SCAN ME
FOR INSTALLATION
TUTORIALS & DOCUMENTATION

QUICK GUIDE
LFP RECHARGEABLE BATTERY SYSTEM (AC BATTERY)
AZZURRO 1PH BZT500

Always wear protective clothing and/or personal protective equipment	Always consult the manual	General warning – Important safety information

IMPORTANT NOTICE

The box containing this product includes quick start guides in English and Italian. Please note that more recent versions of the quick start guides may be available. Therefore, in order to ensure correct installation and maintenance procedures, it is necessary to check the documentation, available in all languages, in the documentation or products section of the website www.zcsazzurro.com. The same documentation is also available by scanning the QR code on the front of the product or directly within the Azzurro Operators app. Data sheets, technical notes, certifications and warranty terms and conditions are also available on the platforms indicated above.

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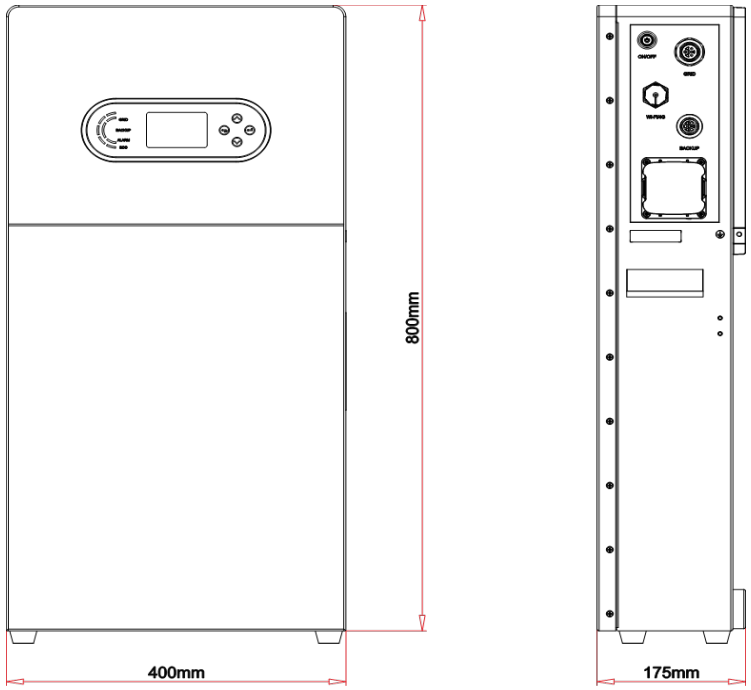
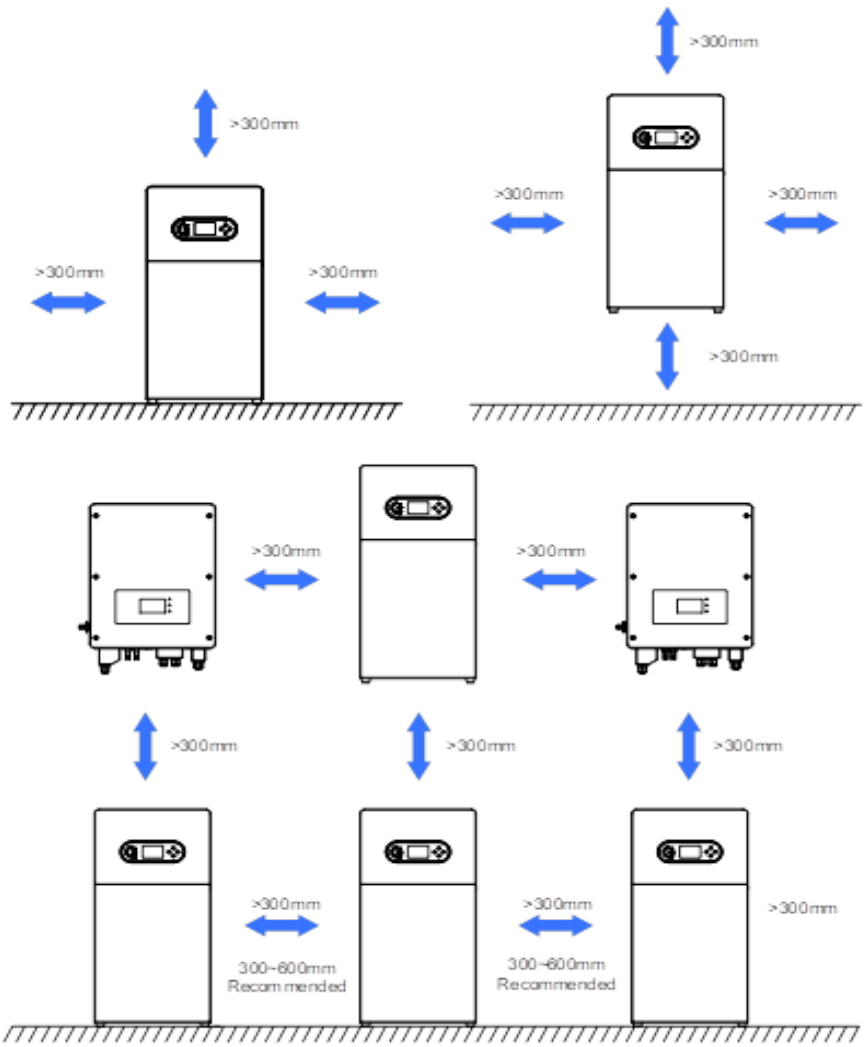
Dimensions and distances to be observed:

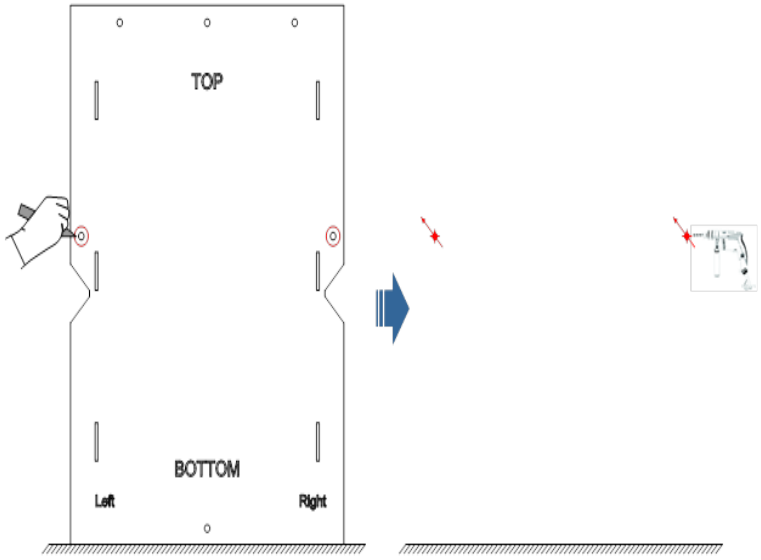


To ensure sufficient space for installation and heat dissipation, leave sufficient space around the 1PH BZT500 storage system.

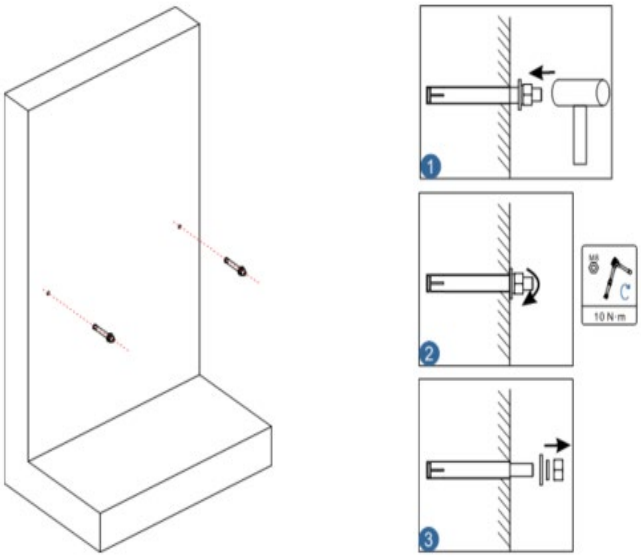


Floor installation:

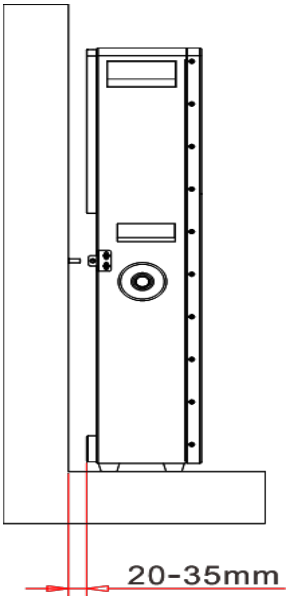
Step 1: Determine the drilling position (dimensions: ø10, depth: 80-85 mm) using the positioning plate, then mark the hole position with a marker pen and drill the hole in the wall with a hammer drill.
When drilling, the drill bit must be perpendicular to the wall and must not move to avoid damaging the wall.
If the marking is incorrect, it must be repositioned.



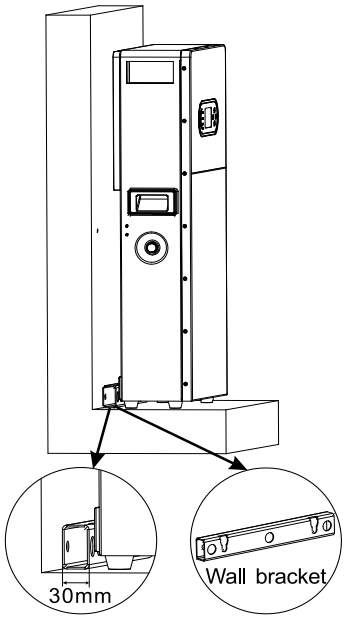
Step 2: Push in the expansion bolts, as shown in the diagram below.



Step 3: Place the AC battery in the designated installation location and keep the rear of the AC battery 25-35 mm away from the wall.

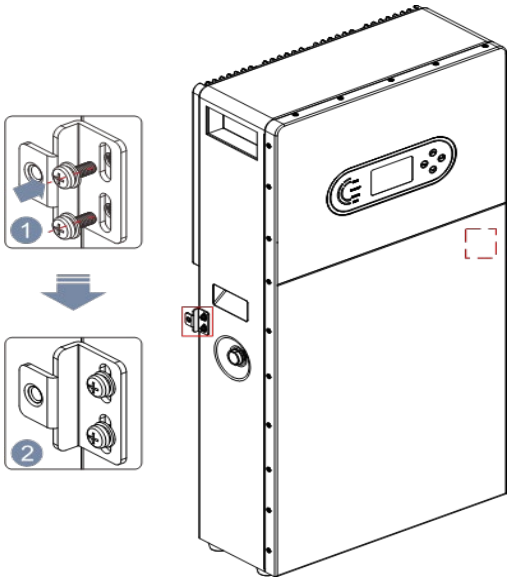


There is a simple way to do this:
Place the wall bracket on the corner of the wall where you intend to install the AC battery and move the battery to ensure that the bottom is resting against the wall bracket, so that the distance between the battery and the wall is exactly 30 mm and its rear is parallel to the wall surface.

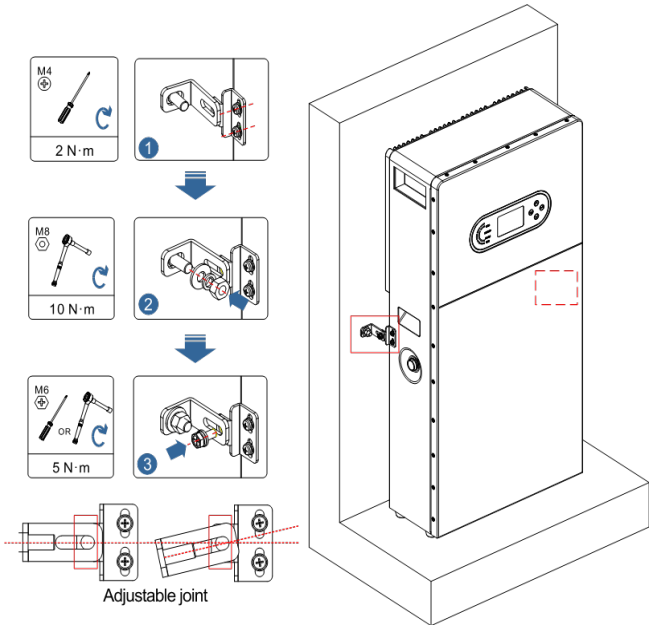


Step 4: Install the anti-tilt bracket.

1. Install the anti-tilt bracket A on the AC battery (screw the M4 screws into the screw holes but DO NOT tighten them).



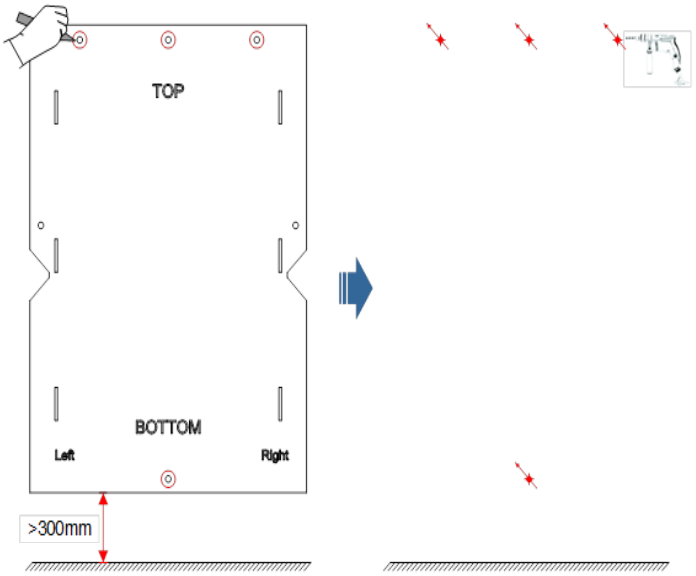
2. Adjust the height of bracket A to ensure that bracket A and bracket B are at the same height once the bolts are perpendicular to the wall. Tighten the M4 screw on bracket A, then tighten the nut on the bolt, and finally tighten the M6 screw on the joint between bracket A and bracket B.



