</b>	9
<b>05</b>	<b>FAQ</b>	9

## 01. INTRO

Power Sharing of DazeBox C and DazeMax C is based on the dynamic division of equidistributed power between charging stations, aimed at maximizing the average charging rate based on the withdrawal of the various connected vehicles.

This system is exclusively dedicated for **single-phase or three-phase systems** with a large number of **single-phase chargers**. This functionality operates via Master/Slave over Modbus RTU RS485 that does not require external devices.

For each Master loader, it can manage up to a **maximum of 15 Slave chargers**. Installation with Power Sharing is easily configured via App.



## 02. INSTALLATION

Before making connections disconnect the charger.

- Through the central cable gland, insert the modbus cable dedicated to power sharing into the charger. For modbus wiring, it is advisable to use a 24 Awg (0,25 mm<sup>2</sup>) braided shielded two-core cable with impedance 120 ohm nominal.
- Connect the cable to the terminals shown in fig. A. Be careful not to reverse the cable connection between chargers. The cable starting at A must always be connected to terminal A of each charger, while B always in the B.
- Ground the shielding of the modbus cable using the 2 terminals C and D (the two below the A and B terminals of the modbus). It is recommended to use a conduit dedicated for the modbus cable so as to minimize the risk of distur-

## POWER SHARING

bances caused by other cables.

Configure the dip switches shown in Figure A as follows:

- Dipswitch #2 raised on the first and last loader in the chain.
- Dipswitch #1 and #3 raised on the master loader.
  
- As shown in Fig. B to each loader (except the first and last of the line) both the input and output cables should be connected. It is recommended to use a double ferrule compatible with the modbus cable being used (24 awg the recommended one).
  
- In the case of a three-phase meter and single-phase charger, alternate the connection of the phases to terminals L1 and N, as shown in fig. B. So the first loader should be wired to L1 and N of the power system, the second to L2 and N, the third to L3 and N, and the fourth again to L1 and N. This is so that only one phase is not overloaded.
  
- A maximum of 15 chargers can be connected to each master charger slaves.
  
- The total length of the modbus cable (so between the first and last loader) must not exceed 200 meters.

Figure A:

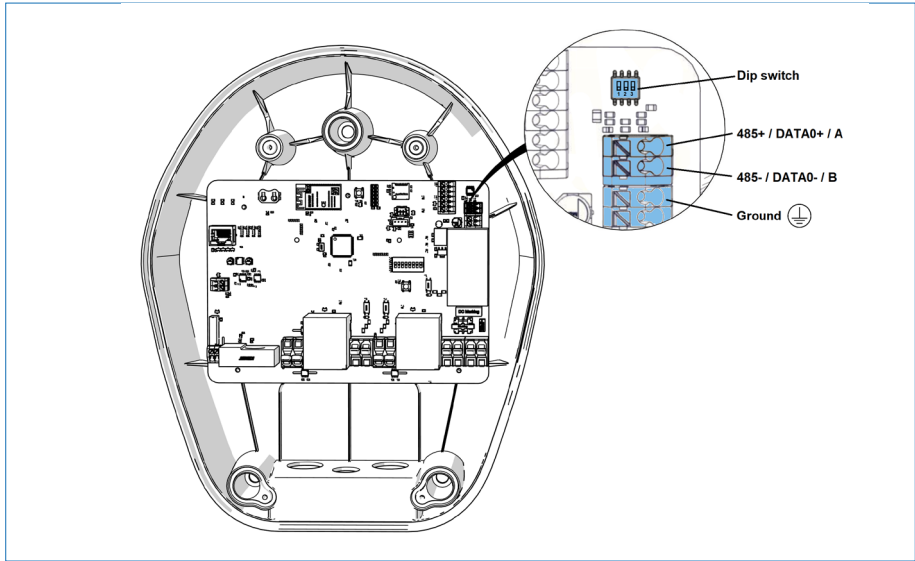
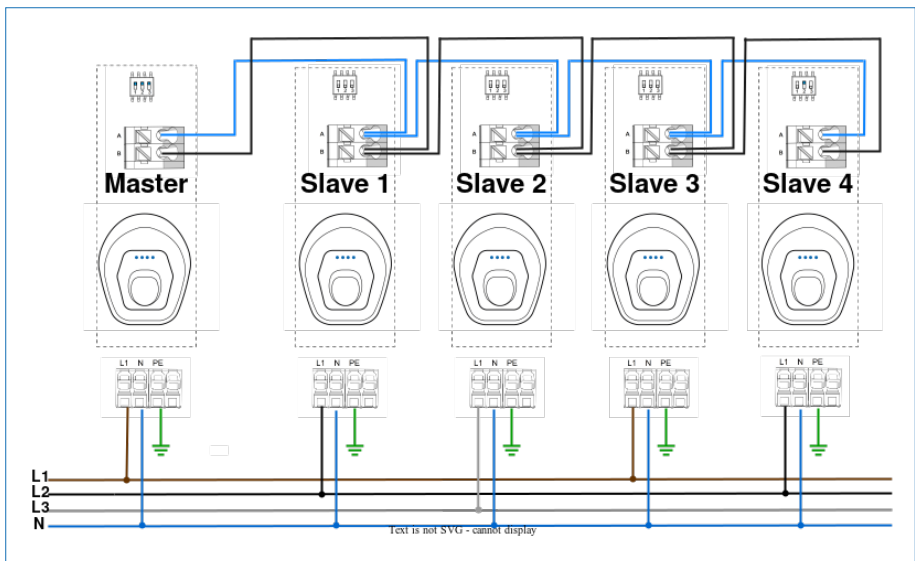


