Configuration Instructions

H2 Series

HS2/AS2 Series

HS3/AS3 Series

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Preface

Thank you for choosing SAJ products. We are pleased to provide you first-class products and exceptional service.

This manual provides information about installation, operation, maintenance, troubleshooting and safety. Please follow the instructions of this manual so that we can ensure delivery of our professional guidance and whole-hearted service.

Customer-orientation is our forever commitment. We hope this document proves to be of great assistance in your journey for a cleaner and greener world.

We make constant improvements on the products and their documentation. This manual is subject to change without notice; these changes will be incorporated in new editions of the publication. To access the latest documentation, visit the SAJ website at https://www.saj-electric.com/.

Guangzhou Sanjing Electric Co., Ltd.

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1. About this document

This document provides the guidance on how to configure the SAJ inverters, mainly covering the required devices, system connections, meter address settings, and system commissioning using elekeeper App. It is designed for the following SAJ inverter models:

- H2 series
- HS2/AS2 series
- HS3/AS3 series

Note: For the system connection diagrams in this document, the inverters are connected to the PV array, which is applicable for models like H2/HS2/HS3 series. However, for the AS series, the inverters are not connected to the PV array.

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2. Required devices

- H2 series storage inverter and BU2 series battery; or BC2 series battery control unit
- HS2/AS2 series hybrid inverter and BU2 series battery
- HS3/AS3 series hybrid inverter and BU3 series battery; or BC3 battery combiner box

Equipment	One storage inverter or hybrid inverter	One storage inverter or hybrid inverter + Solar inverter (AC-coupling)	Multiple storage inverters or hybrid inverters (parallel)	Multiple storage inverters or hybrid inverters + Solar inverter (parallel + AC-coupling)
Inverter and batteries	• H2 + BC2 + BU2 • HS2/AS2 + BU2 • HS3/AS3 + BU3 + BC3 (BC3 is required only in the multi-battery cascading scenario)			
Solar inverter	/	Yes	/	Yes
Meter	1	2*	/	Depending on the phase current of the solar inverter: • Current ≤ 63A: 0 • Current > 63A: 1
EMS	/	/	1	1
External CT	• 1-phase: 1 • 3-phase: 3	• 1-phase: 2 • 3-phase: 6	• Current ≤ 63A: Not required • Current > 63A: ➢ 1-phase: 1 ➢ 3-phase: 3	
	Note: Not required if you use an 80 A meter which has CT integrated.		/	**Note:** If you use a meter because the phase current of the solar inverter exceeds 63A, the CT quantity here will be doubled.

* If two meters are required, on the grid side, use Meter 1 (with preset address 1) in the brown package box; on the solar inverter side, use Meter 2 (with the preset address 2) in the white package box.

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3. Applicable products for deployments

Applicable products for single-phase inverter deployment

Deployment	Main Devices	Applicable products
Single-inverter deployment	One hybrid inverter + smart meter	H2/HS2/AS2/HS3/AS3 single-phase series
	One hybrid inverter + CT	• HS3 single-phase series for Australia • AS3 single-phase series
Parallel deployment	Multiple hybrid inverters + EMS + RS485 communication	H2/HS2/AS2 single-phase series
	Multiple hybrid inverters + EMS +LAN communication	HS3/AS3 single-phase series
AC coupling - single inverter	One hybrid inverter + solar inverter + smart meter	H2/HS2/AS2/HS3/AS3 single-phase series
AC coupling - parallel deployment	Multiple hybrid inverters + solar inverter + EMS + RS485 communication	H2/HS2/AS2 single-phase series

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Applicable products for three-phase inverter deployment

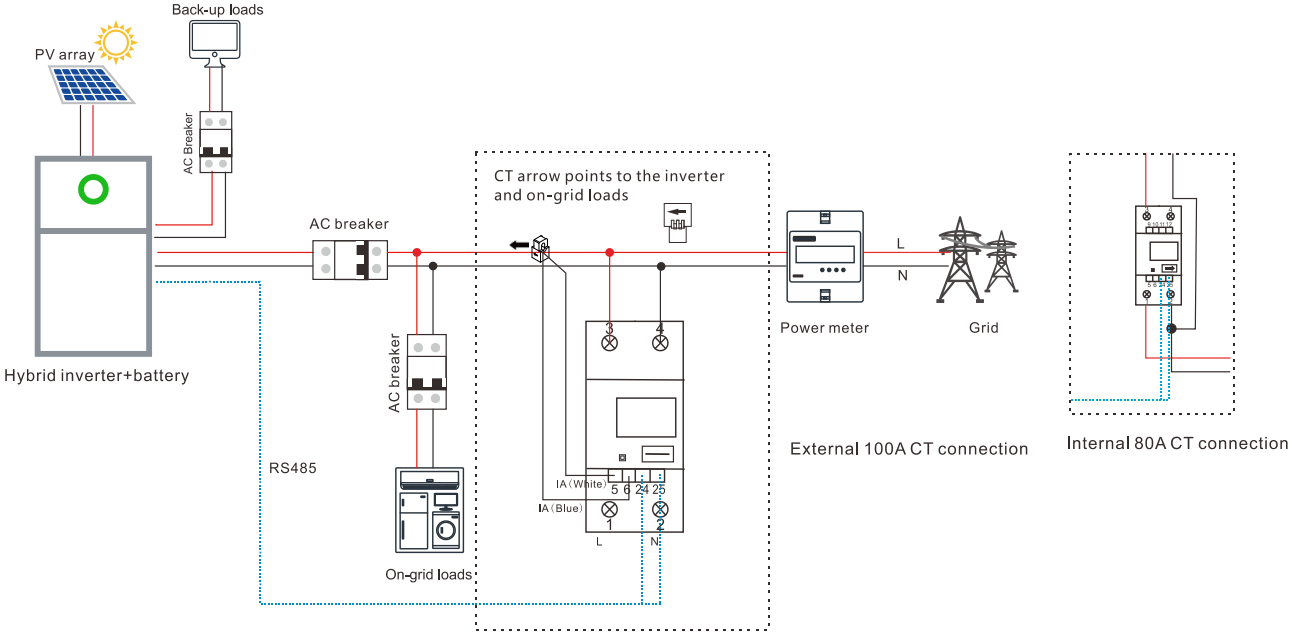
Deployment	Main Devices	Applicable products
Single-inverter deployment	One hybrid inverter + smart meter	H2/HS2/AS2/HS3/AS3 three-phase series
Parallel deployment	Multiple hybrid inverters + EMS + RS485 communication	• H2-(5K-10K)-T2 • HS2/AS2 three-phase series
	Multiple hybrid inverters + EMS +LAN communication	• H2-(10K-30K)-T3 • HS3/AS3 three-phase series
AC coupling - single inverter	One hybrid inverter + solar inverter + smart meter	H2/HS2/AS2/HS3/AS3 three-phase series
AC coupling - parallel deployment	Multiple hybrid inverters + solar inverter + EMS + RS485 communication	• H2-(5K-10K)-T2 • HS2/AS2 three-phase series
	Multiple hybrid inverters + solar inverter + EMS + LAN communication	• H2-(10K-30K)-T3 • HS3/AS3 three-phase series

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4. System connection: single-phase hybrid inverter

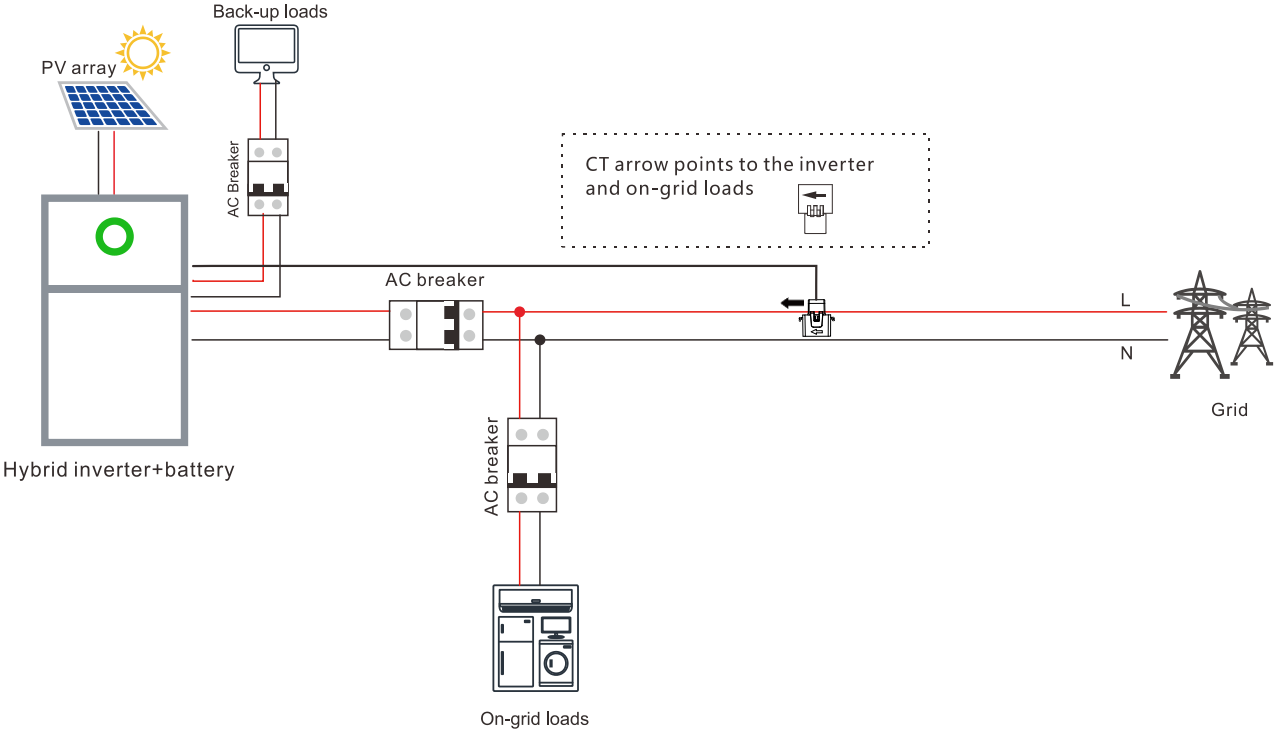
4.1. One hybrid inverter

4.1.1. In single-phase grid



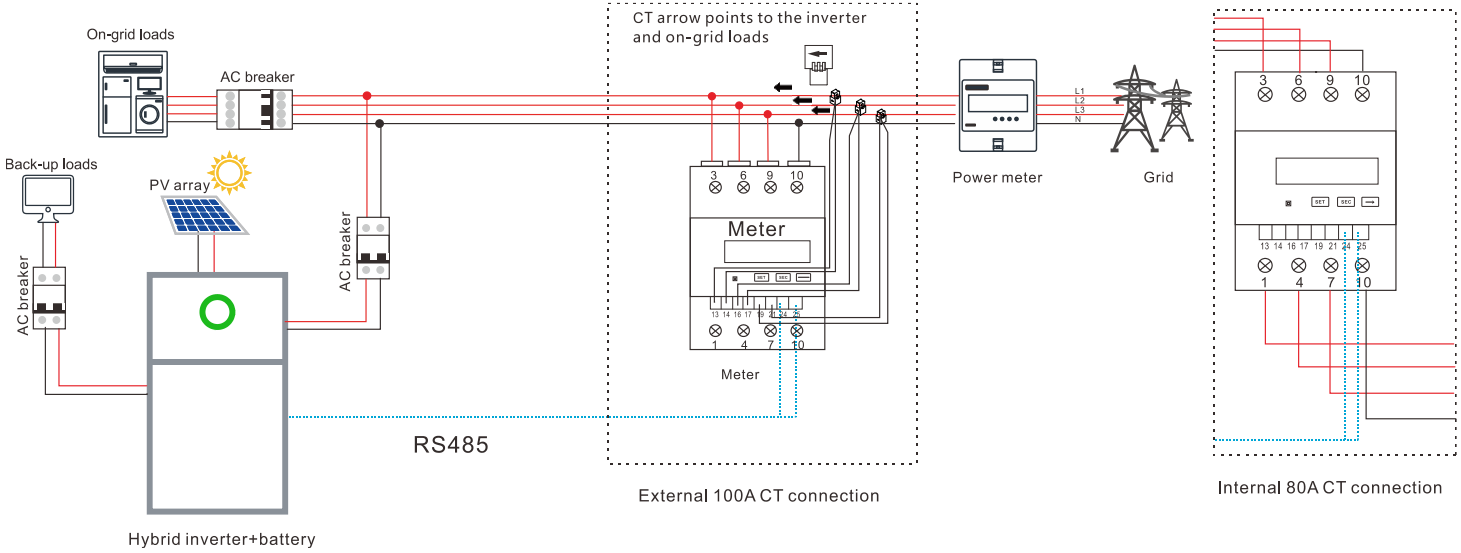
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The following connection diagram is applicable for deployment with CT ports (RJ45). No smart meter is required in this deployment.



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4.1.2. In three-phase grid



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4.2. Multiple hybrid inverters, one EMS (parallel connection)

Before connection, contact SAJ technical support to check whether the connection is applicable to your inverter model.

4.2.1. RS485 connection (up to 6 inverters)

Connect the communication cables from the RS485 port on the inverter to the corresponding terminals on the SAJ eManager. If the RS485 port is not available on the inverter, use the EMS/Meter port.

From the RS485 or EMS/Meter port on the inverter	To the RS485 terminals on the eManager
Pin 7	RS485-A
Pin 8	RS485-B

Notes:

The eManager provides three pairs of RS485 terminal combinations.

- RS485 A1 and RS485 B1
- RS485 A2 and RS485 B2
- RS485 A3 and RS485 B3

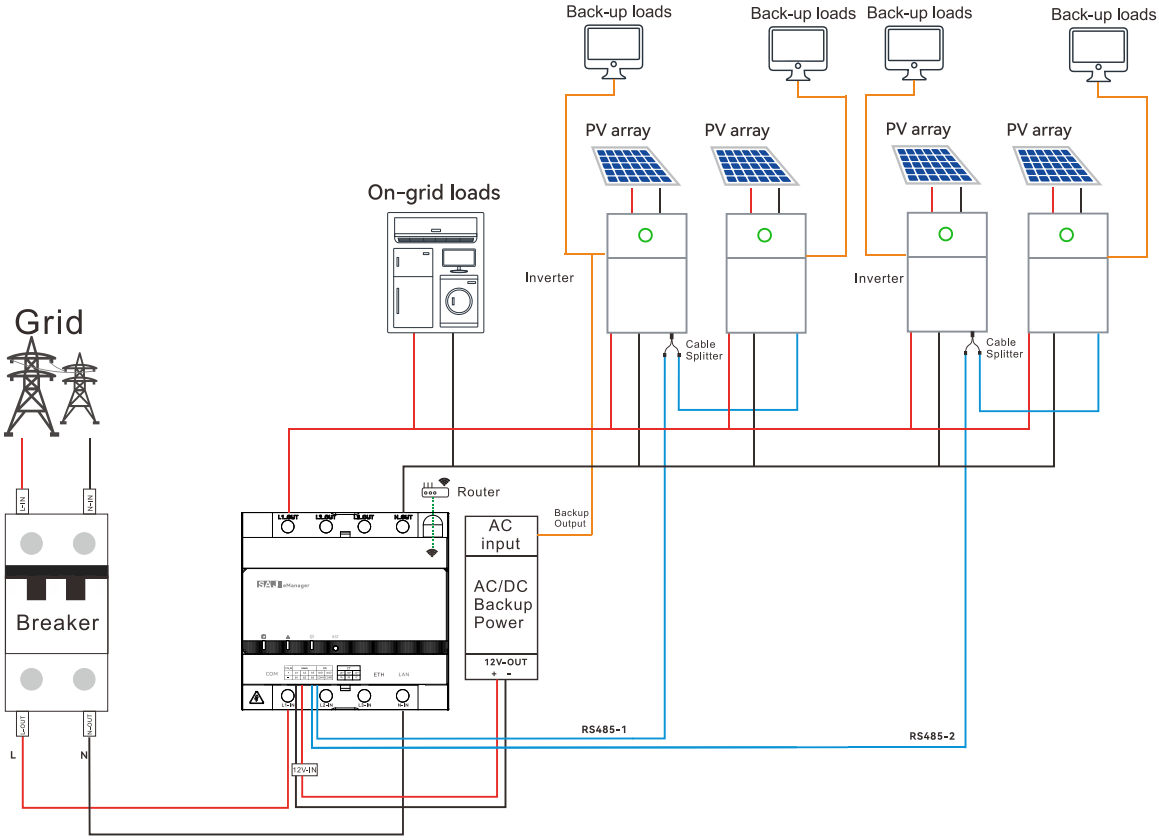
You can connect the inverter to any pair of the above combination. However, for one pair, ensure the following items:

- A maximum of two inverters are connected.
- The inverters must be of the same type. A hybrid inverter and a solar inverter cannot be connected to the same pair of RS485 terminal combination.

Internal CT connection (current ≤ 63 A) in the single-phase grid

When the current exceeds 63 A, use the external CT connection manner.

