Azzurro HUB - monitoring and control system

User Manual

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General Instructions

This manual contains important safety instructions that must be followed during installation and maintenance of the equipment.

Please keep these instructions!

This manual must be considered an integral part of the equipment and must be readily available to everyone who interacts with it at all times. The manual must always accompany the equipment, even when it is transferred to another user or plant.

Copyright Statement

Technical Support

ZCS provides technical support and advice, which can be accessed by sending a request directly from the website www.zcsazzurro.com
The following toll-free number is available for Italy: 800 72 74 64.

Preface

General Information

Please read this manual carefully before installation, use or maintenance. This manual contains important safety instructions that must be followed during installation and maintenance of the equipment.

Scope

This manual describes the assembly, installation, electrical connections, commissioning, maintenance and troubleshooting of the Azzurro HUB system. Keep this manual readily accessible at all times.

Recipients

This manual is intended for qualified technical personnel (installers, technicians, electricians, technical support staff, or any other professionals qualified and certified to work on electrical systems) responsible for the installation and commissioning of the system. It is also intended for end users, providing them with helpful information on how to manage their installations through the Azzurro HUB system.

Symbols Used

This manual contains information for the safe and correct operation of the device. Specific symbols are used to highlight safety instructions, prevent accidents and ensure the proper handling of equipment during normal operation.
Understanding these symbols is crucial to avoiding personal injury and preventing property damage. Please carefully review the following symbols used in this manual.

 **Danger**	**Danger:** indicates a hazardous situation which, if not resolved or avoided, could result in serious personal injury or death
 **Warning**	**Warning:** indicates a hazardous situation which, if not resolved or avoided, could result in serious personal injury or death

 **Caution**	**Caution:** indicates a hazardous situation which, if not resolved or avoided, could result in minor or moderate personal injury
 **Attention**	**Attention:** indicates a potentially hazardous situation which, if not resolved or avoided, could result in damage to the system or other property
 **Note**	**Note:** provides important information, recommendations or tips for optimal use of the product

1. Preliminary Safety Instructions

 Note	**For any doubts or difficulties in reading and understanding the following information, please contact Zucchetti Centro Sistemi S.p.A. through the official support channels.**

1.1. Safety Instructions

This section highlights the main safety requirements to be observed during installation and use of the equipment.
Before installing or operating the equipment, please read this manual thoroughly and familiarise yourself with the safety symbols described in this chapter. All installation activities must be performed exclusively by a qualified and certified electrician.
Contact the nearest authorised service centre for any repair or maintenance operations. For information on the nearest authorised service centre, please contact your distributor. DO NOT attempt to repair the equipment yourself, as this may cause injury to persons or damage to property.

Qualified Personnel

Ensure that the operator has the necessary skills and training to operate the equipment. Personnel responsible for operating and maintaining the equipment must be adequately qualified, capable of performing the activities described, and able to correctly interpret the contents of this manual. For safety reasons, this system must be installed exclusively by a qualified electrician with the appropriate training, skills and technical knowledge. Zucchetti Centro Sistemi S.p.A. declines all responsibility for damage to property or personal injury resulting from incorrect use of the device.
Do not attempt to repair or replace system components without the assistance of authorised and qualified personnel.

Installation Requirements

Install and start up the system in accordance with the instructions provided in this manual. Choose a suitable location for installing the electrical equipment. Ensure there is adequate space around the device to allow safe and convenient access for future inspection, servicing and maintenance.

Transport Requirements

If the packaging is damaged in any way that could compromise the integrity of the system, or if visible damage is detected, notify the transport company immediately. If necessary, request assistance from an installer or directly from Zucchetti Centro Sistemi S.p.A. When transporting the equipment, particularly by road, use only vehicles that can adequately protect the components (especially electronic parts) against violent knocks, humidity, vibrations, etc.

Electrical Connections

Please follow all the current electrical regulations concerning accident prevention.

 **Danger**	**Before connecting the power supply, make sure to properly disconnect the voltage on the AC connection cables.**
 **Warning**	**All installation operations must be performed by a qualified and professional electrician who has carefully read and understood the instructions in this manual!**
 **Note**	**Do not remove the information label or tamper with the system. Failure to comply will void the warranty, and ZCS will not provide any support or assistance.**

Operation

Do not use the product if it shows any defects, cracks, scratches or leaks. In such cases, contact your dealer or ZCS technical service.

⚠ **Danger**	**Contact with the electrical system or the equipment terminals may cause electrocution or fire!** • Never touch the terminals or conductors connected to the electrical system. • Follow all the instructions and safety requirements regarding electrical connection.
⚠ **Warning**	**If the system is not functioning properly:** • Disconnect the input and output power supply

Maintenance and Repair

Keep the system clean and dry. For cleaning, use a clean, dry cloth.

Product label:

Figure 1 - Labels on the system

2. Product Features

2.1. Product Presentation

The Azzurro HUB is a control system designed to communicate with Azzurro EV charging stations as well as Azzurro photovoltaic and hybrid inverters. Its functions include measuring and monitoring energy consumption, supervising system performance, limiting the power fed into the grid and controlling domestic loads with the use of accessory sensors, external meters and digital outputs.

2.2. Local Web Server

When powered on, the Azzurro HUB generates a Wi-Fi/Bluetooth access point. You can connect to this access point by scanning the QR Code located on the product.
Once connected, the web server for configuring the product will open automatically. Alternatively, the web server can be accessed directly at the IP address: 192.168.20.1:55560

After the first connection to the router (via Ethernet or Wi-Fi), the web server can also be accessed through any browser by entering the IP address assigned by the router, followed by port 55560 (e.g. 192.168.1.100:55560).

2.3. Communication with Devices

Communication with EV charging stations can be carried out, depending on the model, via the dedicated CAN serial port, dedicated RS-485 serial port (Caro wallbox) or via Modbus TCP (DC wallbox). Up to 32 devices can be connected.

Communication with inverters can be carried out via a dedicated RS-485 serial port, with up to 32 inverters connected to the Azzurro HUB.

Communication with meters can be carried out via a dedicated RS-485 serial port, with up to 32 meters connected to the Azzurro HUB.

2.4. Communication with Portal

An internet connection is required for the Azzurro HUB to communicate with the web portal and mobile app.

The HUB can be connected to any router either via the RJ-45 connector (located on the top of the device), or via Wi-Fi connection.

2.5. Product Overview

The Azzurro HUB is designed for DIN rail mounting (6 modules wide) and is powered by 230V AC mains. It is compatible with Azzurro accessories, EV charging stations, inverters, and all required power supplies.

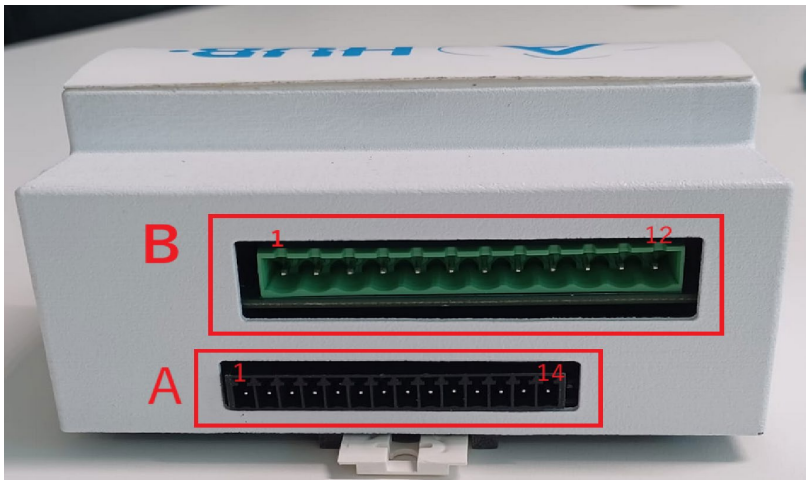


Figure 2 – Top view

The system includes a 14-pin terminal block [A] at the top for connecting devices (inverters, meters, wallboxes, etc.) and a 12-pin terminal block [B] for outputs (relay - dry contact).

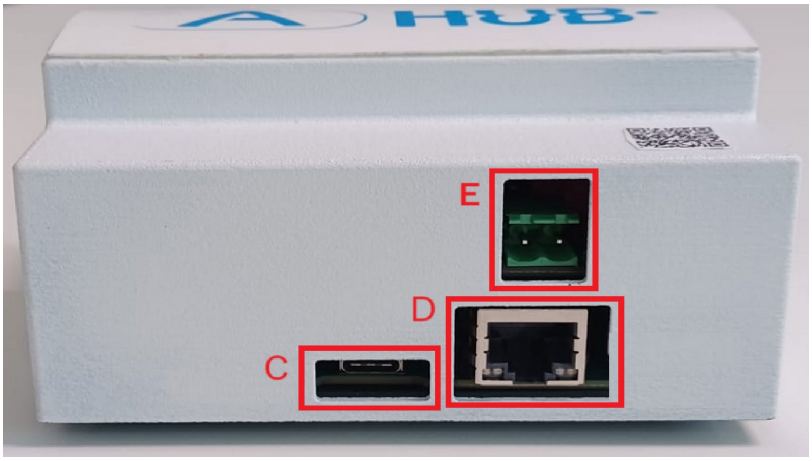


Figure 3 – Bottom view

The bottom part features a USB-C connector [C] reserved for future expansions, an RJ-45 connector [D] for Ethernet connection and a 230V AC power connector [E].

2.6. 14-PIN COM CONNECTOR [A]

14-pin connector pinout [A]:

PIN Azzurro HUB [A]	Description of Azzurro HUB pin [A]	Description of external device that can be paired	Connector on external device	Pin on external device
1	CAN-L	CAN wallbox	RJ-45 for CAN connection	5
2	CAN-H	CAN wallbox	RJ-45 for CAN connection	4
3	Analog input 1+	temperature probe PT100/PT1000	/	/
4	Analog input 1-	temperature probe PT100/PT1000	/	/
5	CT exchange +	current sensor for transformation ratio exchange point 3000:1 (max 80A on primary)	/	/
6	CT exchange -	current sensor for transformation ratio exchange point 3000:1 (max 80A primary)	/	/
7	CT production +	current sensor for transformation ratio external production 3000:1 (max 80A primary)	/	/
8	CT production -	current sensor for transformation ratio external production 3000:1 (max 80A primary)	/	/
9	RS-485 3A	External meter	RS-485	24
10	RS-485 3B	External meter	RS-485	25
11	RS-485 2A	CARO wallbox	RS-485	RS-485 A
12	RS-485 2B	CARO wallbox	RS-485	RS-485 B
13	RS-485 1A	Azzurro V3 / HYD 3PH Inverter	COM	1-2
		Azzurro HYD 1PH HP inverter	COM	5
		Azzurro HYD 1PH ZP1 inverter	COM	2
14	RS-485 1B	Azzurro V3 / HYD 3PH Inverter	COM	3-4
		Azzurro HYD 1PH HP inverter	COM	6
		Azzurro HYD 1PH ZP1 inverter	COM	3

2.7. 12-PIN output connector [B]

PIN AZZURRO HUB [B]	Description of Azzurro HUB pin [B]	1. Rating
1	Relay output 1 NC	3A / 230V AC 3A / 48V DC
2	Relay output 1 COM	
3	Relay output 1 NO	
4	Relay output 2 NC	
5	Relay output 2 COM	
6	Relay output 2 NO	
7	Relay output 3 NC	
8	Relay output 3 COM	
9	Relay output 3 NO	
10	Relay output 4 NC	
11	Relay output 4 COM	
12	Relay output 4 NO	

Cables with a maximum recommended cross-section of 1.5mm^2 can be connected to this connector.