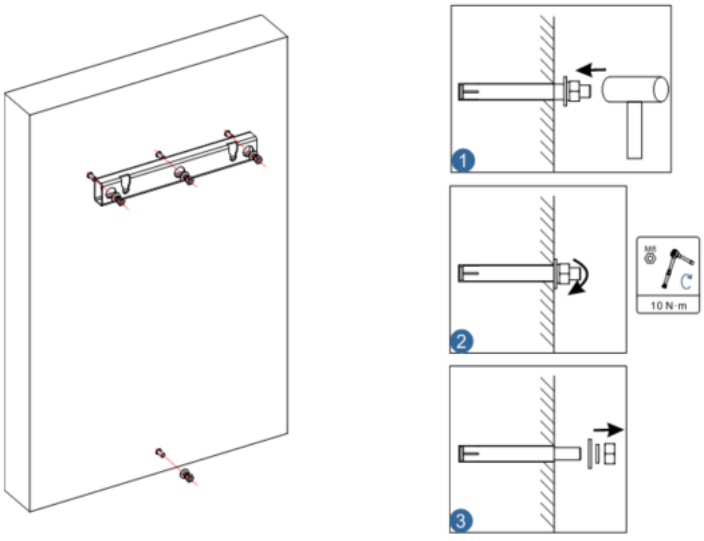
When the bolt is not completely perpendicular to the wall surface, the rear surface of the AC battery can still be parallel to the wall surface by adjusting the adjustable joint of bracket A and bracket B.

Wall installation:

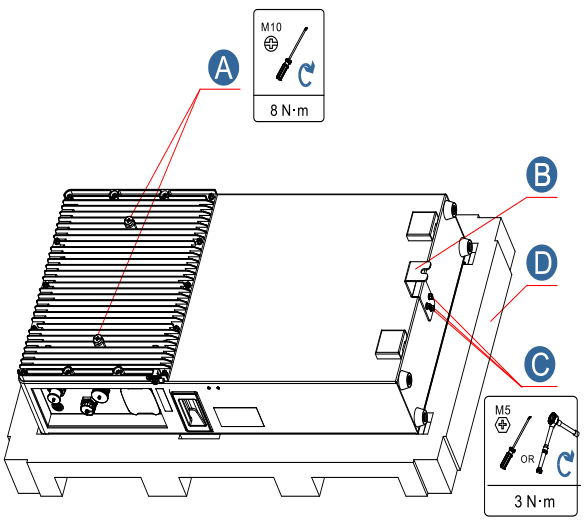
Step 1: Determine the drilling position (dimensions: ø10, depth: 80-85 mm) using the positioning plate, then mark the hole position with a marker pen and drill the hole in the wall with a hammer drill. When drilling, the drill bit must be perpendicular to the wall and must not move to avoid damaging the wall. If the marking is incorrect, it must be repositioned.



Step 2: Secure the bracket to the wall using expansion bolts.



Step 3: Install the fixing screws on the radiator and secure the support bracket with external hexagonal screws.



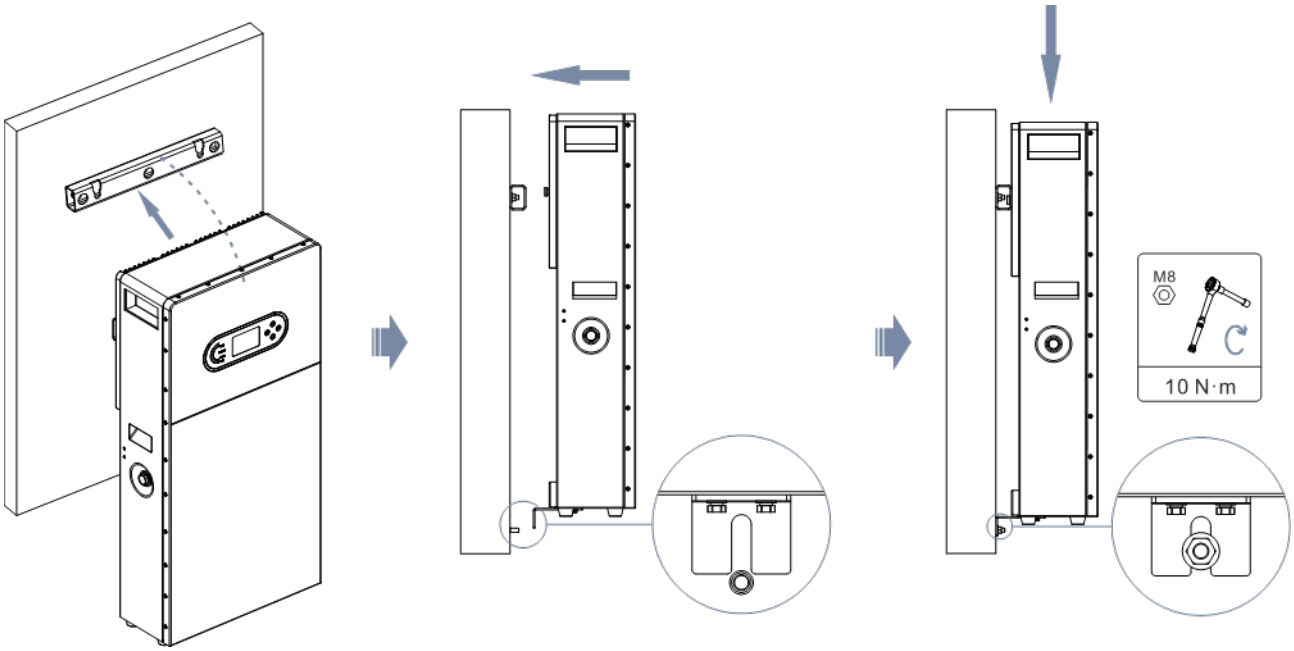
A M10 stepped screw

B Support bracket

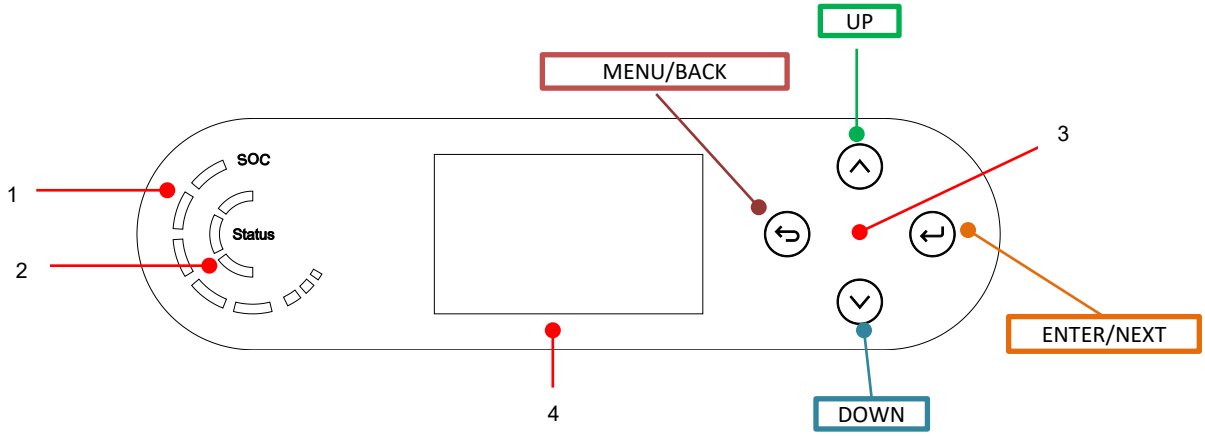
C M5*12 hex screw

D Lower buffer material

Step 4: Place the AC battery mounting screws on the wall bracket and tighten the mounting screws to ensure safety.



3. DISPLAY & BUTTONS



1	System power indicator	3	Button
2	System status indicator	4	LCD screen

System status	Indicator		
	Blue LED	Green LED	Red LED
On-grid	On		
Standby (On-grid)	Flashing		
Off-grid		On	
Alarm			Flashing

Icon	Battery capacity
	80-100
	60-80
	40-60
	20-40
	0-20

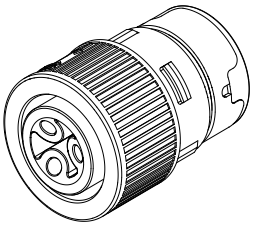
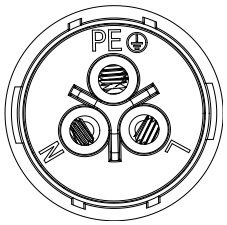
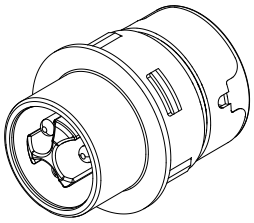
4. MAIN MENU

From the main screen, press the "Menu/Back" button to access the main menu.

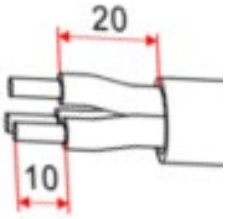
- Main menu
  - 1. Basic settings
    - 1. Language
    - 2. Date and time
    - 3. Security settings
    - 4. Operating Mode
    - 5. Self-test
    - 6. EPS mode
    - 7. Communication Address Selection
    - 8. Generator mode
  - 2. Advanced settings — **PSW: 0715**
    - 1. Battery parameters
    - 2. Mode 0 input
    - 3. Logic Interface
    - 4. Factory Reset
    - 5. Parallel settings
    - 6. CT calibration
    - 7. Set Electricity Meter
    - 8. Battery Heater
    - 9. PCC Import Limit Control
  - 3. Production statistics
  - 4. System info
    - 1. Inverter information
    - 2. Battery information
    - 3. Safety parameters
  - 5. Event list
    - 1. Current Event List
    - 2. Event List History
  - 5. Software update — **PSW: 0715**
    - 1. One-click Update

Statistics:

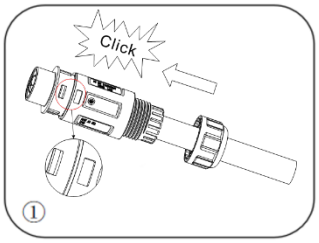
Today	Month	Year	Life Cycle
Prod.	Production	Prod.	Product
Load	Load	Load	Load
Import	Import	Import	Import
Export	Export	Export	Export
load	load	load	load
Download	Download	Download	Download

Component		Description		Recommended cable type	Recommended cable specifications
		Connector On-Grid	L (U)	Multi-core copper cable for outdoor use	Outdoor cable Multicoloured copper. Recommended 4mm² (12AWG) Min-Max: 2.5-6 mm² (14-10AWG)
			N (W)		
			PE (O)		
		Connector backup/EPS	L (U)	Multi-core copper cable for outdoor use	
			N (W)		
			PE (O)		

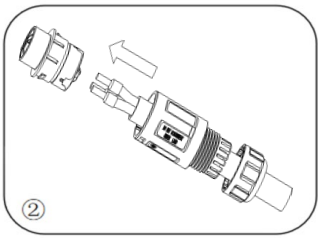
Step 0: Select the appropriate cable type and specifications.



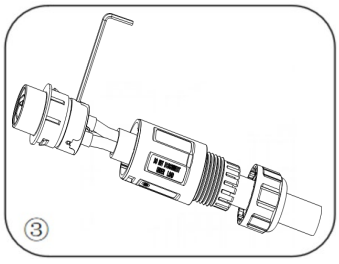
Step 1: Crimp the terminals and insert the cable into the correspondin g terminal.



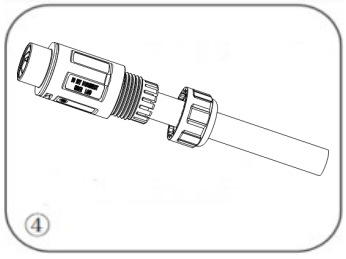
Step 2: Use a hex key to crimp the cable and tighten the screw.



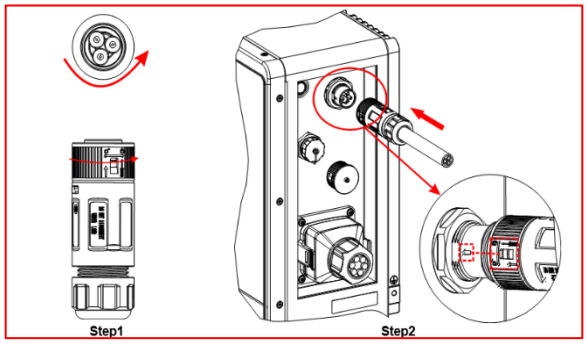
Step 3: Insert the main body into the corresponding connection until you hear a "click".



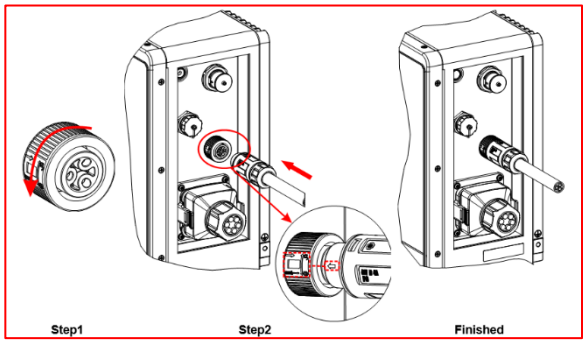
Step 4: Screw the fixing nut onto the main body.