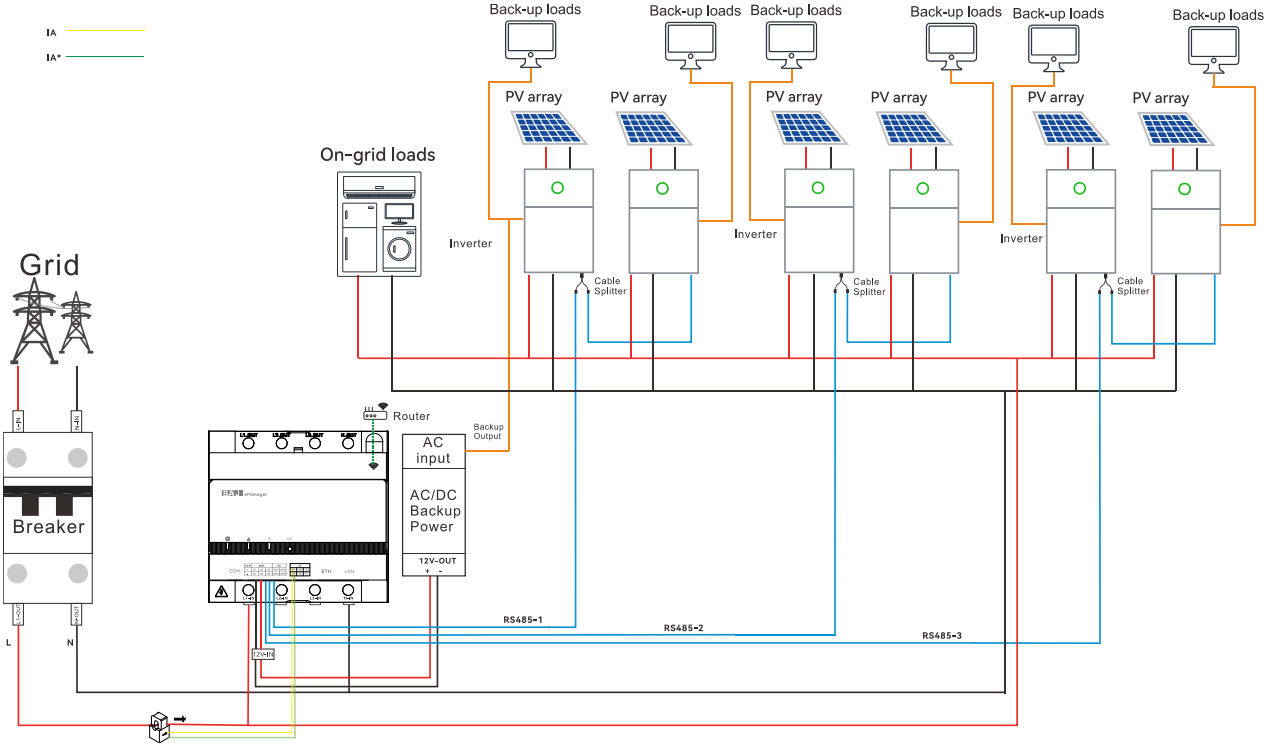
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External CT connection (current > 63 A) in the single-phase grid

You can use 100A/50mA or 250A/50mA CTs, depending on the plant capacity. (Plant capacity = The greater value of the total inverter power or the total on-grid load power)



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4.2.2. LAN connection

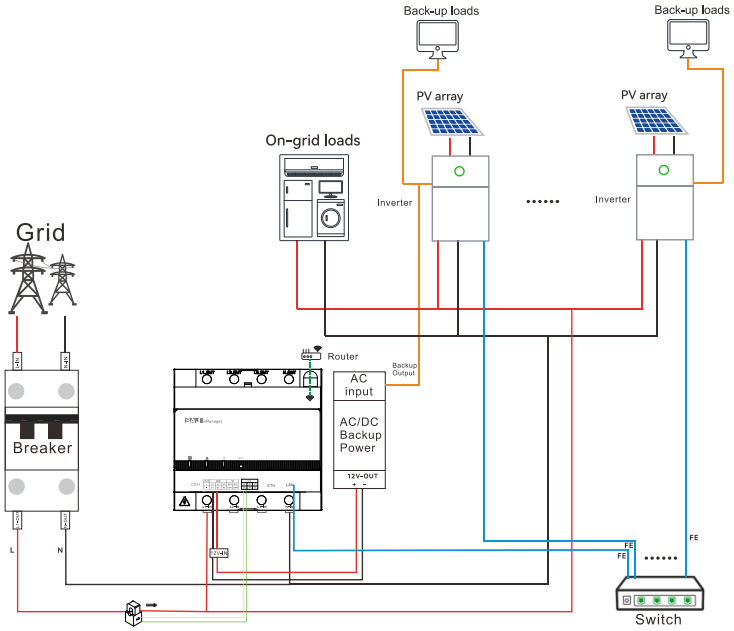
Independent off-grid connection (up to 10 inverters)

In independent off-grid mode, when the grid fails, each inverter operates independently and supplies power only to its dedicated backup loads.

Prerequisites:

1 It is applicable for external CT connection (current > 63 A).

2 Use 250A/50mA or 500A/50mA CTs, depending on the plant capacity. (Plant capacity = The greater value of the total inverter power or the total on-grid load power)



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Parallel off-grid connection (up to 4 inverters)

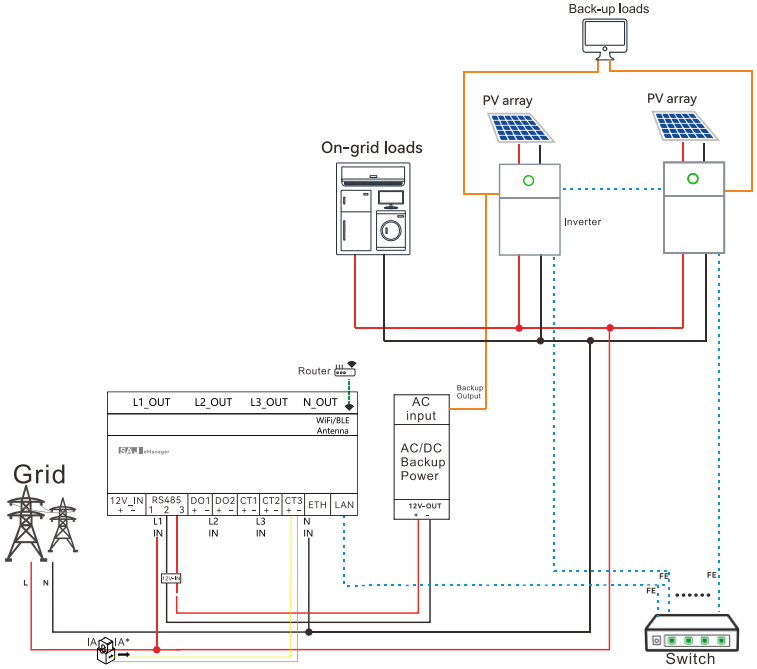
In parallel off-grid mode, when the grid fails, multiple inverters operate in parallel and jointly supply power to common backup loads.

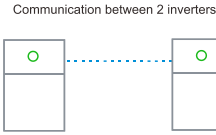
Prerequisites:

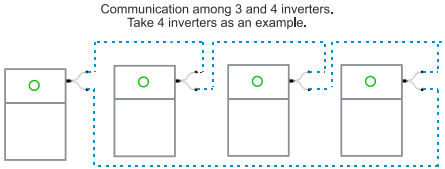
1 It is applicable for external CT connection (current > 63 A).

2 The inverters must be of the same power class.

3 The parallel off-grid function is enabled on the app.







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Scenario	Connection
2 inverters	Use a network cable to connect the PORT ports between 2 inverters.
3 and 4 inverters	1. Prepare additional RJ45 splitter cables. 2. Connect the splitter cable to the PORT port on the inverter.

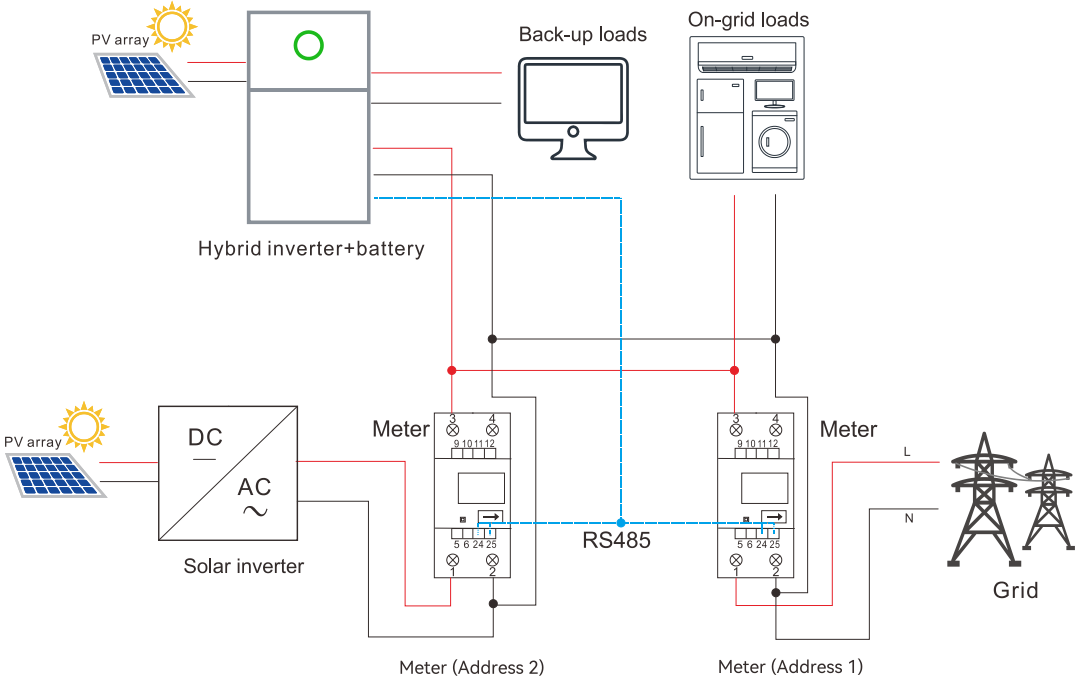
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4.3. One hybrid inverter, one solar inverter (AC-coupling connection)

Before connection, contact SAJ technical support to check whether the connection is applicable to your inverter model.

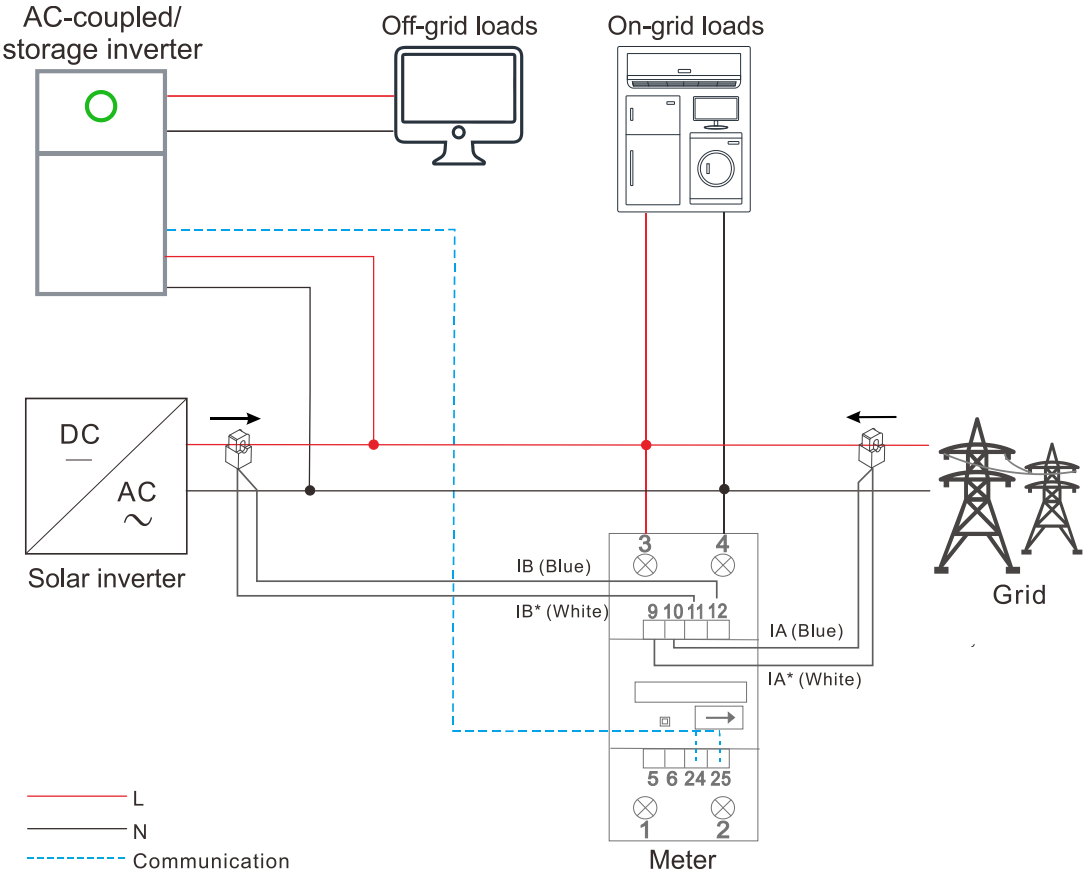
4.3.1. In single-phase grid

Internal 80 A CT connection (current ≤ 80 A)



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External 100 A CT connection (current ⩽ 100 A)

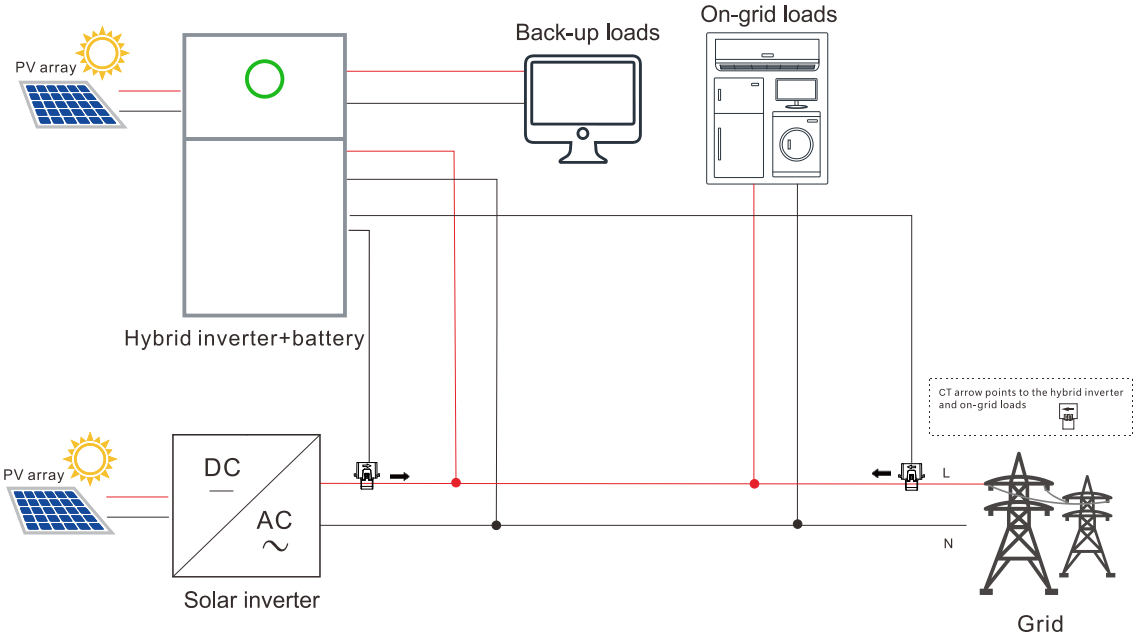


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The following connection diagram is applicable for deployment with CT ports (RJ45). No smart meter is required in this deployment.

Note:

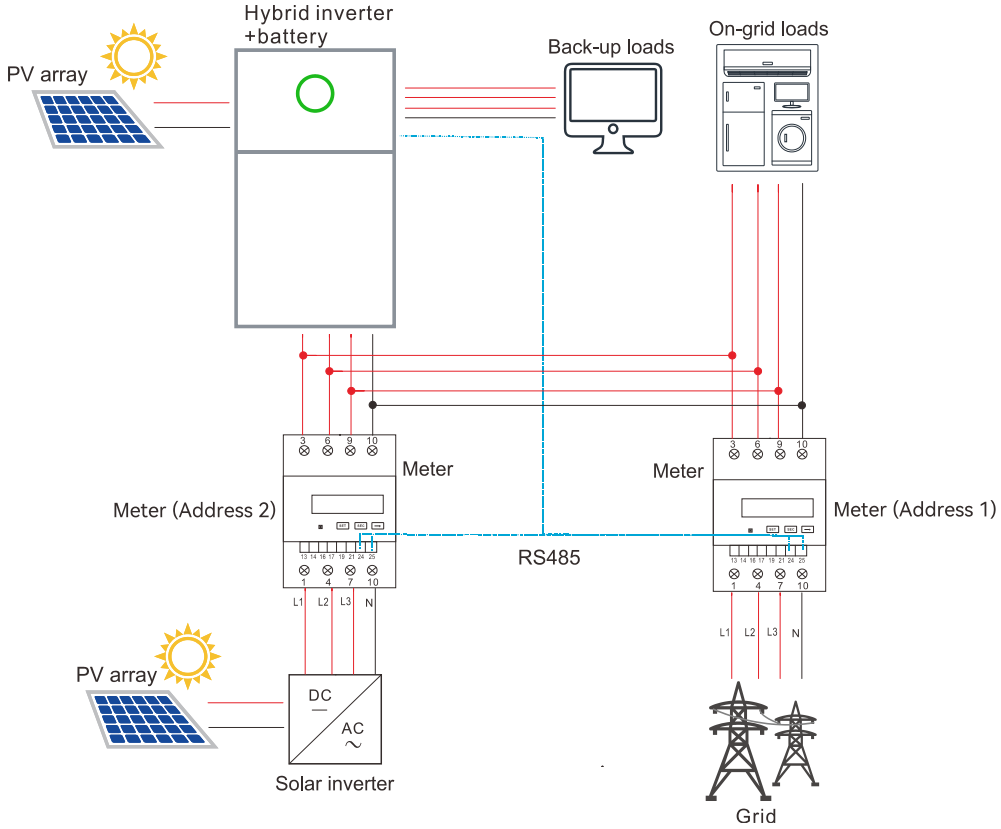
- Connect the CT on the inverter side to the PV-CT port on the inverter.
- Connect the CT on the grid side to the GRID-CT port on the inverter.