2.8. Power connector [E]

A 230V, 50Hz power supply can be connected to this connector; the maximum recommended cable cross-section is 1.5 mm^2.

2.9. Ethernet connector [D]

The Ethernet connector, equipped with two status LEDs, allows for a wired network connection.
All Azzurro HUB devices are preconfigured for connection via either the integrated Wi-Fi module or a wired cable.

3. Installation diagrams

This chapter describes the electrical connections of the system.
Read this section carefully before connecting any cables.
All local, regional and national regulations must be strictly observed during installation, repair and maintenance of the product.

Attention	**Before performing any electrical connections, ensure that no AC voltage is present on the cables. Zucchetti Centro Sistemi Spa accepts no liability for damages, injury or other consequences arising from improper installation or use of this product. Installation must be performed exclusively by qualified professionals who possess the necessary skills and knowledge to build, install and operate electrical systems, and who are properly trained in identifying and preventing potential electrical risks.**
Attention	**Installation and maintenance must be performed by qualified technicians or electricians.**

Note	**For safety reasons, always use cables of the correct size. Improperly sized cables may cause overheating or overloading, which can result in fire.**

Cable connection procedure

1) Before beginning any operation, ensure that no voltage is present on the cables.
2) Strip the protective sleeve to the appropriate length, as shown in the figure (A: 80~100 mm B: 6~8 mm);

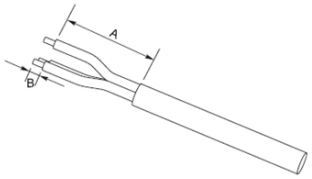


Figure 4 - Connecting the AC power cables

3) Connect the cable to the dedicated input (connector E, see Chapter 2).

3.1. System diagram with ZCS storage inverter

INVERTER TYPE	COMPATIBLE INVERTER MODEL
1PH	BZT5000 - Retrofit
1PH	HYD 3000-ZSS HP/HYD 6000-ZSS HP
1PH	HYD3000 HYD6000 ZP1 – One and All
3PH	HYD 5000 ZSS/HYD 20000 ZSS

The diagram below is recommended for systems equipped with one or more ZCS Azzurro storage inverters (1PH or 3PH), as indicated in the table above.

- ZCS pure photovoltaic inverters can be connected to the Azzurro HUB via RS-485 for monitoring and control functions (e.g. zero feed-in).
- Pure photovoltaic inverters from other brands can be monitored via an external production meter (EXT Production Meter) connected to the master hybrid inverter.
- Select the exchange measurement mode: Master hybrid inverter

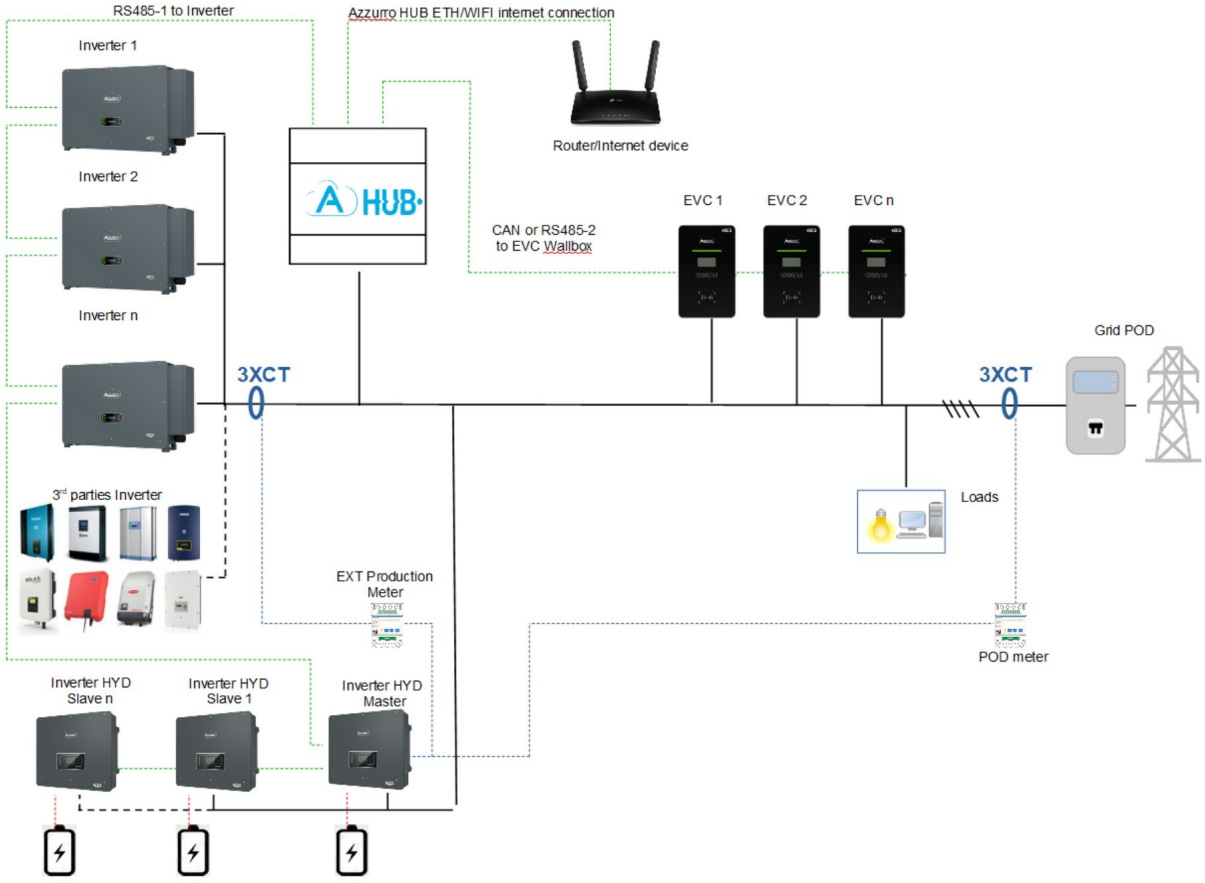


Figure 5 - System diagram with one or more hybrid inverters

3.2. System diagram with ZCS pure 3PH photovoltaic inverter

INVERTER TYPE	COMPATIBLE INVERTER MODEL
3PH	3.3KTL-V3/3PH 12KTL-V3
3PH	15000TL-V3/3PH 24000TL-V3
3PH	25KTL-V3/3PH 50KTL-V3
3PH	60KTL-V3/3PH 80KTL-V3
3PH	80KTL-LV/110KTL-LV
3PH	100KTL-V4/110KTL-V4
3PH	100KTL-HV/136KTL-HV
3PH	250KTL-HV/255KTL-HV
3PH	250KTL-HV Z0 / 330KTL-HV Z0 / 350KTL-HV Z0

Use this diagram when the system includes ZCS Azzurro (3PH) photovoltaic inverters, as indicated in the table above.

NOTE:

- Pure photovoltaic inverters from other brands can be monitored via an external production meter (EXT Production Meter) connected to the Azzurro HUB.
- Select the exchange measurement mode: Meter

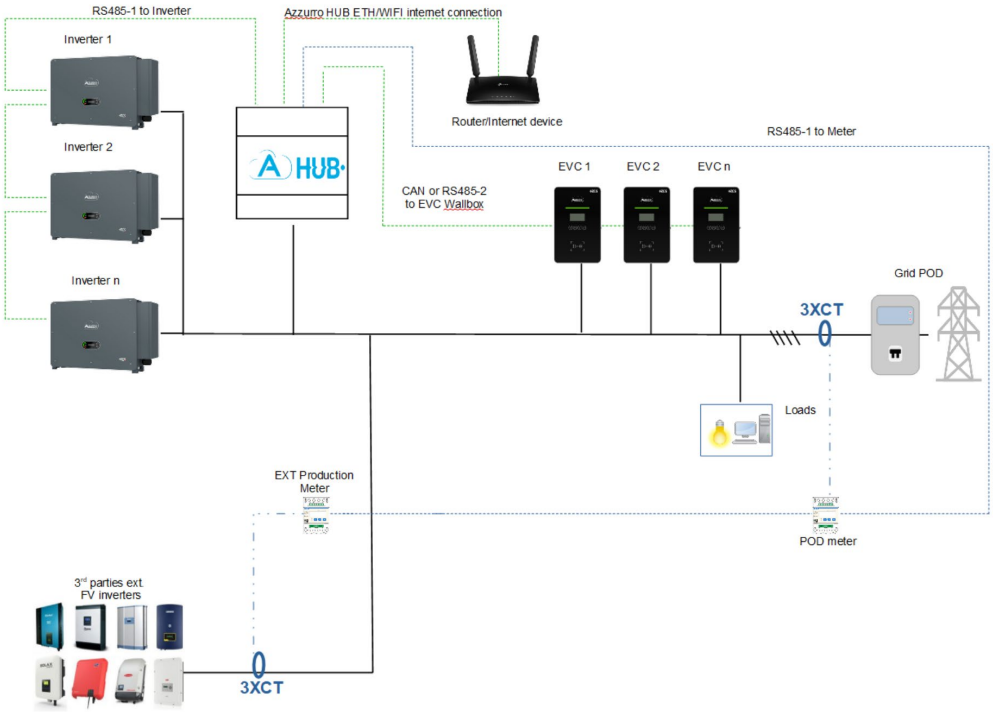


Figure 6 - System diagram with one or more pure 3PH photovoltaic inverters

3.3. System diagram with ZCS Power Magic

NOTE:

- ZCS pure photovoltaic inverters can be connected to the Azzurro HUB via RS-485 for monitoring and control functions (e.g. zero feed-in).
- Pure photovoltaic inverters from other brands can be monitored via an external production meter (EXT Production Meter) connected to the Master Power Magic.
- Select the exchange measurement mode: Power Magic