AC GRID:



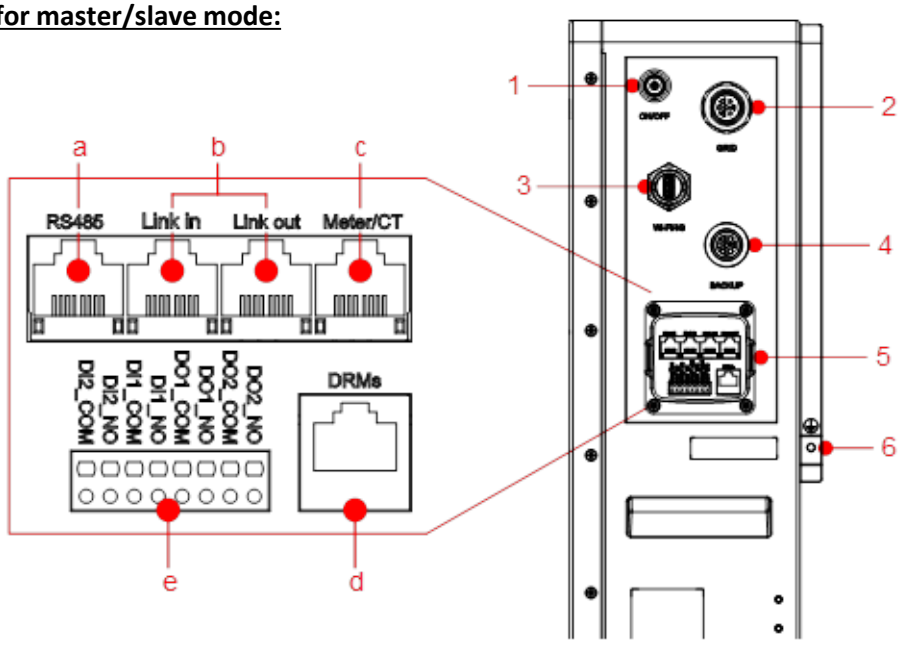
EPS:



Insert the connector into the interface shown in the photo and turn the AC connector lock counterclockwise to the closed position.
Ensure that the arrows shown in the two red boxes in STEP 2 in the figure below are aligned.

6. INTERFACE

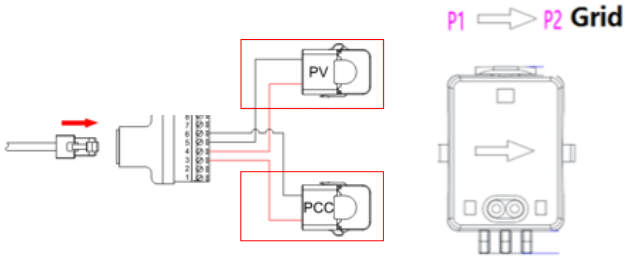
Connections for master/slave mode:



Icon	Definition
1	On-Off button (Screen printing: ON/OFF)
2	On-grid interface (Screen printing: GRID)
3	Data Logger interface (Screen printing: Wi-Fi/4G)
4	Emergency Power Supply (EPS) Interface (Screen printing: BACKUP)
5	Communication interface
6	Grounding point

Icon	Definition
a	RS-485 interface
b	Connection ports (For multiple batteries in parallel applications)
c	Meter/CT interface
d	Demand Response Management (DRM) Interface
and	DI/DO port (Normally open contact)

7.1 MEASURING EXCHANGE THROUGH CT SENSOR



PIN	Definizione
6	CT-
3	CT+

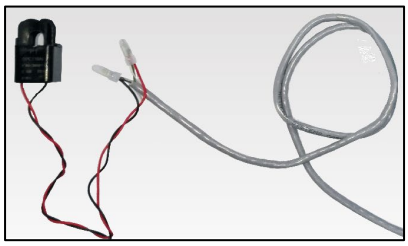
Utilizzare solamente per distanza fra inverter e sensori CT inferiore a 50m

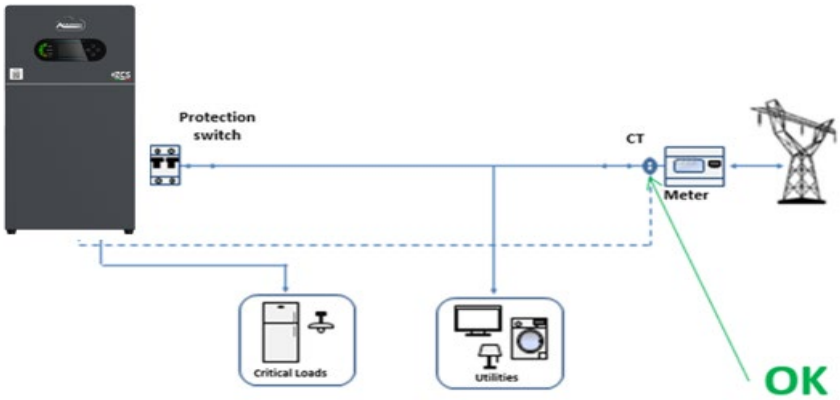
Connect negative and positive to the sensor at inputs 6 and 3 respectively.

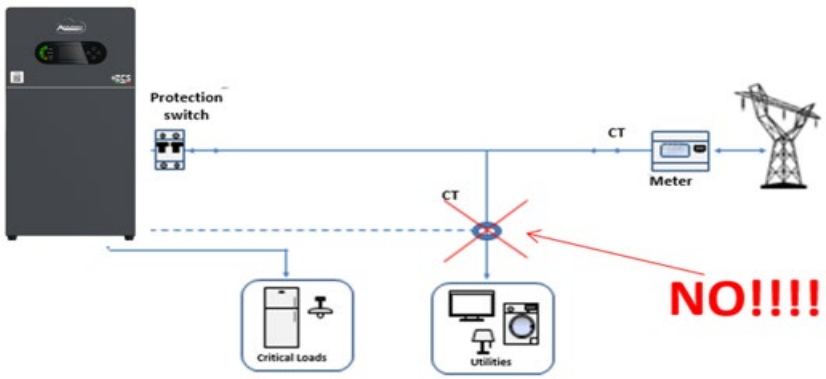
CT SENSOR POSITIONING:

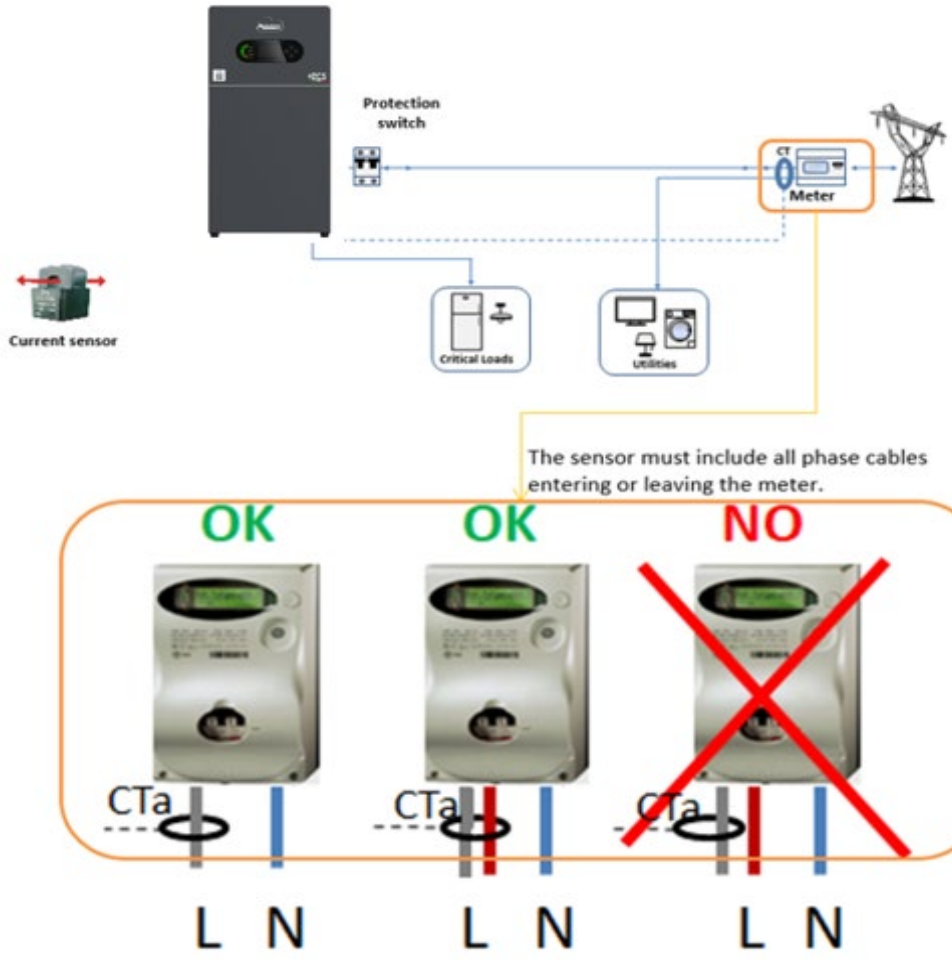
✓*Positioned at the output of the exchange meter* so that it can read all incoming and outgoing power flows, it must include all phase cables entering or leaving the meter.
✓The *direction of the CT is independent of the installation* and is recognised by the system during the first start-up. Always check that the readings are correct by means of tests.

Use an 8-pole **STP** category 6 cable **AS AN EXTENSION CABLE**, using all the coloured poles
(blue-orange-green-brown) to extend the positive CT cable and all white/coloured pins
(white/blue-white/orange-white/green-white/brown) to extend the negative CT cable.
The shielding must be connected to earth on one of the two sides.

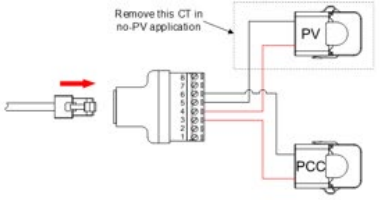








7.2 MEASURING EXTERNAL PRODUCTION USING A CT SENSOR



PIN	Definizione
5	CT-
4	CT+

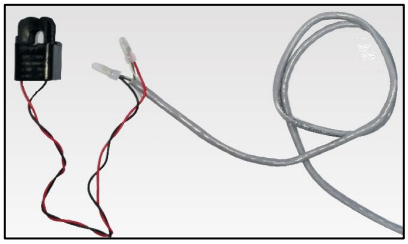
Utilizzare solamente per distanza fra inverter e sensori CT inferiore a 50m

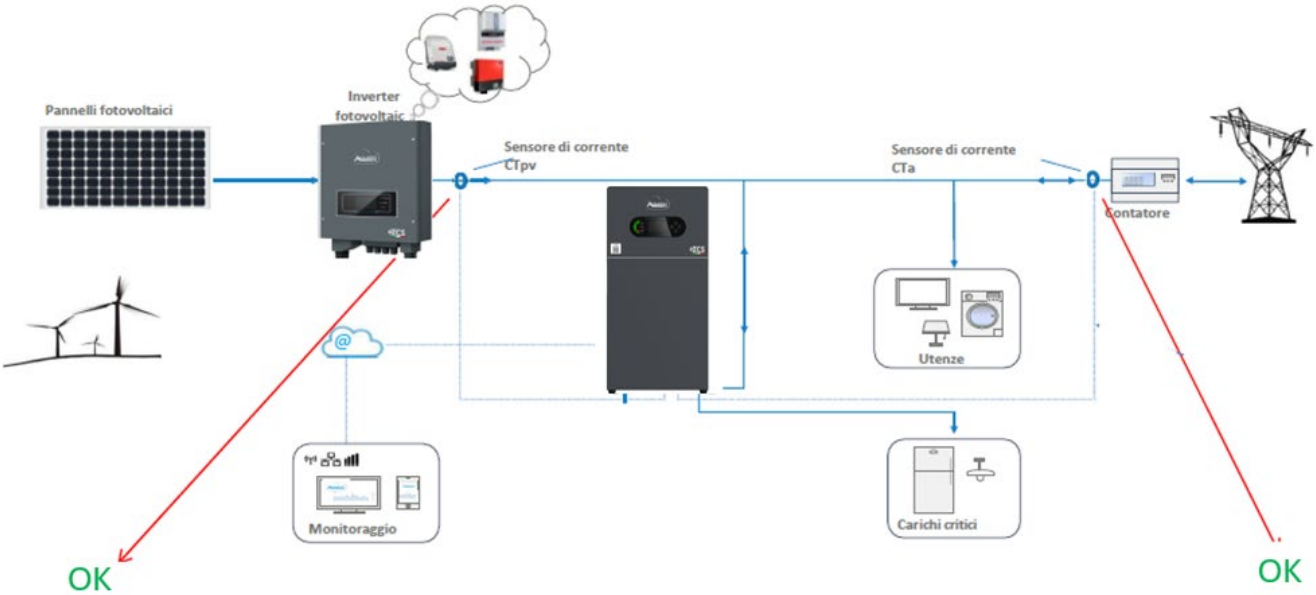
Connect negative and positive to the sensor at inputs 5 and 4 respectively.

CT SENSOR POSITIONING:

✓*Positioned at the output of the exchange meter* so that it can read all incoming and outgoing power flows, it must include all phase cables entering or leaving the meter.
✓The *direction of the CT is independent of the installation* and is recognised by the system during the first start-up. Always check that the readings are correct by means of tests.