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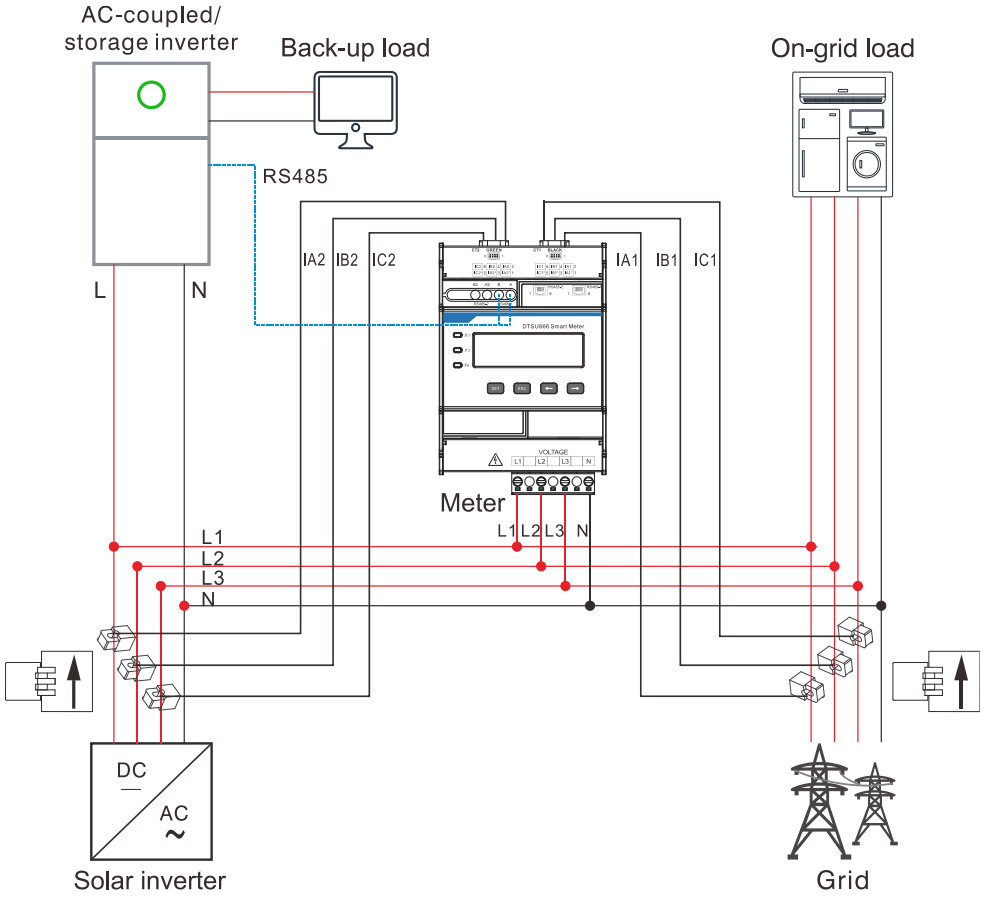
4.3.2. In three-phase grid (AC-coupling connection)

Internal 80A CT connection (current ≤ 80 A)



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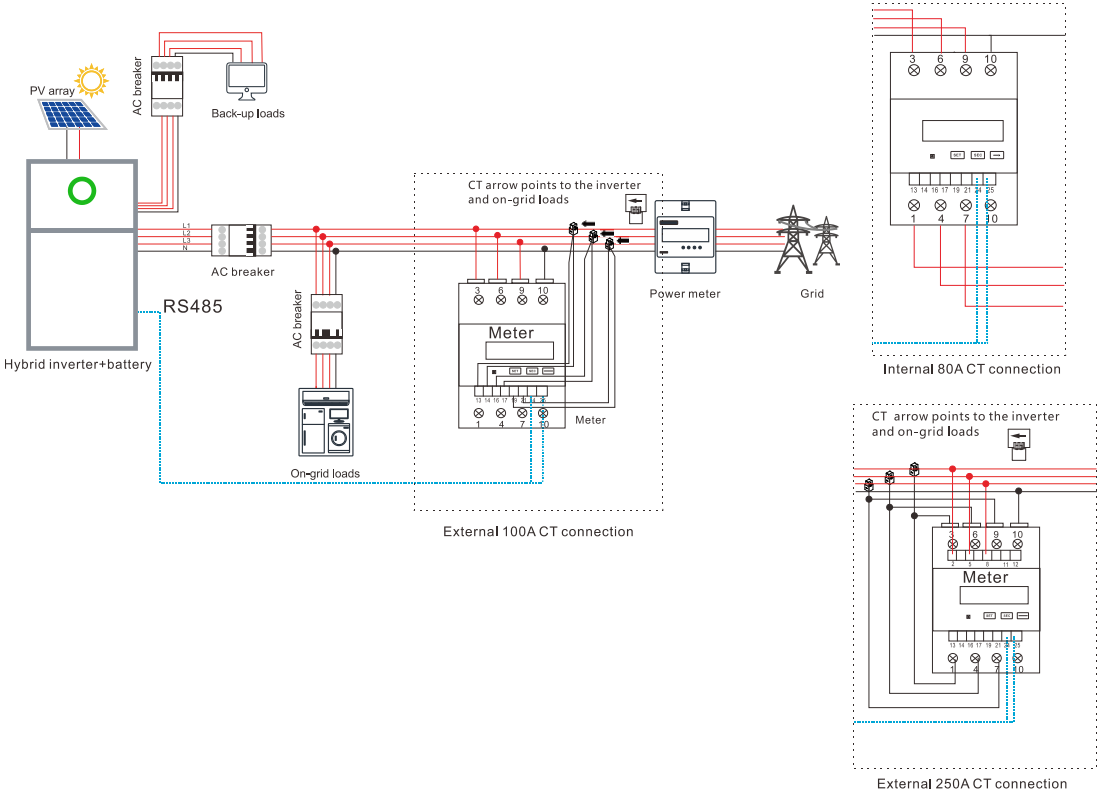
External 100A CT connection (current ≤ 100 A)



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5. System connection: three-phase hybrid inverter

5.1. One hybrid inverter



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5.2. Multiple hybrid inverter, one EMS (parallel connection)

Before connection, contact SAJ technical support to check whether the connection is applicable to your inverter model.

5.2.1. RS485 connection (up to 6 inverters)

Connect the communication cables from the RS485 port on the inverter to the corresponding terminals on the eManager. If the RS485 port is not available on the inverter, use the EMS/Meter port.

From the RS485 or EMS/Meter port on the inverter	To the RS485 terminals on the eManager
Pin 7	RS485-A
Pin 8	RS485-B

Notes:

The eManager provides three pairs of RS485 terminal combinations.

- RS485 A1 and RS485 B1
- RS485 A2 and RS485 B2
- RS485 A3 and RS485 B3

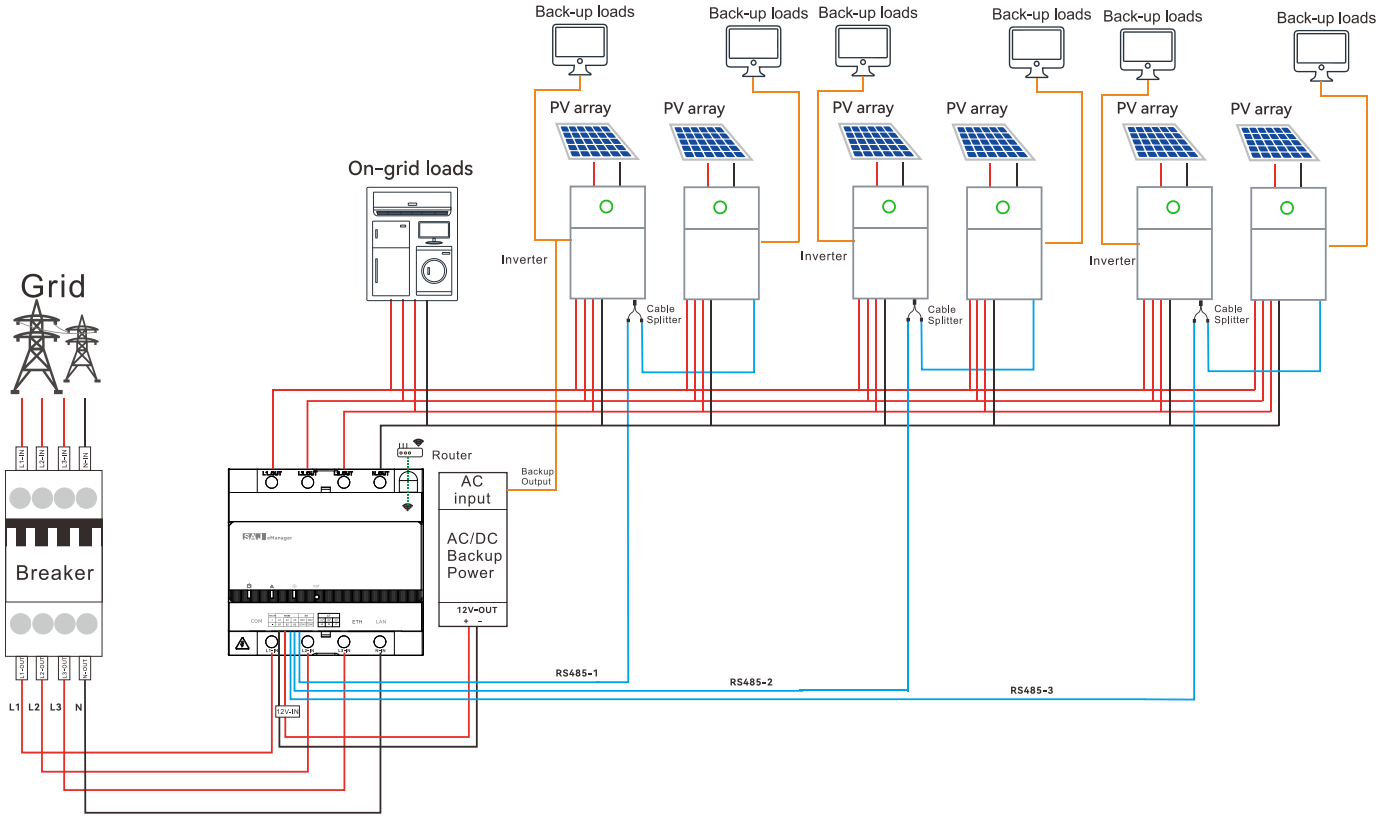
You can connect the inverter to any pair of the above combination. However, for one pair, make sure that:

- A maximum of two inverters are connected.
- The inverters must be of the same type. A hybrid inverter and a solar inverter cannot be connected to the same pair of RS485 terminal combination.

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Internal CT connection (current ≤ 63 A) in the three-phase grid

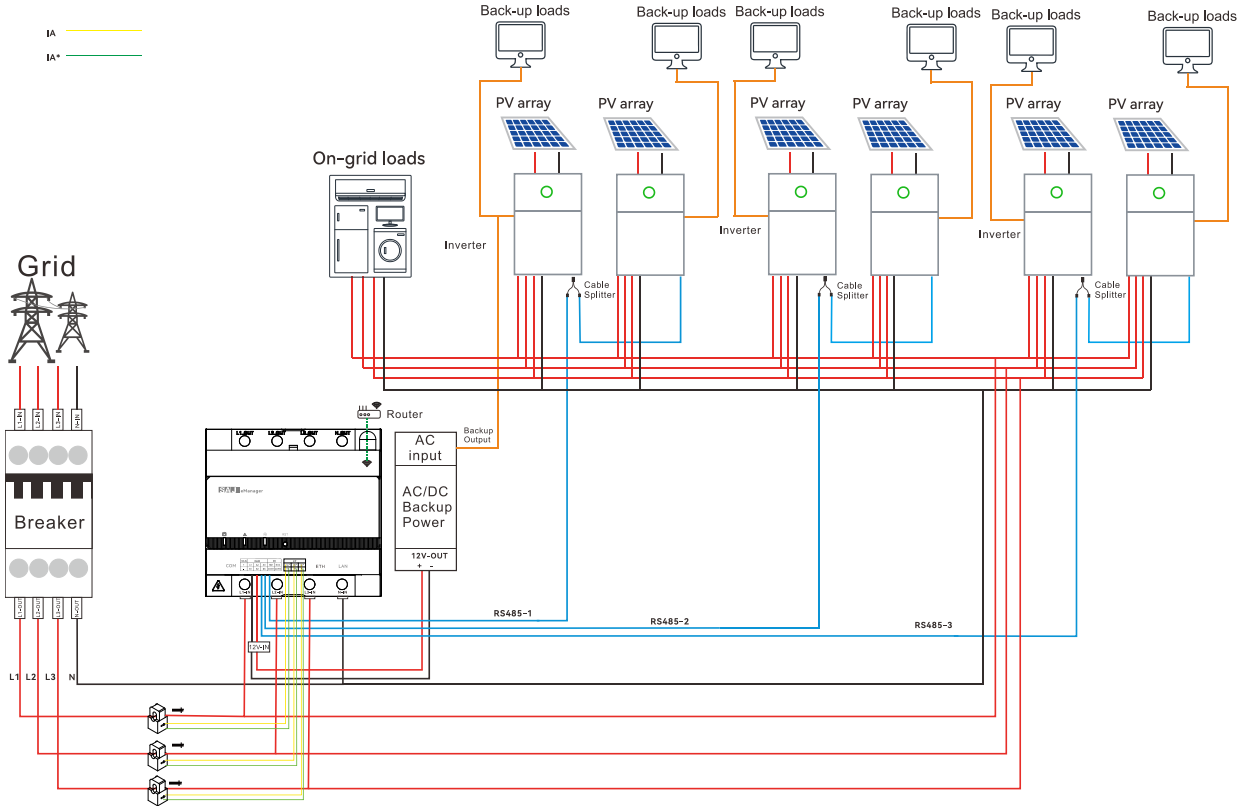
When the current exceeds 63 A, use the external CT connection manner.



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External CT connection (current > 63 A) in the three-phase grid

You can use 100A/50mA or 250A/50mA CTs, depending on the plant capacity. (Plant capacity = The greater value of the total inverter power or the total on-grid load power)

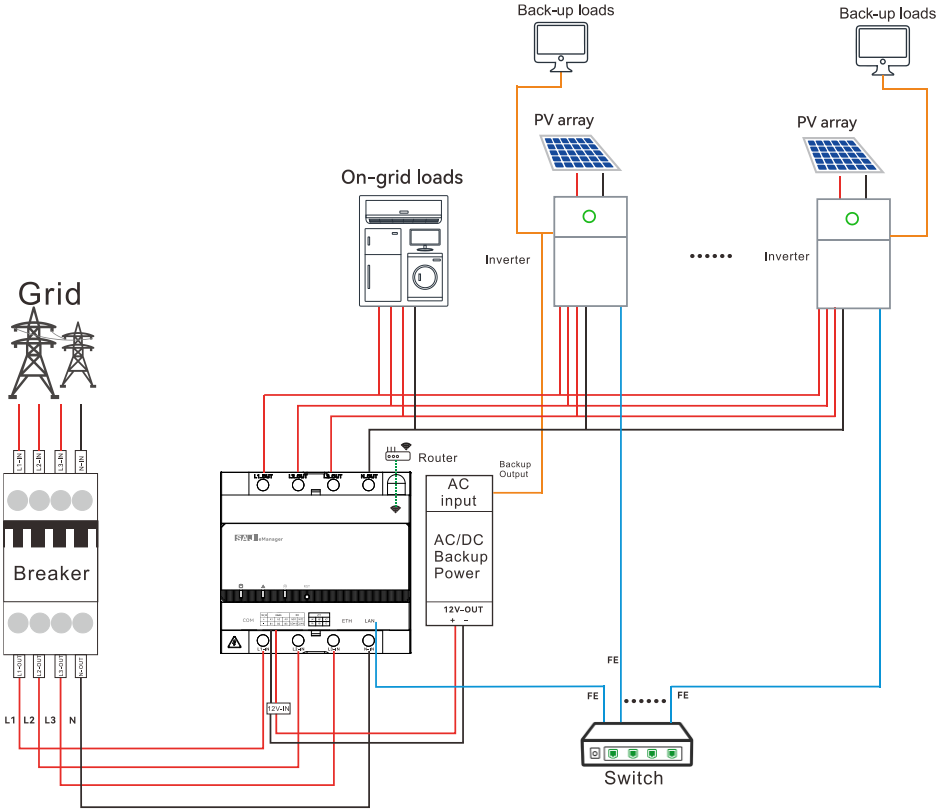


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5.2.2. LAN connection (up to 10 inverters)

Internal CT connection (current ≤ 63 A) in the three-phase grid

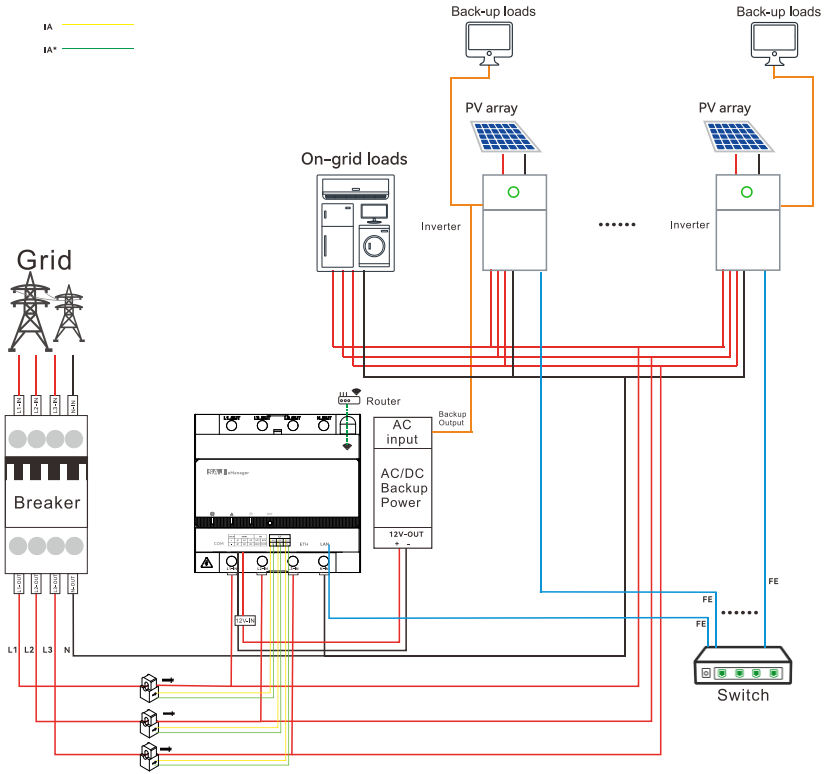
When the current exceeds 63 A, use the external CT connection manner.