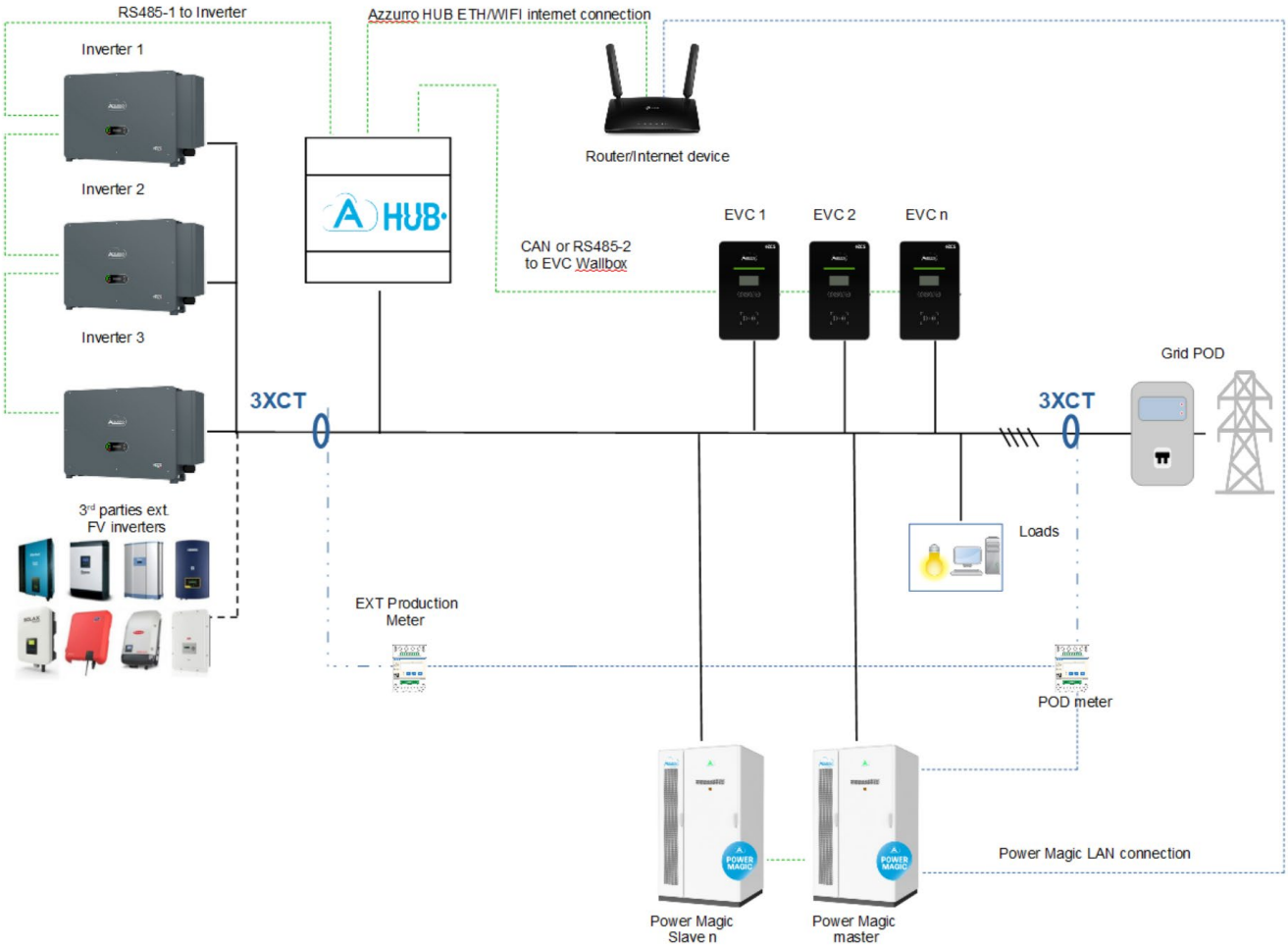


Figure 7 - System diagram with POWER MAGIC

3.4. System diagram with sensors (CT) connected directly to the Azzurro HUB

This configuration is applicable only for single-phase (1PH) systems using CT sensors with a 3000:1 transformation ratio, supplied by ZCS (e.g. ZST-ACC-TA).

1. Pure photovoltaic inverters from other brands can be monitored using the sensor (EXT Production)
2. Select the exchange measurement mode: Internal sensors

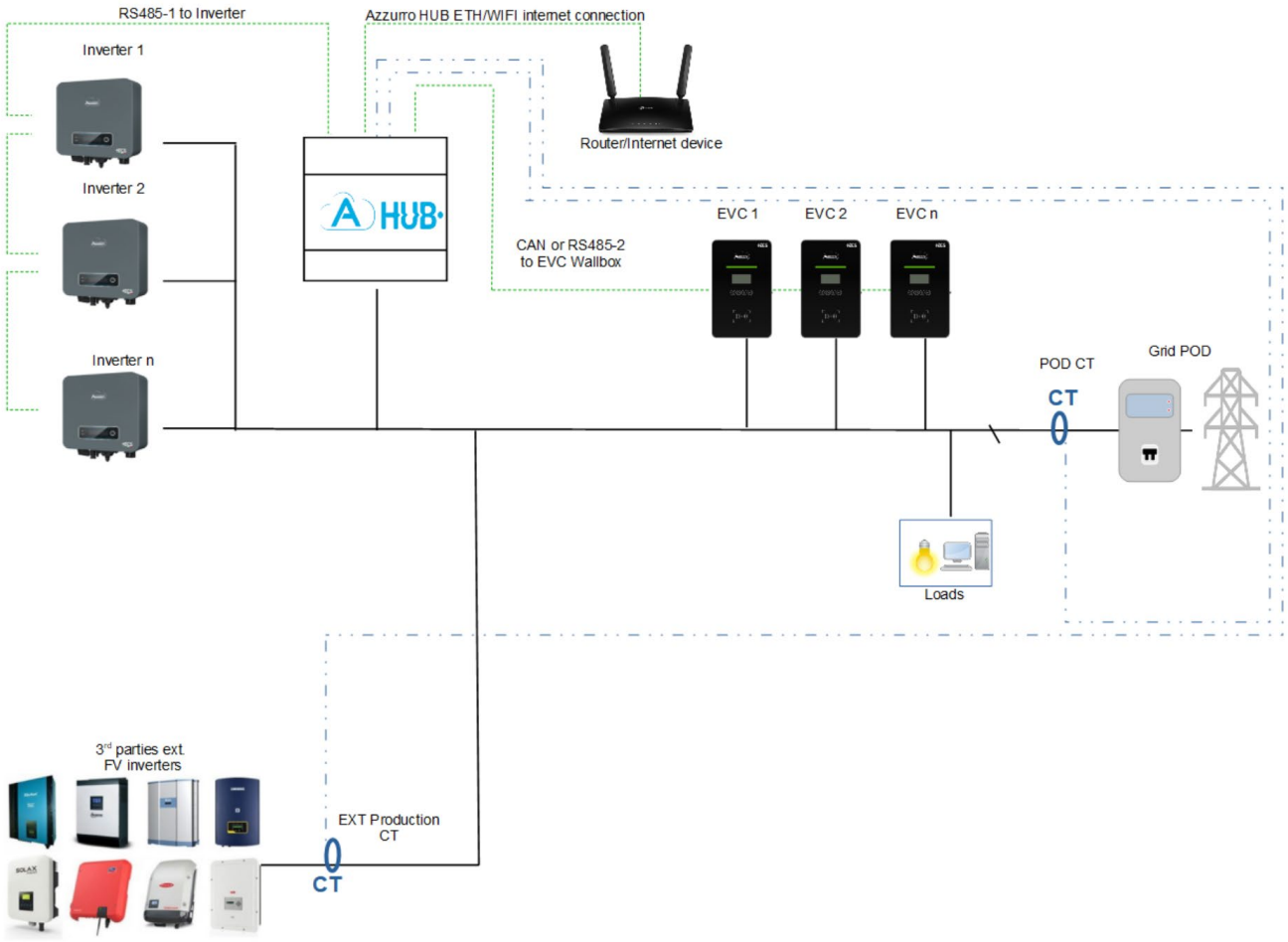


Figure 8 - System diagram with SENSORS connected directly to the Azzurro HUB

4. Connection to external devices

4.1. Connection to VITA charging stations

	EV CHARGER TYPE	COMPATIBLE EV CHARGER MODEL
	1PH	EV CHARGER 7KW
	3PH	EV CHARGER 22KW

Up to 8 Azzurro EV charging stations can be connected in cascade.

The Azzurro HUB can be connected to the first charging station according to the following procedure:

1) Connect the 8-core cable to the ports marked CAN in the relevant figure using an RJ-45 connector.

2) For clarity, the RJ-45 connector pinout is shown in **Figure 10**.

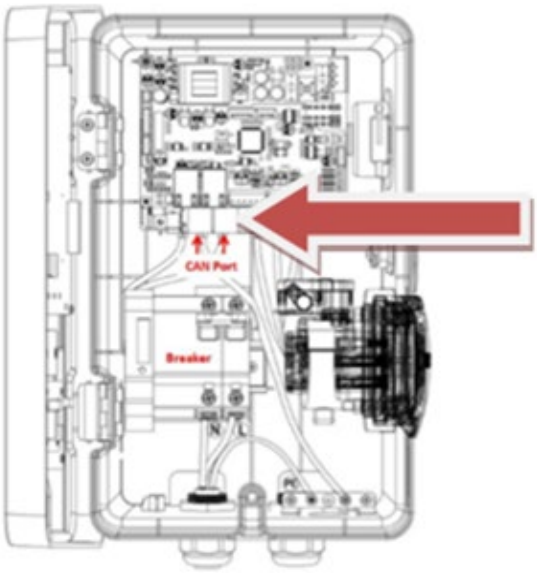


Figure 9 – Communication connection

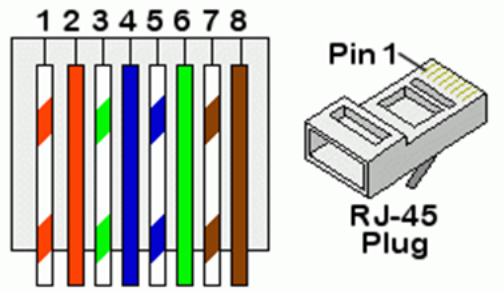


Figure 10 – RJ-45 connection pinout

4) Connect the cables as shown in the diagram below.

RJ-45 pin	Cable colour	Connection	Terminal block pin A
4	Blue	CAN-H	2
5	White-blue	CAN-L	1

Table 7 - CAN bus connections on the Azzurro HUB

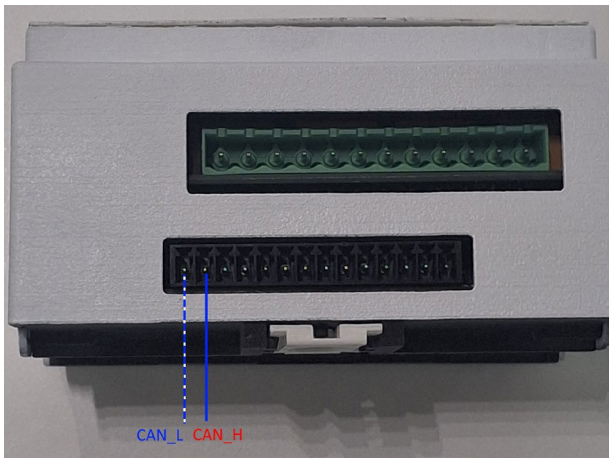


Figure 12 - CAN bus connections on the Azzurro HUB

4) Connect any additional wallboxes in cascade using the RJ-45 connectors on the CAN ports as "in-out." Only the first wallbox is directly connected to the Azzurro HUB.

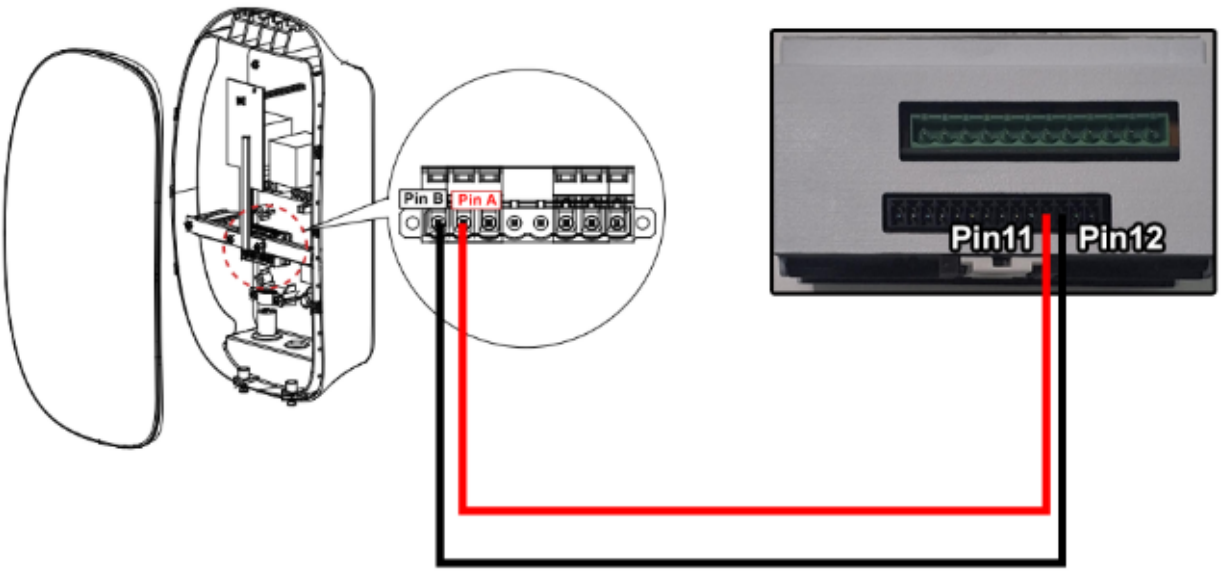
Note	**RS-485 wiring** Use only certified twisted and shielded cables for RS-485 communication. Connect the shielding to ground at one end only (typically on the master/main device side) to prevent ground loops and reduce electromagnetic interference.

