Hinen Solar App
User Manual

Forward

Introduction

This document describes how to use the Hinen Solar App.

Target Readers

This document is intended for: Users

Sign Definition

The following signs may be used in the document to indicate security precautions or key information. Before installation and operation, familiarize yourself with signs and their definitions.

Signs	Definitions
Danger	Indicates danger. Failure to comply may result in death or serious bodily injury.
Warning	Indicates warning. Failure to comply may result in serious injury and property loss.
Caution	Indicates caution. Failure to comply may result in property loss.
Tips	Indicates key information and operation tips.

Contents

1. Downloading and Login

Step 1 Downloading the App

Before downloading the App, make sure that the mobile phone meets the following requirements:

- Mobile phone operating system: Android 8.0 or later, iOS 14.0 or later.
- The mobile phone can access the Internet.
- The mobile phone supports WLAN or Bluetooth.

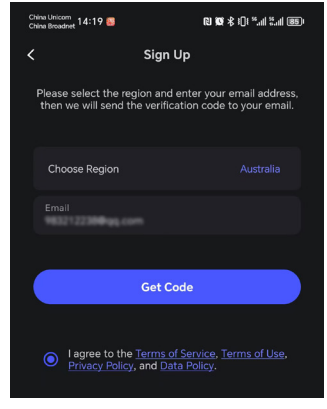
Method 1:
Search Hinen Solar in Google Play (Android) or App Store (iOS) to download and install the app.

Method 2:
Scan the QR code below to download and install the app.

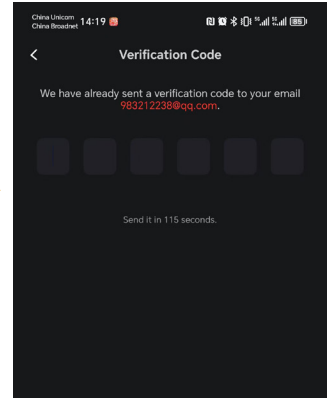
Tips: This document takes version 1.0.6 as an example to introduce relevant operations. The screenshots and data given in this document are for illustration purposes only. Interfaces in different periods may differ due to update or other reasons. The actual interface display shall prevail.

Step 2 Registration

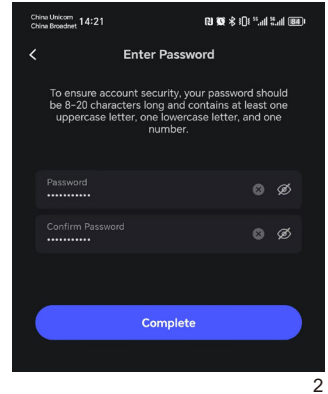
1. Please select your region, enter your email address, click “I agree to the Terms of Service, Terms of Use, Privacy Policy and Data Policy” and then click “Get Code”.



2. Enter the verification code you have received.



3. After the code is verified, please enter your password to complete the registration.



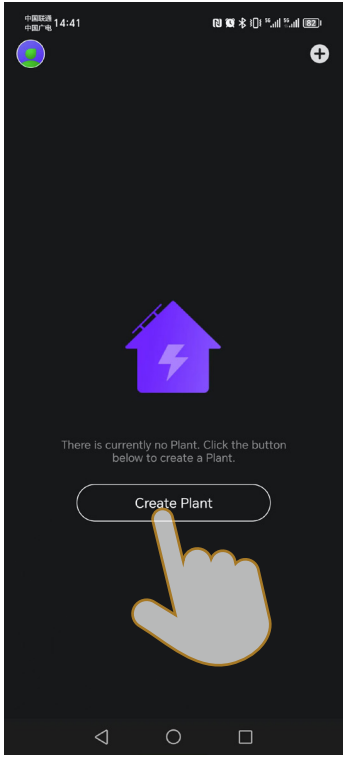
Step 3 Login

Enter your account and password to log in.

2. Creating a Plant

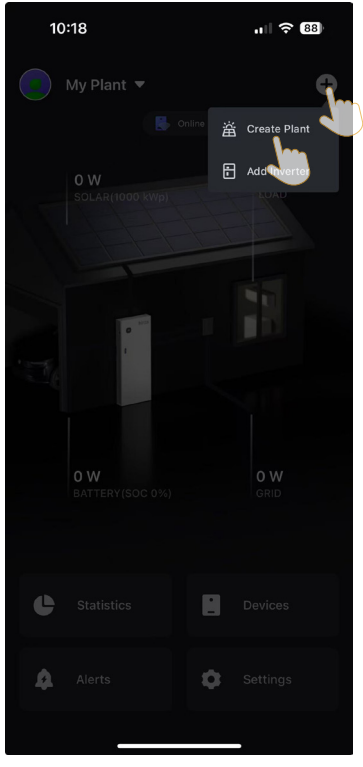
Method 1:

1. Click the "Create Plant" button to create your own plant.

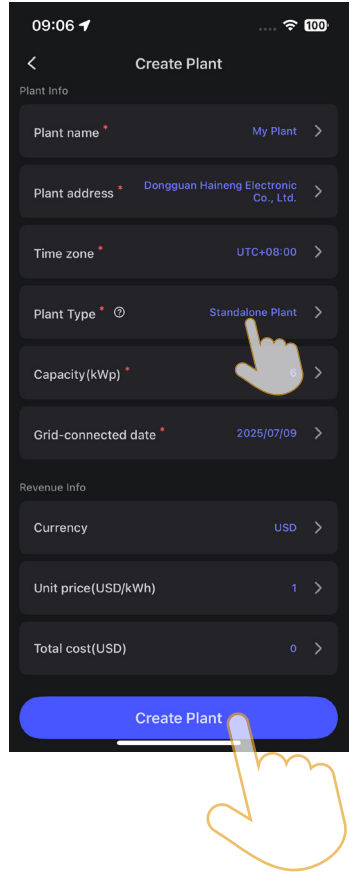


Method 2:

1. Tap the icon ⊕ on the upper right corner and tap “Create Plant” to create your own plant.



2. After entering your plant name and filling in the information of the plant, tap the "Create Plant" button to complete the creation of the plant.



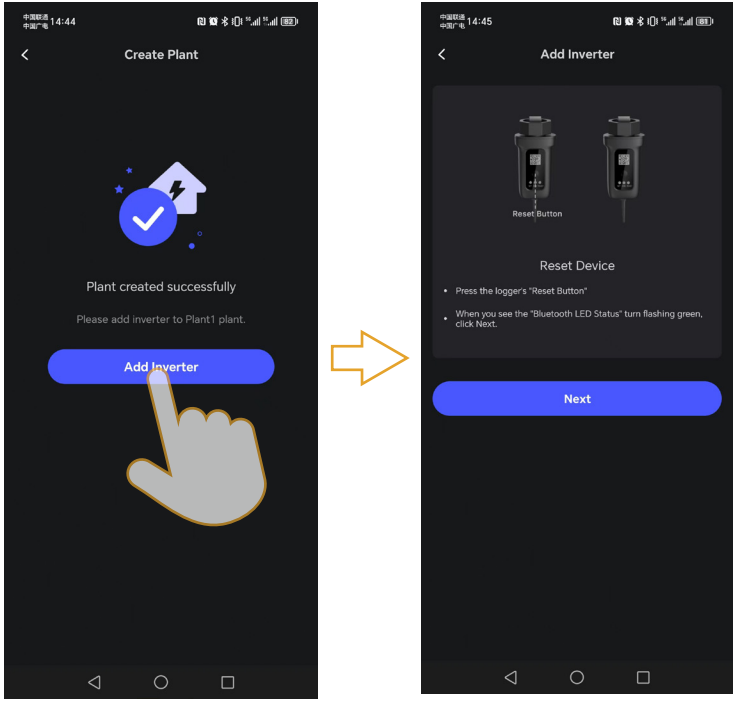
Standalone Plant: This configuration involves a single inverter connected within the plant.
Parallel Plant: This configuration involves two or more hybrid inverters connected in parallel to the grid. If the inverters are not connected in parallel, please do not select this option.
Note: Off-grid inverters can only be configured as a Standalone Plant, even if they are connected in parallel. Please select the correct plant type based on the actual installation, otherwise system error can be caused.

3. Add an inverter

Note: When adding the inverter, please make sure that the Bluetooth and Wi-Fi are turned on and the router can connect to the network properly.

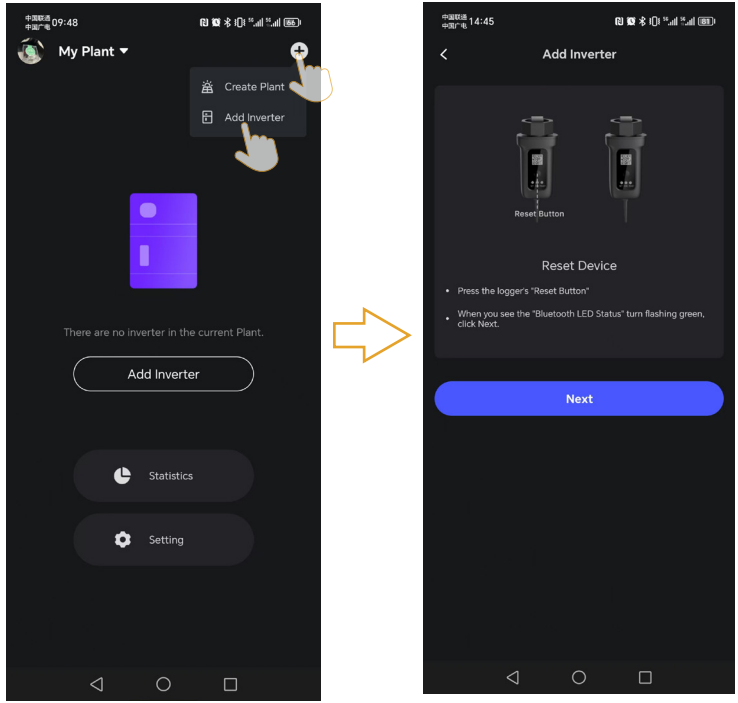
Method 1:

After the plant is successfully created, tap the “Add Inverter” button to add.



Method 2:

Tap the icon ⊕ on the home page. Then tap the “Add Inverter” button to enter the “Add Inverter” page, and tap the "Next" button.