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External CT connection (current > 63 A) in the three-phase grid

You can use 100A/50mA or 250A/50mA CTs, depending on the plant capacity. (Plant capacity = The greater value of the total inverter power or the total on-grid load power)

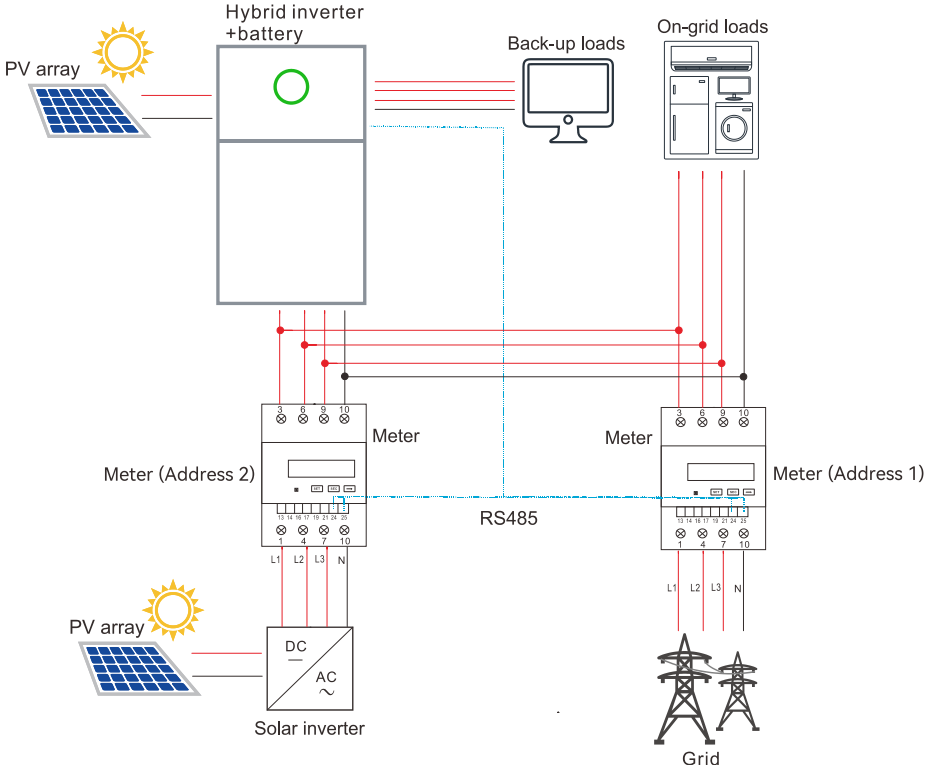


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5.3. One hybrid inverter, one solar inverter (AC-coupling connection)

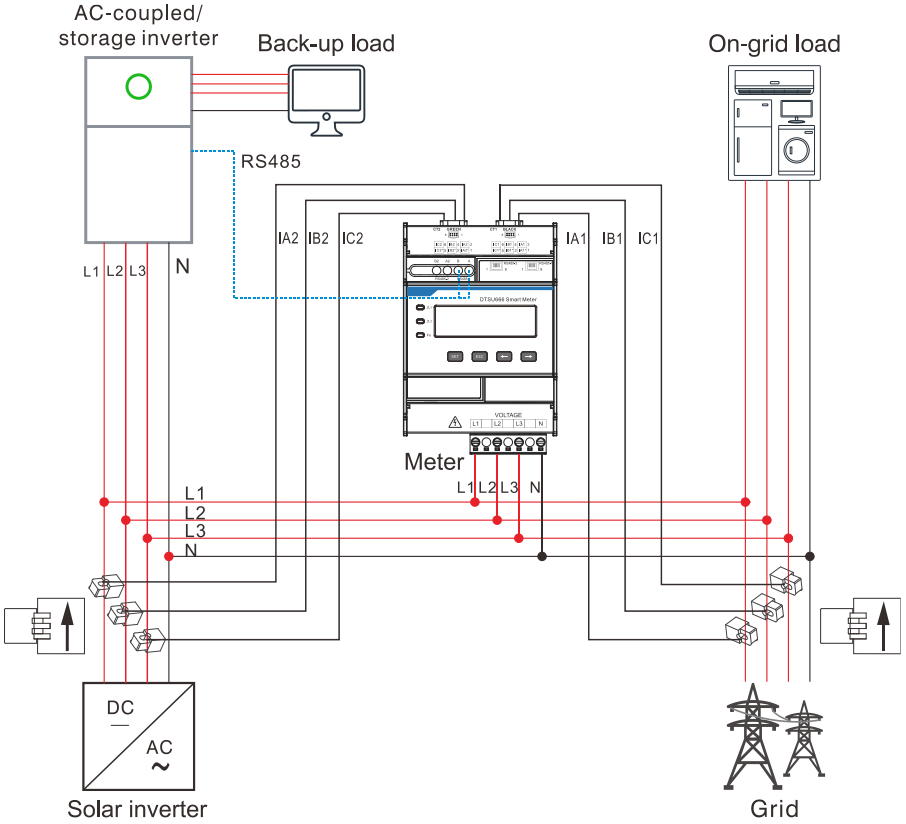
Before connection, contact SAJ technical support to check whether the connection is applicable to your inverter model.

5.3.1. Internal 80A CT connection (current ≤ 80 A)



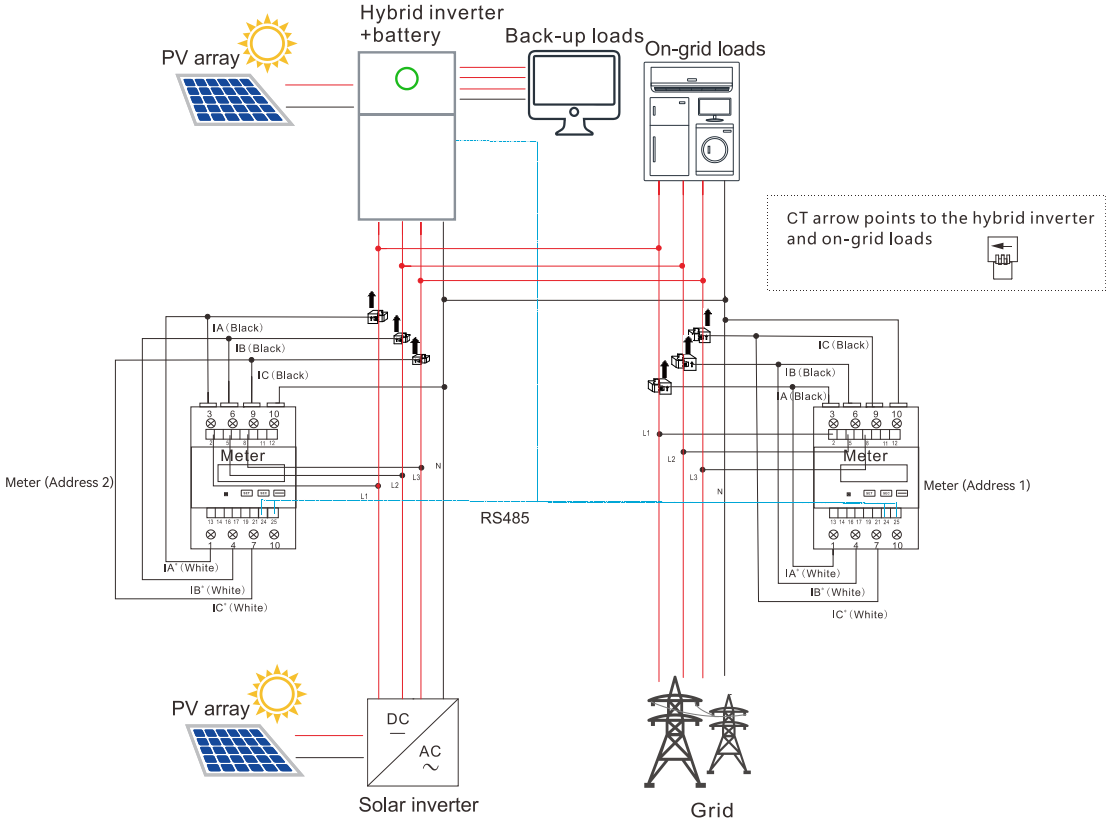
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5.3.2. External 100A CT connection (current ≤ 100 A, CT prepared by users)



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5.3.3. External 250A/500A CT connection (current > 100 A, CT prepared by users)

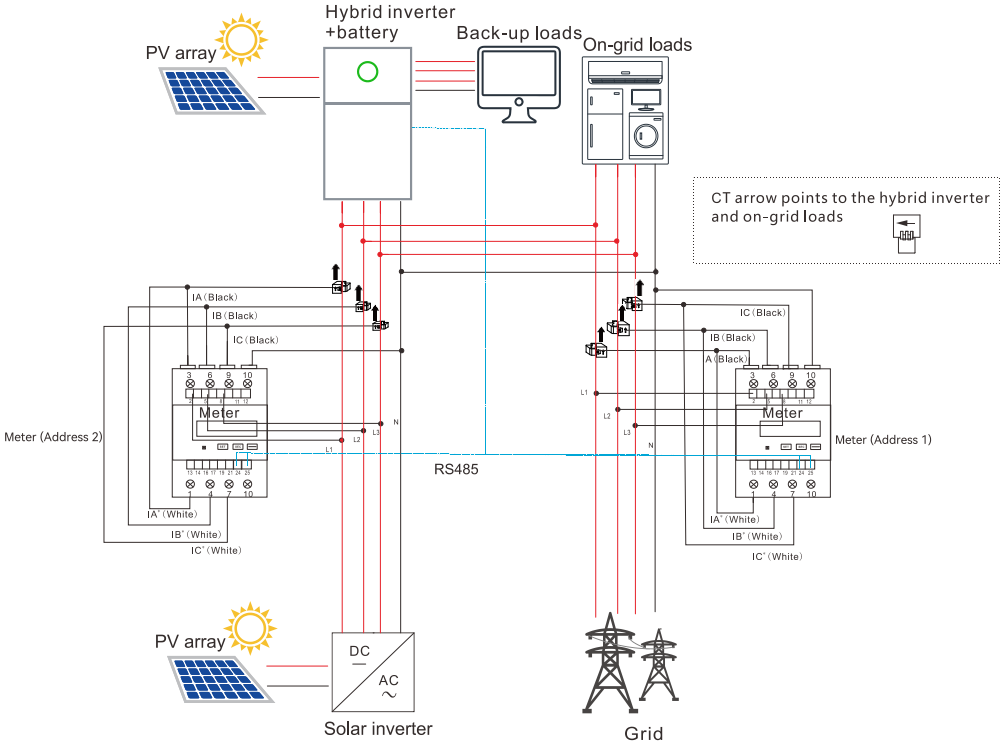


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6. Meter address settings

If two meters are used, the inverter-side meter address must be set to **2**. Do NOT change the default address 1 of the grid-side meter.

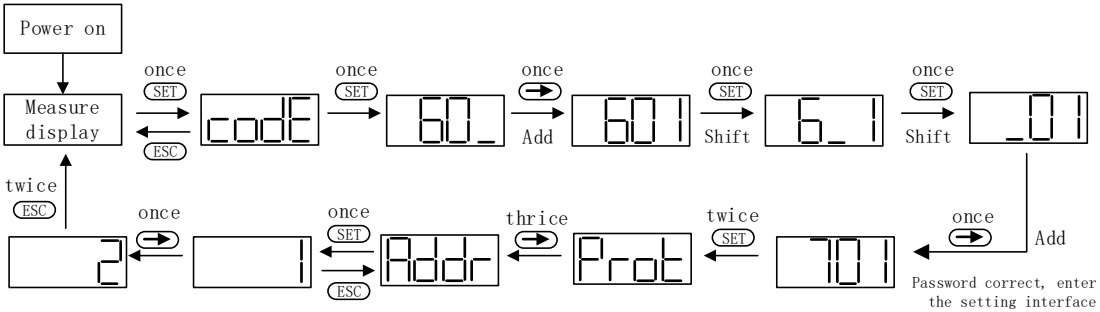
6.1. Three-phase meter



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DTSU666		
	**Button**	**Description**
	SET	Confirmation or cursor shift (when input digits)
	ESC	Exit
	→	Add

To set a three-phase meter, perform the following operations:



a. Power on the meter and enter the "Measure display" interface, and then press SET twice to enter the password 701.

b. Press → once to adjust the value of the first digit. One increment per button pressing.

c. Pressing SET once to shift to the second digit and adjust the third digit in the same way. Set the default password to 701.

d. When the password is entered correctly, press SET twice to enter the port interface and press → for three times to enter the address page. Then, press SET once to start to set the meter address.

e. Press → to adjust the value of the address. One increment per button pressing.

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f. After the address is set successfully, press ESC twice to exit to the Measure display interface to get the meter work.

7. System commissioning

The elekeeper (used to be called eSAJ Home) App can be used for both nearby and remote monitoring. It communicates with different devices through Bluetooth or Ethernet connection.

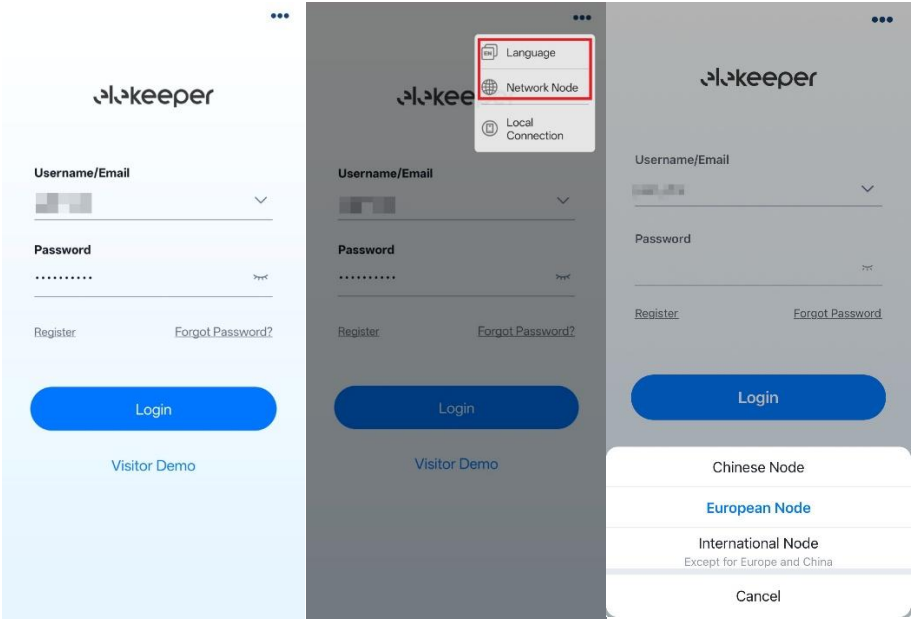
Note: The detailed operations on the App might vary, depending on the version you are using.

7.1. Install the App

On your mobile phone, search for “elekeeper” in the App store. Download and install the App.

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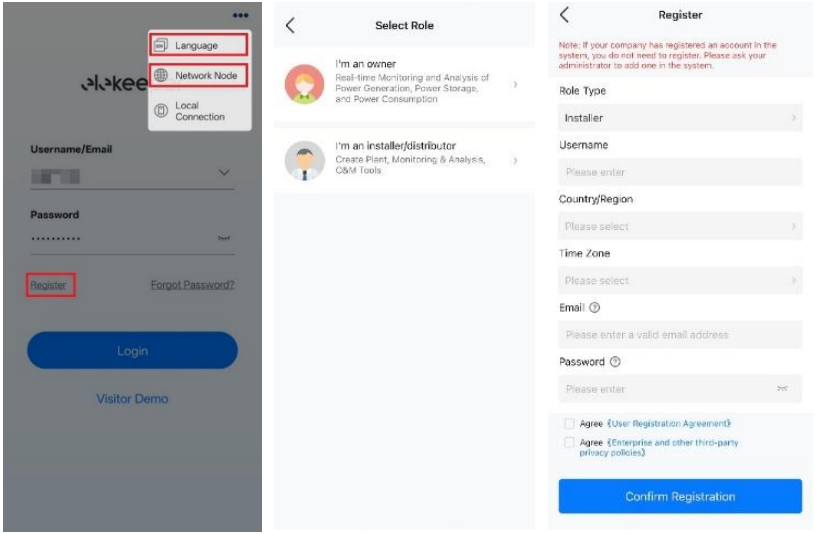
7.2. Log in to the App



Have an account? — Log in to the App.

1. Tap the three-dot icon ••• on the top right corner. Choose the language and network node based on your needs.
2. Use your account and password for login.

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No account? — Apply for a new account for login.

1. Tap the three-dot icon ••• on the top right corner. Choose the language and network node based on your needs.
2. Tap **Register.** Choose whether you are an owner, an installer, or a distributor.

   Note: For commissioning convenience, it is suggested that the owner account be applied by the installer.
3. Set your username, country/region, time zone, email, and password. Select the registration agreements and confirm the registration.
4. Use the applied account and the password for login.

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7.3. Perform the initialization settings

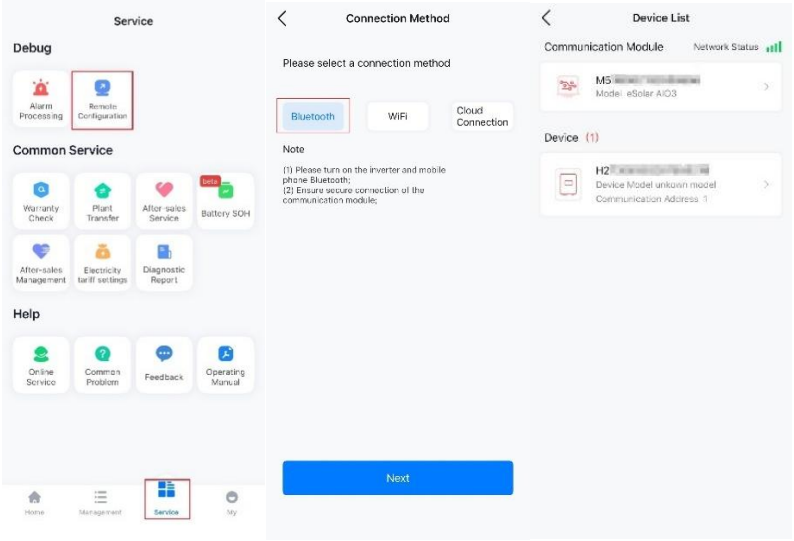
Depending on whether the ESS uses an SAJ eManager, choose one of the following manners:

- Without an SAJ eManager: Go to the initialization settings in section 7.3.1 "On the inverter".
- With an SAJ eManager: Go to the initialization settings in section 7.3.2 "On the eManager".

7.3.1. On the inverter

Before you start

Enable the Bluetooth function on your mobile phone.



Start the initialization.

a. On the **Service** interface, select **Remote Configuration**.

b. Tap **Bluetooth** and tap **Next**.

c. Choose your inverter (BlueLink:*xxxxx*) from the device list.

Note: *xxxxx* are the last five digits of the serial number (SN) of your inverter or the external communication module.

- SN of an external communication module; or
- SN of the inverter which uses a built-in communication module

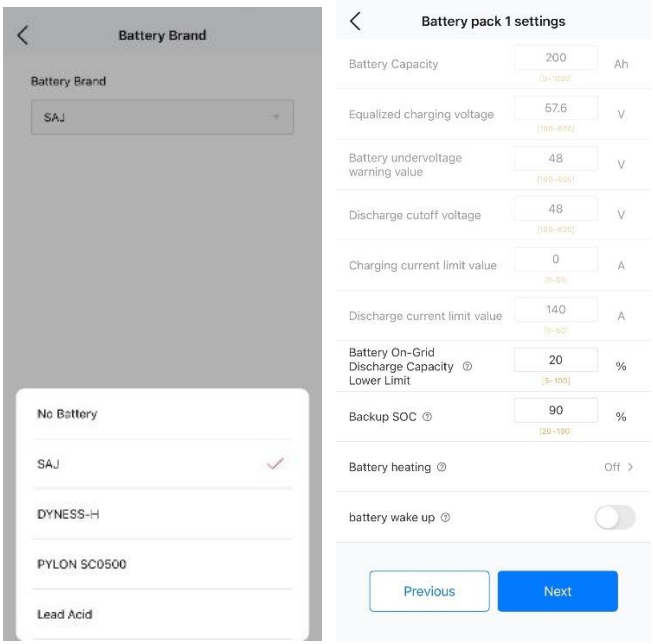
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Parallel connection settings

For parameter **Parallel mode** on page **Parallel connection setting**, keep the default value “off” unchanged.