Set the wallbox to be displayed on Plug&Play.

4.2. Connecting to CARO charging stations

	TYPE OF EV CHARGER	COMPATIBLE EV CHARGER MODEL
	1PH	EV CHARGER 7KW
	3PH	EV CHARGER 11KW

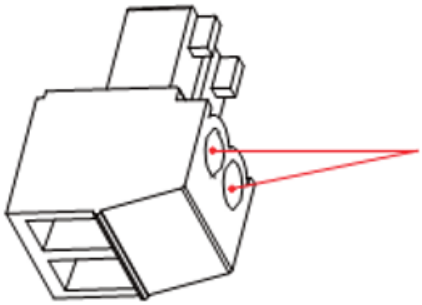
Open the front cover of the EV Charger and connect to the RS-485 port.



If the terminal block does not match the one indicated on the wallbox, proceed as follows:

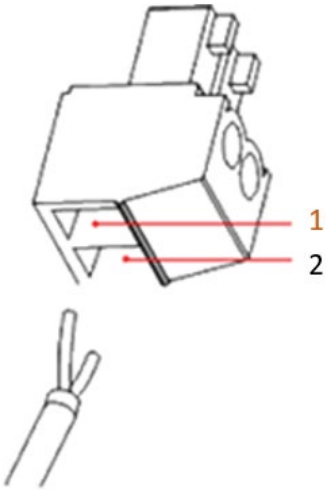
STEP 1

Loosen the two screws using a flat-head screwdriver (2 mm).



STEP 2

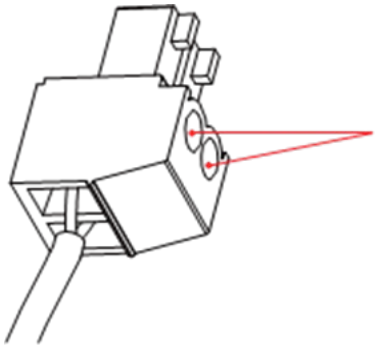
Insert the brown cable and black cable into the corresponding holes



1	Brown cable
2	Black cable

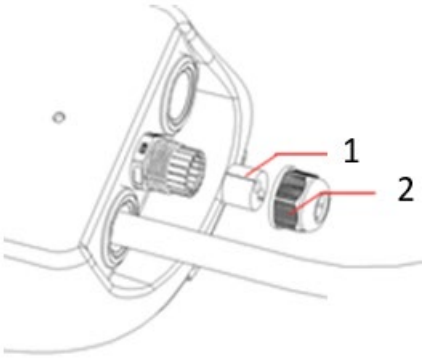
STEP 3

Tighten the two screws with the flat-head screwdriver (2 mm) to secure the two conductors



STEP 4

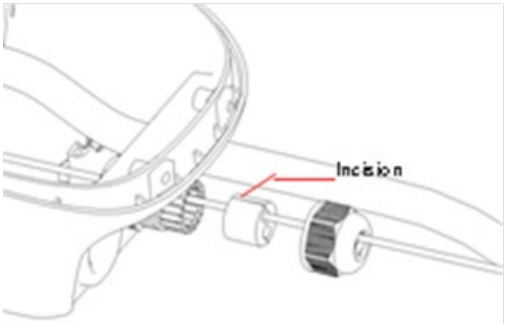
Unscrew the waterproof cap and remove the rubber seal.



1	Cable gland
2	Waterproof ring nut

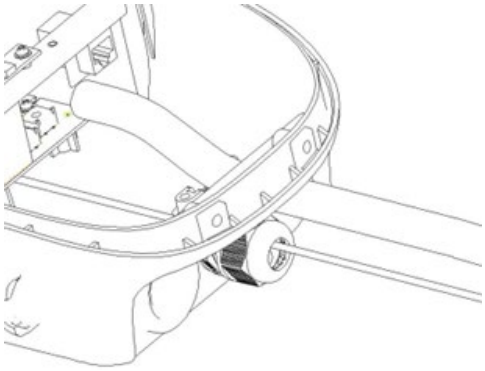
STEP 5

Pass the cable (connected to the meter connector) through the cable gland.

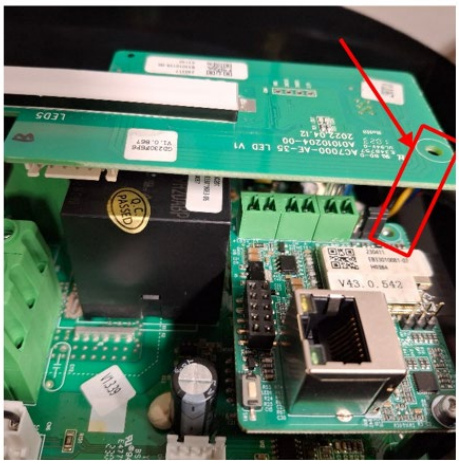


STEP 6

Tighten the ring nut

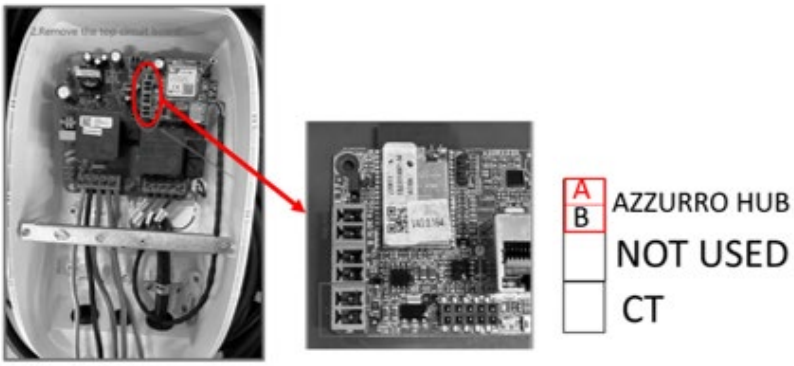


Open the front cover and remove the turret shown in the figure.



Once the turret is unscrewed, lift the board slightly and insert the connector into the pins indicated

Connect to the marked terminal



Cable colour	Connection	Terminal block pin A
RED	RS-485 A	11
BLACK	RS-485 B	12

 Note	**RS-485 wiring** Use only certified twisted and shielded cables for RS-485 communication. Connect the shielding to ground at one end only (typically on the master/main device side) to prevent ground loops and reduce electromagnetic interference.

4.2.1. Software configuration - CARO series

AP mode, also known as Access Point mode, is a versatile wireless network feature that allows devices, such as EV Chargers, to function as a Wi-Fi access point, creating a dedicated hotspot.

Users can easily connect a smartphone or other mobile device to this hotspot and manage the charger via a web interface by navigating to a specific IP address (e.g. 192.168.4.1).

1. **Activate hotspot:**

Restart the EV Charger power supply to activate the hotspot.

The hotspot remains active for 15 minutes after a restart.

2. **Connect to the hotspot:**

Enable Wi-Fi on your smartphone and connect to the EV Charger hotspot.

If connection issues occur, enable aeroplane mode and try again.

The Wi-Fi hotspot name begins with the serial number (SN) of the EV Charger, e.g. “SN...”

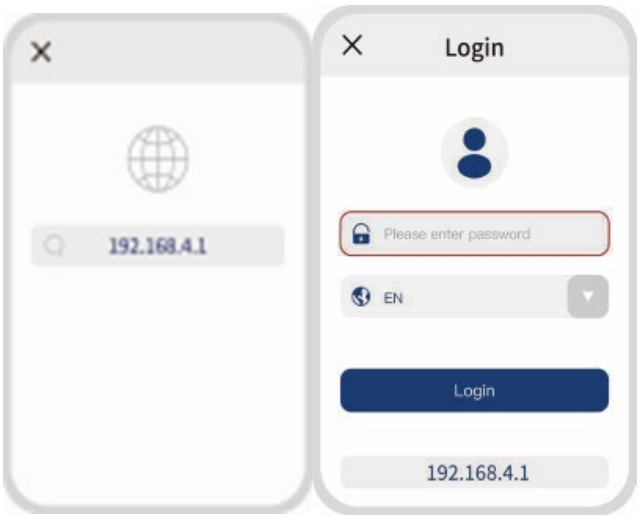
The default password is **admin123**

3. Access

Open the browser on your smartphone and enter 192.168.4.1 in the address bar.

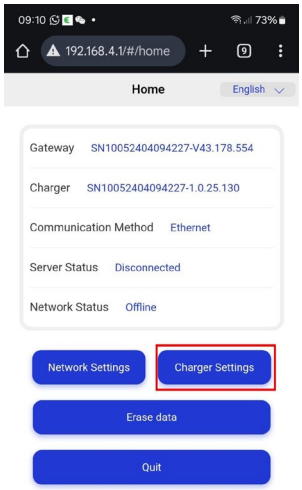
Log in using the 4-digit PIN code located on the last page of the CARO EV Charger instruction manual or found inside the product packaging.

After login, the function menu will be displayed.

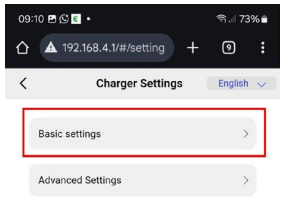


4. Configuration

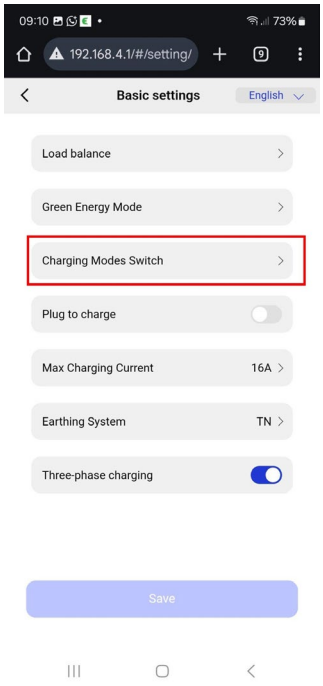
Go to “Charger Settings”



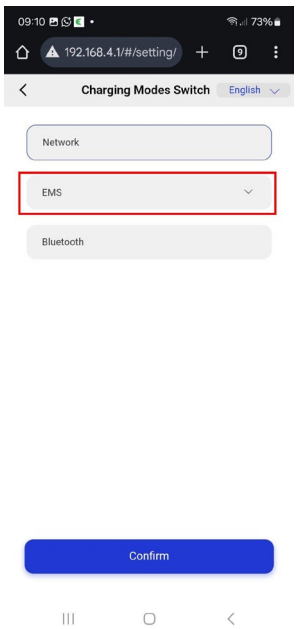
Go to “Basic Settings”



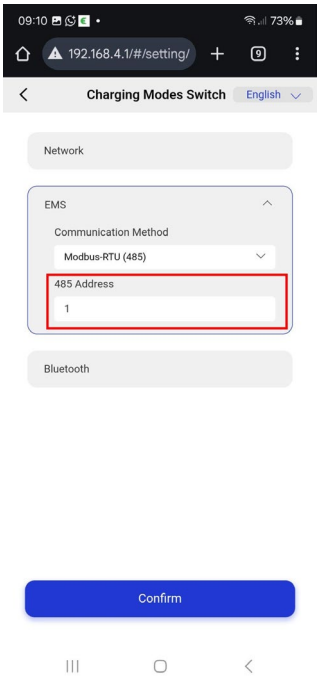
Go to “Charging Mode Switch”



Select “EMS”



Set the desired Modbus address



NOTE: If installing multiple EV Chargers, assign a unique Modbus address to each device.