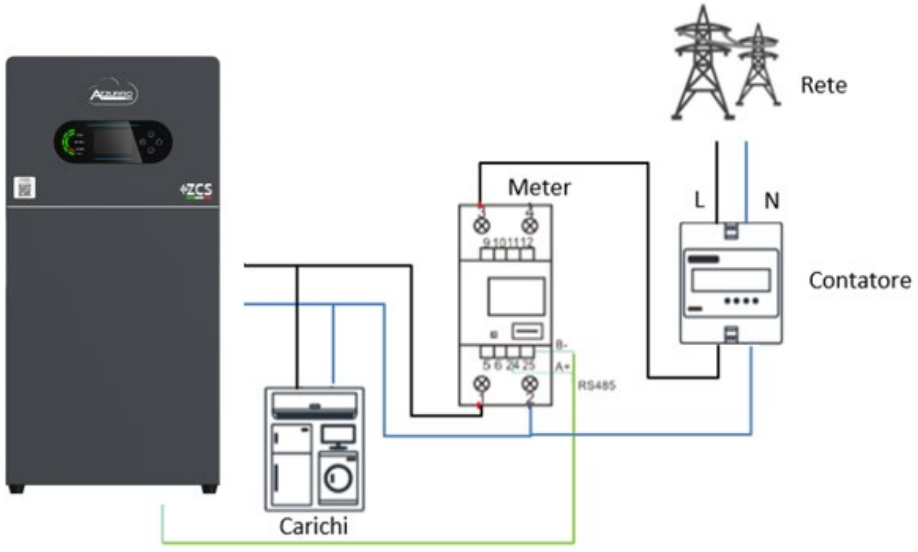
Use an 8-pole **STP** category 6 cable **AS AN EXTENSION CABLE**, use all coloured poles
(blue-orange-green-brown) to extend the positive CT cable and all white/coloured pins
(white/blue, white/orange, white/green, white/brown) to extend the negative CT cable.
The shielding must be connected to earth on one of the two sides.





7.3 MEASURING EXCHANGE THROUGH DDSU METERS

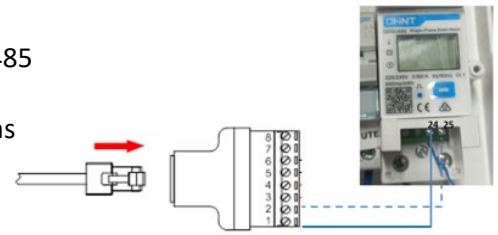
INVERTER PIN	METER PIN	Note
1 →	24	Exchange Meter Communication
2 →	25	



DDSU Meter Connections

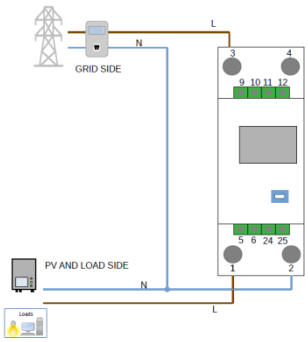
1. Connect the meter and inverter to the inverter kit port:

- On the Meter side, connect to pins **24** and **25** via the RS485 serial port.
- On the inverter side, use the connection port identified as the "Kit port", connecting to pins **1** and **2**.



2. Connect the Meter in "direct insertion" mode as follows:

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



NOTE: For distances between Meter and Hybrid inverter greater than 100 meters it is recommended to connect a 120 Ohm resistor directly to the Meter along the daisy chain 485 (PIN 24 and 25).

7.3.1 SETTING THE DDSU METER ON THE EXCHANGE AND INVERTER

1. Press the button to check that the meter address is set to **001** and that the protocol is set to **8n1**.
In addition to the above, the display shows the following values:

- ✓ Current;
- ✓ Voltage;
- ✓ Power factor;
- ✓ Power.


Protocol


Address


Current

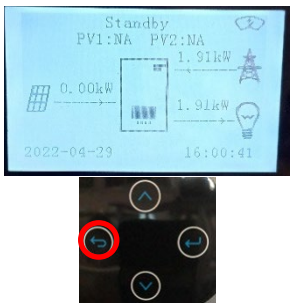

Power

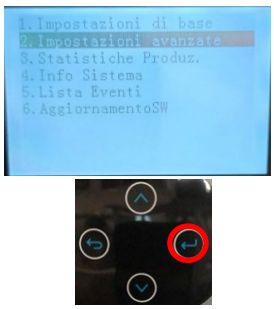

Voltage

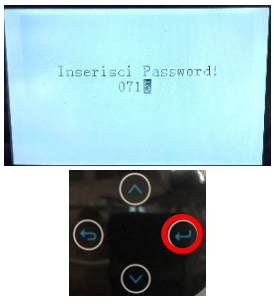

Power factor

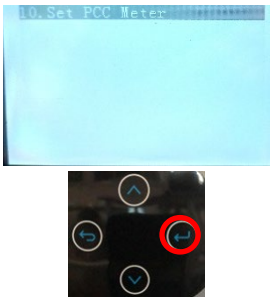
2. To configure the meter reading on the inverter, access the inverter display (as shown in the figures):

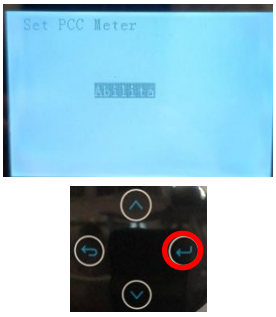
1. First button on the left of the inverter;
2. Advanced settings;
3. Enter password "0715";
4. Set PCC Meter;
5. Enable;
6. OK.

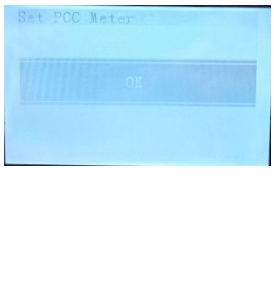


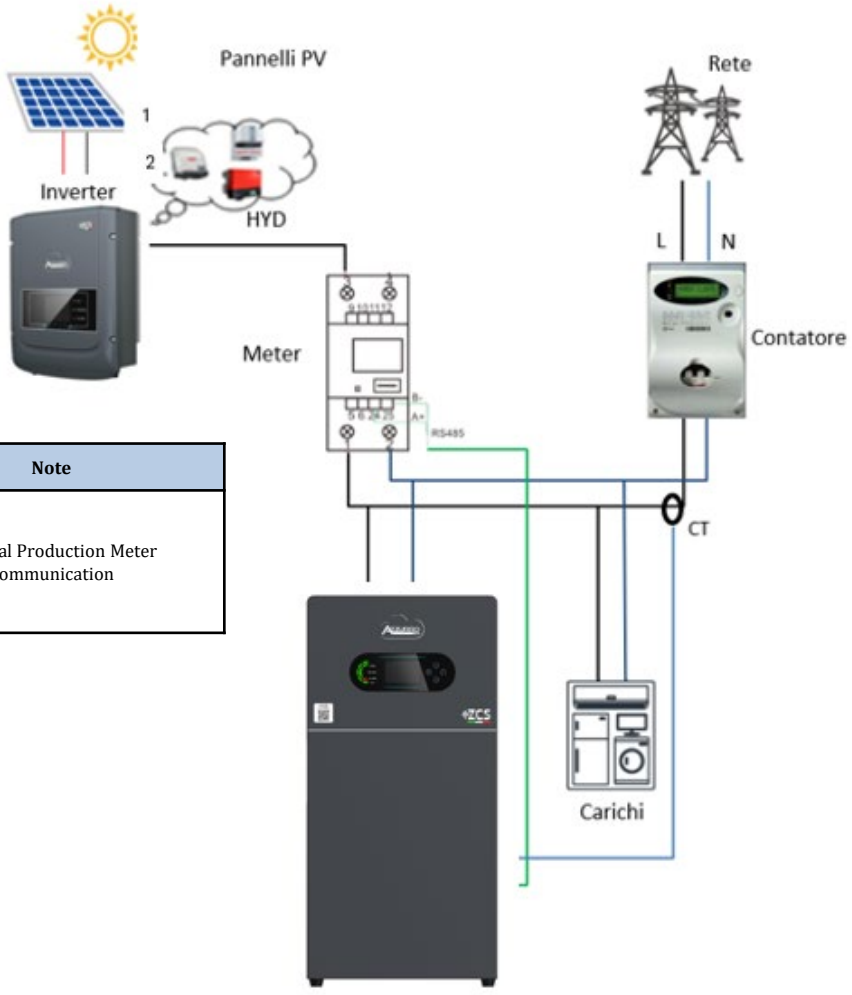










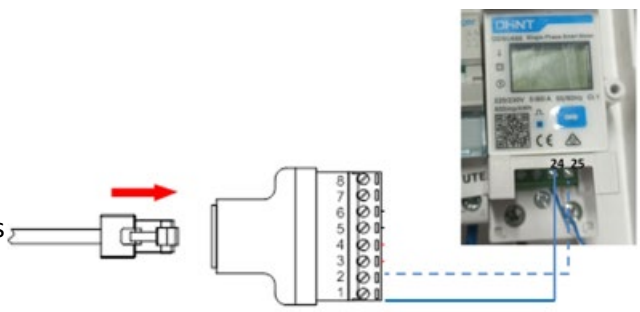


PIN INVERTER	PIN METER	Note
1 →	24	External Production Meter Communication
2 →	25	

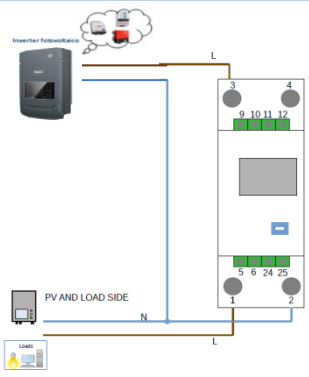
DDSU Meter Connections

1. Connect the Meter and inverter with the inverter kit port:

- On the meter side, connect to pins **24** and **25** via the RS485 serial port.
- On the inverter side, use the connection port identified as the "Kit port", connecting to pins **1** and **2**.



2. Connect the Meter in "direct insertion" mode as follows:



✓ Connect PIN 2 of the Meter to the neutral cable (N);

✓ Connect PIN 3 to the external production phase;

✓ Connect PIN 1 to the new photovoltaic system and load direction phase.

NOTE: For distances between Meter and Hybrid inverter greater than 100 meters it is recommended to connect a 120 Ohm resistor directly to the Meter along the daisy chain 485 (PIN 24 and 25).

7.4.1 SETTING THE DDSU METER FOR EXTERNAL PRODUCTION

1.1 Press the button to check that the Meter address is set to **002** and that the protocol is set to **8n1**.
In addition to the above, the display shows the following values:

- ✓ Current;
- ✓ Voltage;
- ✓ Power factor;
- ✓ Power.


Protocol


Address


Current


Power


Voltage

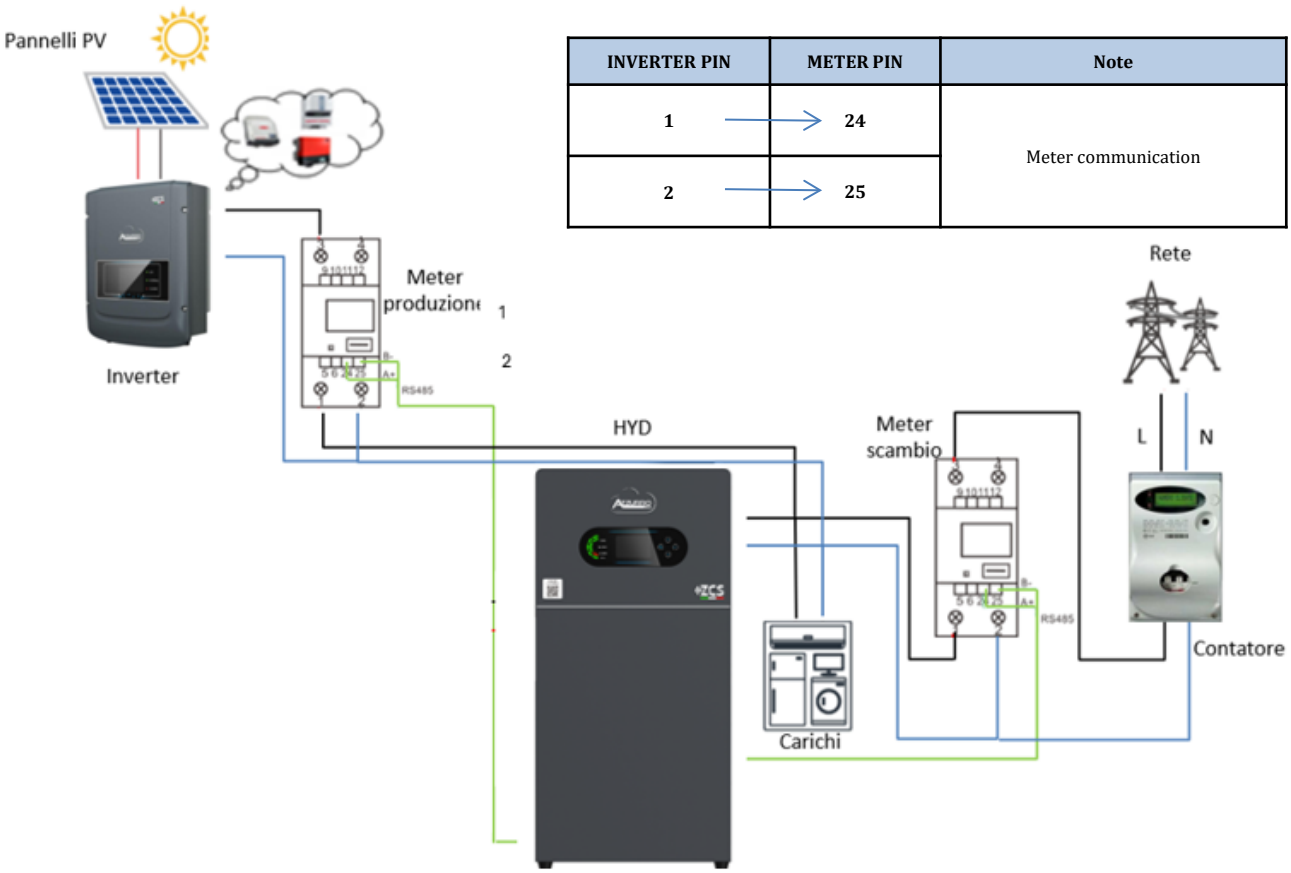

Power factor

1.2 Setting the production meter address:

Press and hold for 5 seconds to enter the settings menu	The protocol type and Modbus address number will alternate	As soon as the screen with the Modbus address number appears, press the arrow to increase the number
		

2. No configurations are required on the inverter to set the Meter on external production.

7.4.2 CONFIGURATION OF EXCHANGE DDSU METER AND PRODUCTION DDSU METER

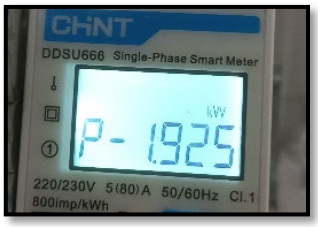


INVERTER PIN	METER PIN	Note
1 →	24	Meter communication
2 →	25	

7.5 CHECKING THE CORRECT READING OF THE DDSU METER

To verify the correct **meter** reading **on the exchange**, ensure that the hybrid inverter and any other photovoltaic production sources are switched off.
Switch on loads greater than 1kW.
Stand in front of the meter and use the
" ➡ " to scroll through the items, it must be verified that:
The power P is:

- •Greater than 1 kW.
- •In line with domestic consumption.
- •The sign in front of each negative value (–).