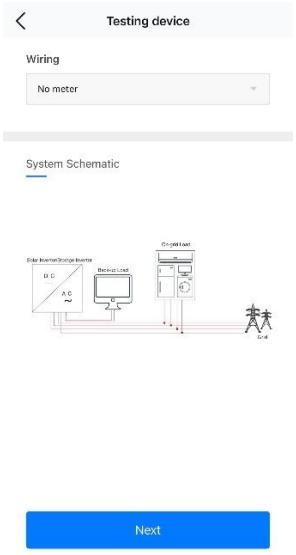
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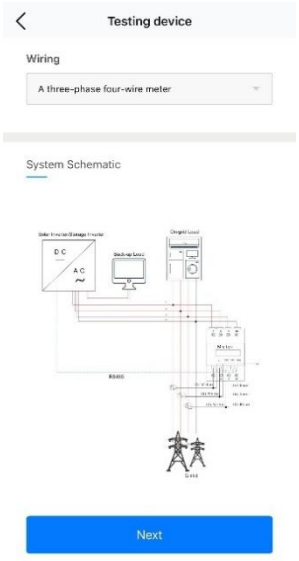


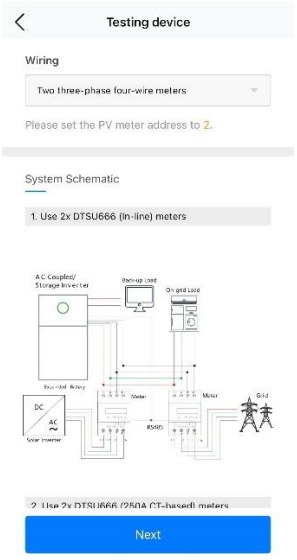
Battery brand and settings

Select your battery brand and then set the battery parameters per your needs.

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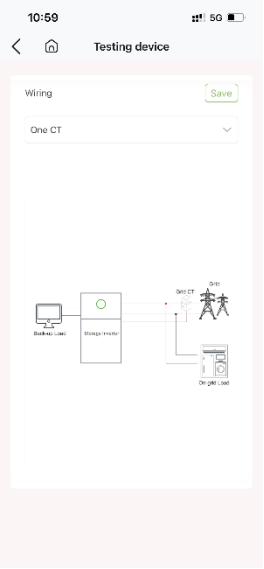


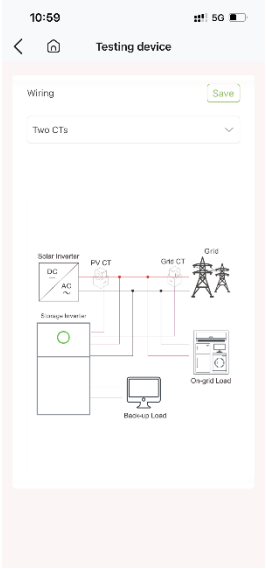
Meter and system schematic

Set **Wiring** based on the actual system configurations.

The left figures illustrate three examples of the system schematic settings.

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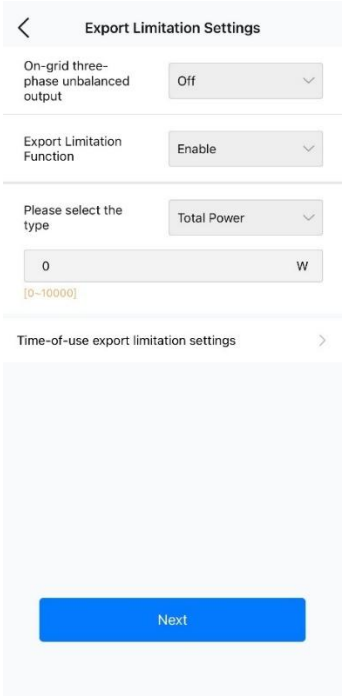




For models that support a direct CT connection, set the wiring method as follows:

- **One CT**: Applicable to single inverter scenario
- **Two CTs**: Applicable to AC-coupling scenario

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Export limit settings

Set the values per your needs.

- **Total power**: If this option is selected and the power value is set (for example, 1000 W), the maximum power exported from the whole system to the grid is 1000 W.
- **Phase current**: If this option is selected and the current value is set (for example, 20 A), the maximum current of each phase is 20 A.
- **Phase power**: If this option is selected and the power value is set (for example, 1000 W), the maximum power exported from each phase to the grid is 1000 W.

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Working mode

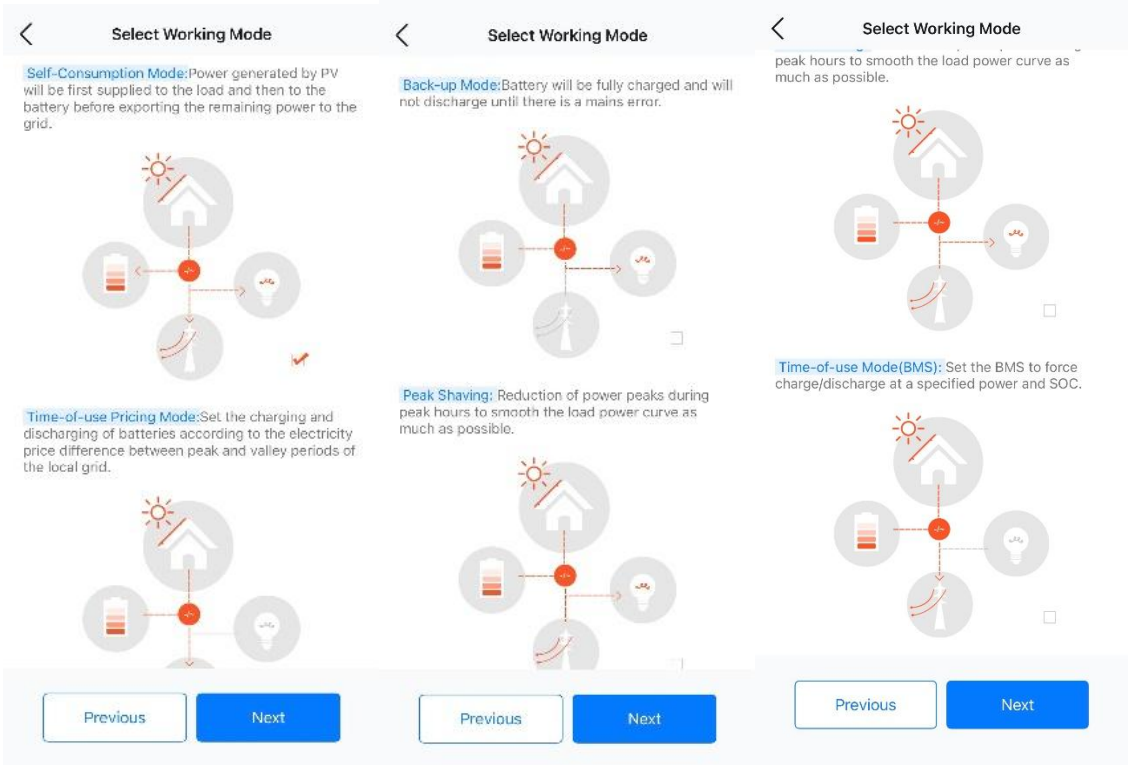
- **Self-Consumption Mode**: The generated PV energy is provided to the devices in order: loads > batteries > grid
- **Time-of-use Pricing Mode:**

  The battery charges or discharges during the specified period. Use this mode to set the battery' grid import or export power based on local peak and valley prices. For the other periods, the battery works in the self-consumption mode.
- **Back-up Mode**
  - After initialization, you can change the default SOC value.
  - When the battery SOC is lower than the configured SOC value, the batteries can only be in charging status without discharging.
  - When the battery SOC reaches the configured SOC value, the batteries will stop charging.
  - When the battery SOC is higher than the configured SOC value, the batteries will work in self-consumption mode.
- **Time-of-use Mode (BMS)**

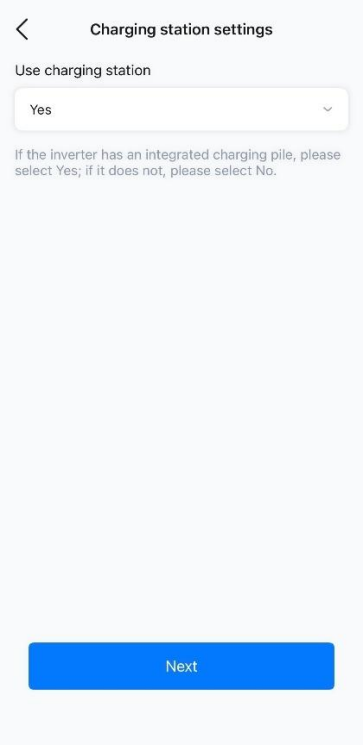
  Use this mode to set the battery's own charge or discharge power during the specified period. For the other periods, the battery works in the self-consumption mode.
- **Peak Shaving**

  It limits the maximum power imported from the grid during peak hours to cut the expensive demand charges and ease stress on the grid.

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Charging station setting

This page is displayed only if a charging pile has been installed with the inverter.

If a charging station has been connected, select **Yes**.

Then, tap **Next**.

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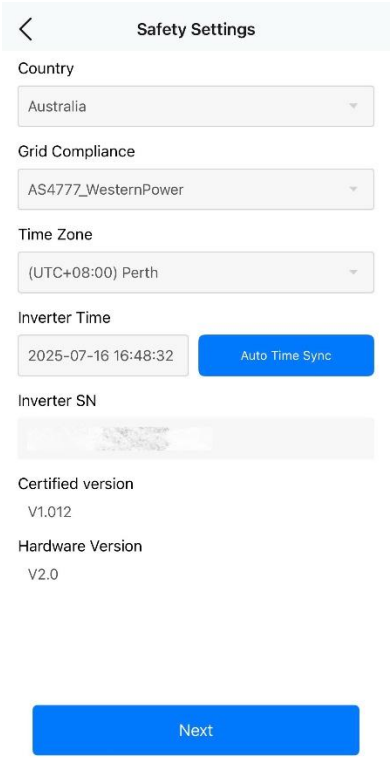


AFCI function

This page is displayed only if your inverter provides the AFCI function.

You can choose whether to enable this function and tap **Next**.

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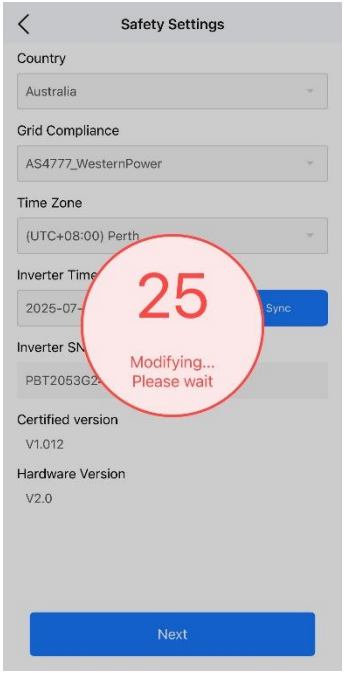
Country and grid compliance

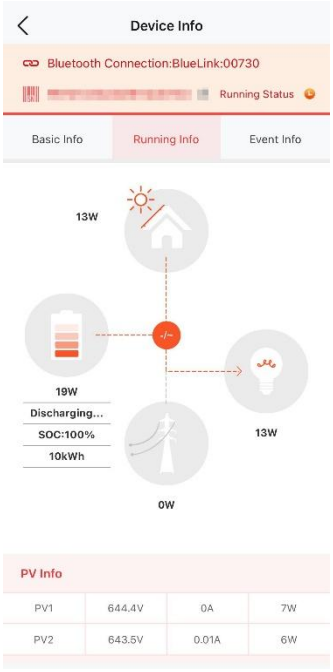
- **Country:** Set it to your desired country.
- **Grid Compliance:** It is set automatically after you selected the country.

  Note: For Australia:

  - **AS4777_AustraliaA**: For large interconnected power system. For example, all Australian networks other than those specified below.
  - **AS4777_AustraliaB**: For small interconnected power systems. For example, Western Power.
  - **AS4777_AustraliaC**: For isolated or remote power systems. For example, Horizon Power and TasNetworks.
- **Auto Time Sync**: Tap it to synchronize the time. Otherwise, the inverter will be displayed as offline.

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Wait for the initialization settings to take effect.

Then, view the configured device information.

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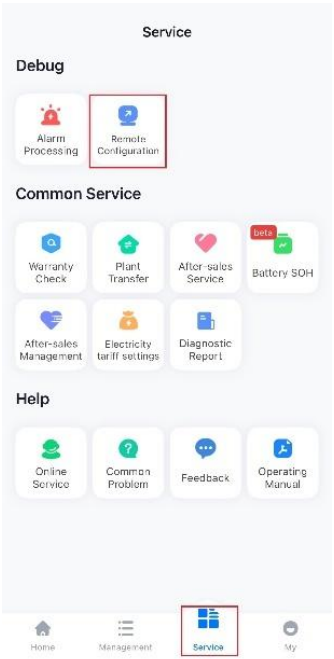
7.3.2. On the eManager

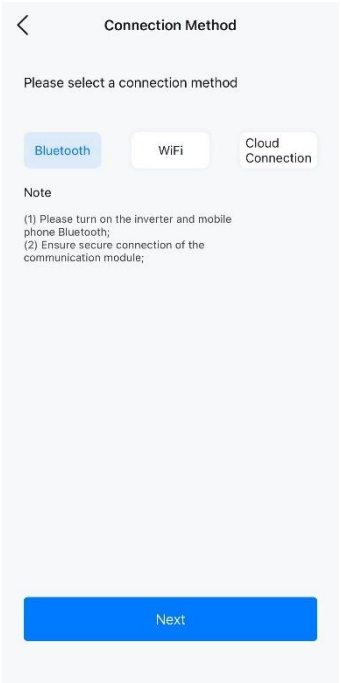
Before you start

Enable the Bluetooth function on your mobile phone.

Procedure

1. On the **Service** page, tap **Remote Configuration**. Tap **Bluetooth** and then **Next**.

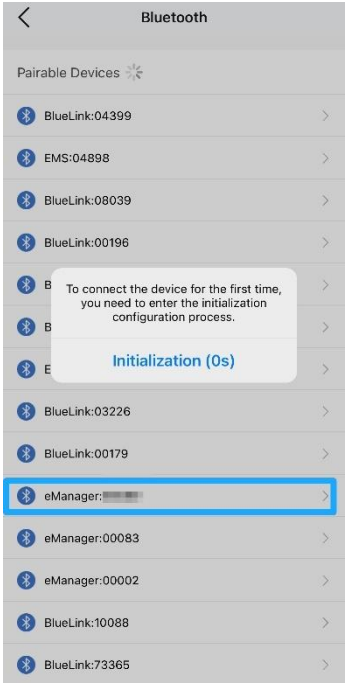




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2. Choose your EMS device (eManager:*xxxxx*) from the device list. Then, tap **Initialization**.

   Note: *xxxxx* are the last five digits of the serial number (SN) of your EMS device.

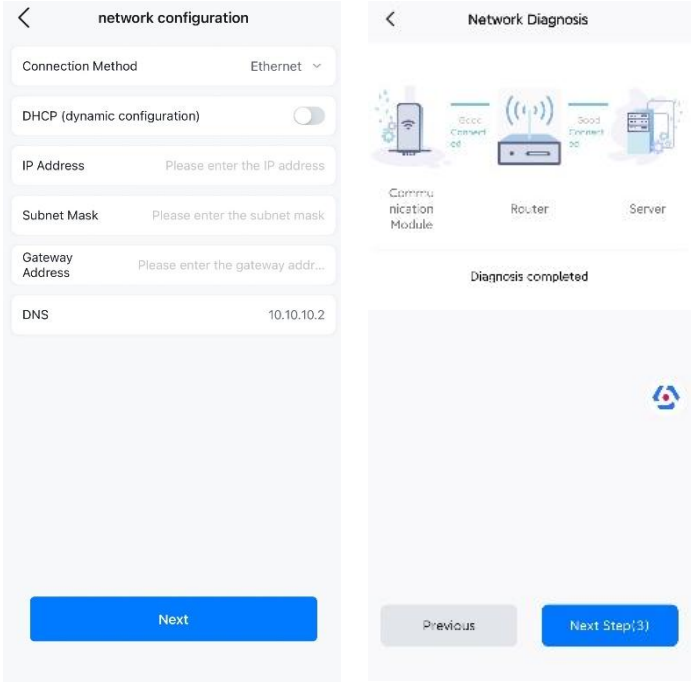


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3. Network configuration

Select **Ethernet**, **4G**, or **WiFi** according to your needs. Set the related parameters. The following figure takes Ethernet as an example.

Note: To use **Ethernet**, make sure that the Ethernet cable is connected from the ETH port on the eManager to the LAN port on the router.



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4. Device configuration

   Check mapping between inverter and parallelling manner by referring to sections 4.2.1 and 4.2.2. Choose one of the parallelling connection followings:

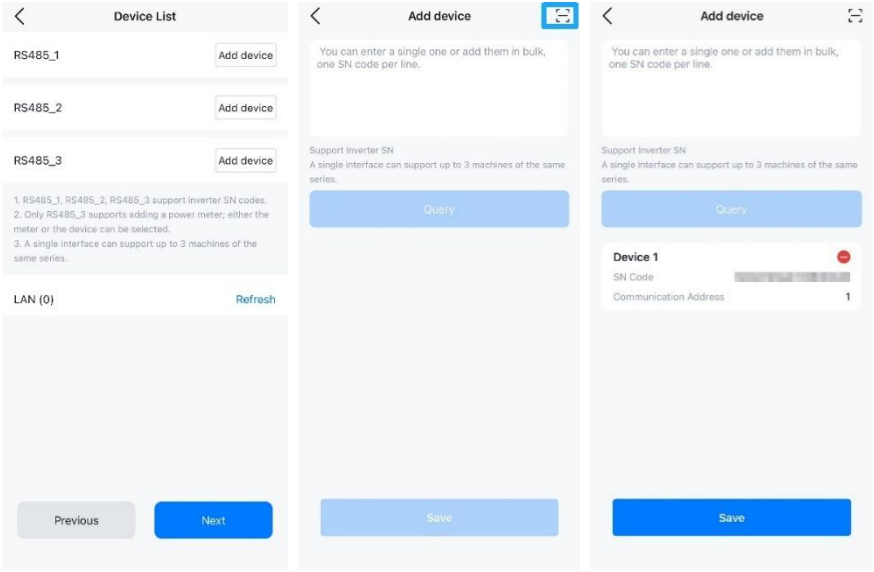
   - **RS485 connection (up to 6 inverters)**

     To add an inverter, locate its RS485 connection (**RS485_1**, **RS485_2**, or **RS485_3**), tap **Add device**, and scan the SN barcode or QR code.

     Note: Make sure that all inverters are added in the corresponding RS485 connection area. For example, when two inverters are connected to the RS485_A1 and RS485_B1 ports of the eManager, both inverters must be added to the **RS485_1** area.