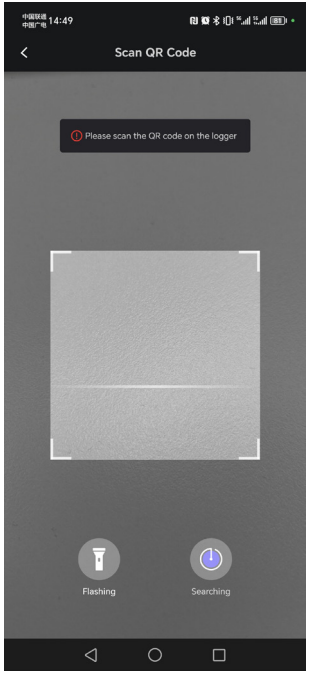


Step 1: Connect the logger (Make sure Bluetooth and Wi-Fi are turned on.)

Note: The QR code can be found on the logger.

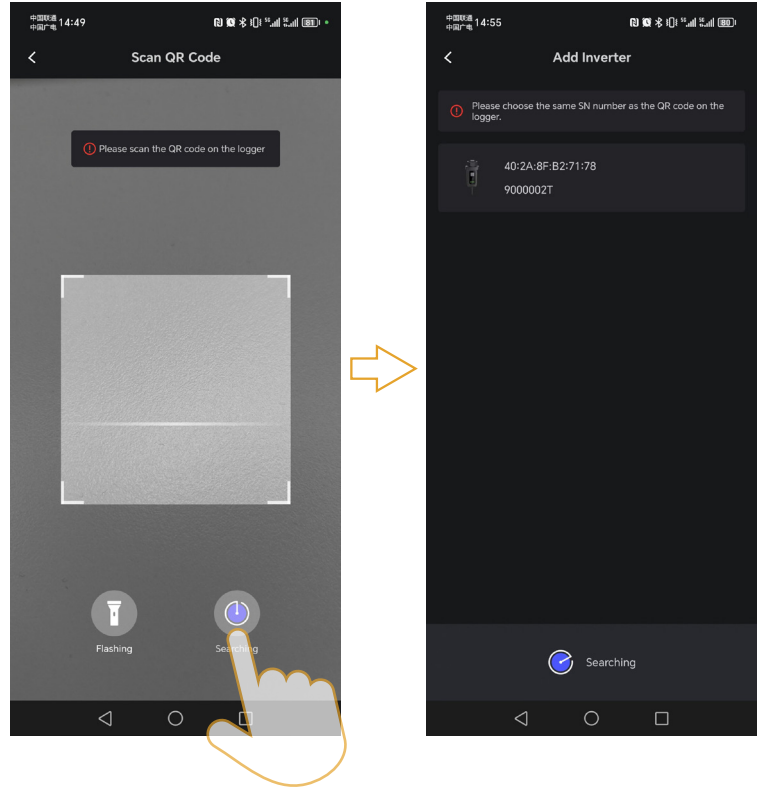
Method 1:

Scan the QR code on the logger to connect to the logger.

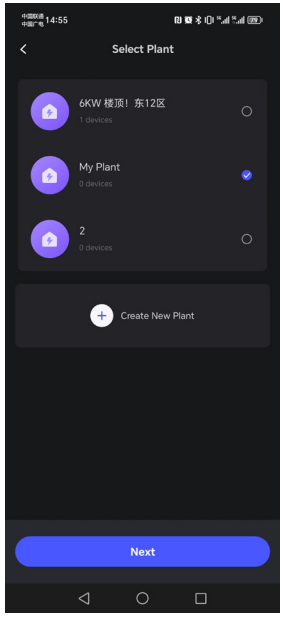


Method 2:

Tap “Searching” and choose the correct logger to connect to the logger.



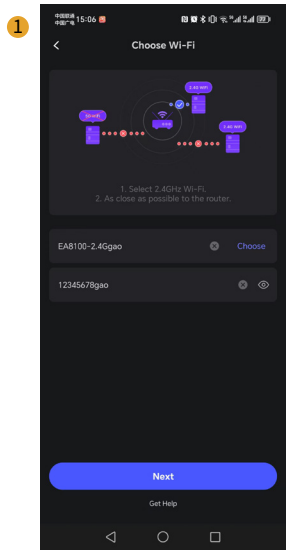
Step 2: Select the plant to which you want to add the inverter and click "Next".

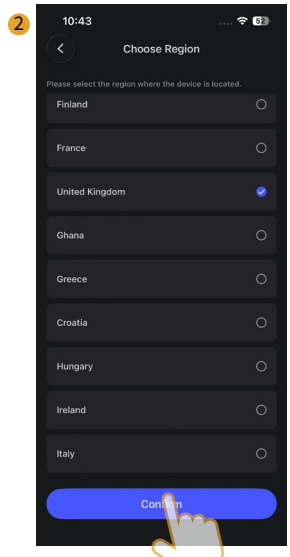


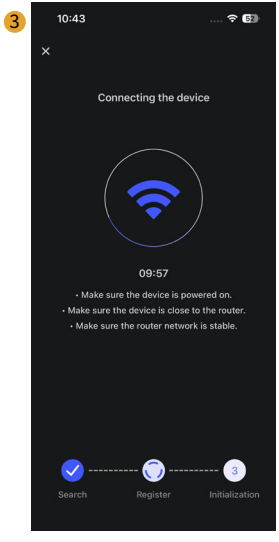
Step 3: Network configuration

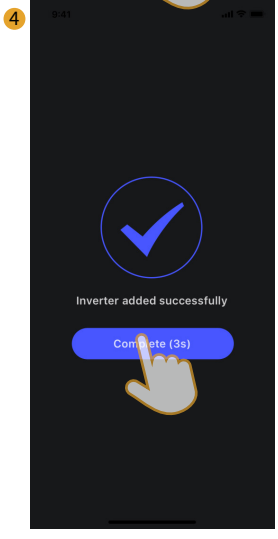
Select 2.4GHz Wi-Fi, enter the Wi-Fi name and password, click "Next", choose the region where the device is located, and wait a few minutes to network. Then click the "Complete" button to finish adding the inverter.

Note: When networking, keep the phone close to the router.







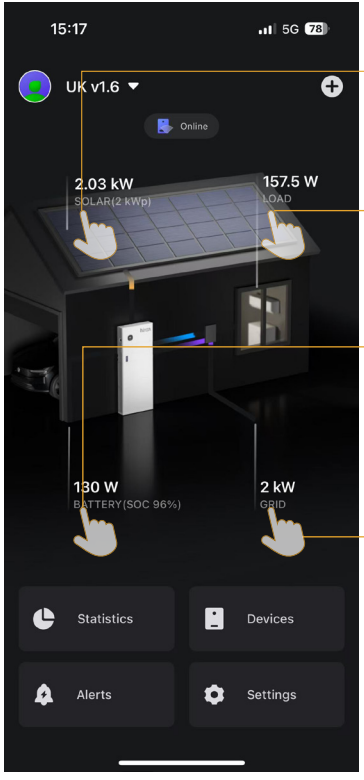


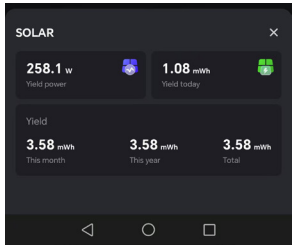
4. Viewing Information

All the information about the plant and the devices can be viewed on the App.

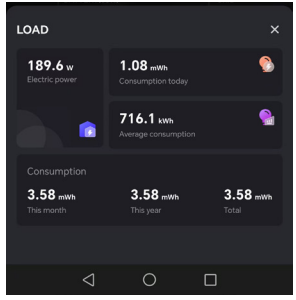
4.1 Viewing Plant Information

After adding the inverter, you can check the real-time running status and detailed information of the plant. Tap the corresponding name on the flow chart to check SOLAR, LOAD, BATTERY and GRID data of the plant at any time.

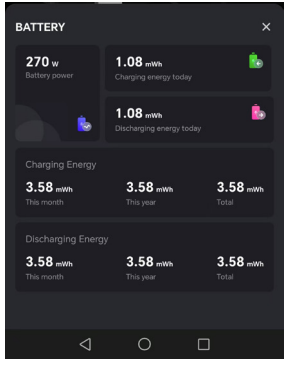




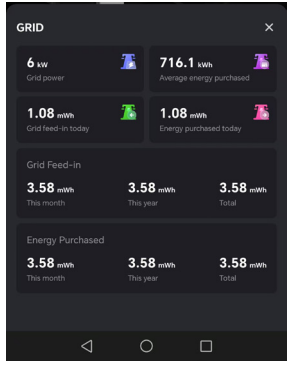
Tap SOLAR to view data including PV yield power generation, daily power generation, monthly power generation, annual power generation, cumulative power generation, normalized power, installed capacity and so on.



Tap LOAD to check load power, daily consumption, average consumption, monthly consumption, annual consumption, cumulative consumption and so on.



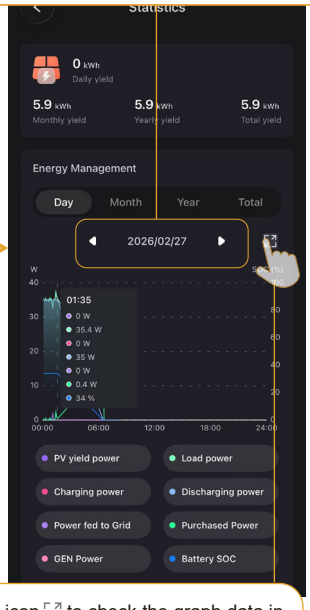
Tap BATTERY to check battery power, battery SOC, daily charging capacity, daily discharging capacity, monthly charging and discharging capacity, annual charging and discharging capacity, total charging and discharging, and so on.



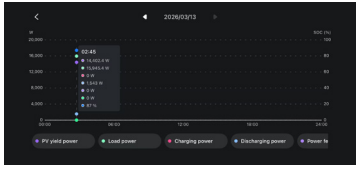
Tap GRID to check grid power, daily feed-in to grid, monthly feed-in to grid, annual feed-in to grid, total feed-in to grid, daily energy purchased, monthly energy purchased, annual energy purchased, total energy purchased, average energy purchased, and so on.