Figure B:



## 03. SETUP

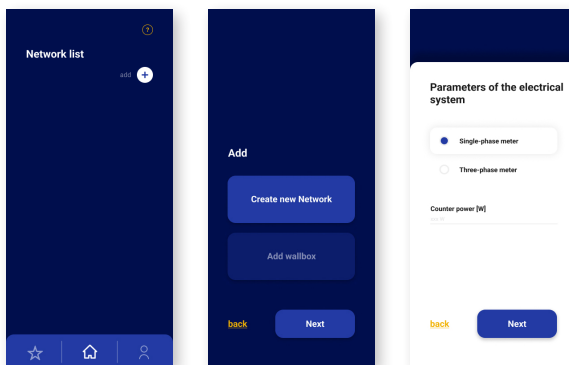
### 03.1 CREATION OF A NEW NETWORK

Once the chargers are installed and connected, proceed with App configuration, which can be downloaded directly from the Qr Code below.



Once the registration is done proceed with the creation of a new network.

#### New network



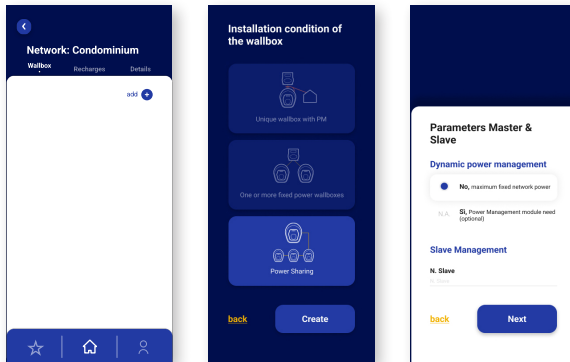
Click on add within the "Network List" and tap on "Create New Network" and then on "Next." Complete the fields on the screen with the geographic data of the network and enter the parameters of the system, specifying meter type, power, trial membership Arera and the presence of photovoltaic panels.

## 03.2 MASTER ASSOCIATION AND CONFIGURATION

After creating the first network, you can add charging stations. To do so, open the network and select add in the upper right corner.

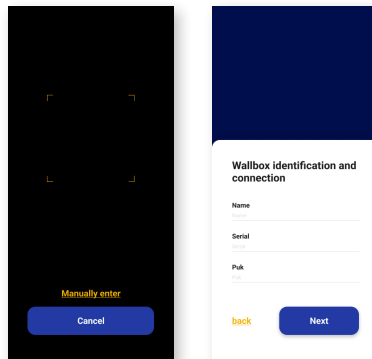
Select the third installation option named Power Sharing.