     If you need to remove an added inverter, tap ⛔ next to the required inverter.

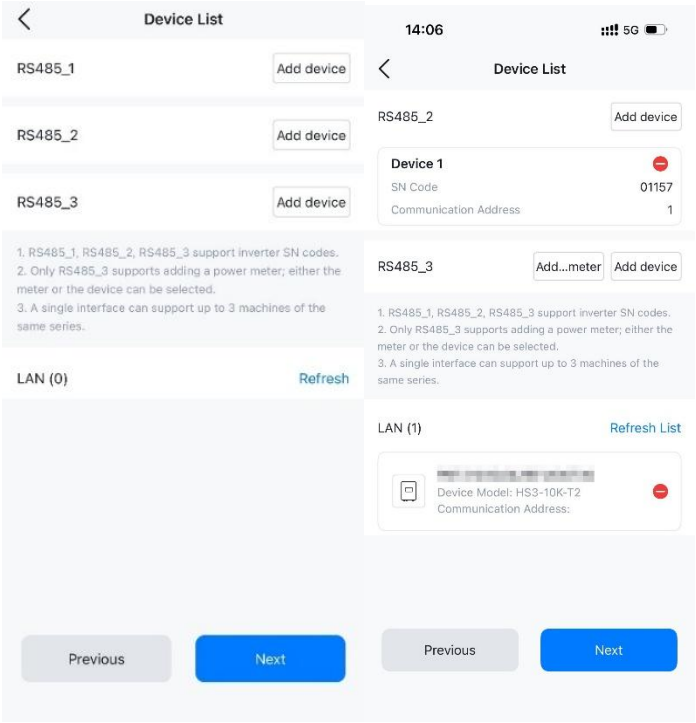
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- **LAN connection**

  Tap **Refresh** in the **LAN** setting area to display the connected devices.

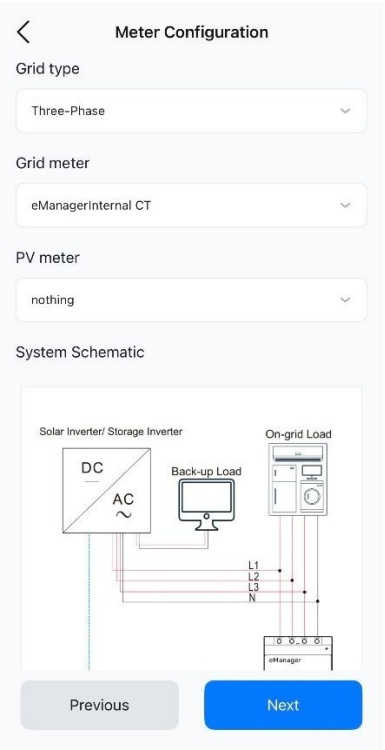
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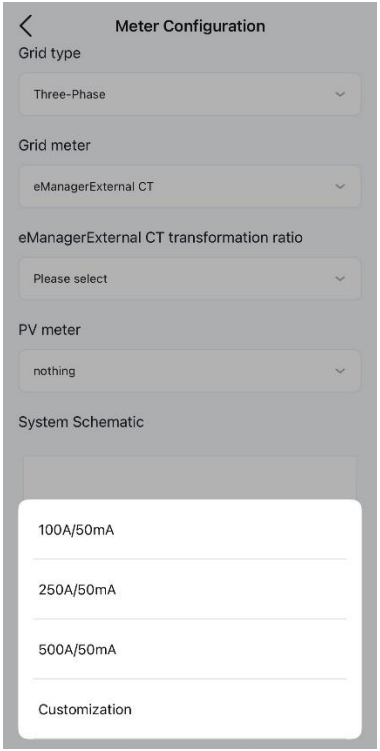


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5. Wiring method

If you choose **External CT**, select the ratio of the CT(s) used in your system.

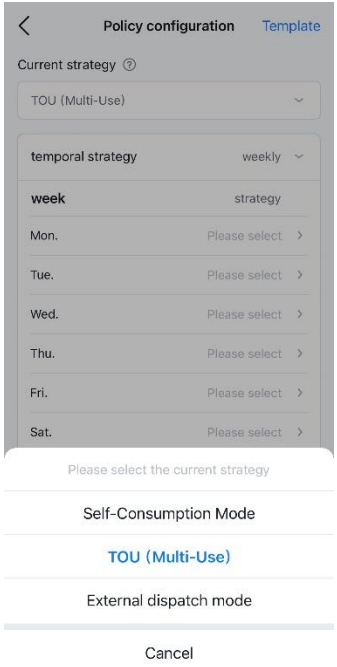




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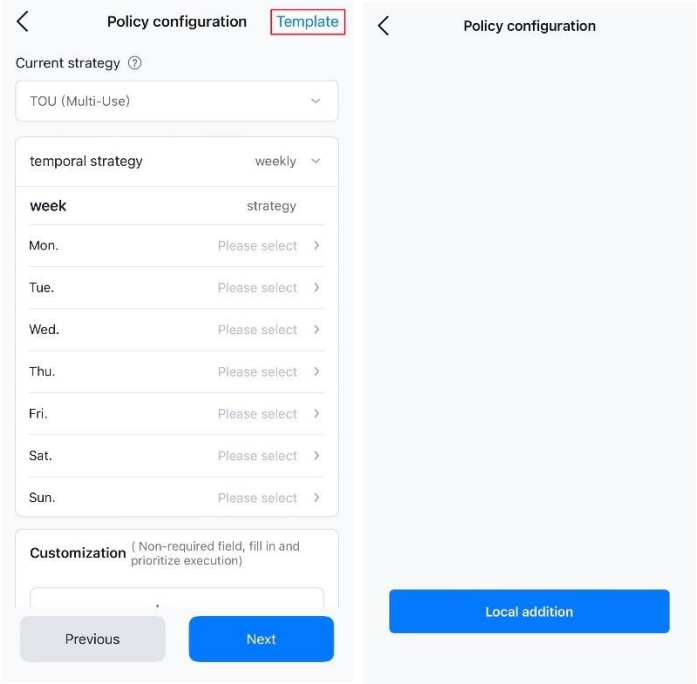
6. Policy configuration

By default, **Current policy** is set to **TOU (Multi-Use)**. If you need to change it, contact SAJ for consultation.



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a. To create a policy, tap **Template** on the upper right corner.



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I. Name the policy. In the following screenshot, **Test** is used as an example.

II. In the **Time sharing strategy** setting area, per your needs, set **Charge**, **Discharge**, or **Standby** for different periods in each day.

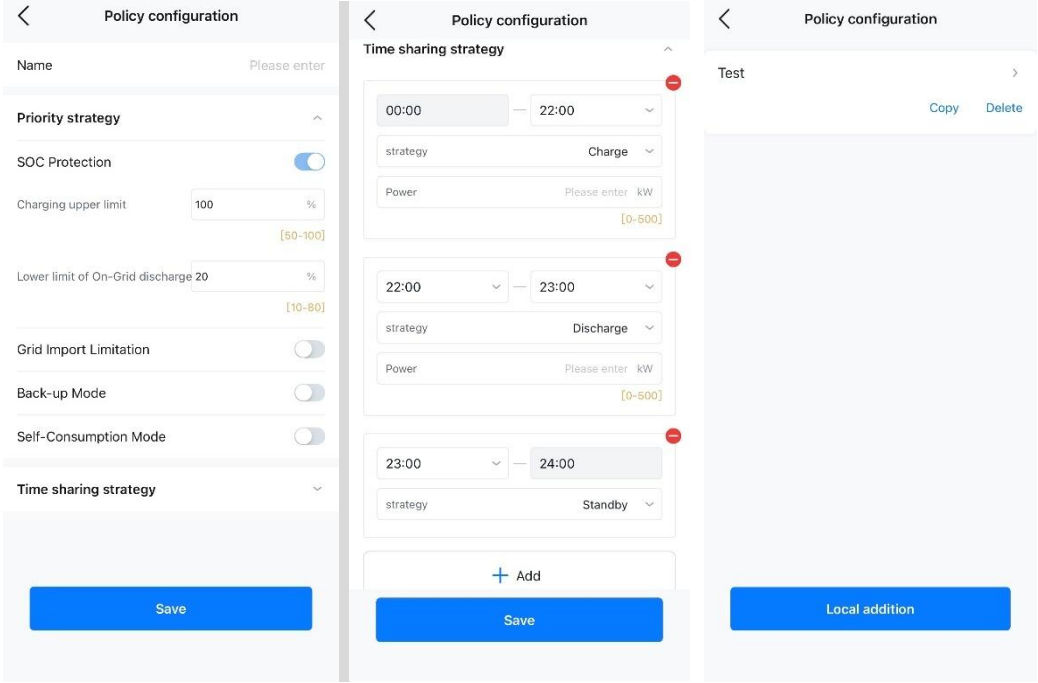
Notes:

- You can set a maximum of 12 periods for one day and set different work statuses (charging, discharging, and standby) for each period.
- The charging and discharging power set in this step will apply to the whole system.
- If **Self-Consumption mode** is enabled, the inverter works in the self-consumption mode in standby status.

III. In the **Priority strategy** setting area, enable or disable the following functions:

- **SOC Protection**: If enabled, set the battery SOC (upper threshold for charging and lower threshold for discharging) to prevent battery over-charging or over-discharging.
- **Grid Import Limitation**: If enabled, set the upper threshold for the system input from the grid.
- **Back-up mode**: If enabled, set the backup SOC threshold, which must be higher than the lower threshold for discharging that you set in **SOC Protection**.
- **Self-Consumption Mode**: It is suggested that you enable this function.

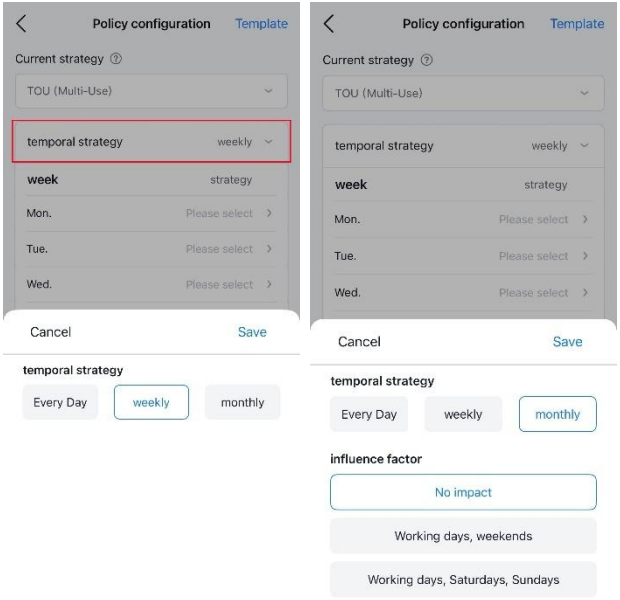
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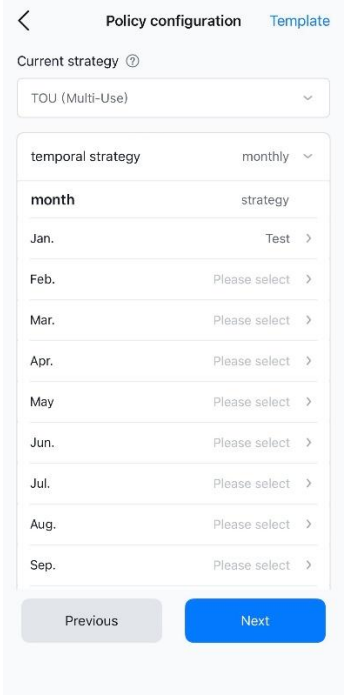
b. To apply policies, select **weekly** or **monthly** for **temporal strategy**.

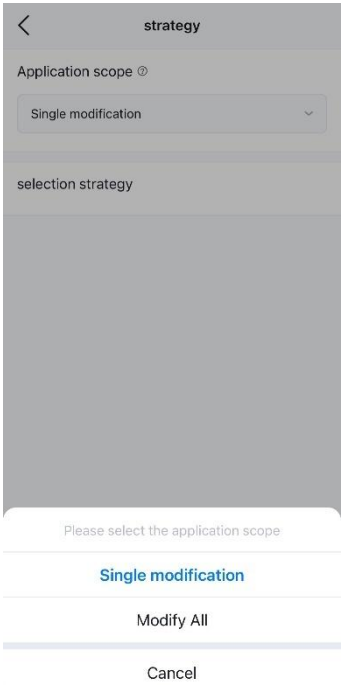
- **weekly**: Set a policy for each week.
- **monthly**: Set a policy for each month.
  - **No impact**: One policy is used in all days for a month.
  - **Working days, weekends**: Different policies can be used in working days and weekends for a month.
  - **Working days, Saturdays, Sundays**: Different policies can be used in working days, Saturdays, and Sundays for a month.



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c. Select the created policy template for the periods. You can select **Single modification** to set the policy for each period one by one; or you can select **Modify all** to apply the same policy to all periods.

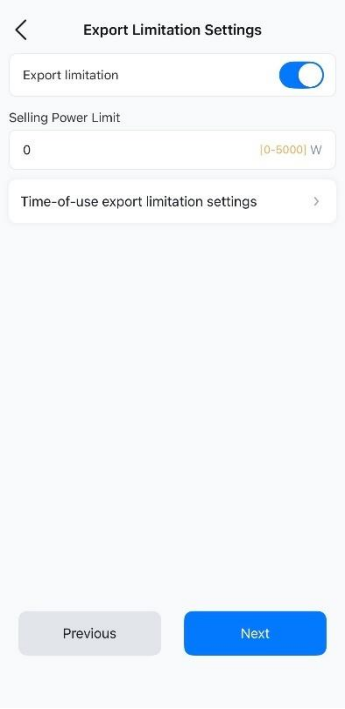




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7. Export limitation settings

If **Export limitation** is enabled, set **Selling Power Limit**.



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8. Security settings

   a. Select **Country** and **Grid Compliance**.

      For **Grid Compliance**, select the value according to your setpoint (region of installation).

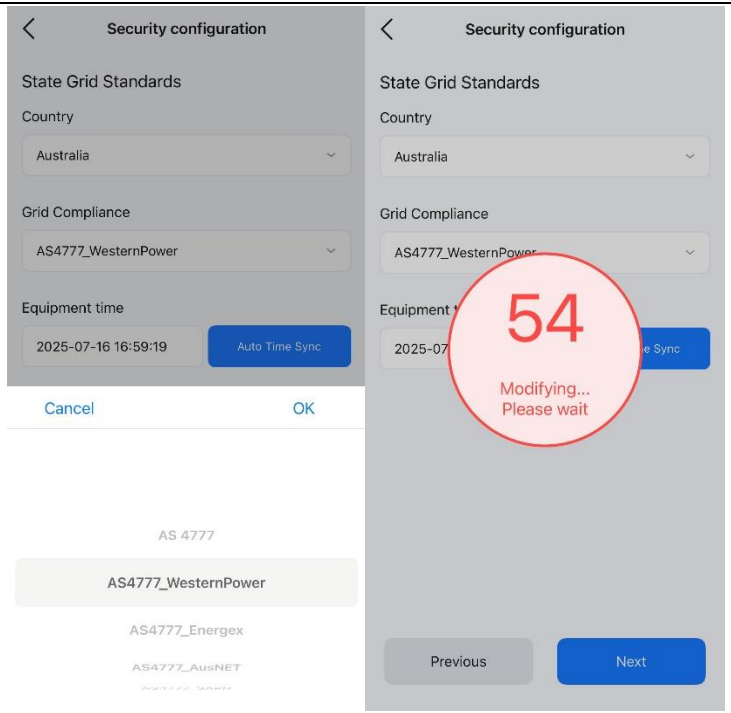
      Taking Australia as an example:

      - **AS4777_AustraliaA**: For large interconnected power systems. For example, all Australian networks other than those specified below.
      - **AS4777_AustraliaB**: For small interconnected power systems. For example, Western Power.
      - **AS4777_AustraliaC**: For isolated or remote power systems. For example, Horizon Power and TasNetworks.

   b. Tap **Auto Time Sync** to set the device time to the time zone of the selected country or region.

   c. Tap **Next** to wait for the initialization take effect.

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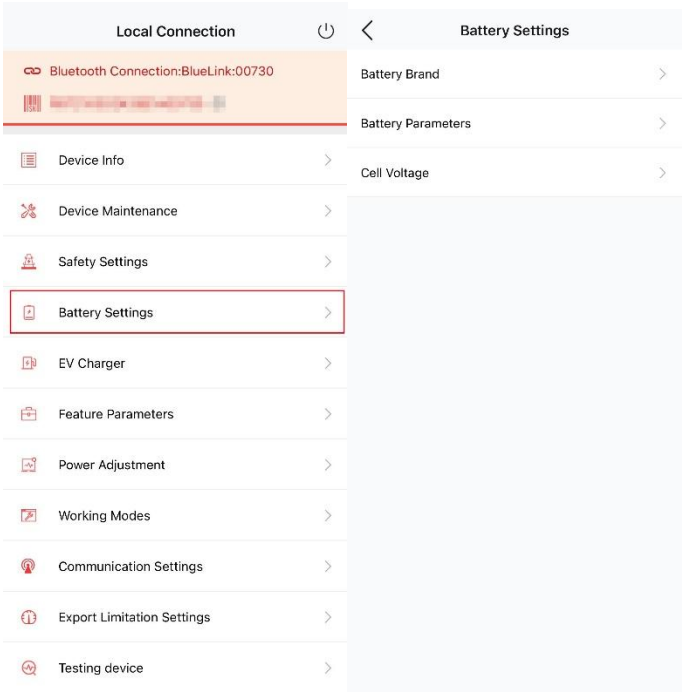


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7.4. (Optional) Set the battery brand

If your ESS uses SAJ batteries, skip this step.

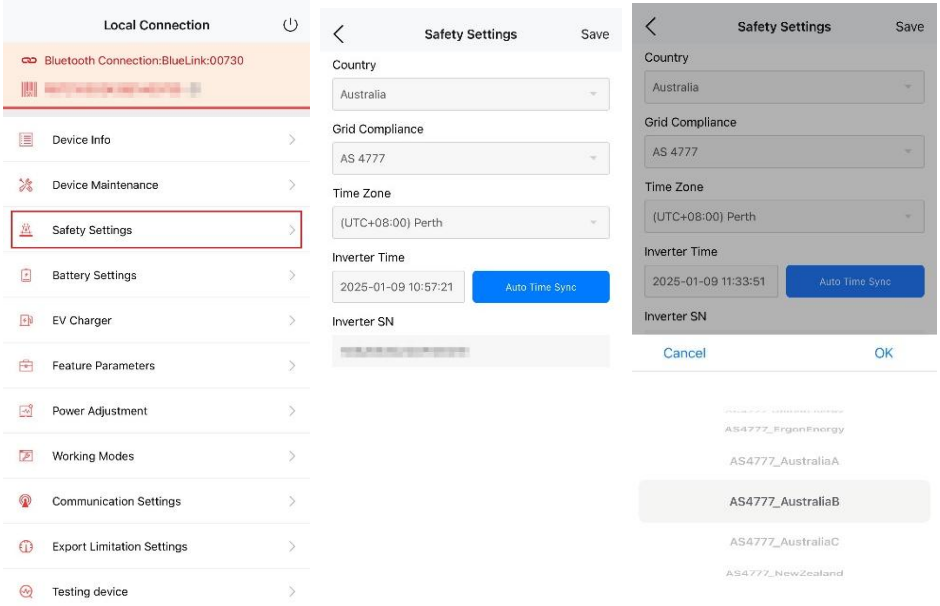
Choose **Battery Settings** > **Battery Brand**. Select the battery brand and tap **Save**.