After completing the configuration, click “Confirm.”

4.3. Connecting to ZCS V3-HYD 3PH Inverter

INVERTER TYPE	COMPATIBLE INVERTER MODEL
1PH	1PH 3000TLM-V3/1PH 6000TLM-V3
3PH	3.3KTL-V3/3PH 12KTL-V3
3PH	15000TL-V3/3PH 24000TL-V3
3PH	HYD 5000 ZSS/HYD 20000 ZSS
3PH	25KTL-V3/3PH 50KTL-V3
3PH	60KTL-V3/3PH 80KTL-V3
3PH	80KTL-LV/110KTL-LV
3PH	100KTL-V4/110KTL-V4
3PH	100KTL-HV/136KTL-HV
3PH	250KTL-HV/255KTL-HV
3PH	250KTL-HV Z0 / 330KTL-HV Z0 / 350KTL-HV Z0

NOTE: The sensors or meters used for measuring the exchange must be connected to the inverter in accordance with the instructions provided in the relevant inverter manual

To connect the RS-485 port to the ZCS HYD 5000 ZSS/HYD 20000 ZSS inverter, connect the 2-core cable to the port of the hybrid inverter marked “COM.”
Follow the polarity shown in the figure and the pinout indicated in the table.

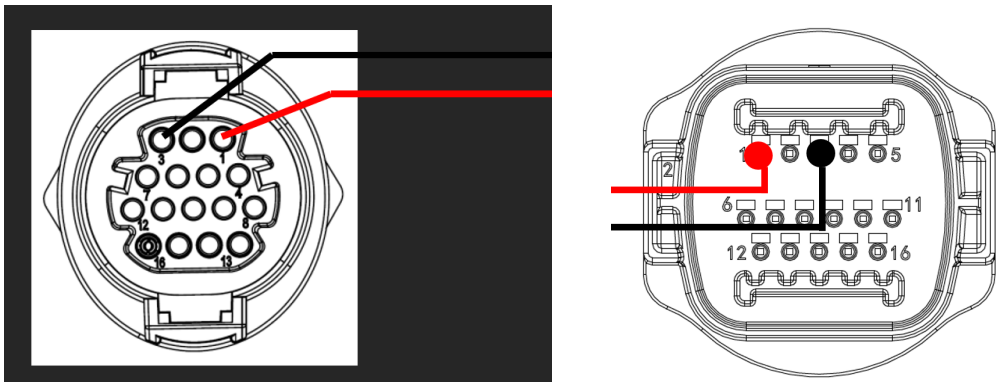


Figure 27 - COM port connections (screw and snap-in)

1	Red cable
3	Black cable

 Note	**RS-485 wiring** Use only certified twisted and shielded cables for RS-485 communication. Connect the shielding to ground at one end only (typically on the master/main device side) to prevent ground loops and reduce electromagnetic interference.

4.4. Connecting to ZCS ZP1 (One and All) Inverter

INVERTER TYPE	COMPATIBLE INVERTER MODEL
1PH	HYD3000 HYD6000 ZP1 – One and All

Note: The sensors or meters used for measuring the exchange must be connected to the inverter in accordance with the instructions provided in the relevant inverter manual.

To connect the RS-485 port to the HYD3000-6000 ZP1 (One and All) inverter, connect the 2-core cable to the port of the hybrid inverter marked "COM."
Follow the polarity shown in the figure and the pinout indicated in the table.

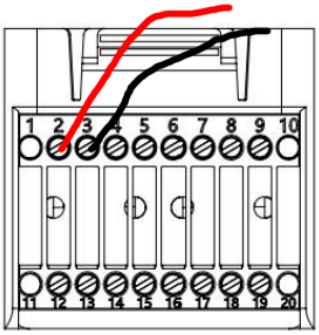


Figure 28 - COM port connections

2	Red cable
3	Black cable

Note	**RS-485 wiring** Use only certified twisted and shielded cables for RS-485 communication. Connect the shielding to ground at one end only (typically on the master/main device side) to prevent ground loops and reduce electromagnetic interference.

4.1. Connecting to ZCS HP Inverter

INVERTER TYPE	COMPATIBLE INVERTER MODEL
1PH	HYD3000 HYD6000 HP

Note: The sensors or meters used for measuring the exchange must be connected to the inverter in accordance with the instructions provided in the relevant inverter manual.

To connect the RS-485 port to the HYD3000-6000 HP inverter, connect the 2-core cable to the port of the hybrid inverter marked "COM."
Follow the polarity shown in the figure and the pinout indicated in the table.

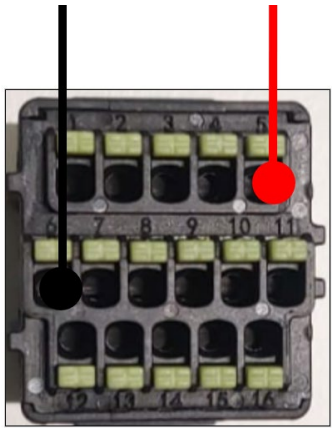


Figure 29 - COM port connections

5	Red cable
6	Black cable

Note	**RS-485 wiring** Use only certified twisted and shielded cables for RS-485 communication. Connect the shielding to ground at one end only (typically on the master/main device side) to prevent ground loops and reduce electromagnetic interference.

4.2. Connecting to ZCS 3PH and 1PH meters (ZSM-METER-DDSU/ ZSM-METER-DTSU)

METER TYPE	COMPATIBLE METER MODEL
1PH	ZSM-METER-DDSU
3PH	ZSM-METER-DTSU

For the RS-485 connection to DDSU/DTSU Meters, connect the 2-core cable to the appropriate connector pins.
Follow the polarity shown in the figure and the pinout indicated in the table.

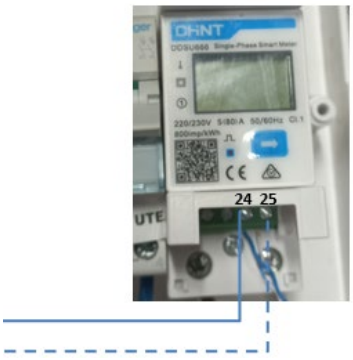


Figure 29 - ZSM-METER-DDSU Meter PIN connections

ZSM-METER-DDSU PIN		AZZURRO HUB PIN
24	Blue cable	9
25	Blue-white cable	10

Note	**RS-485 wiring** Use only certified twisted and shielded cables for RS-485 communication. Connect the shielding to ground at one end only (typically on the master/main device side) to prevent ground loops and reduce electromagnetic interference.

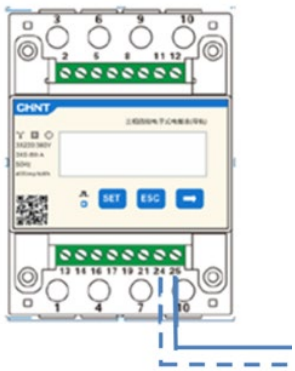


Figure 30 - ZSM-METER-DTSU Meter PIN connections

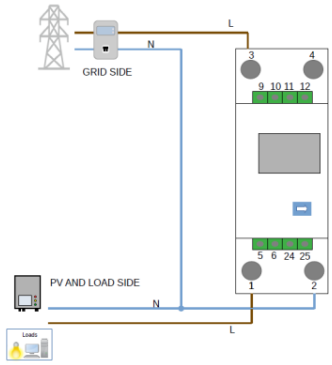
ZSM-METER-DTSU PIN		AZZURRO HUB PIN
24	Blue cable	9
25	Blue-white cable	10

Note	**RS-485 wiring** Use only certified twisted and shielded cables for RS-485 communication. Connect the shielding to ground at one end only (typically on the master/main device side) to prevent ground loops and reduce electromagnetic interference.

4.2.1. ZSM-METER-DDSU meter settings

Connect the Meter in “direct connect” mode, specifically:

- ✓ Connect PIN 2 of the Meter to the neutral cable (N);
- ✓ Connect PIN 3 to the direction phase of the exchange meter;
- ✓ Connect PIN 1 to the direction phase of the photovoltaic system and loads.



Meter configuration

Press the ➡ button to verify that the address is set to 001 (address 01 for exchange meters, 002/003/004 for external production meters) and that the protocol is set to 8n1.

4.2.2. ZSM-METER-DTSU meter settings

The power cables for phases R, S, T and the neutral cable (N) must be connected to the meter via pins 2, 5, 8 and 10, respectively. The CTs for current measurement must be connected as follows:

- the R-phase measurement uses the terminals connected to PIN 1 (red wire) and PIN 3 (black wire).
- the S-phase measurement uses the terminals connected to PIN 4 (red wire) and PIN 6 (black wire).
- and the T-phase measurement uses the terminals connected to PIN 7 (red wire) and PIN 9 (black wire).

The sensors must be positioned according to the direction indicated on the sensor (arrow).

ATTENTION: attach the CT sensors to the phases only after they have been connected to the Meter.

Connect the Meter to the Azzurro HUB via the RS-485 serial port. On the meter side, this port is identified by pins 24 and 25, while on the Azzurro HUB it corresponds to pins 9 and 10.

