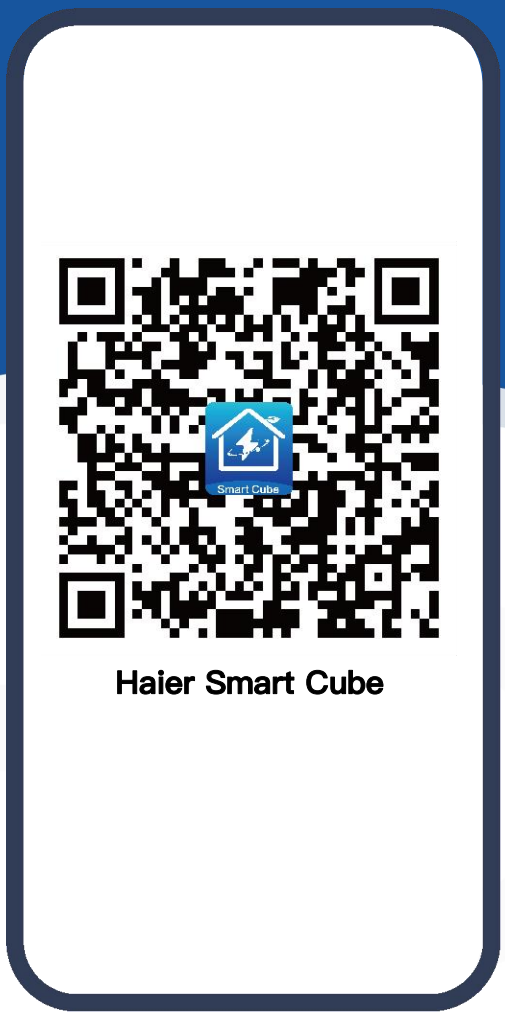
Haier

System Commissioning Guide

Haier Smart Cube



App Store

Google Play

Haier Smart Cube

• Please read it carefully before use

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Overview

Introduction

This document principally covers how to use the Haier Smart Cube App and the WEB version or MAC and Windows versions of Nahui Cloud.

Readers

This document is intended for:

- Trained and qualified installation personnel
- Technical support engineer

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	Definition
Danger	Danger. Failure to comply may result in death or serious personal injury.
Warning	Warning. Failure to comply may result in minor injury or property damage.
Caution	Caution. Failure to comply may result in equipment damage and property loss.
Tips	Important or key information, and supplementary operation tips.

Chapter 1 Commissioning for System Creation

Tips

- Please use the App version of Haier Smart Cube to create new system for the device. This document takes version 1.3.0 as an example to describe related operations.
- Please make sure that the device is powered on before starting operation.

1.1 App Download

Tips

Mobile OS requirements: Android 6.0, iOS 12.0 or later versions.

Download the App in the following two ways.

1.2 Installer Account Registration

App operation

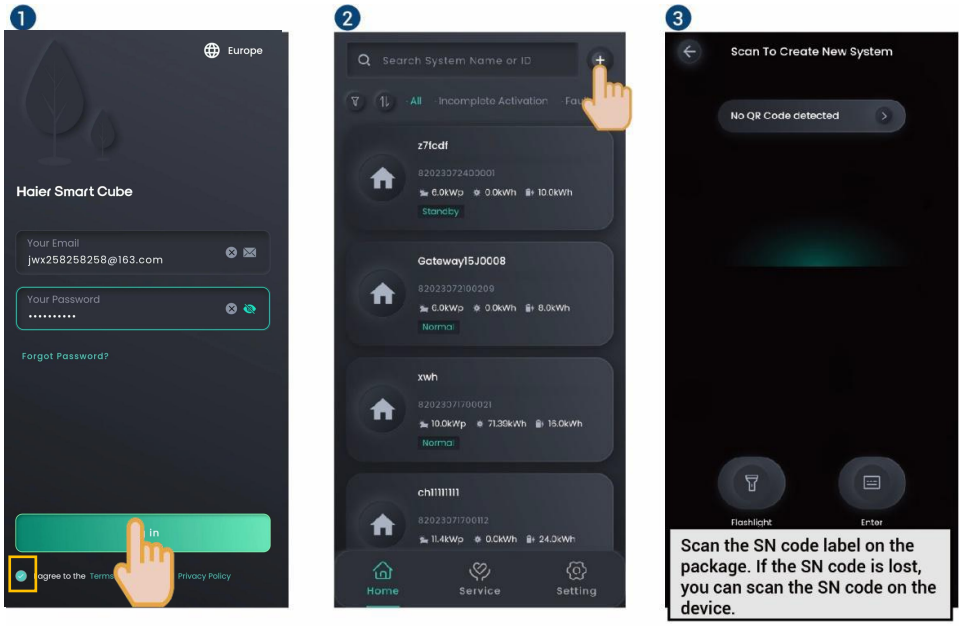
Please contact Haier Europe at service-nahui@haier-europe.com to request an installer account.