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7.5. View or change the inverter settings

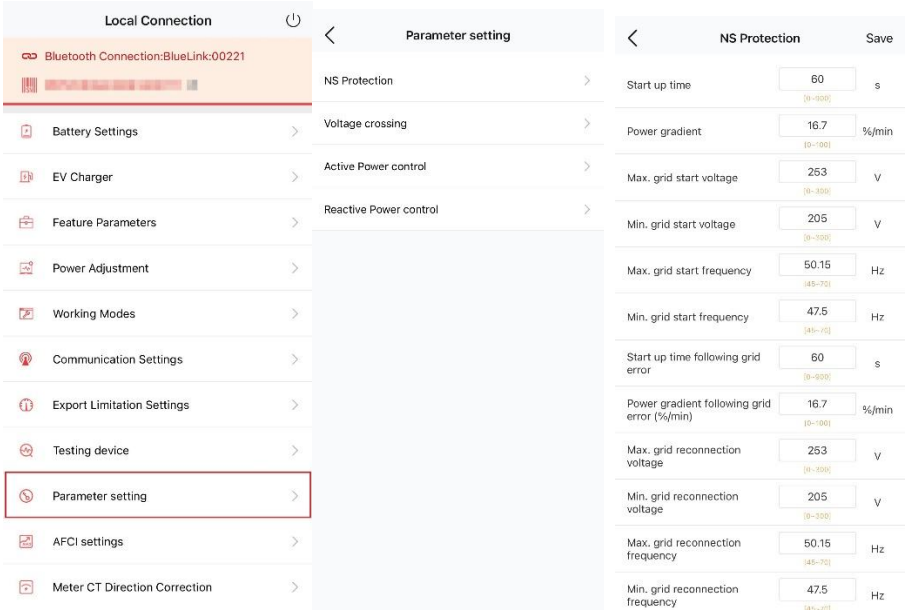
(Installer only) To view the country and grid compliance, perform as follows:



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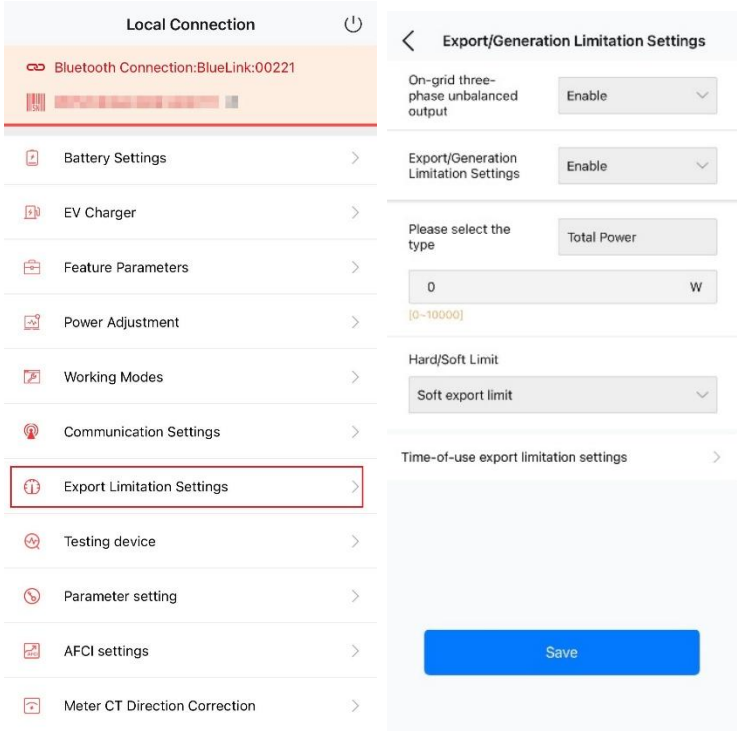
(Installer only) To view the protection parameters, perform as follows:

Note: Be cautious when you change the protection parameters.



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(Installer only) To view or change the export limit function, perform as follows:

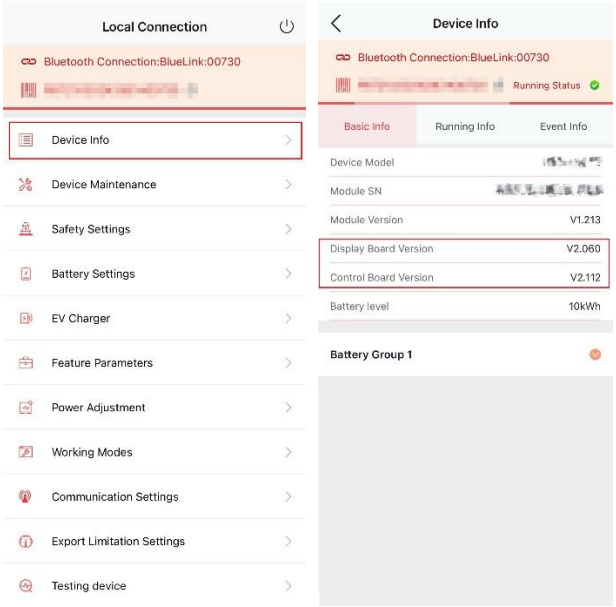


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7.6. View the inverter firmware version

(Installer only) To view the country and grid compliance, perform as follows:

- **Display Board Version**: advanced RISC machine (ARM) version
- **Control Board Version**: digital signal processor (DSP) version



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7.7. Configure the communication module

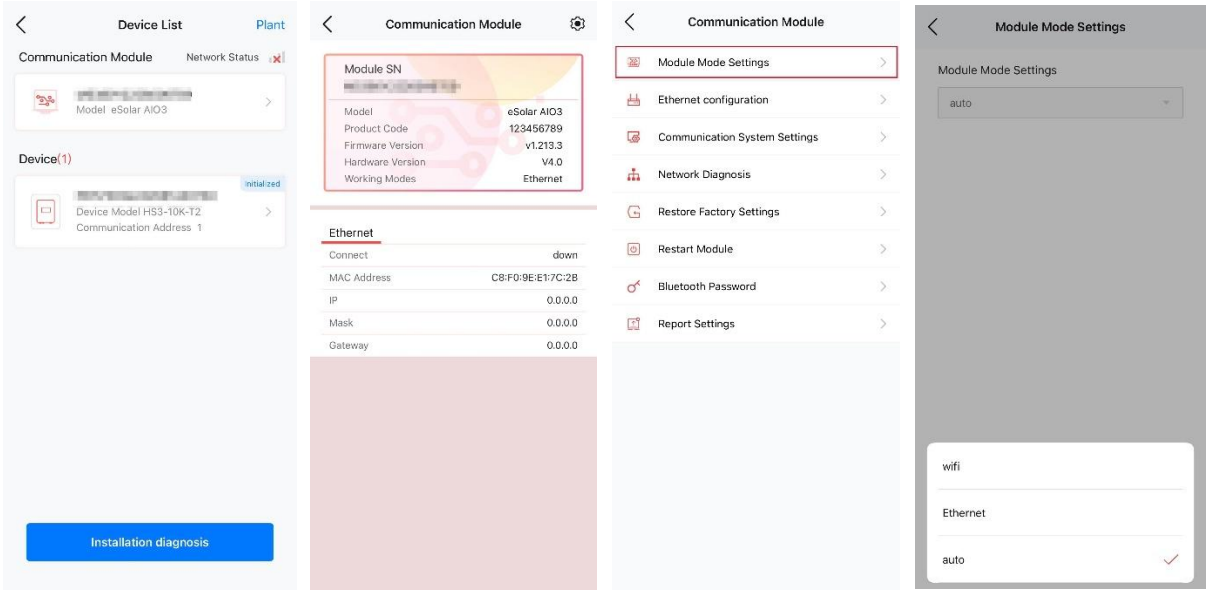
About this task

If you want to remotely monitor the energy storage system and view the device statistics (for example, when you are away from home), connect the communication module installed on the inverter to your home network.

Procedure

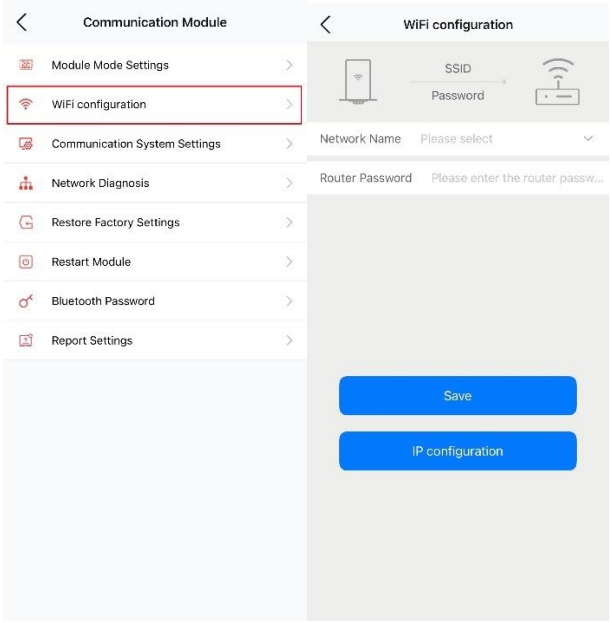
1. On the Device List page, select your communication module according to its SN.
2. Tap the settings icon on the upper right corner.
3. If you want to change the default network connection mode **auto**, tap **Module Mode Settings** and select the required option.
   In the **auto** mode, the communication module will use Wi-Fi or Ethernet connection mode based on the actual networking condition.

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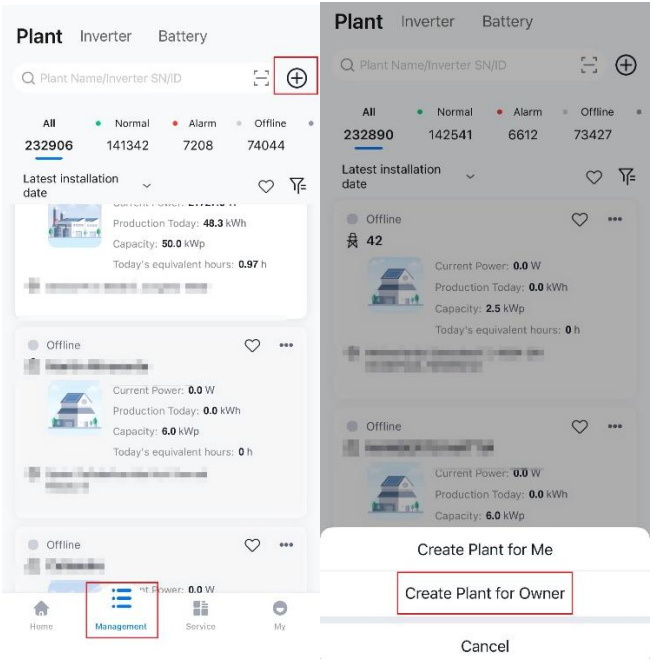
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If **auto** or **wifi** is selected, tap **WiFi Configuration**, and input the name and password of your home network.



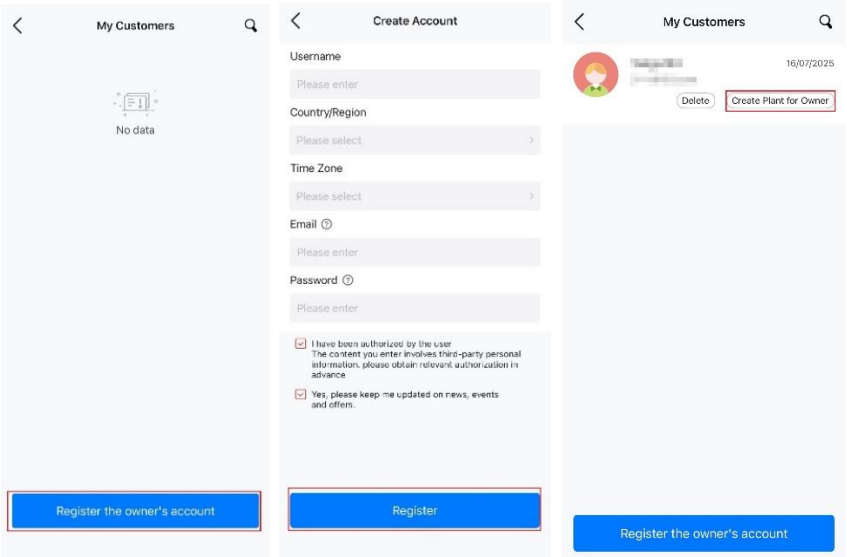
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7.8. Create a Plant



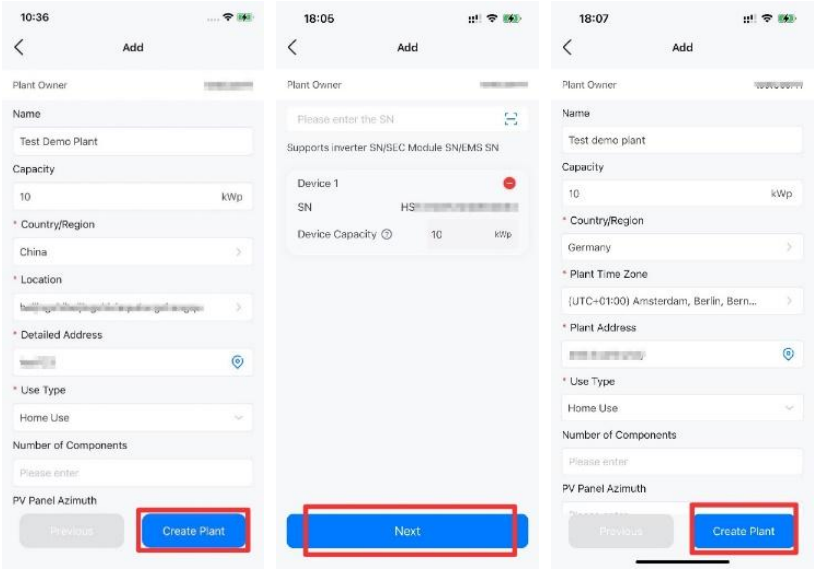
1. On the **Management** page, tap the ⊕ icon on the top right corner. Select **Create Plant for Owner**.

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2. Apply for an account for the end user.
   a. Tap Register the owner's account.
   b. Input the username, country or region, time zone, E-mail, password. Tap **Register**.
   c. Tap **Create Plant for Owner**.

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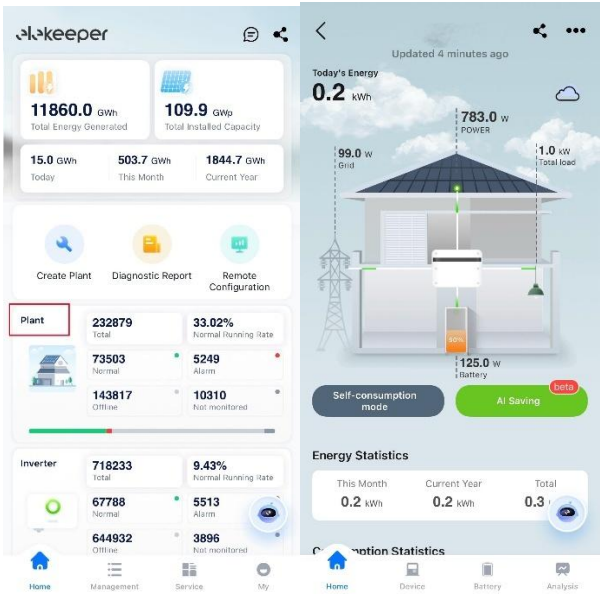


3. Configure the plant details based on your actual conditions.
   a. Configure the plant owner details. Tap **Create plant**.
   b. Add the required devices for this plant: Scan the SN of each device and tap **Next**. The devices include inverters, batteries, and/or an EV charger.
   c. Verify that the plant information that you just set is correct, tap **Create Plant**.

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7.9. View the plant details

1. On the home page, tap **Plant**.
2. Search for the required plant and then tap the plant.
3. On the main page of the plant, view the following plant information:
   - Data update time: In this example, the data has been updated three minutes ago.
   - Working mode
   - **Energy Statistics**, **Consumption Statistics**, and **Environmental Benefits**.



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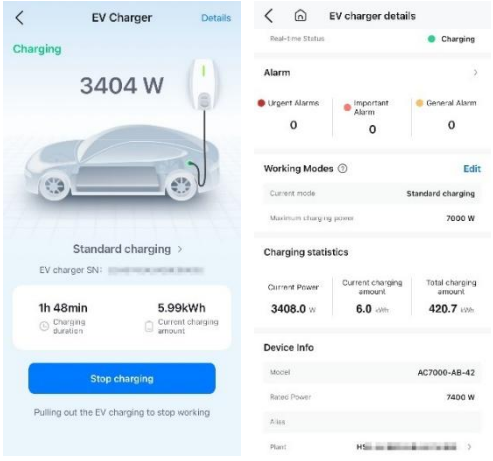
4. To view the detailed information of the devices in this plant, tap the device icon on the image.

   Note: The EV charger is optional, depending on your system configuration.

   The following takes the EV charger as an example.

   a. On the main page of the EV charger, view the charging mode, charging duration, and charging amount.

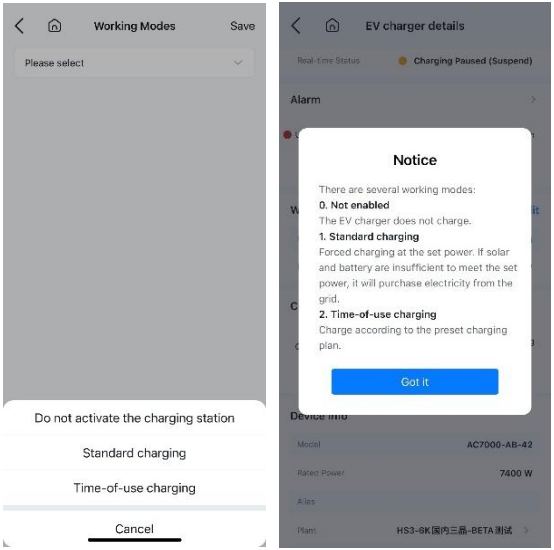
   b. Tap **Details** on the upper right corner of the page. On this page, view the generated alarms, working mode, charging statistics, device information, and phase information.



   c. (Optional) To change the working mode, tap **Edit** adjacent to **Working modes** and select the required option.