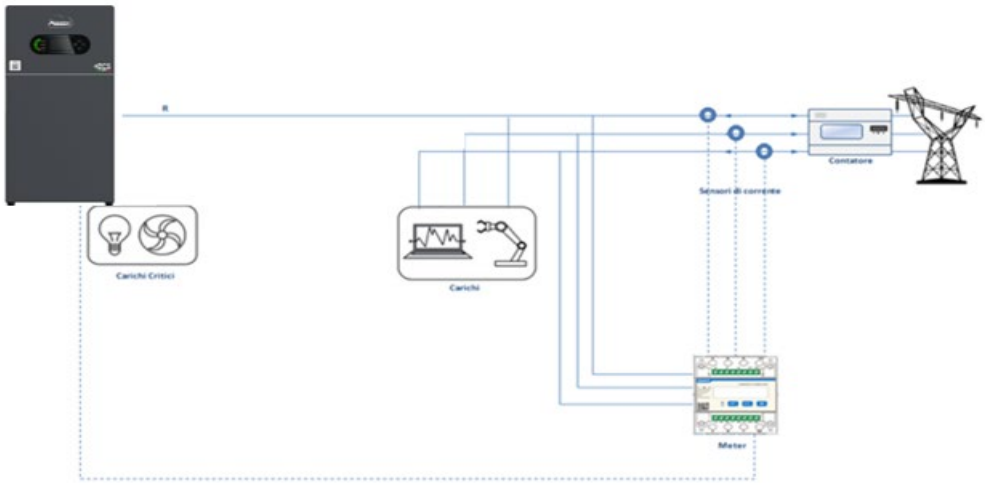


In the case of **meters for reading the production of existing photovoltaic systems**, it is necessary to repeat the previous operations:

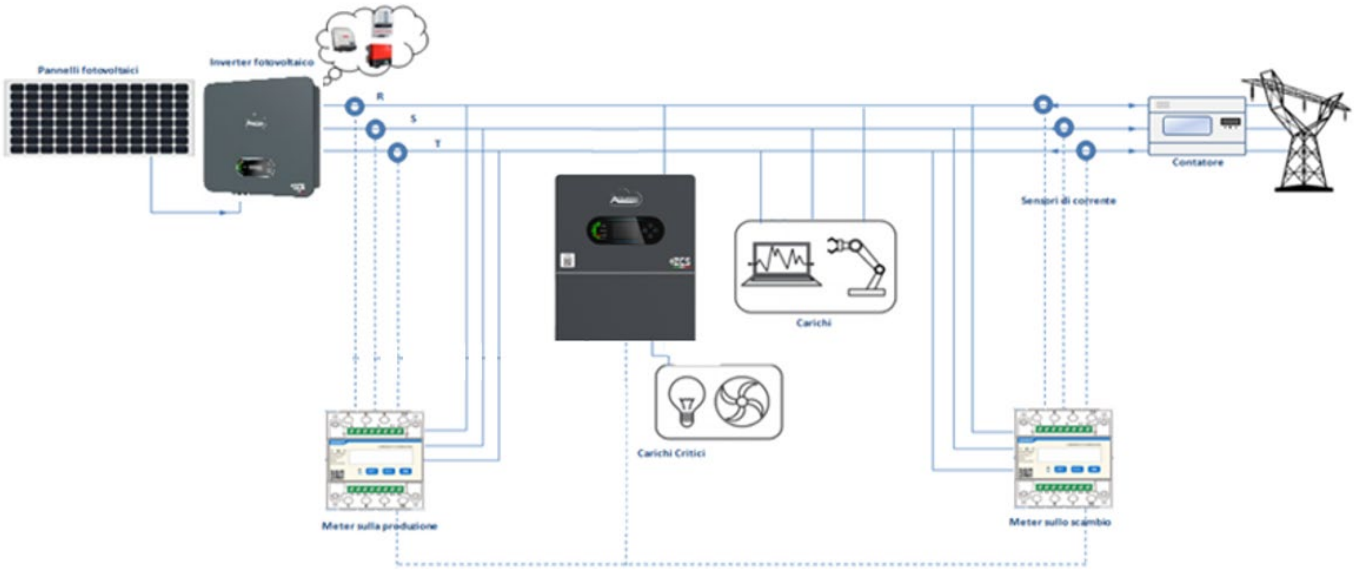
1. This time, the power sign must be positive for P.
2. Switch on the Hybrid Inverter, leaving the PV switch on the DC side in the off position, and check that the total external photovoltaic power value Pt is in line with the value shown on the inverter display.

7.6 READING VIA DTSU METER

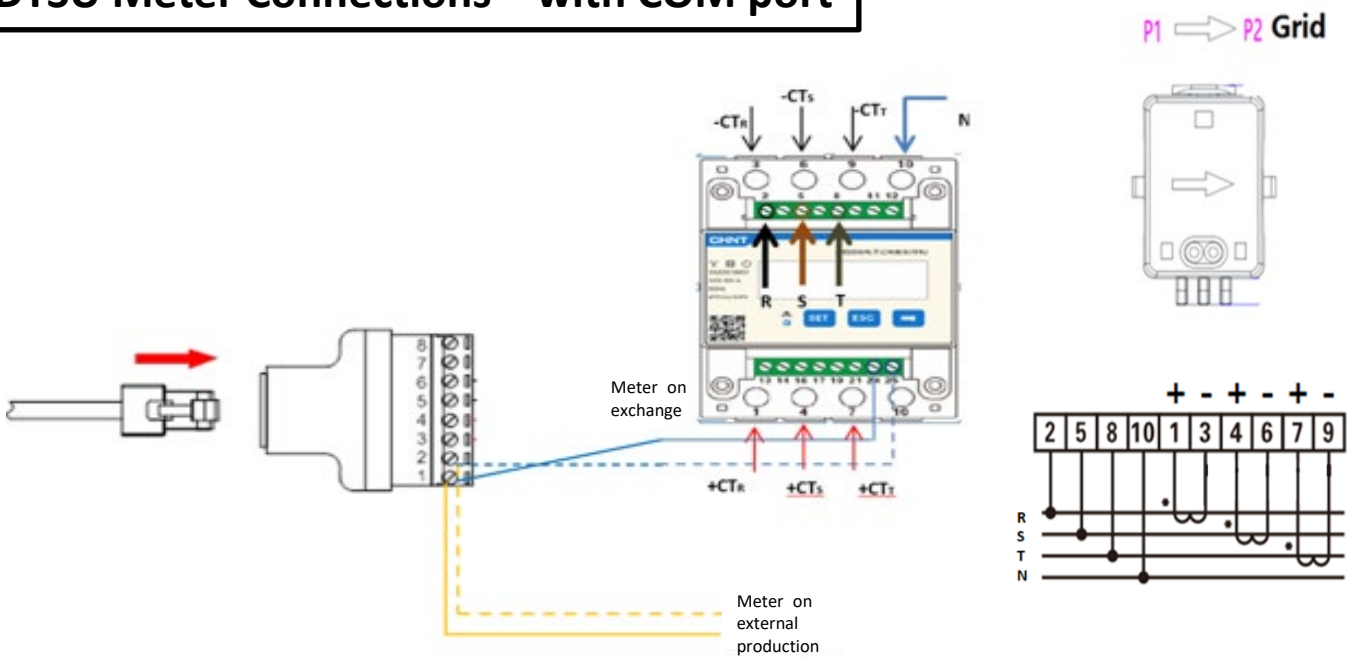
Single-line diagram of Hybrid Inverter in Meter reading mode only on exchange



Single-line diagram of Hybrid Inverter in Meter reading mode on exchange and external production



DTSU Meter Connections – with COM port



1. Connect the meter and inverter via the RS485 serial port.
On the meter side, this port is identified by **pins 24 and 25.**
On the inverter side, use the connection port identified as "COM" by connecting **pins 1 and 2.**

INVERTER PIN	Definition	METER PIN	Note
1	RS485 differential signal +	24	Meter communication
2	RS485 differential signal -	25	

2. Connect PIN 10 of the meter to the neutral cable (N), connect PINs 2, 5 and 8 to phases R, S and T respectively.
CT connections: the sensor positioned on **phase R** must have its terminals connected to **PIN 1** (red wire) and **PIN 3** (black wire).
The sensor positioned on **phase S** must have its terminals connected to **PIN 4** (red wire) and **PIN 6** (black wire).
The sensor positioned on **phase T** must have its terminals connected to **PIN 7** (red wire) and **PIN 9** (black wire).
Position the sensors paying attention to the indication on the sensor itself (arrow pointing towards the mains).
CAUTION: connect the CTs to the phases only after connecting them to the meter.

NOTE: For distances between Meter and Hybrid inverter greater than 100 meters it is recommended to connect a 120 Ohm resistor directly to the Meter along the daisy chain 485 (PIN 24 and 25).

7.6.1 DTSU METER SETTINGS

To configure the device in read mode on the exchange, enter the settings menu as follows:
•Press **SET and** the word **CODE** will appear
•Press **SET** again

•Enter the number "701"
1. From the first screen where the number "600" appears, press the "→" key once to enter the number "601".
2. Press "**SET**" twice to move the cursor to the left and highlight "601";
3. Press the "→" key once more to enter the number "701".

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

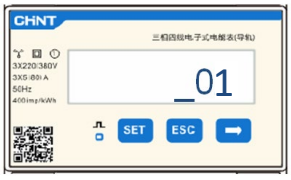
•Confirm by pressing **SET** until you enter the settings menu.
•Enter the following menus and set the parameters indicated:

1. **CT**:
   a. Press **SET** to enter the menu.
   b. Enter '40':
   a. From the first screen where the number '1' appears, press the '→' key several times until the number '10' is displayed.
   b. Press "SET" once to move the cursor to the left, highlighting "10"
   c. Press the "→" key several times until the number "40" is displayed
   d. Press "ESC" to confirm and "→" to scroll to the next setting.

Note: If CT probes other than those supplied are used, enter the correct transformation ratio.

Note: If an error occurs, press "SET" until the thousands digit is highlighted, then press "→" until only the number "1" appears; at this point, repeat the procedure described above.

2. **ADDRESS**:
   a. Press **SET** to enter the menu:
   b. Leave "01" for Meter on the exchange
   c. Enter "02" (by pressing "→" once from the "01" screen). With address 02, the inverter will assign the data sent by the meter as relative production power. Up to a maximum of 3 meters can be set for production (Addresses 02, 03, 04).



Meter on the exchange

Meter on production

   d. Press "ESC" to confirm.

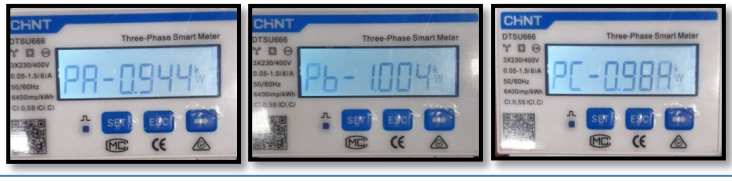
7.6.2 CHECKING THE CORRECT READING OF THE DTSU METER

To verify the correct reading of **the meter on the exchange**, ensure that the hybrid inverter and any other photovoltaic production sources are switched off. Switch on loads greater than 1 kW for each of the three phases of the system.
Go to the meter and use the "→" keys to scroll through the items and "ESC" to go back. Check that:

1. The Power Factor values for each phase Fa, Fb and Fc (phase shift between voltage and current) must be between 0.8-1.0. If the value is lower, the sensor must be moved to one of the other two phases until the value is between 0.8-1.0.

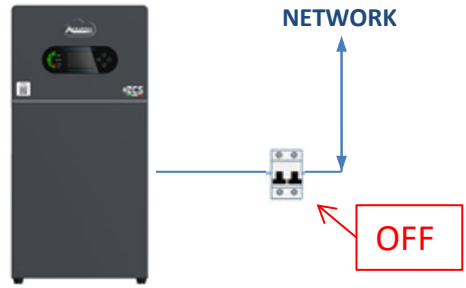
2. The powers Pa, Pb and Pc must be:
   •Greater than 1 kW.
   •In line with domestic consumption.
   •The sign in front of each negative value (–).

   If the sign is positive, reverse the direction of the toroid in question.