Click "Next" to proceed with entering the number of Slaves.



### Master association

The first charging station that you are going to associate will become the Master. Through the Qr Code placed on the wallbox, locate the serial and puk and assign a name of your choice.



## POWER SHARING

In case of a 3-phase network, it is necessary to specify the charging station wiring so that the Master knows how to supply the power to the Slave charging stations on the 3 lines.

The screenshot shows a mobile application interface for configuring wallbox wiring. The title is "Wallbox wiring". Below the title, there is a subtitle: "Select how the phases of the wallbox are wired". There are three input fields labeled "L1 wired with", "L2 wired with", and "L3 wired with". At the bottom, there are two buttons: a yellow "back" button and a blue "Next" button.

## 03.3 SLAVE ASSOCIATION

Once the master is associated, proceed with the association of the Slave charging stations by repeating the process done earlier and replicating it for each Slave.

Associate the desired charging station through the Qr Code.

Click "Next" to proceed with the configuration of the Slave parameters:

- Enter the Modbus address, an identification number to be assigned to the wallbox that allows it to communicate with the master (numbering starts from 1 up to the total number of slave charging stations in the network)
- Again, for the three-phase network, indicate the wiring of the charging station.

The image displays three sequential screenshots of the mobile application interface for slave association. The first screenshot is a dark screen with a yellow QR code scanner overlay and a blue "Cancel" button at the bottom. The second screenshot is titled "Wallbox identification and connection" and contains input fields for "Name", "Serial", and "Puk", with a yellow "back" button and a blue "Next" button at the bottom. The third screenshot is titled "Parameter Slave" and contains a "Modbus address" input field, with a yellow "back" button and a blue "Next" button at the bottom.



## 04. OPERABILITY

The first to be setup is the Master. Once the setup is complete, it will attempt to communicate with the Slaves for Power Sharing operation.

When the Slave configuration is complete, it will initially remain in an out-of-service state (indicated by steady red LEDs) until successful communication with the Master. This operation may take up to one minute.

*NOTE: All configuration and authorization feature for recharging (lock, unlock, and time slots) are maintained on each individual charging station, available within the relevant charging station panel of the app.*

Upon connection with a vehicle to be recharged, the charging station will remain in standby power, highlighted by the yellow-blue LEDs.

In case the minimum power to guarantee charging (1.4 kW) is not available, the charging station will stay in that state.

In case the minimum power is available, after about one minute of waiting the charging station will be authorized to charge and will wait for the vehicle to communicate its availability to charge (green-blue LEDs).

Upon completion of charging and subsequent disconnection of the cable from the vehicle, the excess power will be redistributed to the other connected charging stations in the network.

## 05. FAQ

### **What happens if a slave charging station disconnects from the master?**

The master charging station will consider it disconnected and split the power within the remaining charging stations.

The slave charging station will enter an out-of-service state indicated by steady red LEDs.

If communication should be reestablished, the slave charging station will come out of that state within one minute and then become operational again and ready for charging.

### **What happens in case of replacing a slave charging station?**

Via app it will be necessary to delete the slave charging station to be replaced from the network and associate the new charging station with the same modbus address as the previous one.

### **What to do in case of replacing a charging station master?**

Through the app it will be necessary to delete the master from the network and then associate the new charging station, which will automatically be recognized as the new master.

### **How do you add a slave charging station to an already completed network?**

Via app you will need to delete and re-associate the master to the network so that you can change the number of slave charging stations.

Then it will be possible to associate and configure the new slave charging stations within the network by entering the modbus address sequentially.

**daze.eu**

---

**+39 035 1983 1355**

info@daze.eu

Daze HQ - Almenno San Bartolomeo - Bergamo, Italy

**+34 911 47 60 74**

contacto@daze.eu

Daze Ibérica - San Sebastián de los Reyes - Madrid Spain