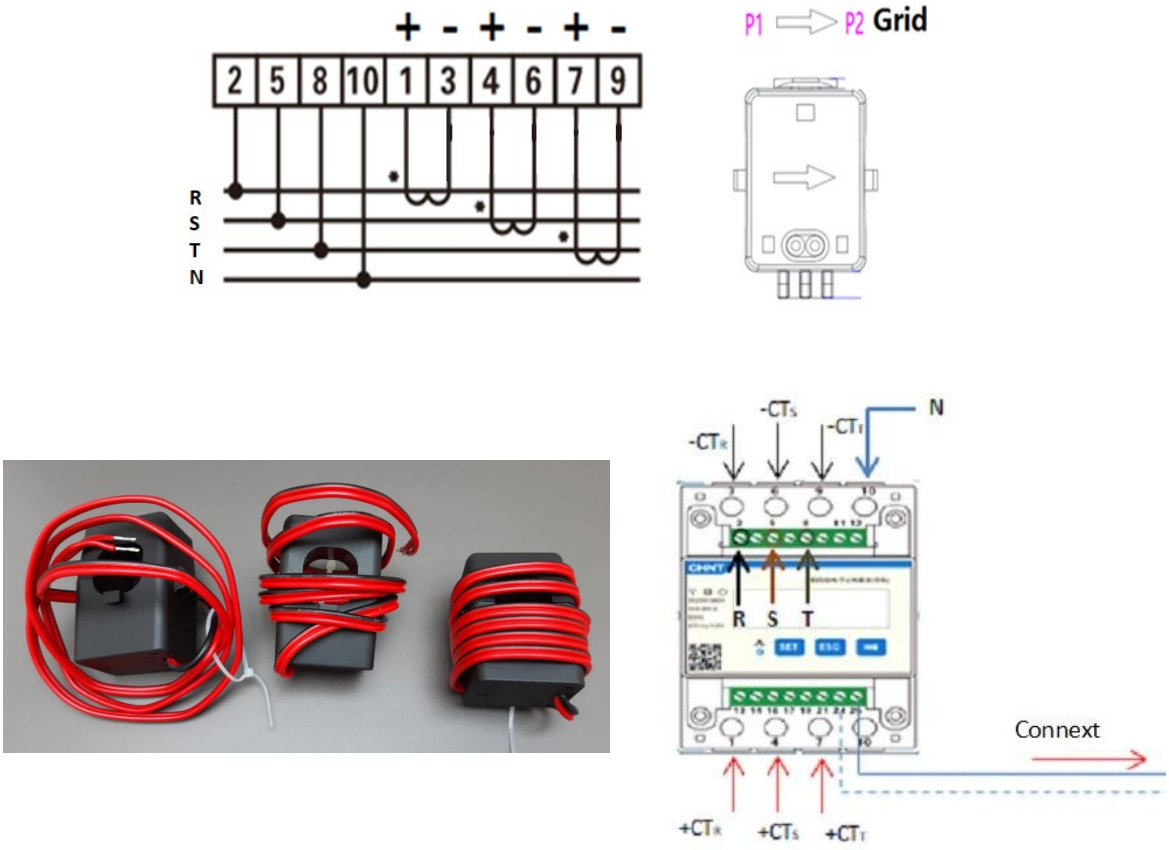


Figure 75 - Meter connections

Press to:
"Confirm"
"Move the cursor (to enter digits)
Press to "go back"
Press to "add"

Figure 89 - Meter Legend

Meter configuration

To configure the device in Read Mode, enter the settings menu as shown below:

1. Press **SET**. The word **CODE** will appear

2. Press **SET** again. The code number "600" will appear:

3. Enter the code "701":
   a. From the first screen showing "600", press the "→" key once to change it to "601".
   b. Press "**SET**" twice to move the cursor left, highlighting "601";
   c. Press the "→" key once more to change it to "701"

Note: If you make a mistake, press "ESC," then "SET" to reset the code entry.

4. Confirm by pressing **SET** until you return to the settings menu.
5. Access the following menus and set the following parameters:
   a. **CT**:
      i. Press **SET** to enter the menu
      ii. Enter the value "40":
         1. From the first screen showing "1", press the "→" key repeatedly until the number "10" appears.
         2. Press "**SET**" once to move the cursor left, highlighting "10"
         3. Press the "→" key repeatedly until the number "40" is displayed

         Note: If you make a mistake, press "SET" until the thousands digit is highlighted and then press "→" until only "1" is displayed;
         at this point, repeat the procedure above.

      i. Press "ESC" to confirm and use the "→" key to move to the next setting.

   b. **ADDRESS**:
      i. Press **SET** to enter the menu:
      ii. Enter "**" (by pressing the "→" key once from screen "01"). (Address 01 for exchange meters, 02/03/04 for external production meters)
   iii. Press "ESC" to confirm.

5. Initial start-up and configuration of the Azzurro HUB

The Azzurro HUB enables quick and easy commissioning from any mobile device using the integrated web server, accessible locally via the HUB's access point. Before starting the configuration, ensure that all connections to ZCS inverters, ZCS EV chargers, ZCS meters, ZCS heat pumps, and the LAN network (if applicable) have been established correctly.

Note	**The images below may differ slightly from those on your device, depending on software updates.**

5.1. Step 1 – Connecting to the Access Point

Follow these steps to connect to the access point:

1) Locate the QR code on the side of the Azzurro HUB and scan it using your mobile device.
2) Authorise the connection to the network created by the Azzurro HUB, then select “Go to Azzurro HUB.”
3) The initial configuration page will open automatically at IP address 192.168.20.1:55560.

5.2. Step 2 – Configuration wizard

On the home screen, click “Configuration Wizard” to start the guided setup

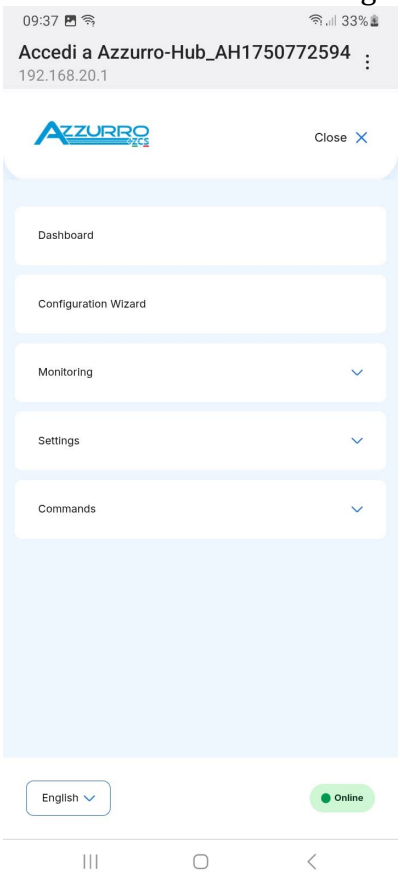


Figure 12 - Initial screen

The wizard consists of 8 sequential steps that ensure complete configuration

5.2.1. Step 3 - Internal clock and connectivity

Select the correct time zone to manage the internal clock. Choose the type of connection: Wi-Fi or Ethernet cable

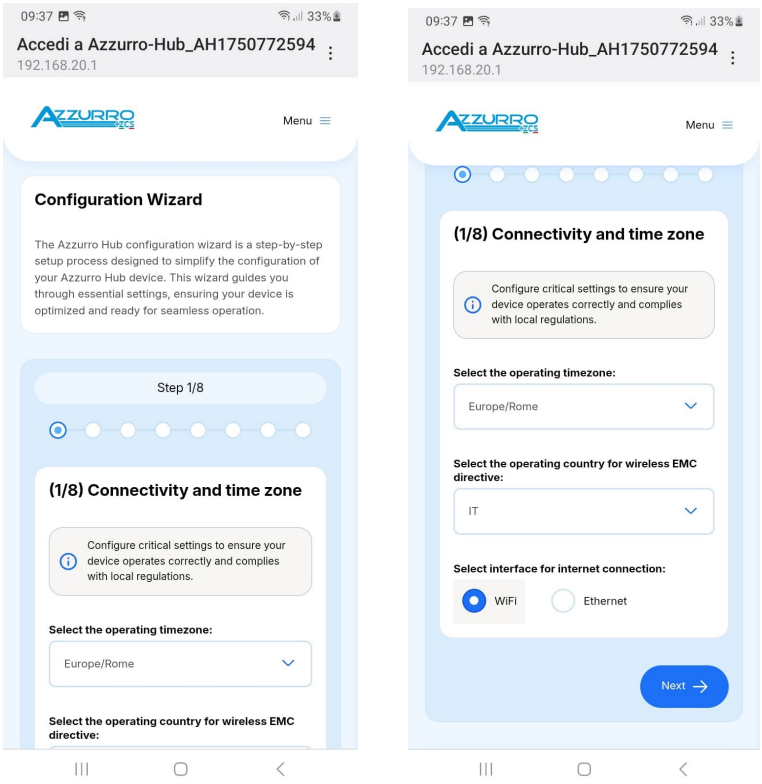


Figure 12 - Time zone and connectivity

5.2.2. Step 4 – Connecting to the Wi-Fi network

Scan for available Wi-Fi networks. Select the desired network and enter the password.

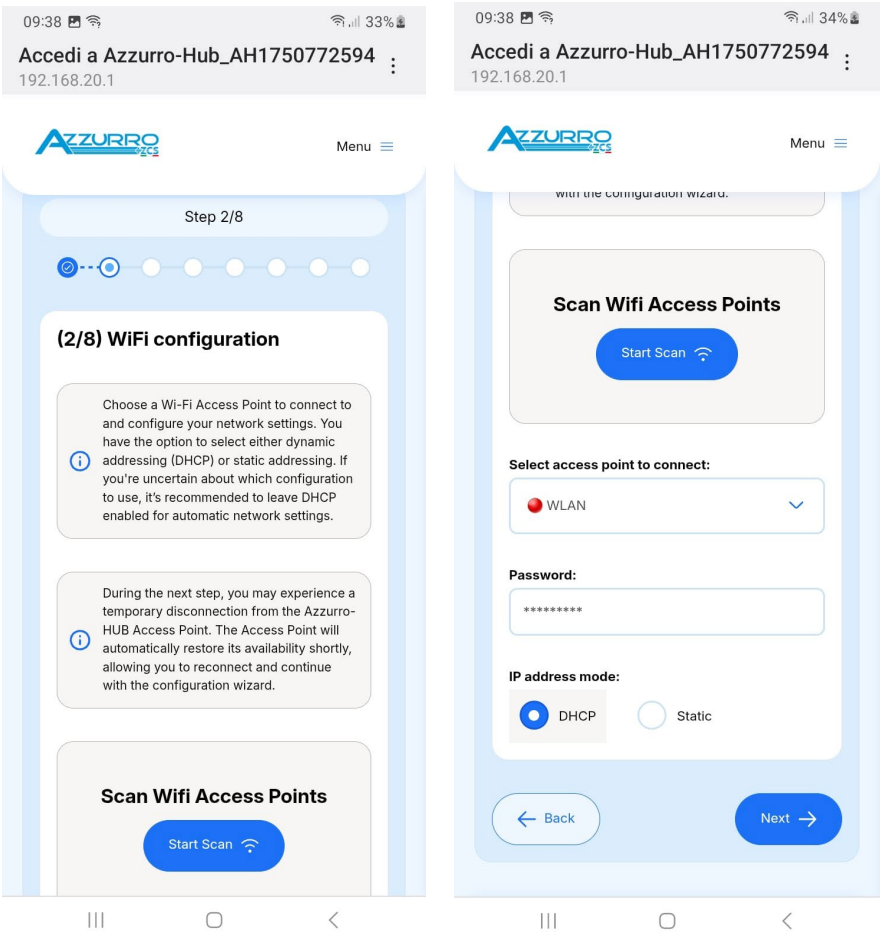


Figure 12 - Wi-Fi

The HUB can also be set to work with a static IP address by selecting it in the settings.