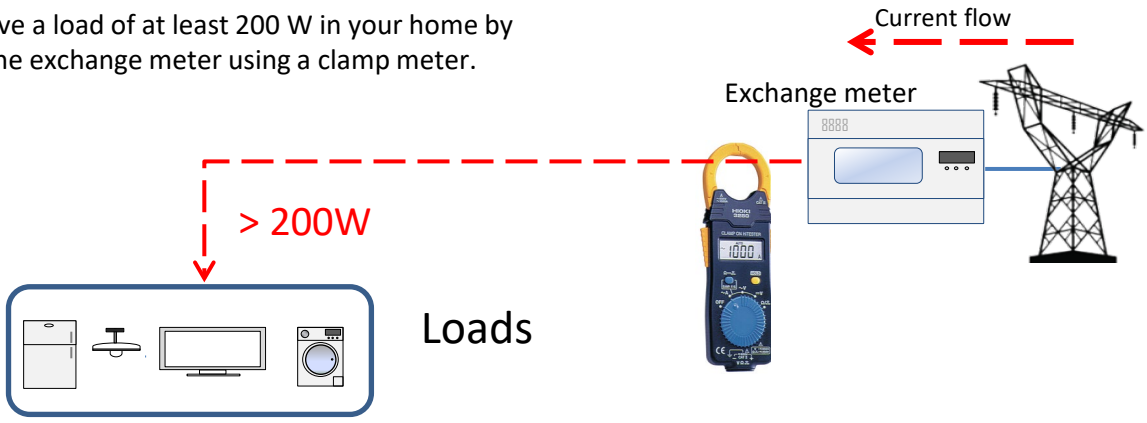


In the case of **meters for reading the production of existing photovoltaic systems**, the above operations must be repeated:
1. Check the power factor as described in the previous case.
2. This time, the power sign must be positive for Pa, Pb, and Pc
3. Switch on the Hybrid Inverter and check that the total photovoltaic power value Pt is in line with the value shown on the inverter display.

Ensure that the AC switch dedicated to the inverter is open and therefore that there is no voltage on the inverter terminal block.



Ensure that you have a load of at least 200 W in your home by measuring under the exchange meter using a clamp meter.



Switch on the storage unit by holding down the on/off button.

After a few seconds, the display will be powered up.

Set the AC isolator between the inverter and the AC mains to ON.

9. INITIAL CONFIGURATION

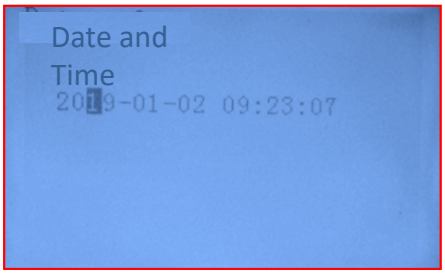
IMPORTANT: Have a PC and USB stick ready in case of update requests and correct country code settings

Parameter	Note
1. Language option	The default setting is English.
*2. Setting and confirming the system time	If you are connected to the host computer as the collector app or mobile device, the time should be calibrated to the local time.
**3. Importing security parameters	You need to find the safety parameter file (named after the corresponding safety country) on the website, download it to your USB flash drive, and import it.
***4. Setting the battery parameters	The default values can be viewed based on the input channel configuration.
5. Configuration is complete	

*2. Importing and confirming the system time

1. Settings

2. Date and Time



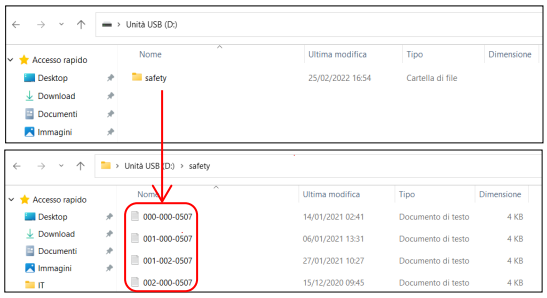
3. Import security parameters (Country code)

1. Basic settings

3. Security parameters

Code		Region		Code		Region	
000	000	Germany	VDE4105	018	000	EU	EN50438
	001		BDEW		001		EN50549
	002		VDE0126		002		EU-EN50549-HV
				019	000	IEC EN61727	
	003		VDE4105-HV	020	000	Korea	Korea
	004		BDEW-HV		001		Korea-DASS
001	000	Italia	CEI-021 Internal	021	000	Sweden	
	001		CEI-016 Italia	022	000	Europe General	EU General
					001		EU General-MV
	002		CEI-021 External		002		EU General-HV
	003		CEI-021 In Areti	024	000	Cyprus	Cyprus
	004		CEI-021In--HV	025	000	India	India
					001		India-MV
002	000	Australia	Australia		002		India-HV
	008		Australia-B	026	000	Philippines	PHI
					001		PHI-MV
	009		Australia-C	027	000	New Zealand	New Zealand
003	000	Spain	ESP-RD1699		001		New Zealand-MV
	001		RD1699-HV		002		New Zealand-HV
	002		NTS	028	000	Brazil	Brazil
	003		UNE217002+RD647		001		Brazil-LV
	004		Spian Island		002		Brazil-230
004	000	Turkey	Turkey		003		Brazil-254
005	000	Denmark	Denmark		004		Brazil-288
	001		DK-TR322	029	000	Slovakia	SK-VDS
006	000	Greece	GR-Continent		001		SK-SSE
	001		GR-Island		002		SK-ZSD
007	000	Netherland	Netherland	030	000		
	001		Netherland-MV	031-032			
	002		Netherland-HV	033	000	Ukraine	
008	000	Belgium	Belgium	034	000	Norway	Norway
	001		Belgium-HV		001		Norway-LV
009	000	UK	G99	035	000	Mexico	Mexico-LV
	001		G98	036-037			
	002		G99-HV	038	000	60Hz	
010	000	China	China-B	039	000	Ireland EN50438	Ireland
	001		Taiwan	040	000	Thailand	Thai-PEA
	002		TrinaHome		001		Thai-MEA
	003		HongKong	041			
	004		SKYWORTH	042	000	50Hz	LV-50Hz
	005		CSISolar	043			
	006		CHINT	044	000	South Africa	SA
	007		China-MV		001		SA-HV
	008		China-HV	045			
	009		China-A	046	000	Dubai	DEWG
011	000	France	France		001		DEWG-MV
	001		FAR Arrete23	047-106			
	002		FR VDE0126-HV	107	000	Croatia	Croatia
	003		France VFR 2019	108	000	Lithuania	Lithuania
012	000	Poland	Poland	109	000		
	001		Poland-MV	110			
	002		Poland-HV	111	000	Columbia	Columbia
	003		Poland-ABCD		001		Columbia-LV
013	000	Austria	Tor Erzeuger	112-120			
014	000	Japan		121	000	Saudi Arabia	IEC62116
	001			122	000	Latvia	
015	003	Switzerlan		123	000	Romania	
16-17							

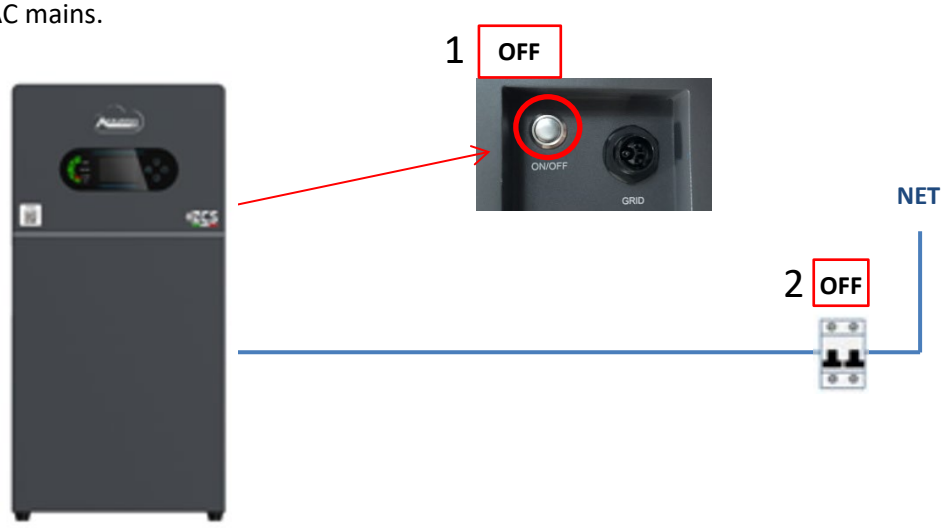
To set the correct country, insert the unzipped folder named "safety" into the USB stick, which can be downloaded from the website: https://www.zcsazzurro.com/it/documentazione/1ph-bzt5000



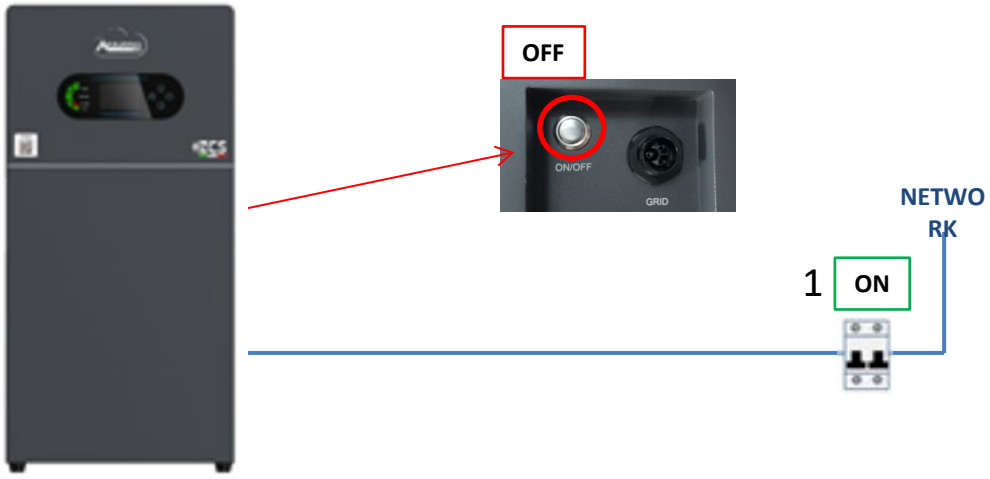
NOTE: The inverters are set by default with the country code relating to CEI-021 for the internal interface. If a different country code is required, please contact customer support.

10. CHECK CORRECT OPERATION

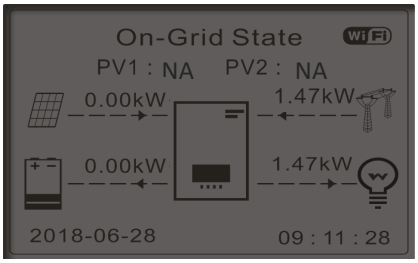
1) Press and hold the on/off button on the retrofit to switch off the storage unit and disconnect the inverter from the AC mains.



2) Restore AC power by flipping the dedicated switch up:

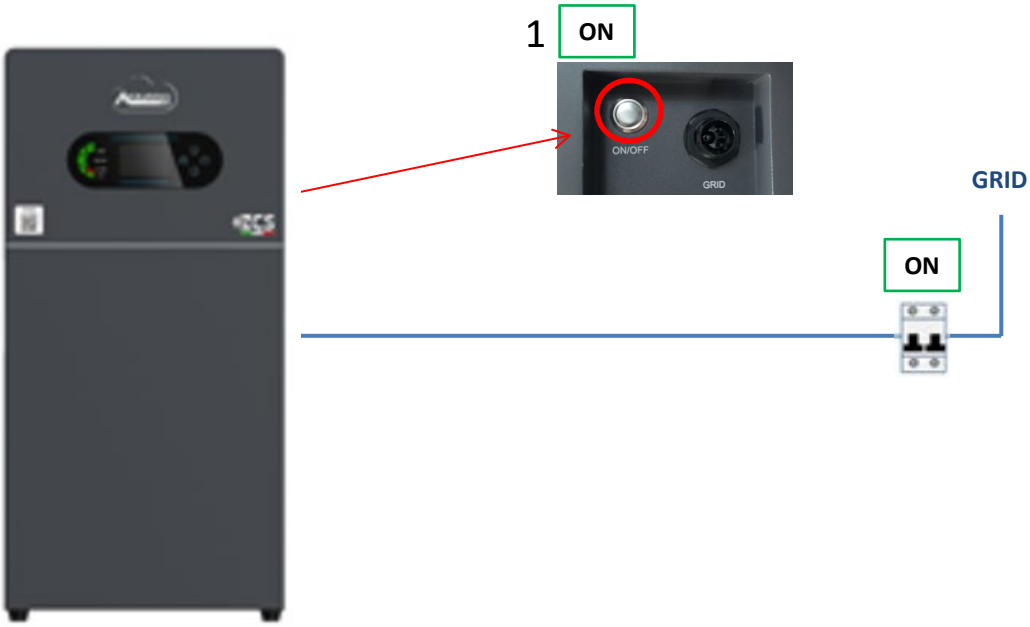


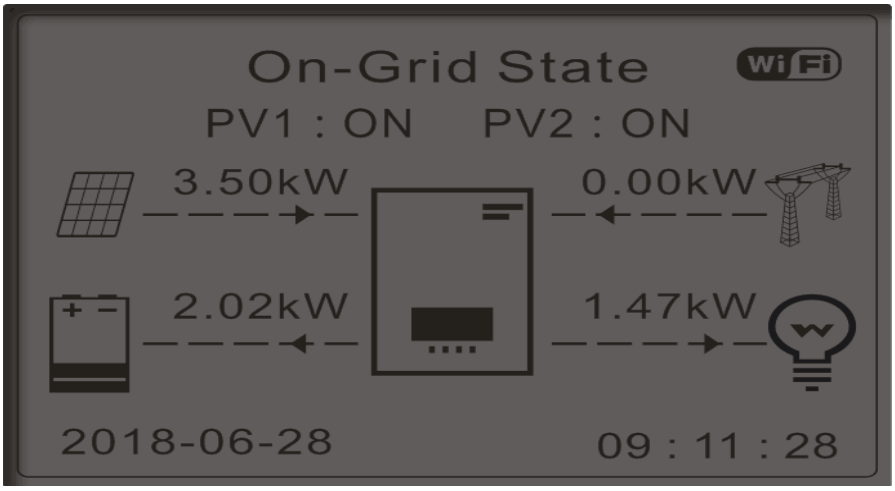
3) Verify that the power consumption value displayed on the screen is approximately equal to the power consumption value shown on the meter, or obtained by measuring with a clamp meter under the exchange meter.