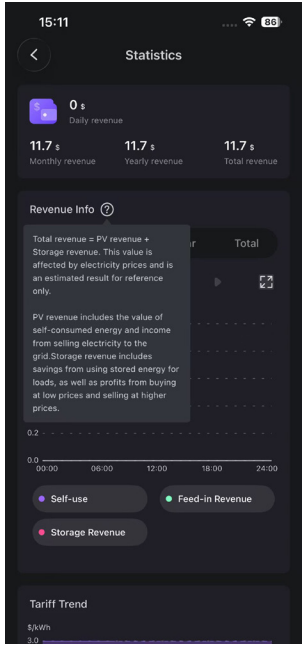
Tap “Statistics” to check the revenue, tariff trend, energy yield, environmental benefits and statistical diagram about the plant on the Statistics page, as shown in the figure below.

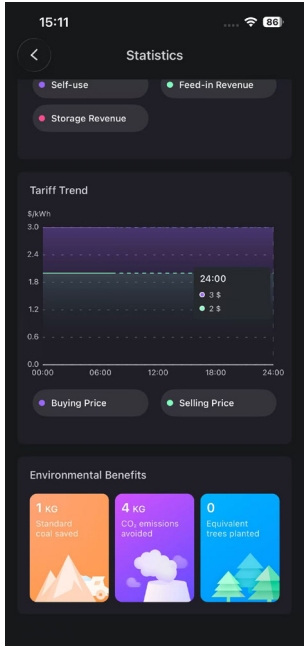
Tap the date button in the middle toggle to check the statistical diagram of different dates. You can filter the data by day, month, year, total to check statistical diagram of PV energy yield, load consumption, charge capacity and discharge capacity.



Tap the icon ⛶ to check the graph data in landscape.

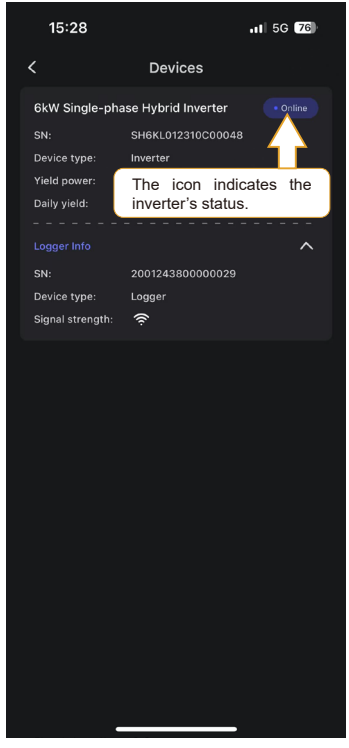






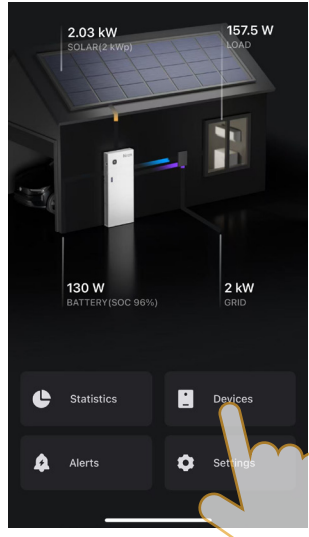
4.2 Viewing Device Lists

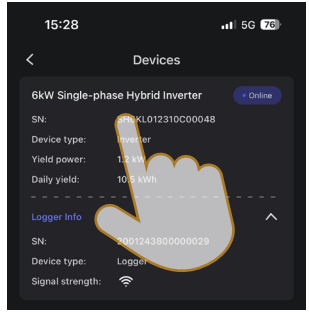
Tap "Devices" to view the device list under the plant. You can check the current status of the inverter.

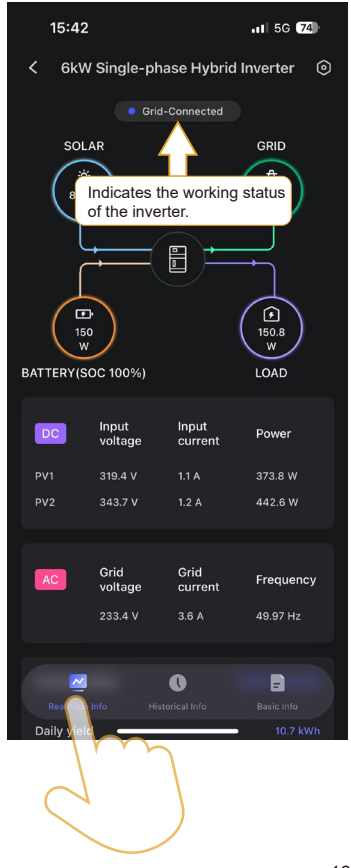


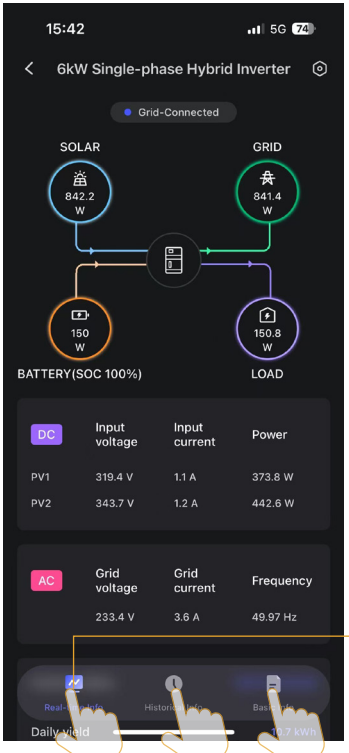
4.3 Viewing Device Details

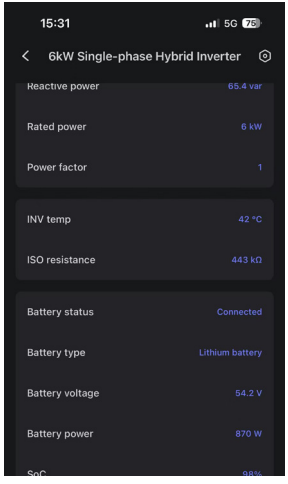
Tap "Devices" and select the device you want to check to view the detailed information, such as real-time information, historical information, and basic information.



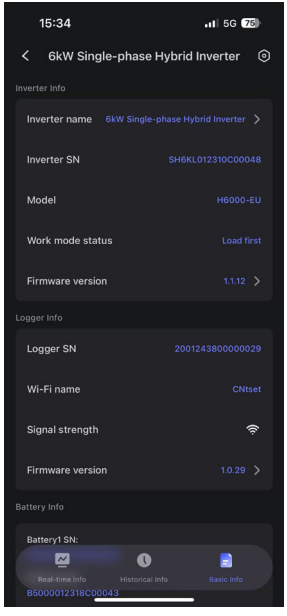




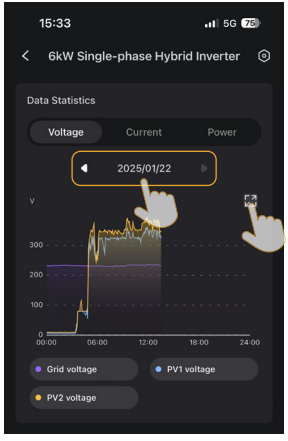




On “Real-time Info” page, you can check the real-time running status of the device. You can also check the specific data of device, such as current, voltage, power, and more.



On “Basic Info” page, you can view the information of the inverter, logger, battery, and associated plant. You can also remove the device from the plant on this page.

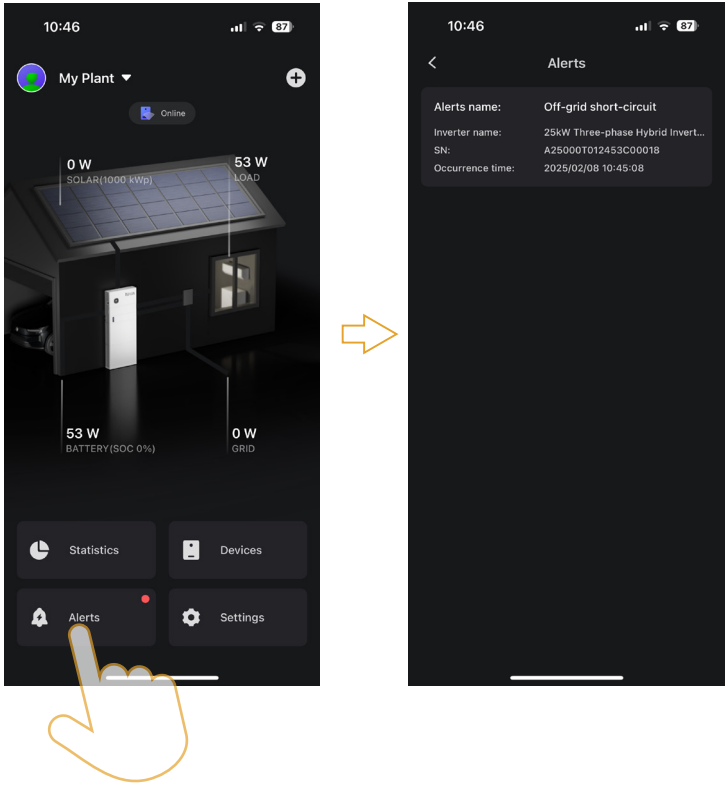


On “Historical Info” page, you can view the data statistics and yield trend of the device. You can filter the data by voltage, current, power to check the statistical diagram of the device. You can filter the date by day, month, year, and total to view the yield trend specifically.

Tap the icon ⛶ to view the graph data in landscape.

4.4 Viewing Alarm Information

Tap “Alerts” to view all the alarm information of the plant.

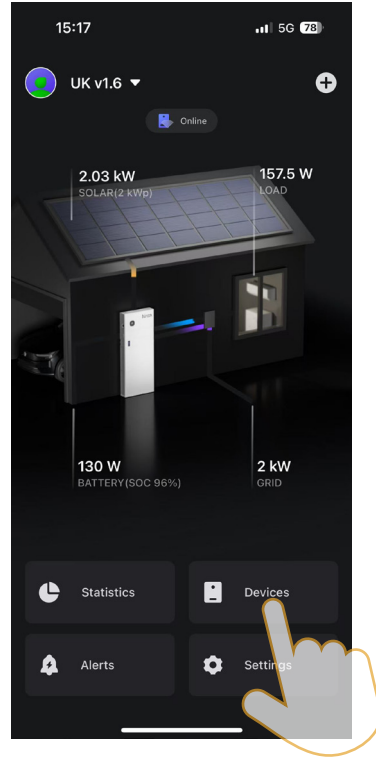


5. Function Setup

Notice: Before setting any parameters, read through user manual of the app and the inverter to fully learn the functions and features of the product. If the inverter parameters are set improperly, the inverter may malfunction and damage the battery, which will affect the inverter’s power generation.