   To learn about the differences of each working mode, tap the question mark ⓘ adjacent to **Working Modes**.

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7.10.(Optional) Set the battery heating function

This setting applies to BU3 series battery which operates normally between -30℃ to +50℃. When the heating function is enabled, heating starts and stops under specific temperature conditions to optimize the battery charging and discharging performance.

Mode	Heating starts	Heating stops
Standard mode (default)	T<5℃	T=15℃

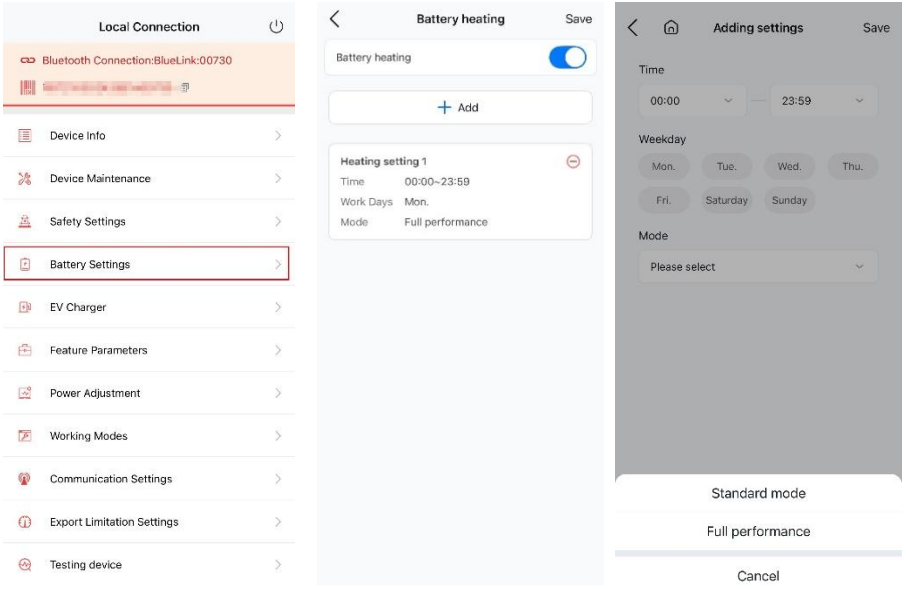
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Full performance	T<21.2℃	T=23.7℃
No heating	/	/

On the HS3 inverter device page, tap **Battery Settings**. Select the battery pack. On **Battery heating**, perform as follows:

- Disable the heating function;
- Modify or add a new heating task;

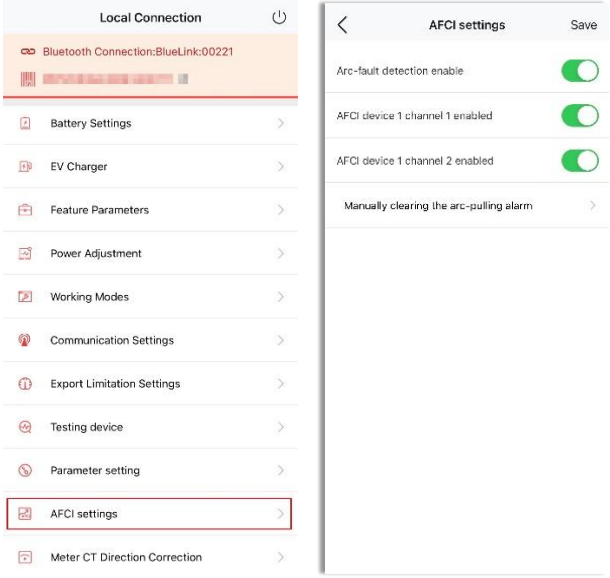
  Note: A heating task requires settings of the heating duration, date, and mode. A maximum of seven heating tasks can be set.
- Delete an existing heating task.



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7.11.(Optional) Enable the AFCI function

If you want to enable or disable the AFCI function, on the inverter device page, tap **AFCI settings**. On th**e AFCI settings** page, choose to enable or disable the detailed settings.



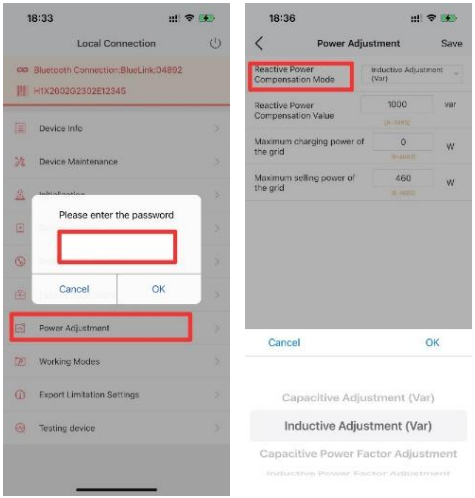
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7.12. View the fixed power factor mode and fixed reactive power mode

Once **Country** and **Grid Compliance** are selected during initialization, the parameters relating to the reactive power control settings are set automatically. In typical household scenarios, no need to change these default parameter values. If you really need to change them, before any modifications, contact SAJ for consultation and ensure that you have necessary electric knowledge and are fully aware of the impact of such modifications.

To view the settings, perform as follows:

1. Check the manufacturing date of the inverter according to the SN, such as an SN “1 502 0 G 11 01 CN 00000”, in which “11 01” indicates that the manufacturing date is the first week in 2011.
2. Depending on your inverter manufacturing date, view the parameter values as follows:



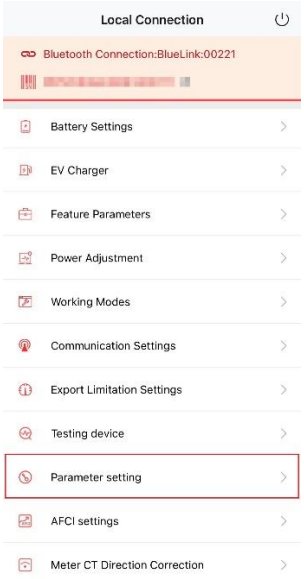
- For the equipment manufactured before August 2023:

  Tap **Power Adjustment** and enter the password. (Contact SAJ for the password.)

  In **Reactive Power Compensation Mode**:

  - Fixed power factor mode: **Capacitive Power Factor Adjustment** or **Inductive Power Factor Adjustment**. The power factor range is from 0.8 leading to 0.8 lagging.
  - Fixed reactive power mode: **Inductive Adjustment (Var)** or **Capacitive Adjustment (Var)**. The power ranges from -60% Pn to 60% Pn.

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- For the equipment manufactured after August 2023:

  Tap **Parameter settings**.

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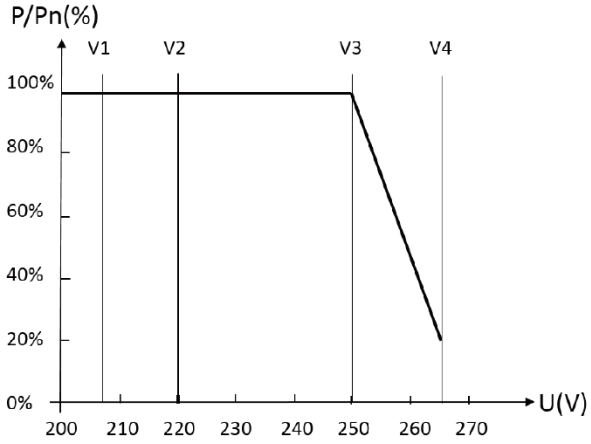
7.13.For Australia and New Zealand

7.13.1. View the V-Watt and Volt-Var modes

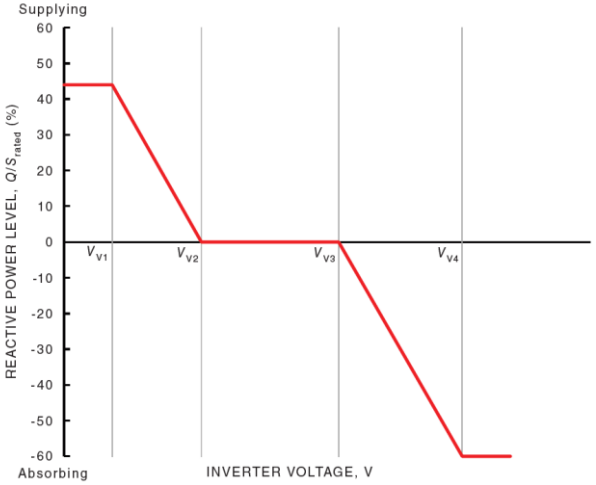
About this task

This inverter complies with AS/NZS 4777.2: 2020 for power quality response modes. It meets DNSPs' grid connection rules and requirements for the volt-watt and volt-var settings in different regions.

Curve for a Volt-Watt response mode (AS4777 Series)

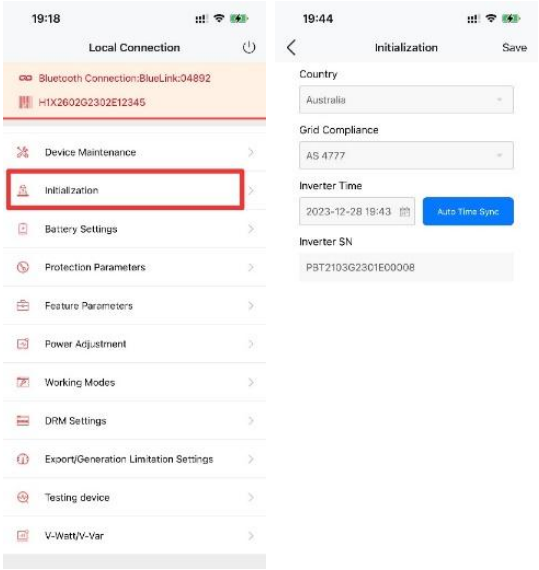


Curve for a Volt-Var control mode (AS4777 Series)



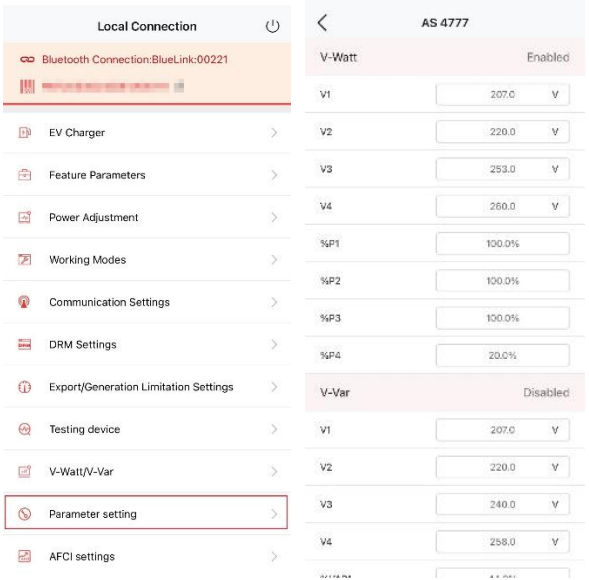
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1. Tap **Initialization** and check whether the grid compliance is set properly. Change the settings if needed.



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2. Tap **V-Watt/V-Var** to enter the settings page.

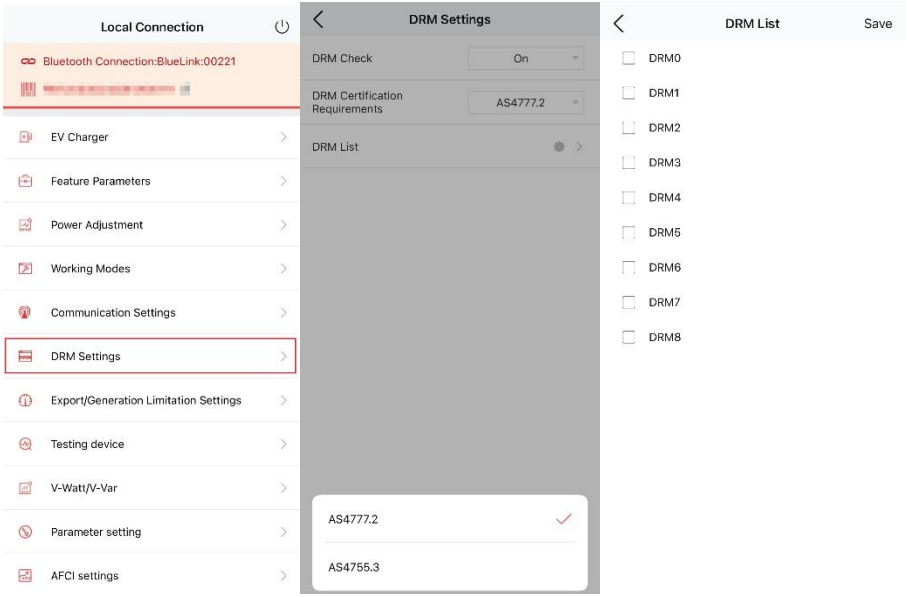


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7.13.2. Configure the DRM settings

If you have set **Country** to **Australia** in the initialization process, according to local regulations, you can set the demand response mode (DRM) as follows:

On the inverter device page, tap **DRM Settings**. Set the required parameters.



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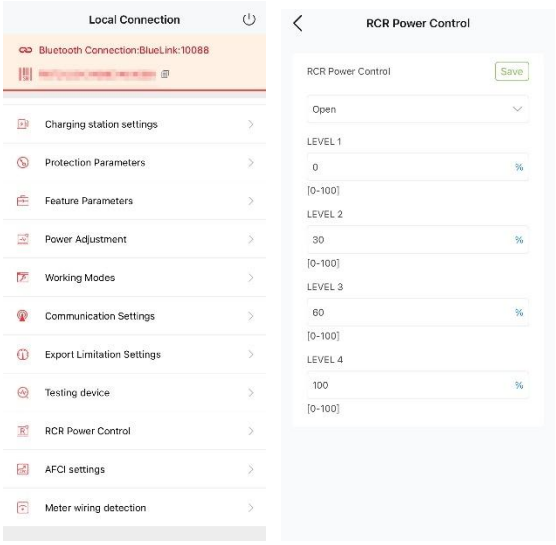
7.14.For Germany and Austria

7.14.1. Set the RCR power control function

About this task

If you have set **Country** to **Germany** or **Austria** in the initialization process, and the total power of the plant exceeds 25 kW, you can set the ripple control receiver (RCR) power control function. However, before the RCR settings, you need to disable the export limit function first.

On the inverter device page, tap **RCR Power Control**. Set the required parameters.



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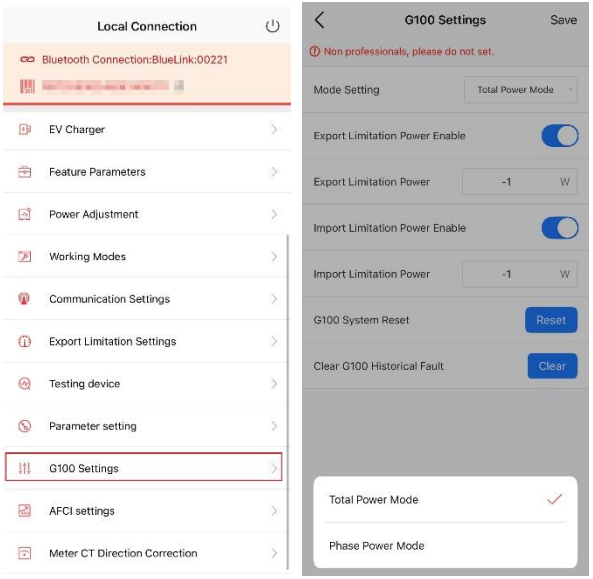
7.15.For the United Kingdom

7.15.1. Configure the G100 settings

About this task

If you have set **Country** to **UK** in the initialization process, according to local regulations, you can set the G100 function as follows: On the inverter device page, tap **G100 Settings**. Enter the password if required. Set the required parameters.

Note: If a message is displayed, prompting you to upgrade the firmware, you need to upgrade the inverter firmware before the G100 settings.



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7.16.For Italy

7.16.1. Run the self-test

About this task

Italian Standard CEI0-21 requires a self-test function for all inverters connected to the utility grid. The self-test ensures that the inverter can be disconnected from the grid when required.

During the self-test, the inverter will check the reaction time for over-frequency, under-frequency, over-voltage, and under-voltage. If the self-test failed, the inverter stops providing the electricity to the grid.

Before you start

- Ensure that the communication module (Wi-Fi/Bluetooth/Ethernet) of the inverter is connected to the network. Refer to section 7.7 "Configure the communication module".
- Ensure that **Country** is set to **Italy** and **Grid Compliance** is selected properly. To check the settings, tap **Initialization** on the inverter device page.

Procedure

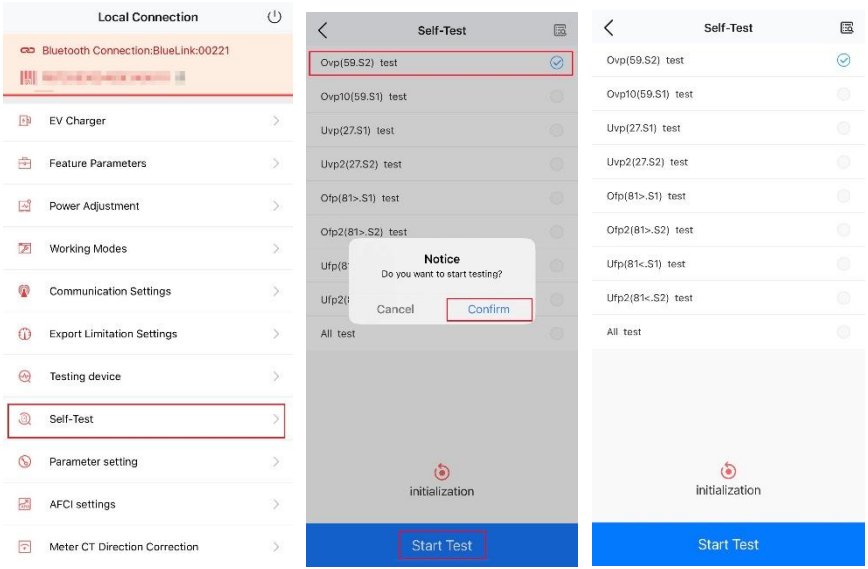
1. On the inverter device page, tap **Self-Test**. Set the self-test parameters if needed.
2. Select the required test and tap **Start**.

   One test will take around 5 minutes. If you have selected **All test**, all tests will take around 40 minutes.

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3. (Optional) After the self-test is completed, save the test report.

   If the self-test failed, contact SAJ or your installer.



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