4) Switch on the storage unit by holding down the power button and check that the system is operating in the modes described in the section **OPERATING STATES IN AUTOMATIC MODE:**

•PV>Load → Battery charging;
•PV<Load → Battery discharging;
•PV=Load → Batteries on standby.

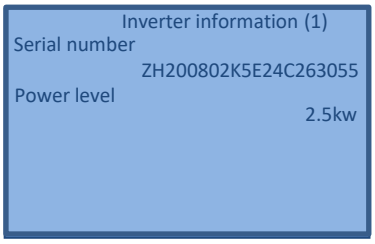




Note: If the above conditions are not met, you must:
•Check that the current sensor is positioned correctly and then restart the system.

11. CHECK INVERTER SETTINGS

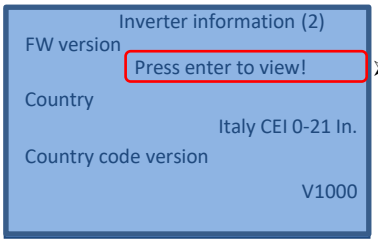
To check whether the set parameters are correct, enter the display menu under "Inverter info" and check the data, paying particular attention to the highlighted items:



➢ *Device serial number*

➢ *Device power*

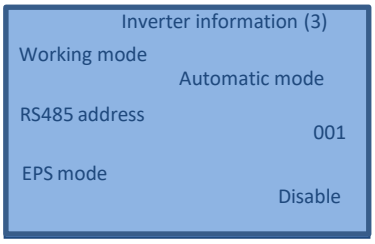
➢ *Service Code Version*



➢ *Installed software version (PSW: 0715)*

➢ *Country code for regulations*

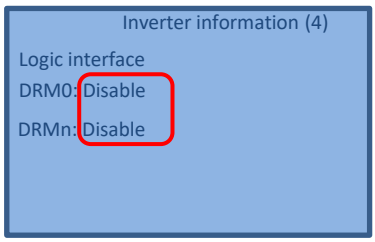
➢ *Regulatory library code*



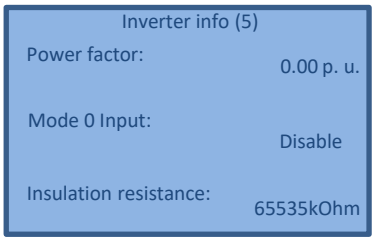
➢ *Working mode information (must be automatic)*

➢ *Communication address (value must be different from 000)*

➢ *Information on EPS mode*



➢ *DRMs0 mode information (enable only for Australia)*



➢ *Power factor value*

➢ *Information on maximum network input mode*

➢ *Measured insulation resistance value*

12. ZERO INPUT MODE

2. Advanced settings	**PSW: 0715**
	2. Zero Emission Mode

The user can enable "Mode 0 input" to limit the maximum power exported to the grid.
The set "power limit" corresponds to the maximum desired export power to the grid.

1. Zero Emission Mode	→	Enable / Disable
2. Power limit	→	***KW

13. LOGIC INTERFACE (DRMS0)

Warning: this function must be disabled!!!!

2. Advanced settings	**PSW: 0715**
	3. Logic interface

DRM0	→	Disable✓
DRNn	→	Disable✓

14.1 EPS MODE (OFF GRID)

In the event of a grid failure or start-up in OFF-Grid mode, if the EPS function is active, the BZT5000 inverter will operate in EPS (emergency power supply) mode, using photovoltaic current and energy stored in the battery to supply power to the critical load via the LOAD connection port.

14.2 EPS MODE (OFF GRID) - WIRING PROCEDURE AND INSTALLATION TYPES

Identify critical or priority domestic loads: it is advisable to identify domestic loads that are strictly necessary in the event of a blackout, such as lighting, refrigerators or freezers, and emergency sockets.

• High-power loads (such as ovens, washing machines, heat pumps) may not be supported by the inverter in EPS mode, given the maximum power that can be supplied in such conditions.

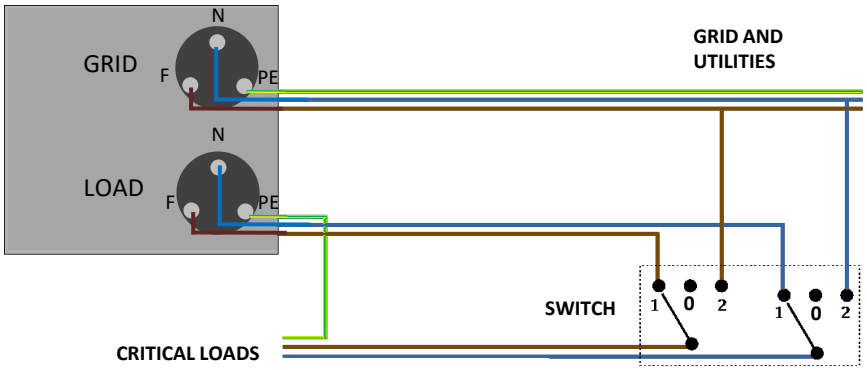
• Loads with high inrush currents (such as pumps, compressors or, in general, devices powered by electric motors) may not be supported by the inverter in EPS mode, as the inrush current, albeit for an extremely limited period of time, is significantly higher than that that can be supplied by the inverter.

• Inductive loads (such as induction hobs) may not be supported by the inverter in EPS mode due to the waveform characteristic of these devices.

Connect the phase, neutral and earth cables to the LOAD output located on the right-hand side of the bottom of the inverter.
NOTE: the LOAD output must only be used to connect critical loads.

SWITCH

In the event of maintenance on the components of the photovoltaic system or in the event of an unusable inverter, it is advisable to install a switch, so that the loads normally connected to the inverter's Load line can be powered directly from the grid.



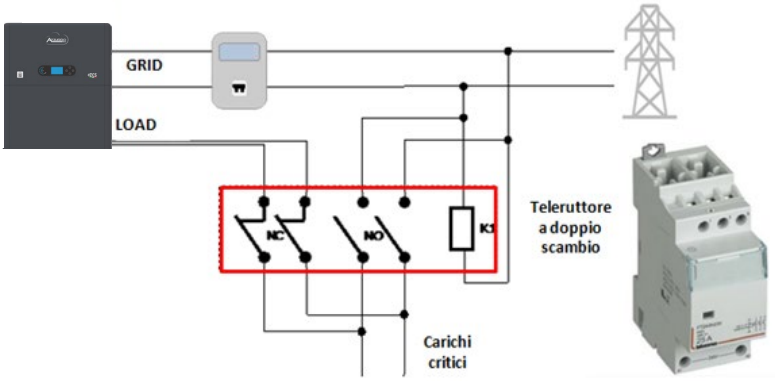
Position 1→ Priority loads connected and powered by the inverter's LOAD line

Position 0→ Priority loads not powered by either the inverter or the grid

Position 2→ Priority loads connected and powered by the grid

DOUBLE-SWITCH REMOTE CONTROL

For systems eligible for incentives, it is possible to install a double-throw remote control switch. This device will ensure that critical loads are normally powered by the grid and will only be powered by the inverter's EPS LOAD line in the event of a power failure, thanks to the switching of the remote control switch contacts.



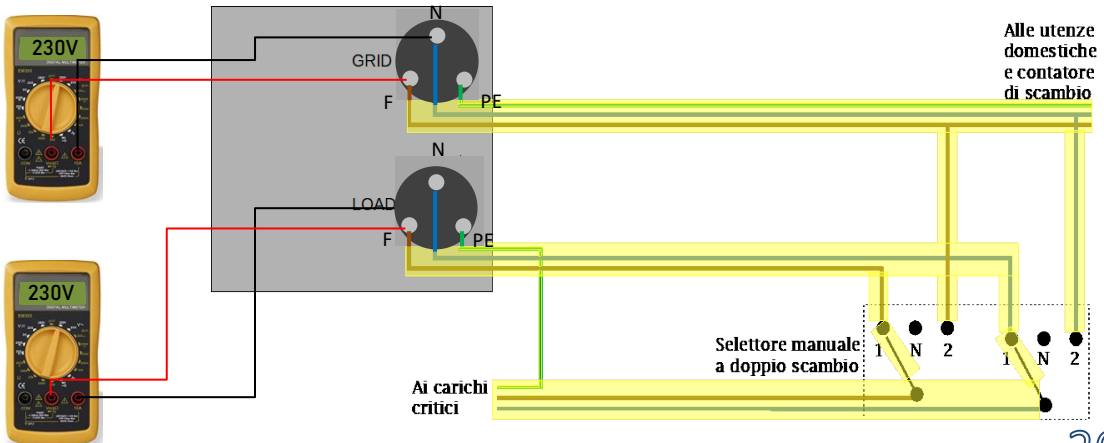
NOTE: Under the conditions described above, in the event of a power failure, the part of the system powered by the LOAD port of the inverter behaves like an IT system.

Note: If the hybrid inverter is to be installed in conditions that differ from those shown in the diagrams above, contact customer service to verify feasibility.

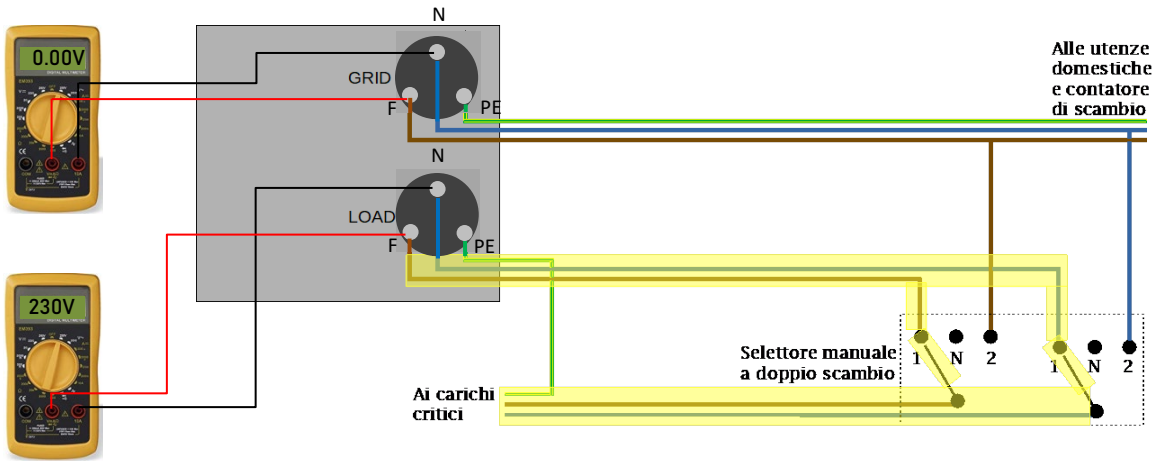
14.3 EPS MODE (OFF GRID) - OPERATION

When alternating voltage is supplied by the mains (normal operating condition), both the standard and priority loads of the system are powered by the mains without the need for a double changeover relay. This operation is shown in the figure below.

It should also be noted that the LOAD output is always energised, even when mains voltage is present.



In the event of **a power failure**, the alternating voltage supplied by the mains will be lost; this condition will switch the internal contacts of the hybrid inverter which, after the activation time has elapsed, will continue to supply an alternating voltage of 230V to the LOAD output, powering only critical loads based on battery and photovoltaic availability.

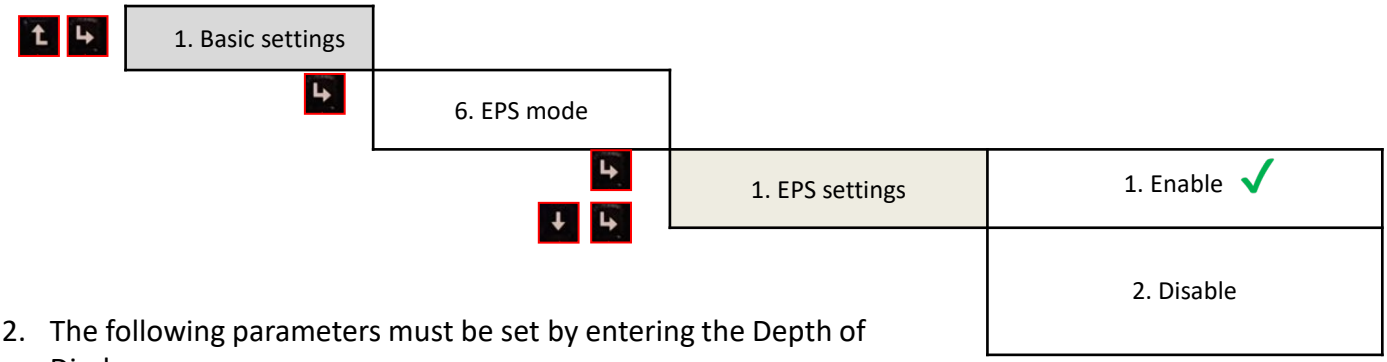


NOTE: with this configuration, during a blackout the system is an IT system.