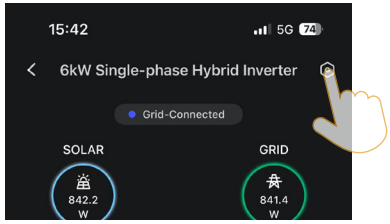
5.1 Controlling the Device

Tips: When the WiFi is connected properly, the device can be controlled remotely.



Step 1:
Tap “Devices” and select the device to enter the “device details” page.

Step 2:
Tap the icon ⬡ on the upper right corner to enter “inverter control” page.



“inverter control” page:

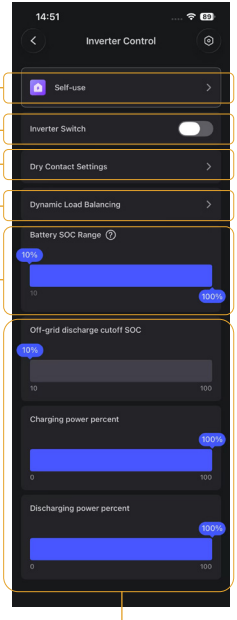
Tap to set work mode. Refer to chapter 5.3 to check the specific definition and operation of the six work modes.

On the “inverter control” page, you can control the inverter operation. Tap the icon to turn on or off the inverter remotely. The icon indicates off state, while indicates on state.

You can configure dry contact settings based on the actual situation.

You can configure dynamic load balancing, which is only applicable for three-phase hybrid inverters.

You can slide left and right to set the battery's SOC range, where the minimum value represents the battery's minimum discharge SOC, and the maximum value represents the battery's maximum charge SOC. Please note that this SOC range has a higher priority than the SOC values set in the work mode. For example, if the SOC range is set to 20%-80%, and the self-use mode is selected with the discharge cutoff SOC set to 10%, the discharge will stop when the battery SOC reaches 20%, not 10%. For work modes that do not have battery SOC settings, the value here will prevail.
If the work mode does not have an SOC setting, the battery's charge and discharge cutoff SOC will be based on the battery SOC range when this mode is selected.

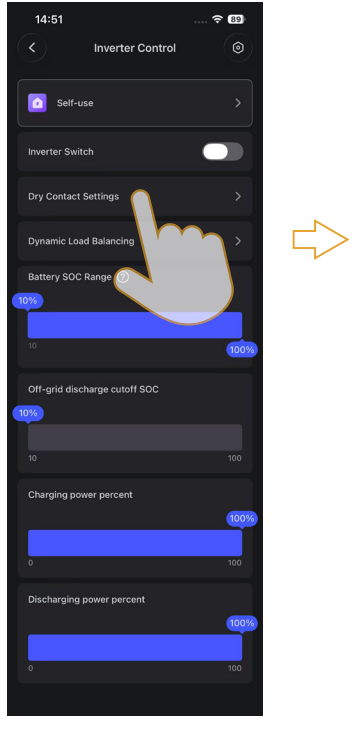


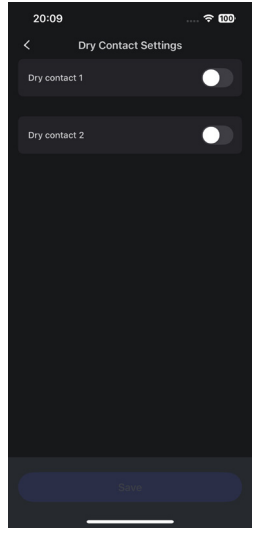
You can configure the off-grid discharge cut-off SOC, charging power percent and discharging power percent as needed by sliding left and right. Please refer to Chapter 5.3 for more details.

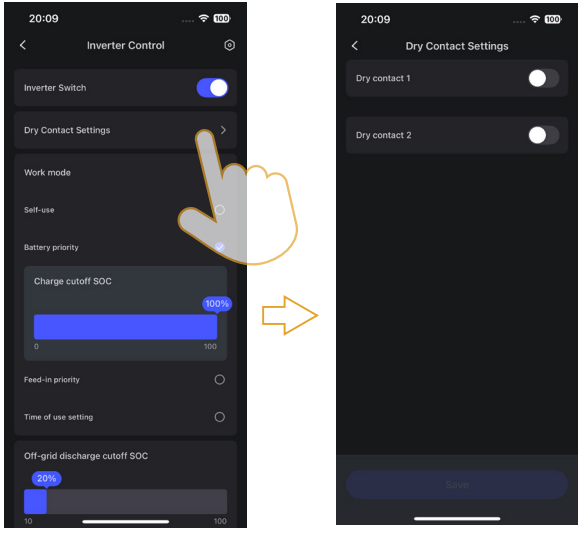
5.2 Dry Contact Settings

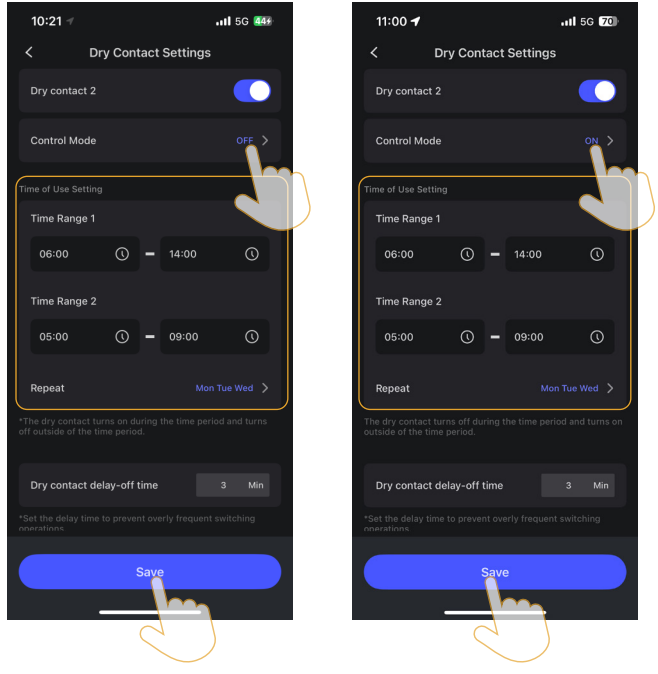
The inverter’s DO1 and DO2 can both be connected to smart loads, with identical dry contact settings for both, and they do not interfere with each other.

Note: For models with generator port, if the generator mode is enabled in the advanced settings, dry contact setting 1 will be automatically hidden from the settings page.









There are three dry contact control mode for each dry contact. For each control mode, you can set the delay time for dry contact to avoid frequent switching on and off.

1. OFF: In this mode, you can set two time periods during which the dry contact will be activated. The two time periods can overlap, but they cannot be identical. You can set specific days to repeat the time periods. You can set the delay time to avoid frequent switching operation of the dry contact.

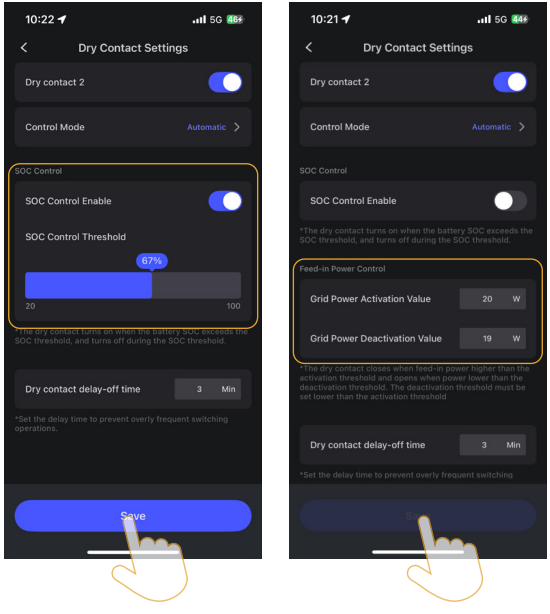
2. ON: In this mode, you can set two time periods during which the dry contact will be deactivated. The two time periods can overlap, but they cannot be identical. You can set specific days to repeat the time periods. You can set the delay time to avoid frequent switching operation of the dry contact.

3. Auto mode: you can control the dry contact by configuring SOC threshold or Feed-in power value.

(1) If SOC control is enabled, you can set the SOC control threshold. For example, when the SOC exceeds 80%, the dry contact will be activated, and excess PV energy will be supplied to the smart load. If the SOC drops below 80%, the dry contact will be deactivated, stopping power supply to the smart load.

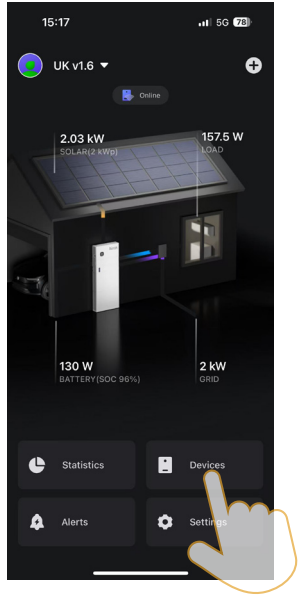
(2) If Feed-in power control is enabled, the dry contact can be controlled by setting the feed-in power values. The Activation Value must be higher than the Deactivation Value. For example, when the feed-in power reaches 4000W, the dry contact will automatically turn on, and excess energy will be supplied to the smart load. When the grid power drops below 3000W, the dry contact will automatically turn off, stopping power supply to the smart load.

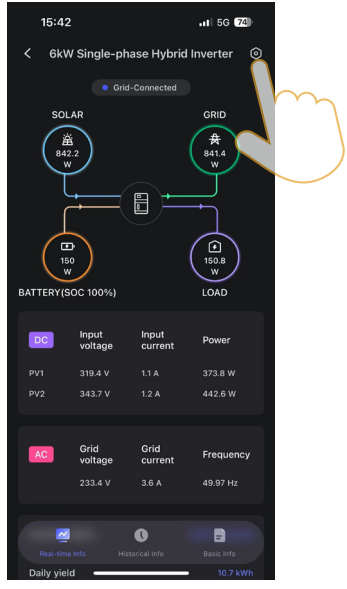
Notice: When you finish configuring the parameters, do not forget to tap Save to save your data.