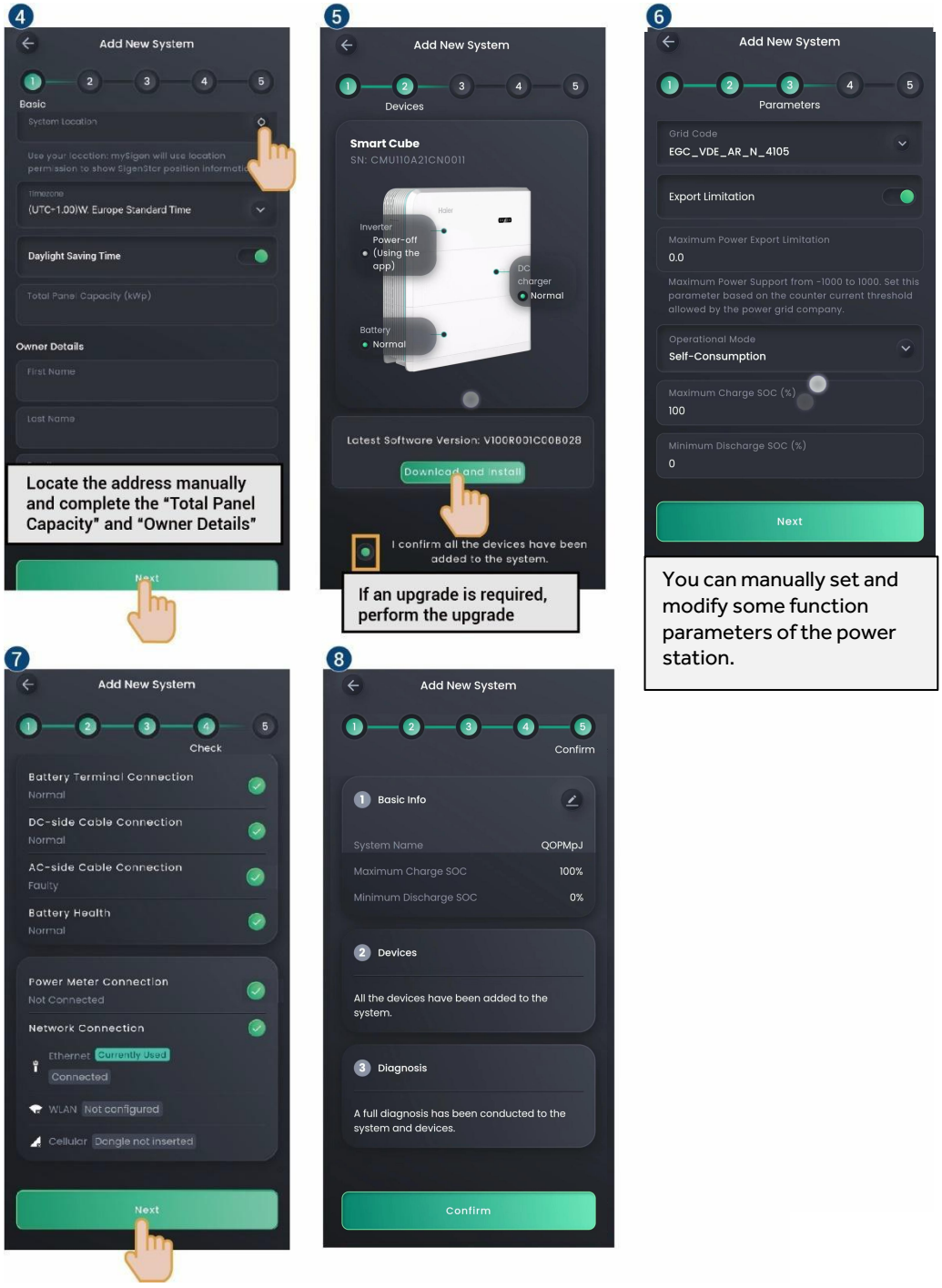
1.3 System Creation for Device

Tips

Do not use only WLAN communication for creating the new system. To use the WLAN, install CommMod or RJ45 network cables at the same time.

1. Click in the upper right corner of "Home" page to enter the interface of the new power station. Complete the station building operation, and the App will push the account number to the user's e-mail box.





2. Kindly inform the account holder to check the "Nahui Cloud" email within 24 hours and complete the account activation.

Chapter 2 Daily O&M of Power Station Equipment

Tips

- The screenshots in the document are for illustrative purposes only, and there may be differences in the interface in different periods. Please refer to the actual interface.

2.1 Connotation of Signs

Sign	Description	Sign	Description
	Search icon. Enter keywords in the input box to search for power stations, etc.		Increase/decrease button. Click to adjust the time
	Filter button Click to filter by criteria		Enlarge button. Click to enlarge the interface