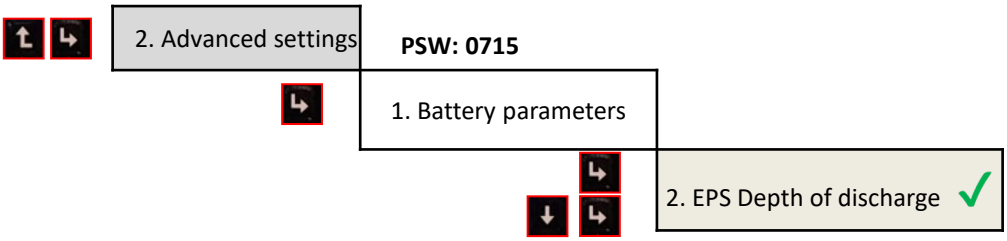
14.4 EPS MODE (OFF GRID) – ENABLING MENU

To enable EPS mode (OFF GRID), you must:

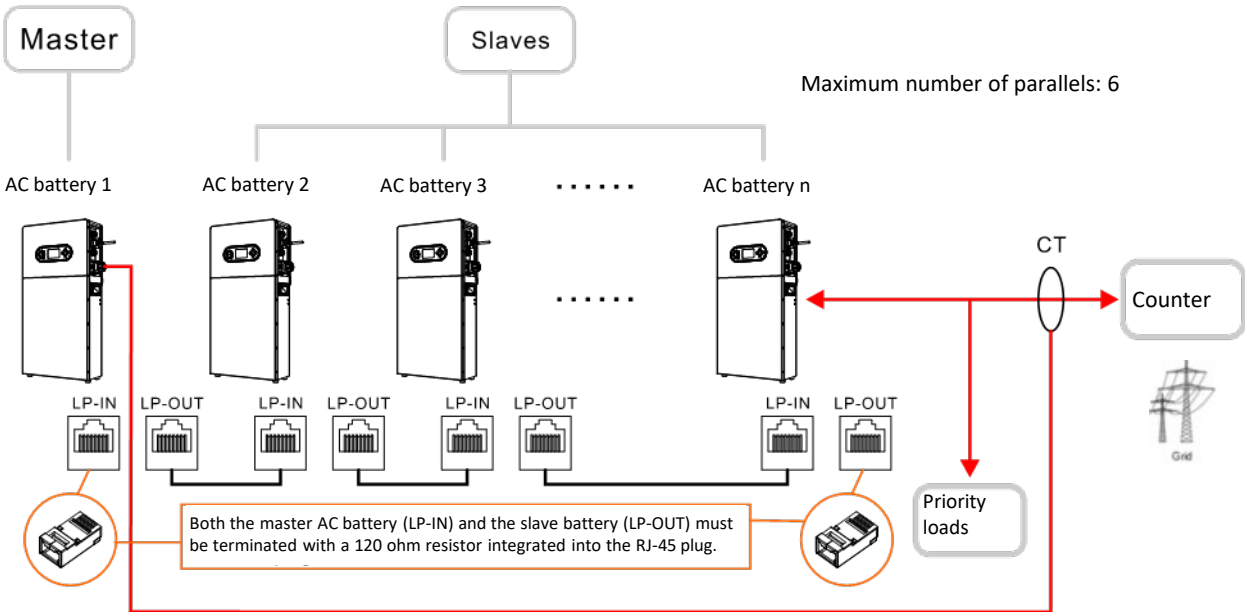
1. The EPS function must be enabled from the display.



2. The following parameters must be set by entering the Depth of Discharge menu.



15.1 PARALLEL INVERTER MODE - CONFIGURATION



1. The inverters must be interconnected using the cable supplied in the package, taking care to populate the inputs as follows:
   - **Link In** of **AC** battery **1** with **termination resistor.**
   - **Link Out** of battery **AC 1** → **Link In** of battery **AC 2**
   - **Link Out** of battery **AC 2** → **Link In** of battery **AC 3**
   - ...
   - **Link Out** of battery **AC n-1** → **Link In** of battery **AC n**
   - **Link In** of **AC** battery **n** with **termination resistor**

   Note: The parallel cable between the inverters supplied

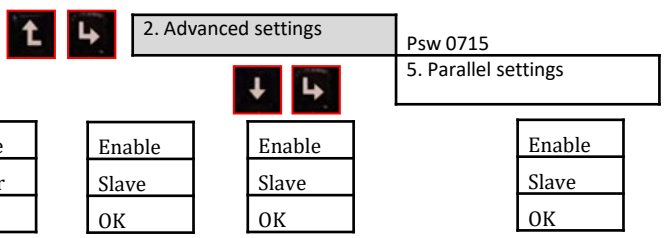
2. If the connected inverters are of the same size, it is possible to parallel the LOAD outputs in order to power the same group of priority loads. To do this, a parallel panel must be used. It is necessary to ensure that the connections between each inverter and the parallel panel have:
   - The same length
   - The same cross-section
   - The lowest possible impedance.

   It is advisable to install adequate protection on each connection line between the inverter and the panel.

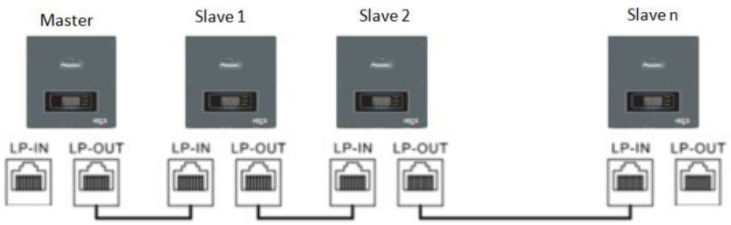
3. The total load connected to the LOAD outputs must be less than the total sum of the power that can be supplied by the inverters in EPS mode.

4. The current sensor used must be connected to the Master Inverter.

15.2 PARALLEL INVERTER MODE - SETTINGS



1. Parallel control	Enable/Disable
2. Master-Slave Parallel	Master/Slave
3. Save	OK



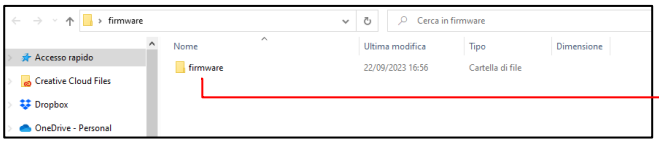
16. FIRMWARE UPDATE

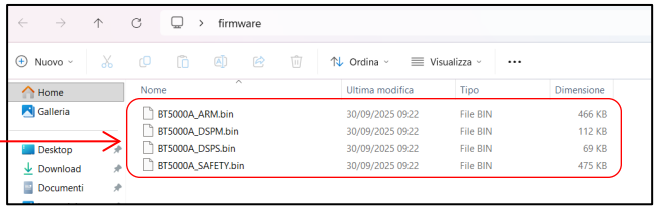
Main menu

Psw 0715

1. Basic settings
2. Advanced settings
3. Production statistics
4. System info
5. Event list
6. SW Update

To perform the firmware update, place the unzipped folder named "firmware" on the USB stick. This can be downloaded from the website https://www.zcsazzurro.com/it/documentazione/1ph-bzt5000
The folder will contain the update files in .bin or .hex format.





17. SELF-TEST

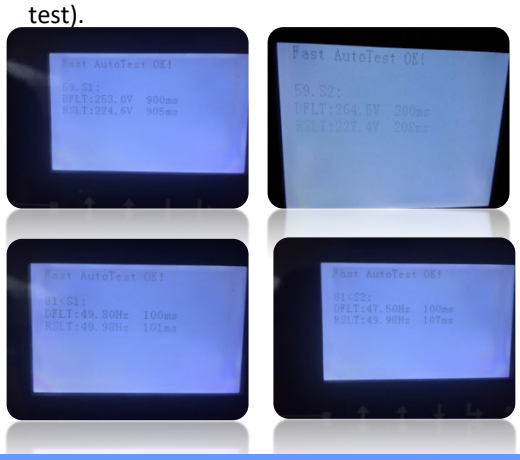
Before performing the self-test, make sure you have set the correct country code!!!!

1. Basic settings

5. Self-test

1. Fast self-test
2. STD self-test

Note: The STD self-test procedure is the same as the fast self-test, with the difference that the waiting times are longer (approximately 12 minutes for the fast test compared to 45 minutes for the STD test).



18. %CHARGE MODE

To balance misaligned batteries, it may be necessary to force a mains charge to allow the batteries to reach 100%.

Key:
Back | Change setting | Next

2. Charge % mode

Rules. 0:	Enabled		
From	To	SOC	Load
02h00m -	04h00m	100	01000W
Effective data			
Jan. 01	-	Dec. 31	
Weekday select			
Mon. Tue. Wed. Thu Fri. Sat. Sun.			

Select Enabled to activate the charging function

Charging start and end times

Charging power

Maximum charging percentage

Charging period

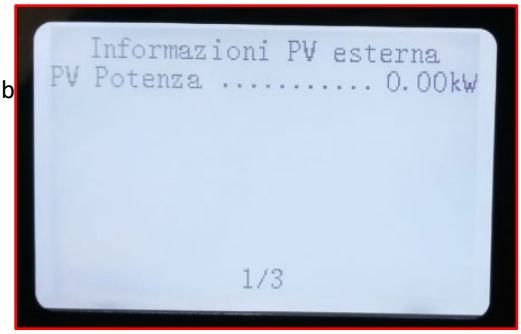
Weekdays on which the mode is activated

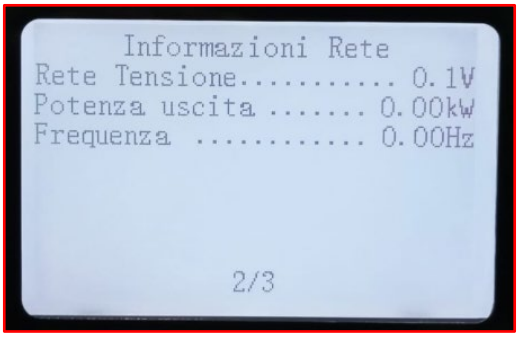
After making the desired settings, scroll back to the initial item and press

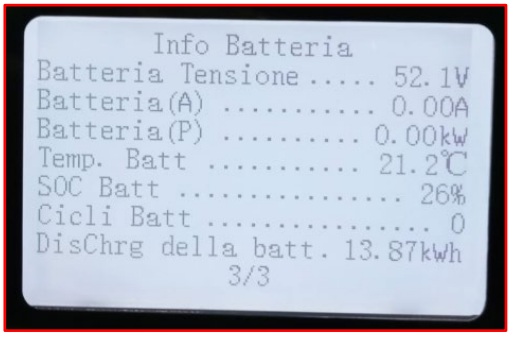
19. QUICK SYSTEM STATUS INFO

By pressing ↓ or ↑ on the initial display, you will b
instant information on:
access instant information on:

- External PV information;
- Network information;
- Battery info.

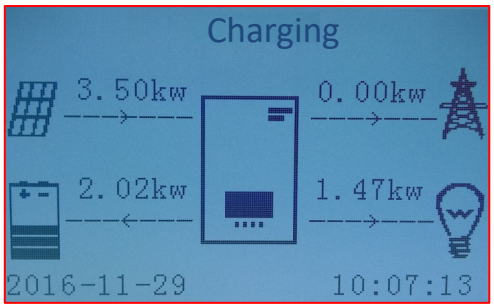




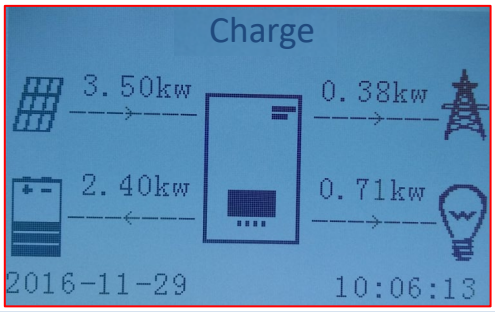


20. OPERATING STATES IN AUTOMATIC MODE

Charging

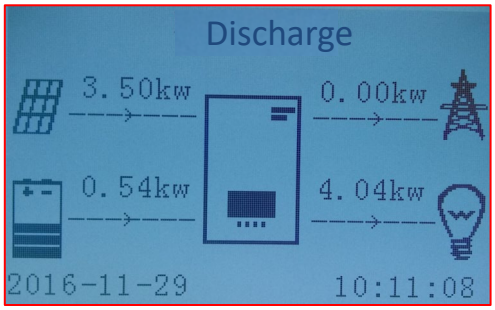


When the power produced by the photovoltaic system exceeds the power required by the loads, the inverter will charge the battery with the excess power.

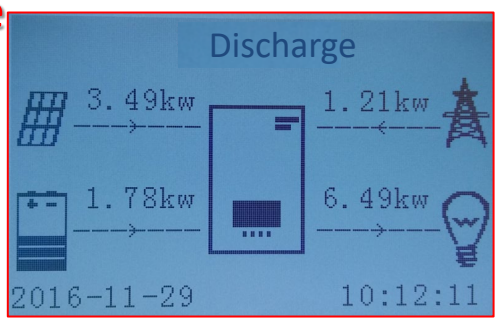


When the battery is fully charged, or when the charging power is limited (to preserve the integrity of the battery), the excess power will be exported to the grid.

Discharge

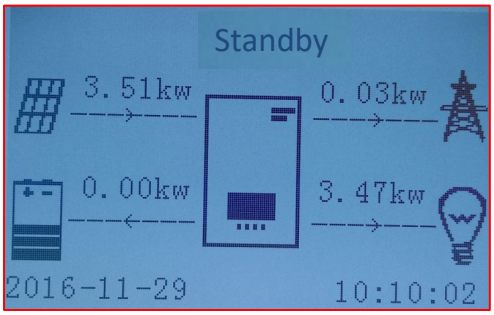


When the power of the photovoltaic system is less than that required by the loads, the system will use the energy stored in the battery to power the loads in the home.



When the sum of the power produced by the photovoltaic system and that supplied by the battery is less than that required by the loads, the shortfall will be drawn from the grid.

Standby



The inverter will remain in standby mode until:
•the difference between photovoltaic production and load demand is less than 100W
•the battery is fully charged and photovoltaic production exceeds consumption (with a tolerance of 100W)
•the battery is discharged and photovoltaic production is lower than consumption (with a tolerance of 100W)