5.3 Work Mode Setup

Tap “Devices” and tap the icon on the upper right corner to enter “inverter control” page. You can configure the work mode, off-grid discharge cut-off SOC, Battery SOC range, charging power percent, and discharging power percent according to the actual situation.

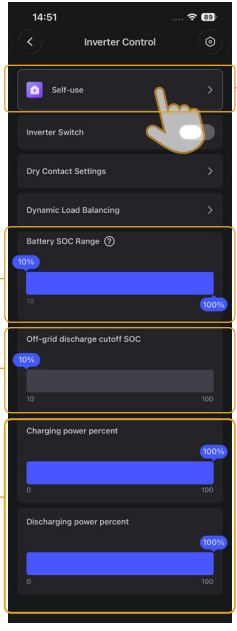


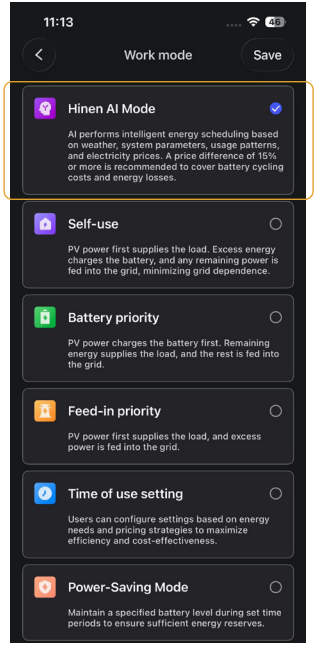


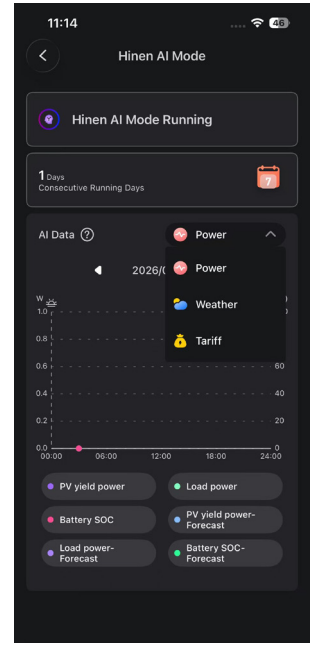
You can slide left and right to set the battery's SOC range, where the minimum value represents the battery's minimum discharge SOC, and the maximum value represents the battery's maximum charge SOC. Please note that this SOC range has a higher priority than the SOC values set in the work mode. For example, if the SOC range is set to 20%-80%, and the self-use mode is selected with the discharge cutoff SOC set to 10%, the discharge will stop when the battery SOC reaches 20%, not 10%. For work modes that do not have battery SOC settings, the value here will prevail.
If the work mode does not have an SOC setting, the battery's charge and discharge cutoff SOC will be based on the battery SOC range when this mode is selected.

If you set the off-grid discharge cut-off SOC at 20%, the battery will stop discharging in off-grid state when its SOC hits 20%.

Take an inverter with a rated power of 5kW as an example. If the charging power percent is set to 60%, the inverter will charge the battery with a power of 3kW. If the discharging power percent is set to 60%, the inverter will discharge at a power of 3kW.
Note: The charging and discharging power percents here have lower priority than those in the work mode. For example, if the "Forced Discharge" function is selected in the Time of use mode, the discharging power percent will follow the settings in that mode. But if self-use mode (no power settings within the mode) is selected, the charging and discharging power percent will be based on the configuration here.







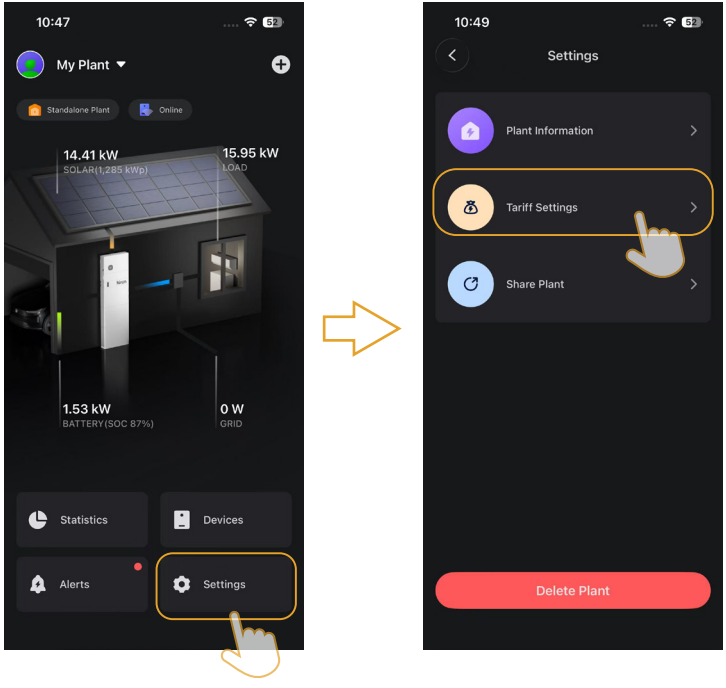
Hinen AI Mode

Once the AI Mode is enabled, the system will be managed intelligently. You can track how many consecutive days the AI mode has been active. Typically, the system takes a few days to fully learn the household's consumption habits before delivering maximum optimization.
Note: Please ensure your electricity tariffs are set up in the settings before activating AI Mode.

Note: The AI mode takes a few days to fully learn the household's consumption habits before delivering maximum optimization.

Step 1: Go to Settings-->Tariff Setting

Note: Please ensure your electricity tariffs are set up in the settings before activating AI Mode.



Step 2: Choose your currency and Tariff Type

You have two options to input your rates:

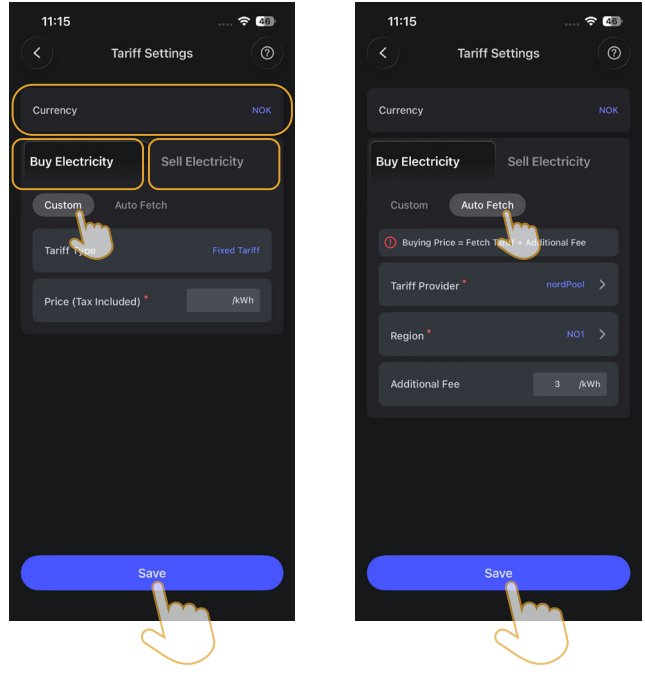
Option A: Auto-Fetch(Dynamic tariff)
Select this if you are with a dynamic energy provider (e.g., NordPool). Simply select your provider from the list, and we will automatically sync the real-time dynamic rates via API.

Option B: Custom
Select this if you have a fixed or Time-of-Use (TOU) contract. You can manually input your specific Peak, Off-Peak, and standard rates for both importing and exporting energy.

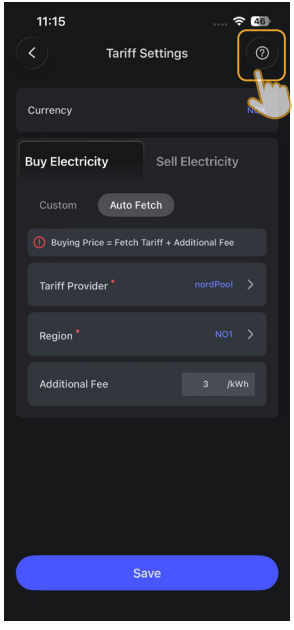
Step 3: Add Taxes & Additional Fees (Optional but Recommended)

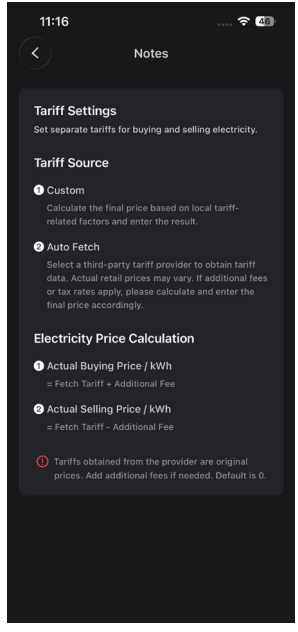
To make your ROI and savings reports as accurate as possible, don't forget to add any extra charges applied by your utility company.

Step 4: Don't forget to tap Save



Tap the icon in the top-right corner to view more details on the tariff settings.



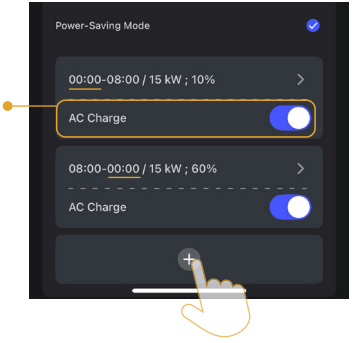


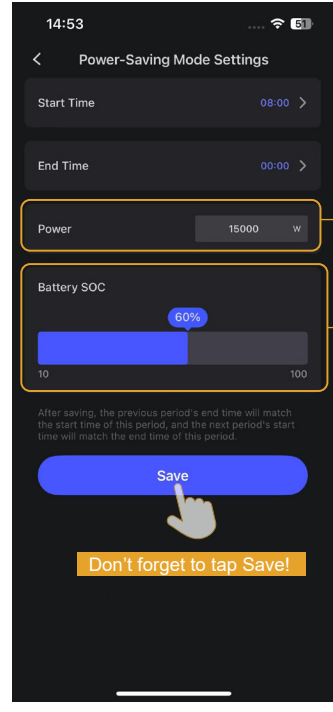
Power-Saving Mode

This mode maintains your battery SOC at the preset level to prepare for unexpected grid outages. You can configure the daily active time period.