	Back button Click to return to the main interface		Expand icon. Click to view more information or set up more parameters
	More button. Click to view more information or set up more parameters		Collapse/expand icon
	OFF/ON button Click to switch settings		To-choose box Click To select. Then, different meanings will be filled with different colors, such as To Grid
	Status indicator after inspection: Inspection succeeded		Status indicator after inspection: Inspection failed
	Equipment status indicator: “Normal” or “Standby”		Equipment status indicator: “Power-off”
	Equipment status indicator: “Offline”		Equipment status indicator: “Faulty”

2.2 View the Operation Information

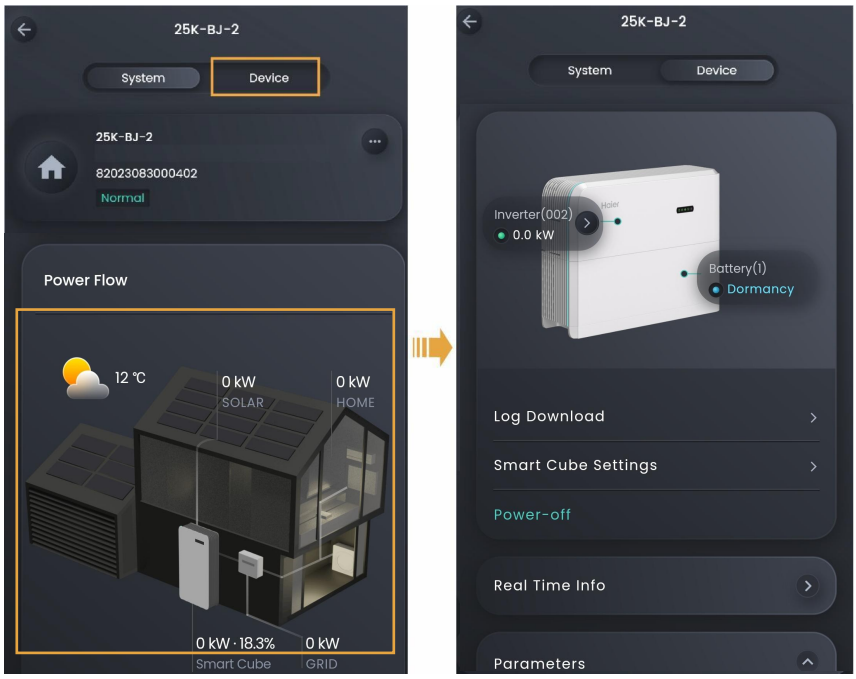
Click "Home" to view the status of all power stations; click in the upper left corner to filter the power stations in various states.

2.2.1 Power station information

Click the name of the power station to inquire about on the "Home" screen to view the detailed energy yield and revenue, etc., of the power station.