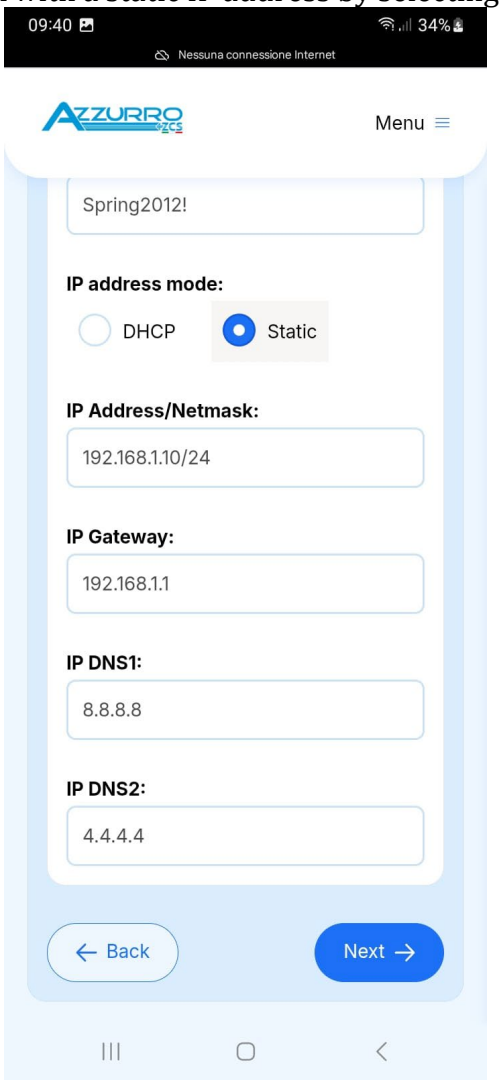


Figure 12 - Static IP configuration

5.2.3. Step 5 - Connectivity test

Once the Wi-Fi connection has been set up correctly or the Ethernet cable has been connected to the router or local network, the system will perform a connectivity test.

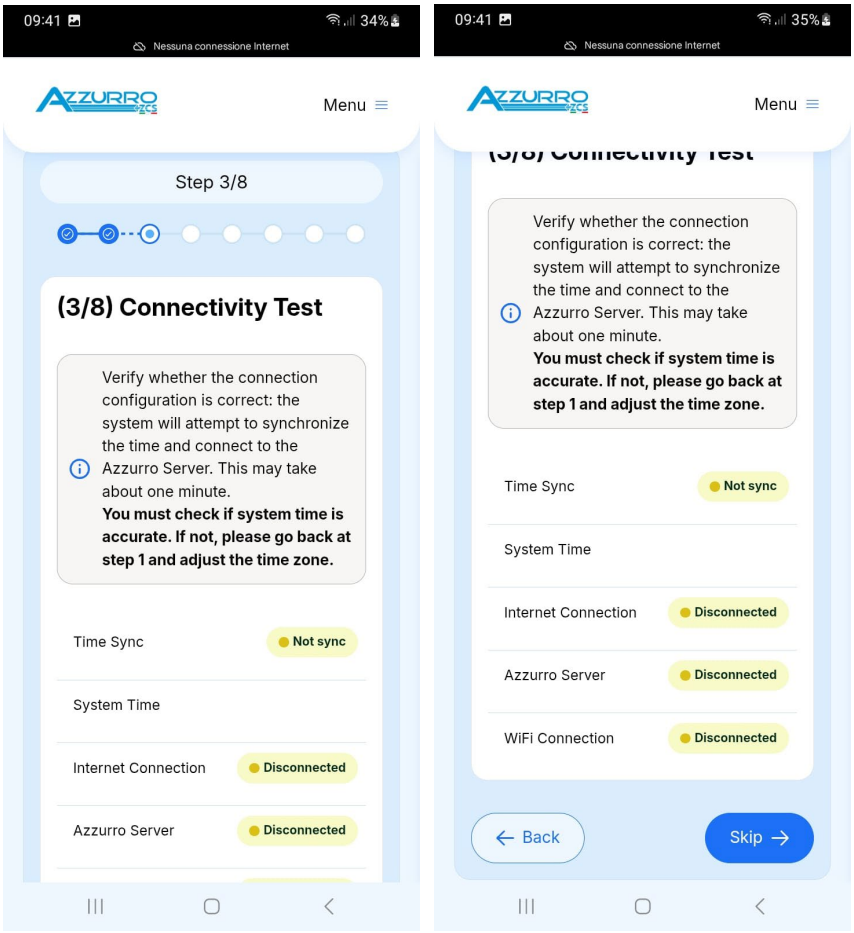


Figure 12 - Result of connectivity test

If one of the connectivity tests fails, data will not be visible on monitoring systems such as apps and portals.
If the status shows “Disconnected,” check that the Wi-Fi password is correct and that port 80 of the router is open.

5.2.4. Step 6 - System

This step requires entering data relating to the electrical system to which the devices are connected. Proceed carefully to ensure that the correct information is given to the Azzurro HUB.
Select whether the system is single-phase or three-phase, based on the electrical system connected to the network operator. Enter single-phase if the exchange meter is single-phase or three-phase if the exchange meter is three-phase.

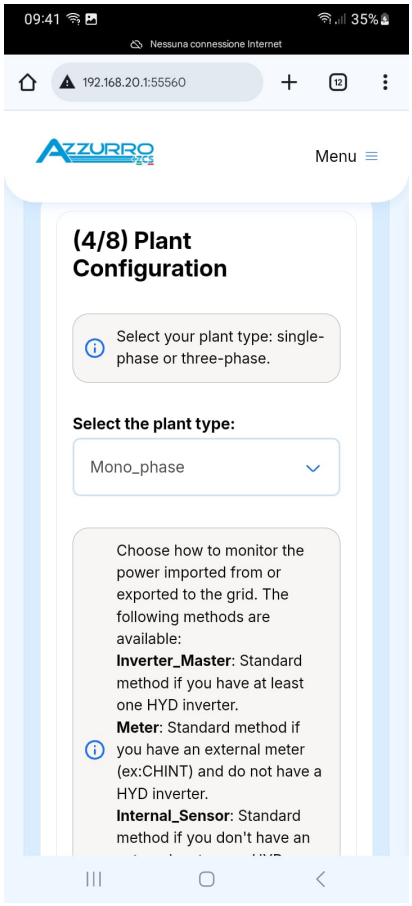


Figure 12 - Type of connection system

Select the device used for exchange measurements:

- ***MASTER hybrid inverter*** - if one or more hybrid inverters are installed. In this case, the master manages the exchange measurements and the HUB retrieves them by requesting them from the master
- ***Meter*** - if no hybrid inverters are present and exchange readings are taken by a meter directly connected to the HUB
- ***Internal sensor*** - if exchange readings are taken by a current sensor directly connected to the Azzurro HUB

- ***Power Magic*** - if the Azzurro HUB is connected to a Power Magic device

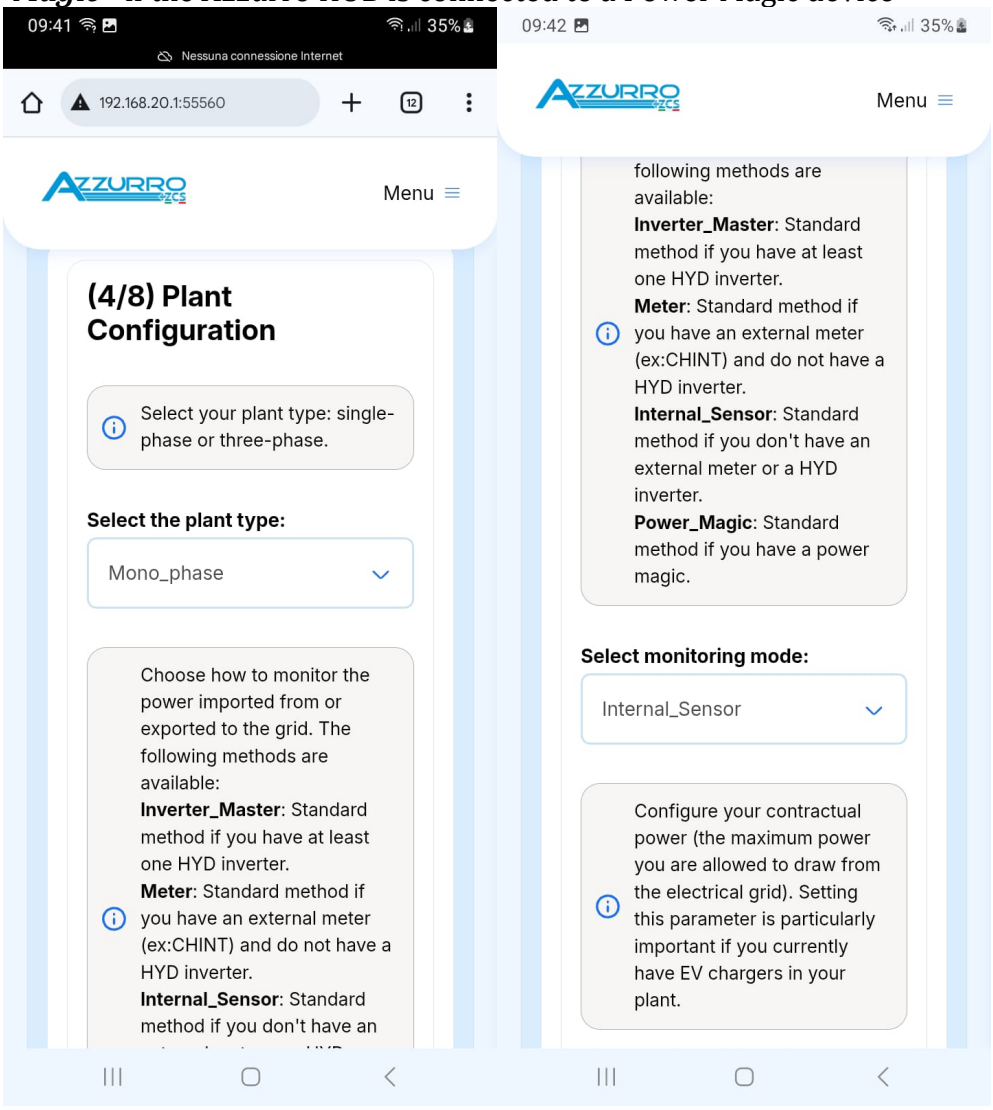


Figure 12 - Exchange measurement mode

Enter the contractual power (the power contracted with the network operator for withdrawal).

Note	**DO NOT enter the power of the photovoltaic system here, but the power contracted with the operator for withdrawal**

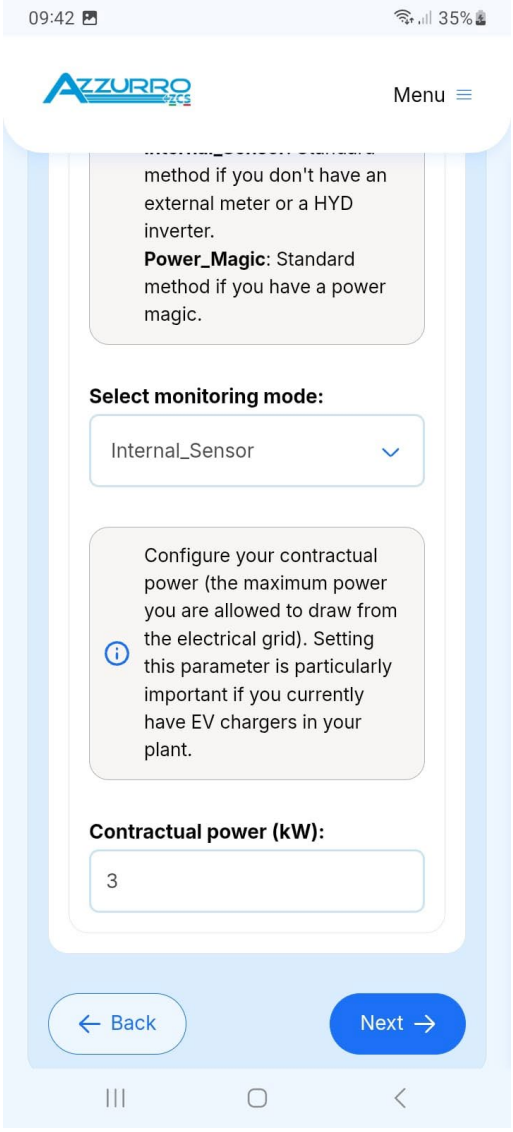


Figure 12 - Contractual power

5.2.5. Step 7 - Connected devices

Click “Start Scan” to allow the system to automatically detect the inverters, meters or EV chargers connected via the RS-485 serial ports