You can choose whether to enable AC Charge, which determines whether power can be drawn from the grid.

Once the power-saving mode is selected, the system defaults to 24 hours of operation. The start time of the first time period is the same as the end time of the last time period.

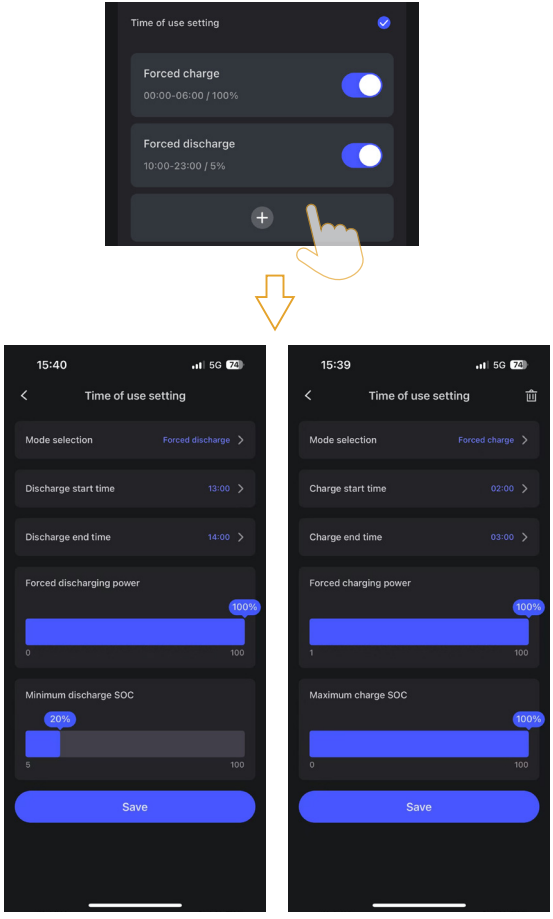




You can set the Power value for this time period, which defaults to the inverter's rated power. This power is both the charging power and the discharging power.

You can set the Battery SOC value that the system needs to maintain during this time period. Once set, the system will charge or discharge the battery according to the set power value to maintain the battery's SOC at the specified level.

If you select “Time of use” mode, you can force charge and discharge the battery in fixed periods. You can set three periods at most by tapping the icon ⊕ below. Then you can set the charge and discharge start time, end time, forced charging and discharging power, maximum charge SOC, minimum discharge SOC and so on.



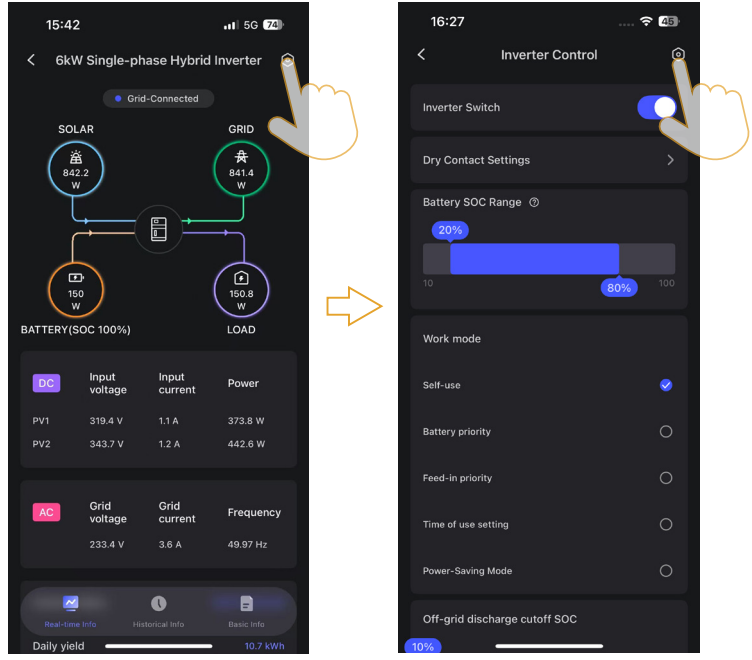
The work modes are defined in the following table：

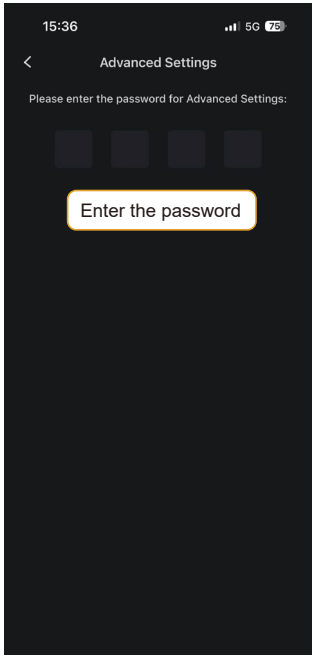
Work Mode	Definition	Parameter Settings
AI Mode	By analyzing household electricity usage patterns alongside external environmental data, it automatically creates the most efficient charge and discharge schedules. The ultimate goal is to minimize the user's electricity bills, prolong battery lifespan, and ensure reliable backup power—all completely hands-free.	• Set up electricity rates as accurate as possible in the Settings. • Set Battery SOC Range. The AI Mode will be operated within the set Battery SOC Range.
Self-use	• PV power is preferentially supplied to satisfy the load. • Excess power is charged to the battery, and any surplus is then fed to the grid. • If PV power is insufficient to meet the load, the load is first supplemented by the battery, followed by the grid. • This mode minimizes reliance on the grid, with electricity generated by PV being used first.	• You can set discharge cut-off SOC as needed according to your needs. If you set discharge cut-off SOC at 20%, the battery will stop discharging in on-grid state when the battery SOC hits 20%.
Battery Priority	• PV power prioritizes charging the battery. Excess power supplies the load, and any surplus is fed to the grid. • If PV power cannot fully charge the battery, the battery is charged by the mains. • The load is prioritized to use solar energy; any uncovered load is supplemented by mains power. • In this mode, PV power is used first, followed by grid power.	• You can set charge cut-off SOC as needed. If you set the charge cut-off SOC at 90%, the battery will stop charging when the SOC hits 90%. • You can set the charging power percent on “Advanced Setting” page.
Feed-in Priority	• PV power prioritizes satisfying the load, and excess power is fed to the grid. • If the PV power fed to the grid cannot be met, the battery supplements. • If PV generation cannot meet the load, the battery is prioritized to discharge to supplement the load. If still insufficient, the uncovered load is met by mains. • In this mode, PV prioritizes satisfying the load and exporting power to the grid. Excess energy charges the battery only when PV power exceeds the feed-in power plus load power.	• You can set discharge cut-off SOC as needed. If you set discharge cut-off SOC at 20%, the battery will stop discharging in on-grid state when the SOC hits 20%. • You can restrict the maximum power sent to the grid by adjusting the MAX Feed-in parameter on system setting page. • You can configure the discharging power percent on “Advanced Setting” page.
Time of use	• This mode is designed to maximize energy cost savings based on a user-defined schedule. • Users can set 3 time periods via the Hinen App to enable forced charging or discharging.	• You can select force charge/discharge, set charge/discharge start time, charge/discharge end time, force charging/discharging power, and cut-off SOC as needed. Tap the icon on the upper right corner to delete the current time slot. • Take the 6KW inverter as an example. If you set the charging power at 50%, it means the inverter will charge the battery with the power of 3 KW at most.

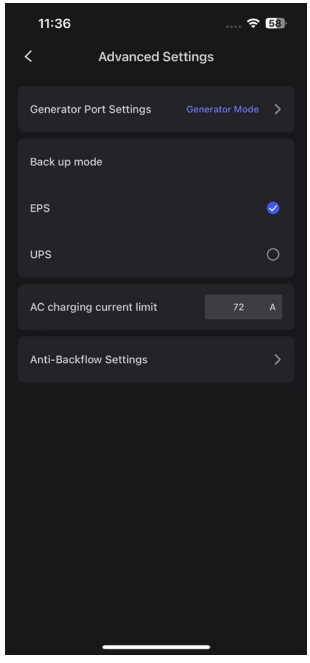
Work Mode	Definition	Parameter Settings
Power-Saving Mode	The Power-saving mode is mainly used to maintain the battery's charge at a certain SOC level, ensuring power availability for household loads when needed. This mode can be set with up to 6 time periods, each of which can have corresponding charging and discharging power settings and battery SOC. You can choose whether to enable AC Charge, which determines whether power can be drawn from the grid. When the battery's actual SOC is lower than the battery SOC value set for the time period of Power-saving mode, the inverter will charge the battery at the specified power to reach the set SOC value from grid or PV. When the battery's actual SOC is higher than the set SOC and export limit is not set to 0, the system will choose to feed excess power to the grid or discharge it to the load at the specified power level.	· Click the Add icon to set the time period of power-saving mode. · You can set the start and end times. Please note that once the power-saving mode is selected, the system defaults to 24 hours of operation. The start time of the first time period is the same as the end time of the last time period. For example, if the start time is 08:00, the end time is automatically set to 08:00 the next day. · You can set the Power value for this time period, which defaults to the inverter's rated power. This power is both the charging power and the discharging power. · You can set the Battery SOC value that the system needs to maintain during this time period. Once set, the system will charge or discharge the battery according to the set power value to maintain the battery's SOC at the specified level.

5.4 Advanced Settings

Tap the icon ⚙ on the device details page twice and enter the password to enter the “Advanced Settings” page, as shown in the figures below.





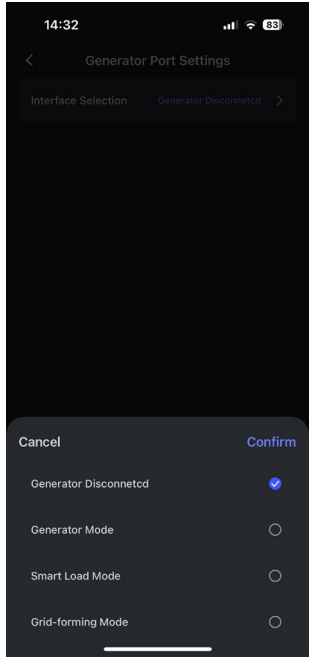


5.4.1 Generator Port Settings

For models with generator port, the port can be connected to the generator, smart load, or micro-inverter to satisfy customers' diverse needs. Please select the correct settings according to the on-site installation so as to avoid system error.