2.2.2 Device information

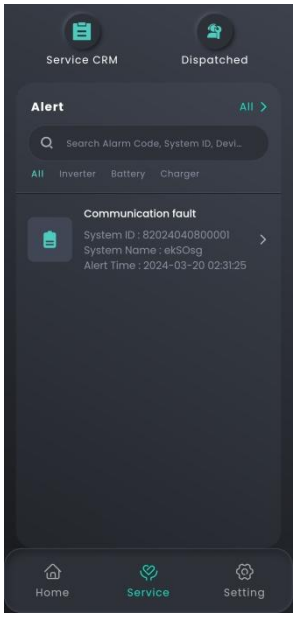
1. Tap the name of the power station where the device resides on the “Home” screen.
2. Click the device on the energy flow chart in the “System” tab or click the “Device” tab to view the device information.



2.3 Alarm Information

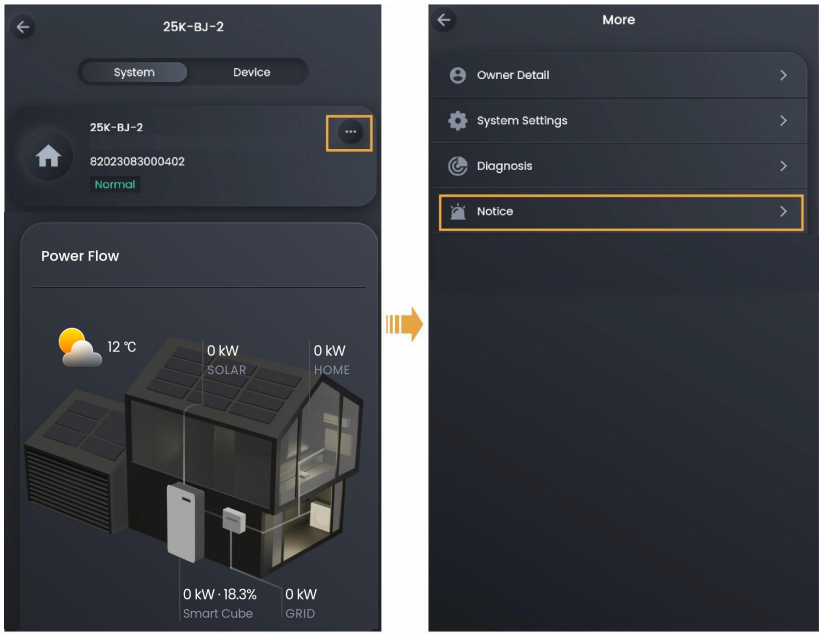
2.3.1 All plant alarms

Click “Service” to view the alarm information of all power stations.



2.3.2 Specific Plant alarm

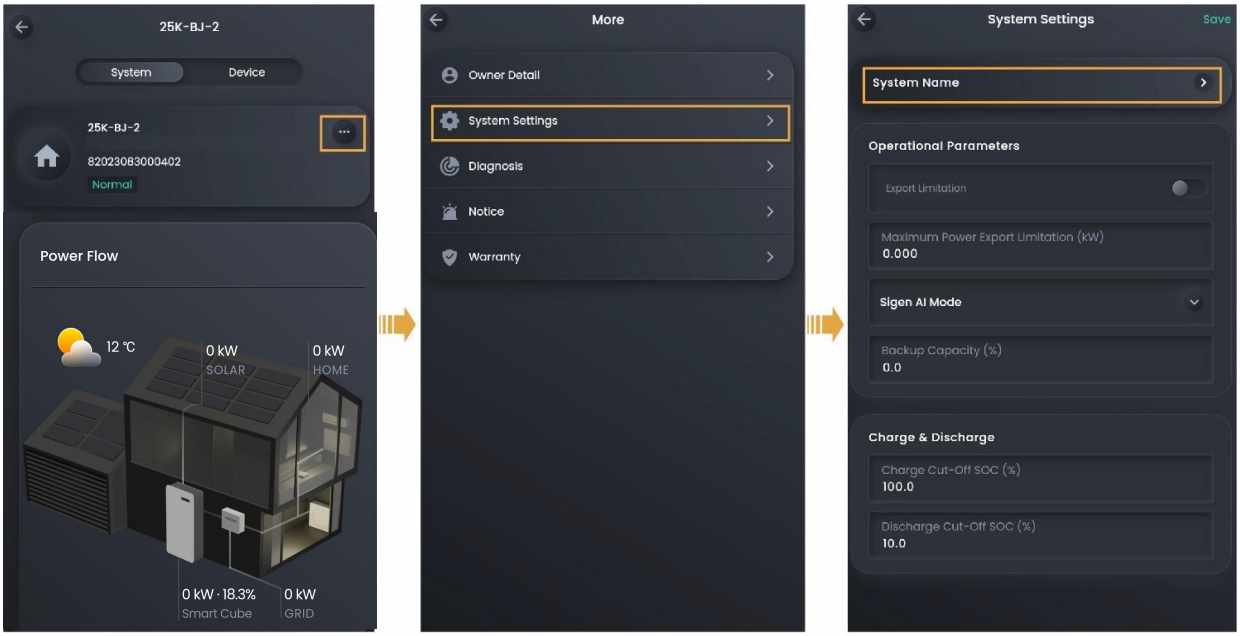
1. Tap the name of the power station to query on the "Home" screen.
2. Click behind the station name, and tap "Notice" to query the alarm of this station.