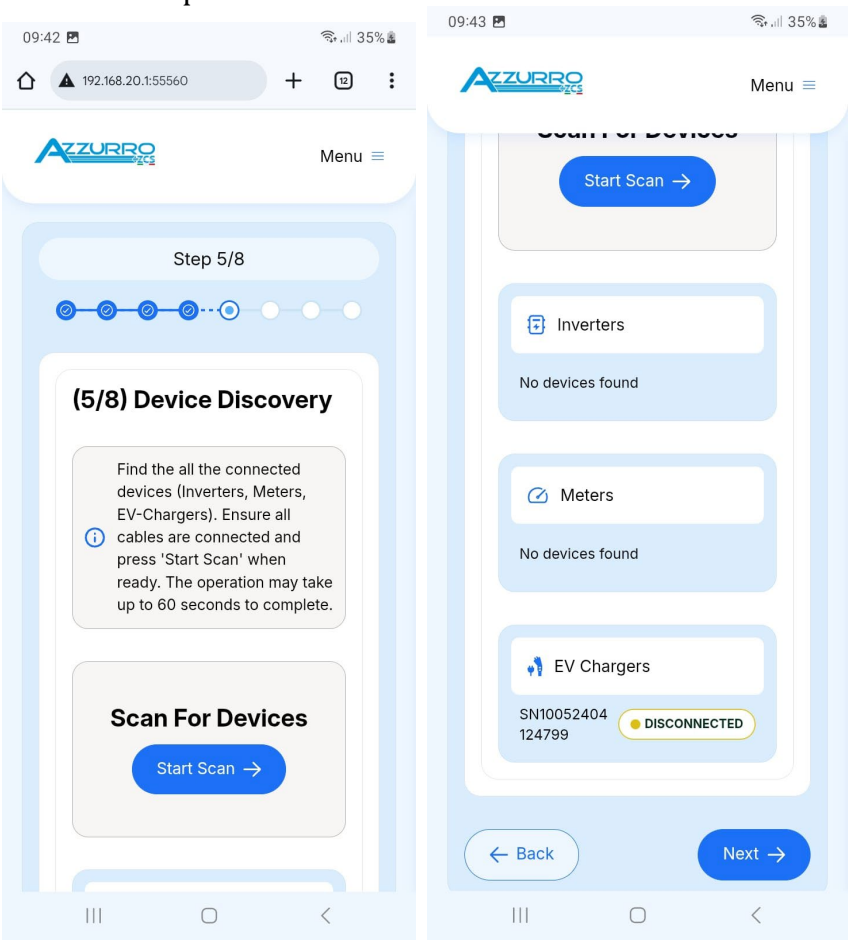


Figure 12 - Serial port scan

5.2.6. Step 8 - Zero feed-in function

In this section, the zero feed-in function for the system can be enabled and the desired target power can be set.

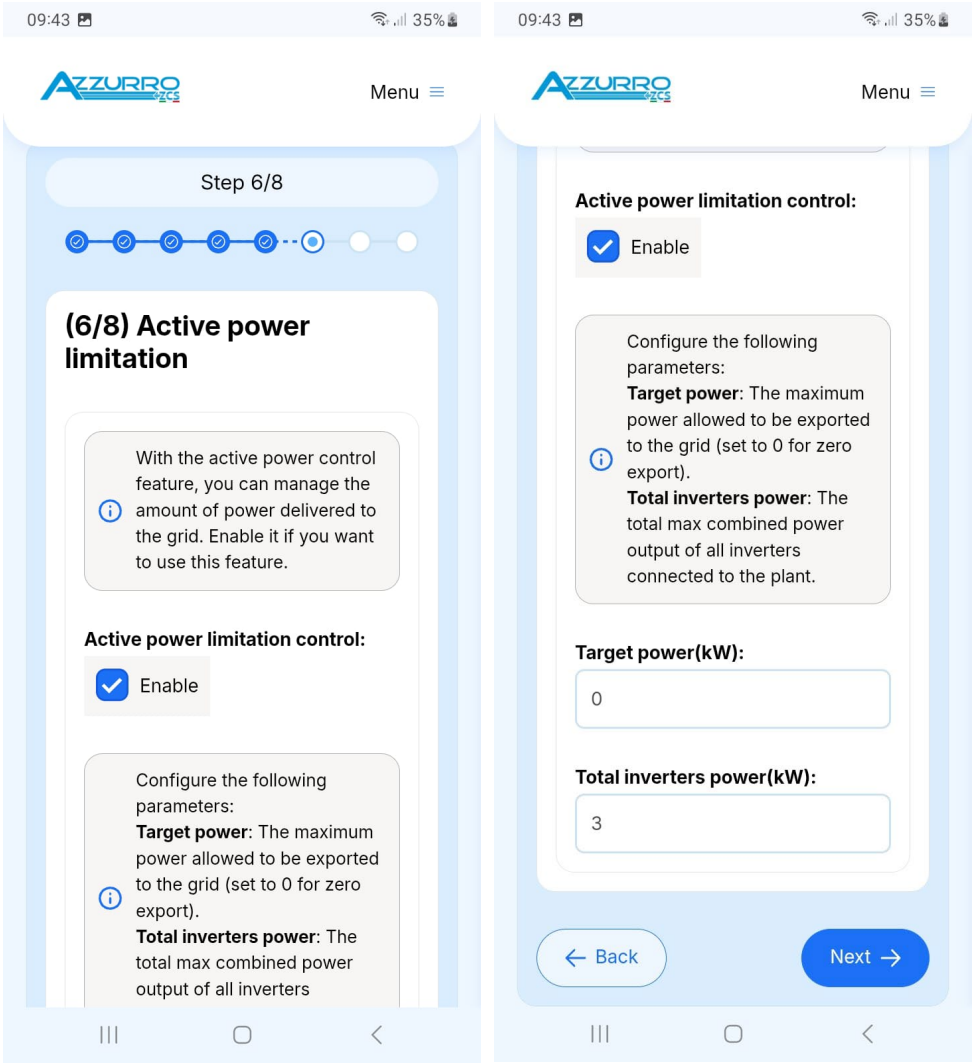


Figure 12 - Zero feed-in function

5.2.7. Step 9 – Standard for inverter connection

Click “Select country/region for inverter safety standards” and choose the correct connection standard.

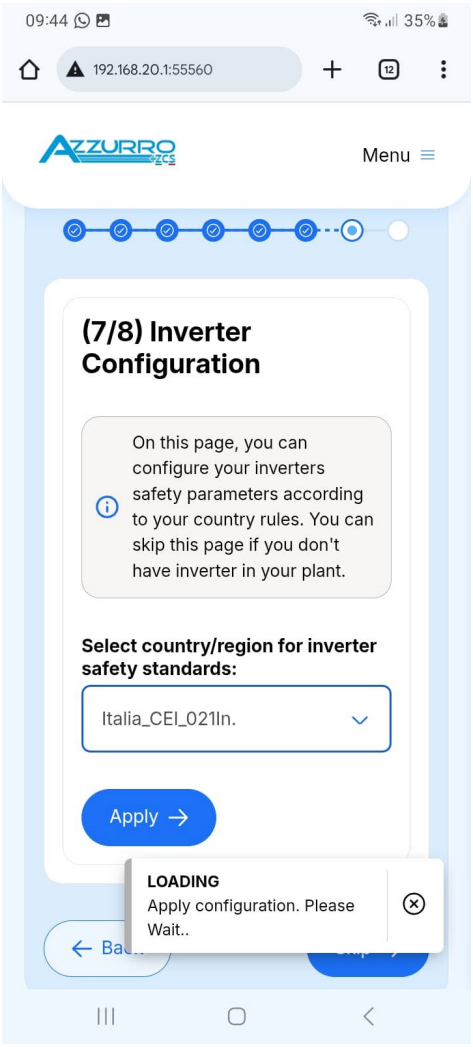


Figure 12 - Country selection

5.2.8. Step 10 - End of procedure

Once all steps are complete, the setup wizard will end. You can now access the Azzurro HUB dashboard to make modifications, apply changes or simply check the system status

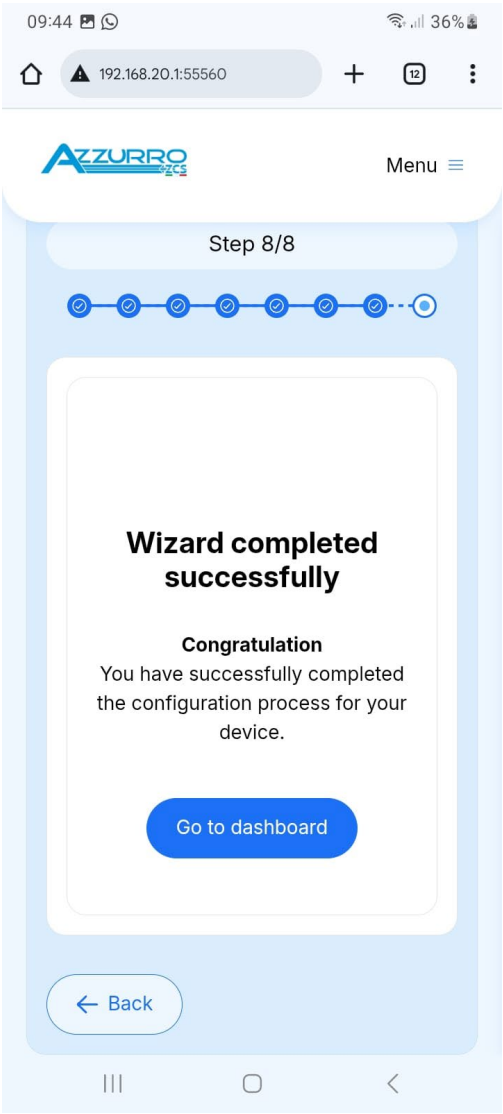


Figure 12 - End of procedure

6. Uninstalling

6.1. Uninstallation steps

- Disconnect the system/device from the power supply.
- Disconnect the device from the AC mains.
- Remove all signal cables from the device;
- Disassemble the DIN rail and remove the device.

6.2. Packaging

Whenever possible, pack the device in its original packaging.

6.3. Storage

Store the device in a dry environment at an ambient temperature between -25°C and +60°C.

6.4. Disposal

Zucchetti Centro Sistemi S.p.A. is not responsible for the disposal of equipment or parts thereof if it is carried out in a manner that does not comply with the regulations and standards of the country of installation.

The symbol of the crossed-out wheeled bin indicates that this product, at the end of its life, must not be disposed of with household waste.

This product must be taken to a designated waste collection point in your local community for recycling.

For more information, contact your local waste disposal authority.

Improper disposal may have harmful effects on the environment and human health due to presence of potentially hazardous substances.

By ensuring proper disposal, you contribute to the reuse, recycling and recovery of materials, helping to protect the environment.

7. Warranty terms and conditions

To view the Warranty Terms and Conditions offered by ZCS Azzurro, please refer to the documentation included in the product packaging and the official website www.zcsazzurro.com.

USER'S MANUAL

AZZURRO ZCS

AZZURRO HUB

ZSM-HUB

ZUCCHETTI Centro Sistemi

GREEN INNOVATION

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