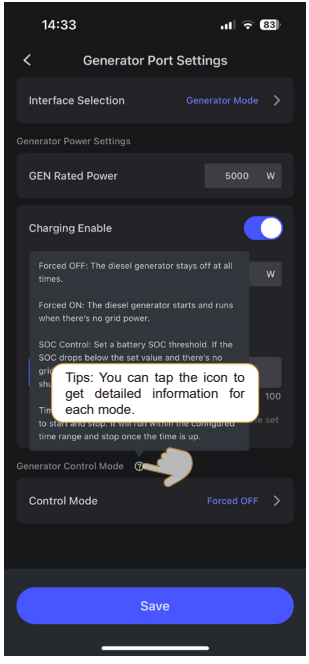
Generator Disconnected

If Generator Disconnected is selected, the generator port can not be used.



Generator Mode

If you select Generator Mode, you need to configure the following parameters.

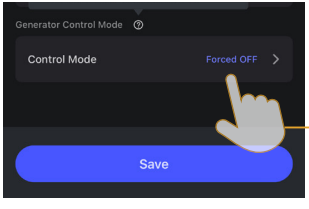


GEN Rated Power: Fill in the rated power of the generator in accordance with the specification. Otherwise system error will be caused.

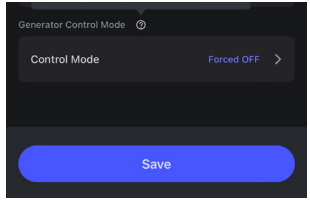
Charging Enable: If charging battery is enabled, when the generator starts, it will charge the battery.

Charging Power: Fill in the charging power. The charging power can not be greater than the GEN Rated Power. The rest power will be used to power the load if any.

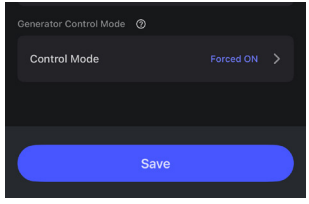
Battery Charge Cut-off SOC: When the battery SOC is greater than the configured battery charge cut-off SOC, the generator stops charging the battery.



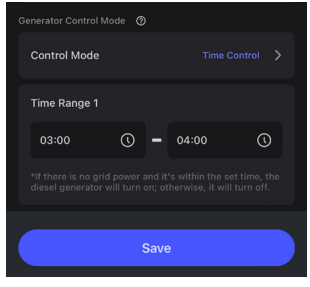
Generator Control Mode: There are four control modes for the generator. You can tap the icon to get detailed instructions for each mode.



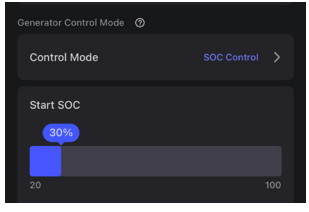
Forced OFF: If you select Forced OFF, the generator will be off all the time.



Forced ON: This mode is valid only if the grid power is not available. If this mode is enabled, the generator will turn on when the grid power is cut off.



Time Control: Set a time range. If there's no grid power and the time is within the set time range, the generator will turn on, otherwise, it will turn off.



SOC Control: Set a minimum battery SOC. When there's no grid power and the battery SOC falls below the minimum battery SOC, the generator will start and stop charging the battery once the charge cut-off SOC reaches.

Smart Load Mode

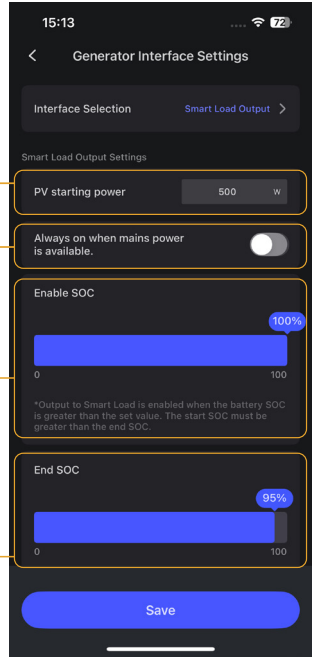
If you connect your load (e.g. heat pump) to the GEN port, please select Smart Load Mode. You can control the smart load by configuring the PV starting power, battery Enable SOC and end SOC.

When the PV generation is greater than the set value and the battery SOC reaches the Enable SOC, the surplus energy will be sent to power the smart load.

If “Always on when mains power is available” is enabled, the smart load will be on when the grid power exists.

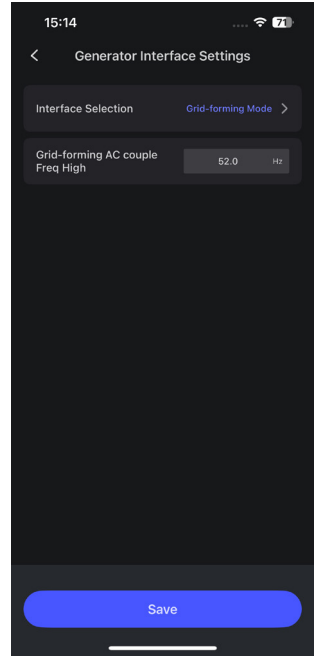
When the PV generation is greater than the set value and the battery SOC reaches the Enable SOC, the surplus energy will be sent to power the smart load. The Enable SOC must be greater than the End SOC.

When the battery SOC reaches the End SOC, the system will stop powering the smart load. The Enable SOC must be greater than the End SOC.



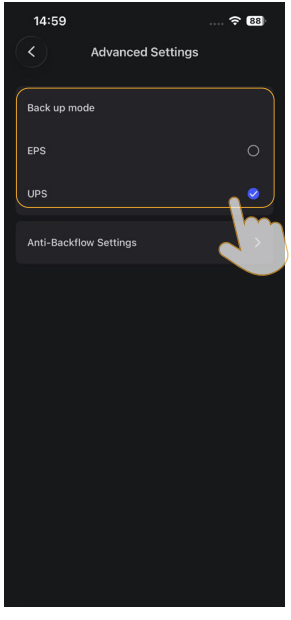
Grid-forming Mode

If a PV inverter is connected to the GEN port, Grid-forming Mode must be selected. The frequency cannot be changed without authorization.

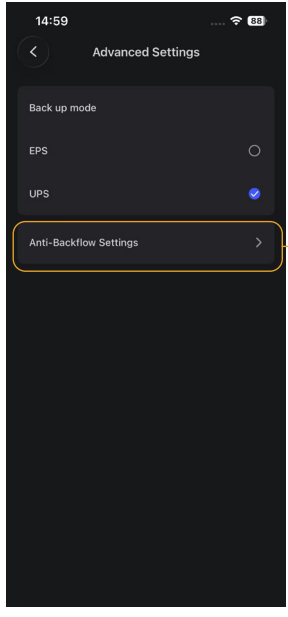


5.4.2 Back-up Mode

On “Advanced Settings” page, you can select the backup mode as needed. The UPS is featured with a rapid grid disconnection detection, with the switching from grid-connected to off-grid operation typically occurring within 10ms. However, certain countries and regions mandate strict disconnection time requirements, often exceeding 100ms. In such cases, the UPS, which has fast disconnection function, must be disabled. For scenarios requiring rapid grid-to-off-grid switching, the UPS function can be activated. The EPS (Emergency Power Supply) function is designed for standard grid connection and disconnection after the UPS function is disabled. It detects grid anomalies in accordance with safety regulations and performs the switch between grid-connected and off-grid operation once the specified delay time is met. The grid anomaly detection and disconnection time for EPS function are generally configurable, with typical settings greater than 20ms. Therefore, it is suitable for countries and regions with stringent regulatory requirements. To meet safety standards, the inverter is configured by default to enable the EPS function. For any required modifications to this setting, please contact and consult a qualified professional installer.



5.4.3 Anti-Backflow Setting ⚠

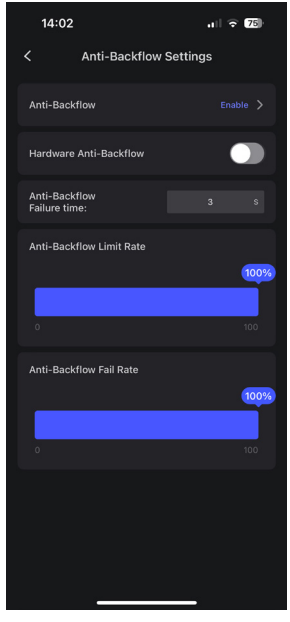


You can tap to set the export limit function. Please see below for more details.

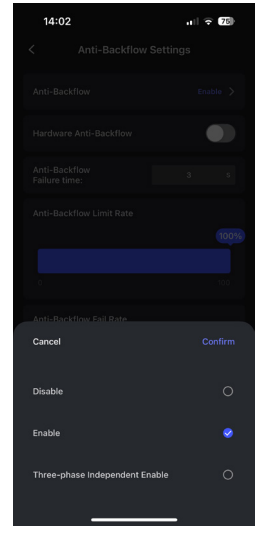
The anti-backflow function mainly limits the current output from the inverter to the grid, thus preventing power from feeding into the grid. In some cases, it is also referred to as export limitation or zero export. The anti-backflow function is a software-based limit. When the output power exceeds the software limit, the inverter will reduce the output power so that it reaches the specified limit within 15 seconds.

Hinen inverters are equipped with a hardware anti-backflow function. If enabled, the inverter will disconnect from the grid within 5 seconds if the output power exceeds the hardware limit.

Notice:
This function requires CTs or meter to be properly installed prior to use.



Anti-backflow function: It is disabled by default. Enabling the anti-backflow function prevents the inverter from feeding power into the grid. If a three-phase system is used, you can select “Three-phase independent Enable” for each phase.



Hardware Anti-backflow: Click the icon to enable or disable this function. The icon indicates that the function is enabled, while the icon indicates it is disabled. If you enable the hardware anti-backflow, the inverter will be disconnected from the grid when the output power exceeds the hardware limit.

Anti-Backflow Failure time: In the event of a malfunction or damage to the meter, the anti-backflow function will fail. Setting an anti-backflow failure time in advance ensures that the device will automatically activate the anti-backflow function after a meter failure. For example, if the anti-backflow failure time is set to 120 seconds, the device will automatically enable the anti-backflow function 120 seconds after the meter fails.