2.4 Power Station Parameter Setup

2.4.1 Change the plant name

1. Tap the name of the power station to set up on the "Home" screen.
2. Click behind the station name, and tap "System Settings" → "System Name" to change the name.



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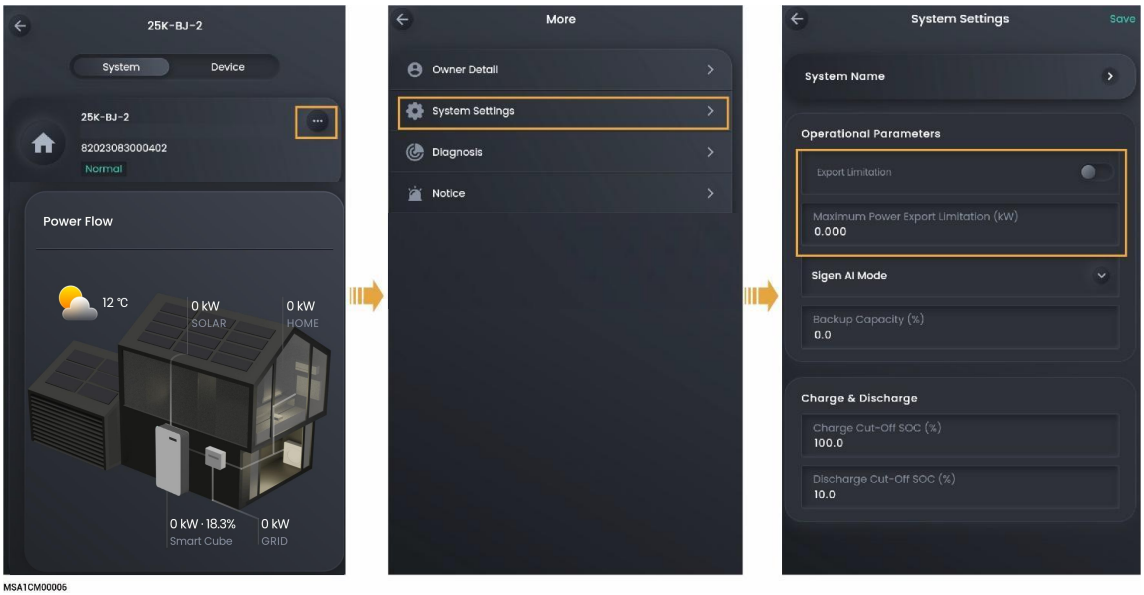
2.4.2Export Limitation parameters setup

Tips

- At the beginning, the installer sets the export limitation parameters based on user's requirements.
- If you need to change the parameters later, please manually set the up the export limitation parameters following the local laws and regulations and power grid agreements.

1. Tap the name of the power station to set up on the "Home" screen.
2. Click behind the station name, and tap "System Settings" → "Export Limitation" to set up the parameters.



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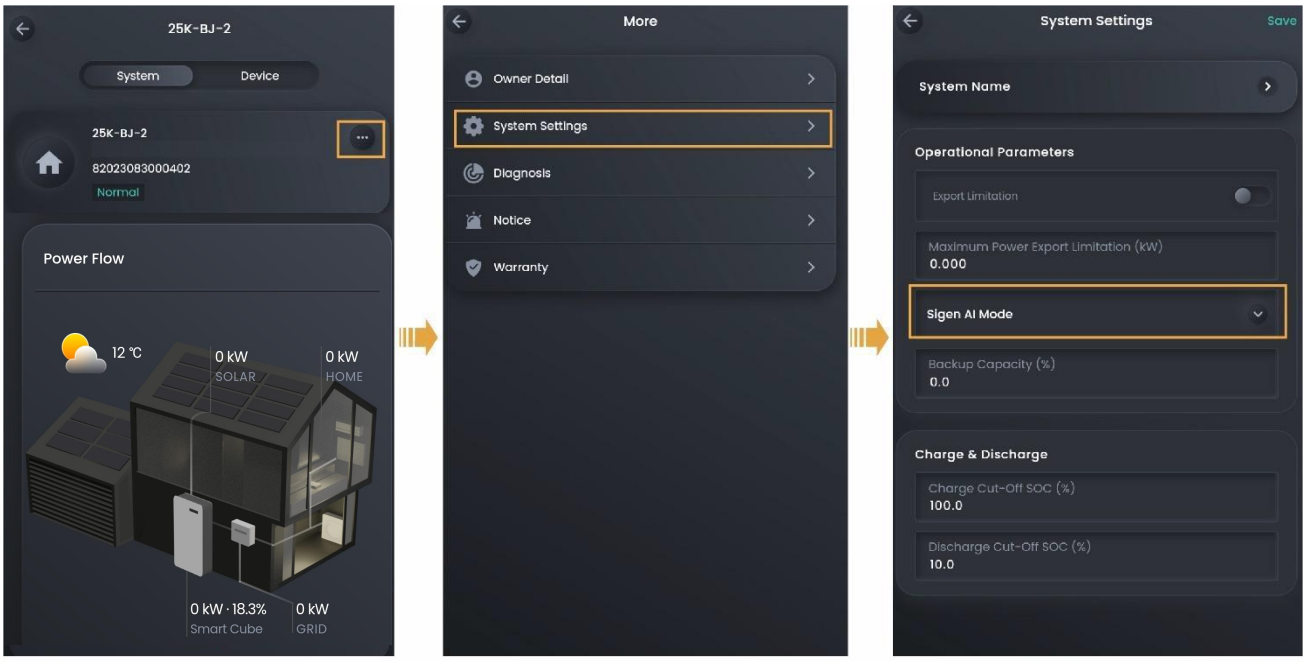
2.4.3 Set the energy storage operating mode

Tips

The energy storage system has three operating modes, namely, "AI Mode", "Self-consumption mode", "Fully Fed to Grid". The "AI Mode" is recommended.

1. Tap the name of the power station to set up on the "Home" screen.
2. Click behind the station name, and tap "System Settings" to change the operating mode.