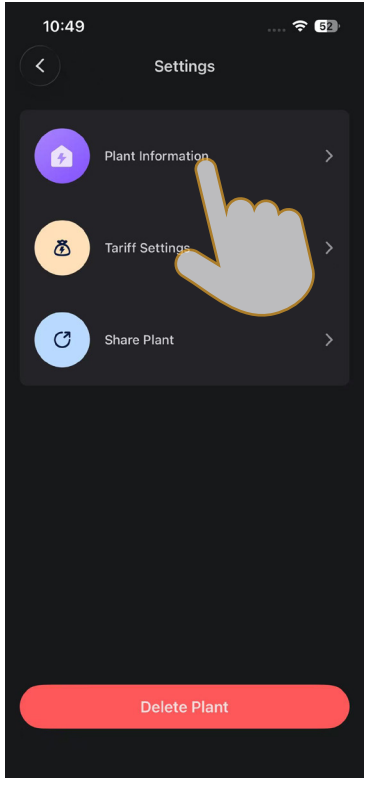
Anti-backflow Limit Rate: Once you enable the anti-backflow function, you can set this parameter to limit the power fed to the grid, the value range of which is between 0 and 100%. Take a 6kW inverter as an example. If the anti-backflow limit rate is set to 60%, the inverter will feed power to the grid at a maximum of 6kW*60%=3.6kW.

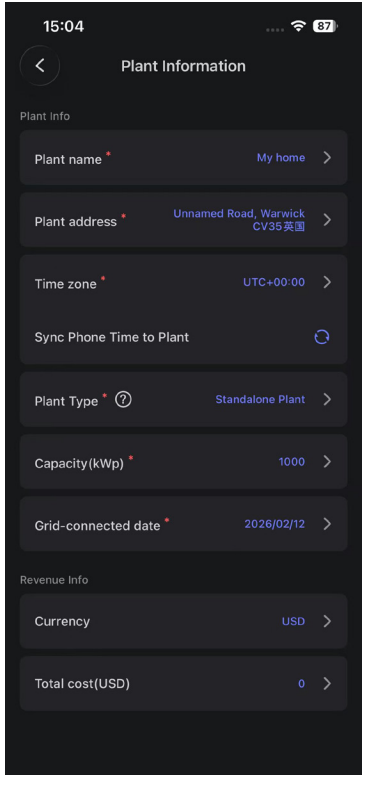
Anti-backflow Fail Rate: In cases where the meter or CT fails, this setting determines the percentage of power the inverter can feed into the grid. Take the 6kW inverter as an example. If the Anti-backflow Fail Rate is set to 60%, the inverter will feed power to the grid at a maximum of 3.6kW when the Meter or CT fails.

6. Plant Setting and Sharing

6.1 Plant Setting

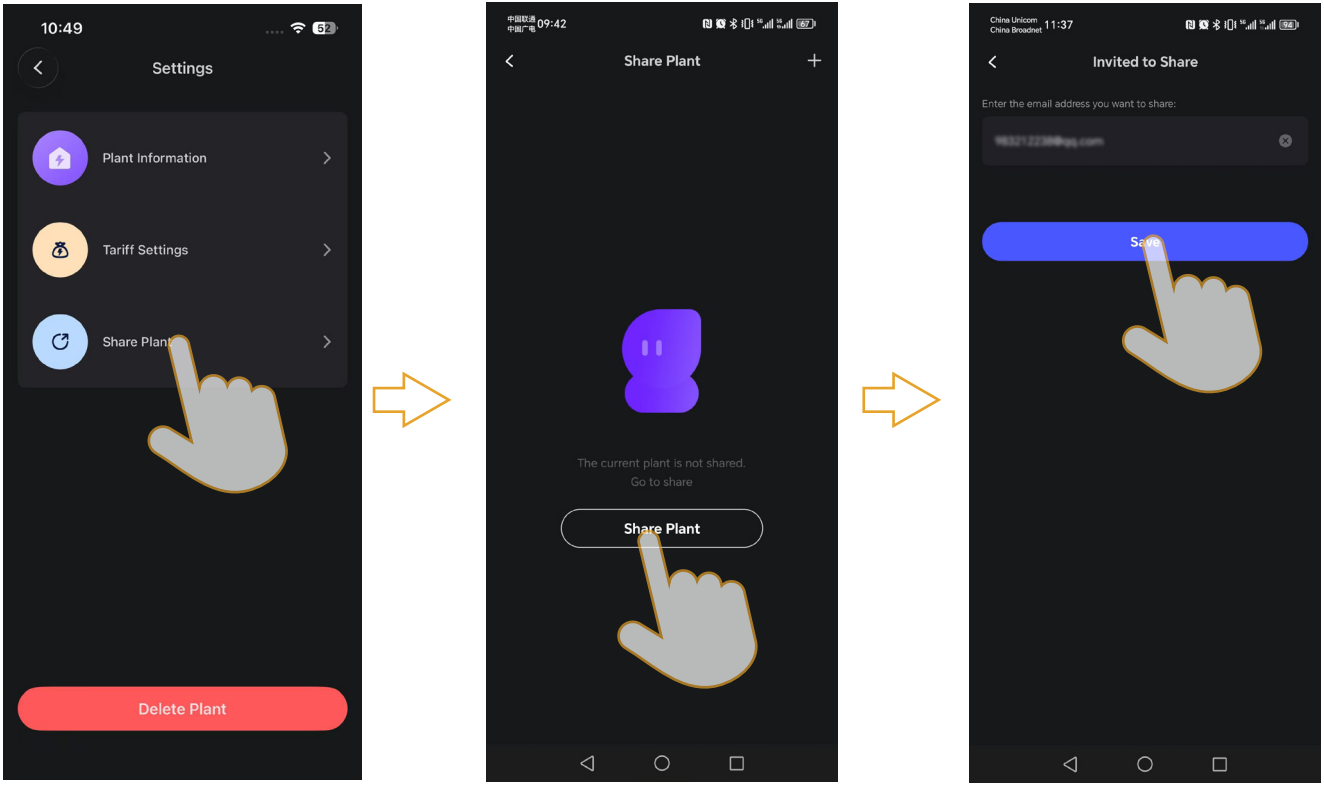
Tap the "Setting" button to enter the setting interface, where you can view and set up the plant information, as shown in the following figure.





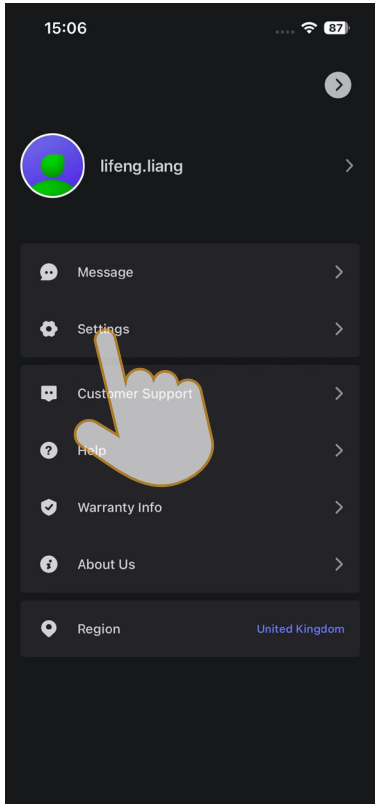
6.2 Plant Sharing

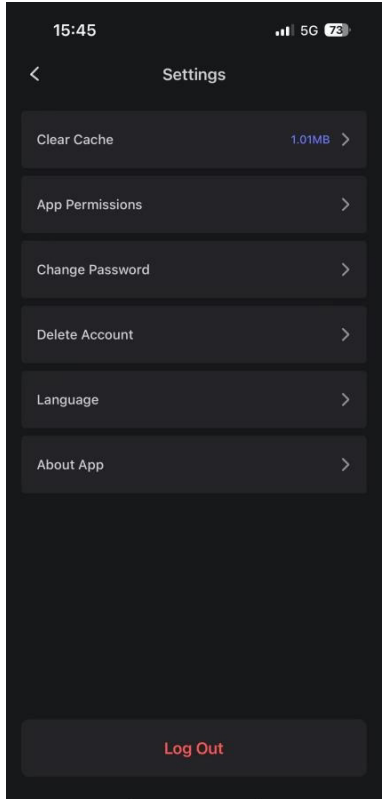
Tap “Share Plant” to enter the plant sharing page. Enter the email address you would like to share and you can manage the plant with your family and friends.



7. Others

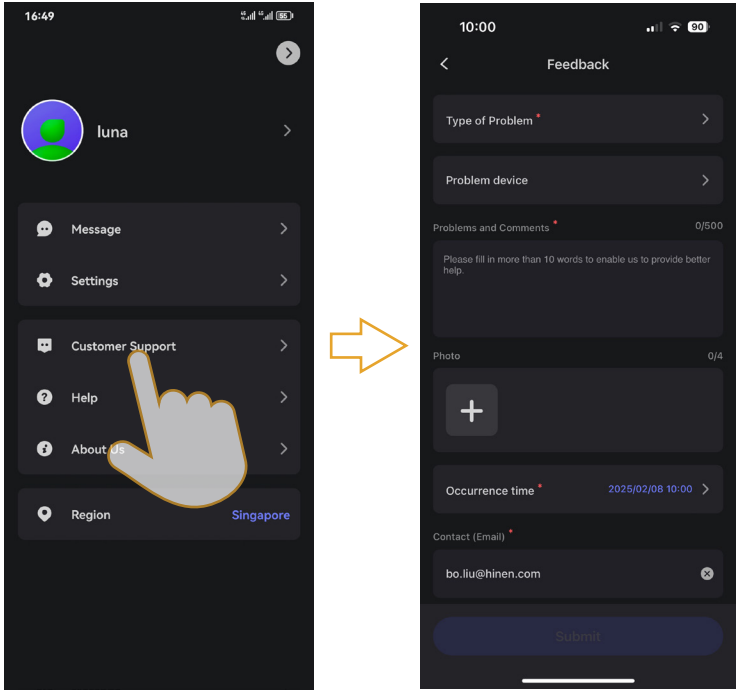
Tap your avatar to check message and App settings, where you can check app permissions, change password, delete account, select language, view the App version and log out.





7.1 Customer Support

You can give feedback regarding the products to help us improve further.



7.2 Help

Tap “Help” to get the answer of frequently asked questions, which can help you solve the problems in a timely manner.