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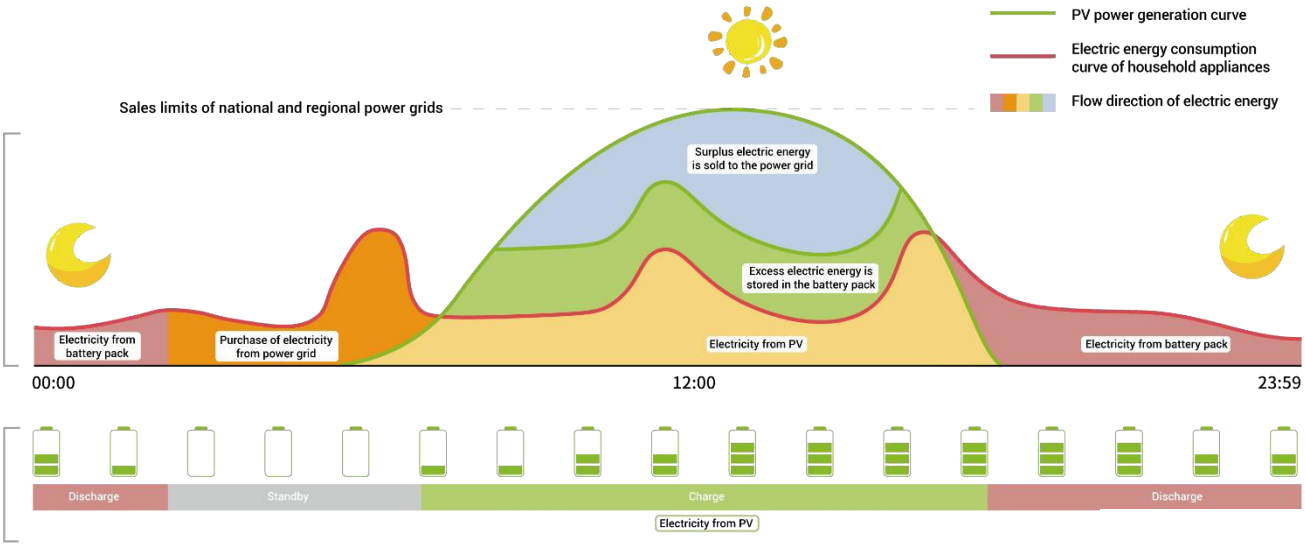
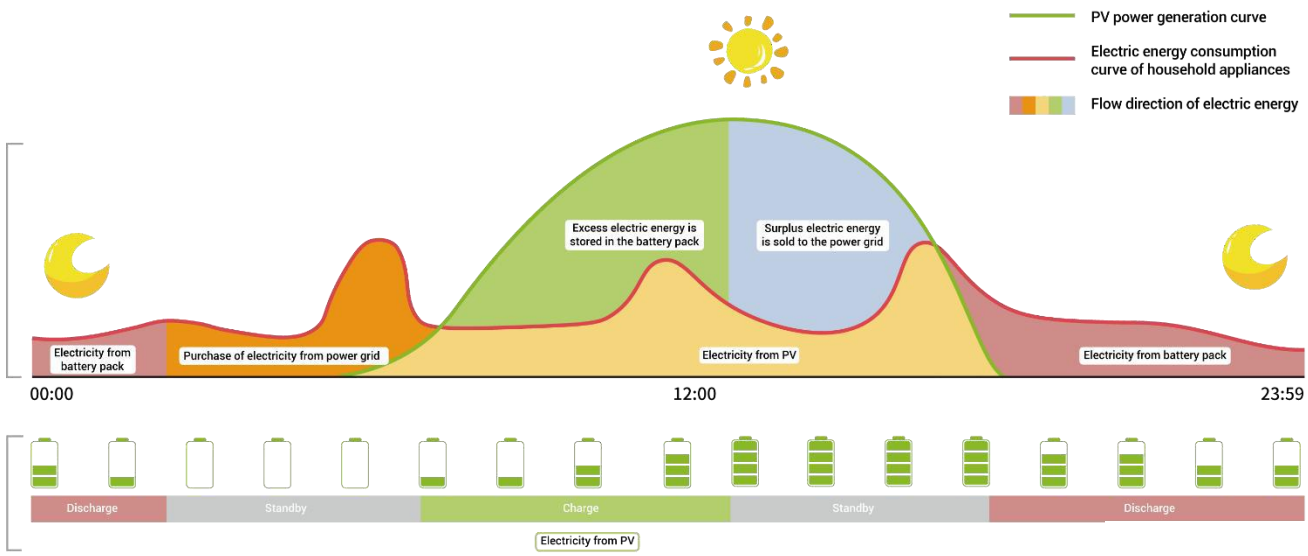
AI Mode

By recording the peaks and troughs of users' consumption habits and local electricity prices for one week, AI mode can customize smart electricity solutions to maximize savings for customers.



Self-consumption mode

The excess photovoltaic power output is stored in the battery. When the photovoltaic power generation is insufficient or there is no photovoltaic power generation at night, electric energy is released from the battery for load operation, so as to improve the percentage of electricity generated for in-house use and the self-sufficiency rate of household energy, thus saving electricity costs.



Fully Fed to Grid

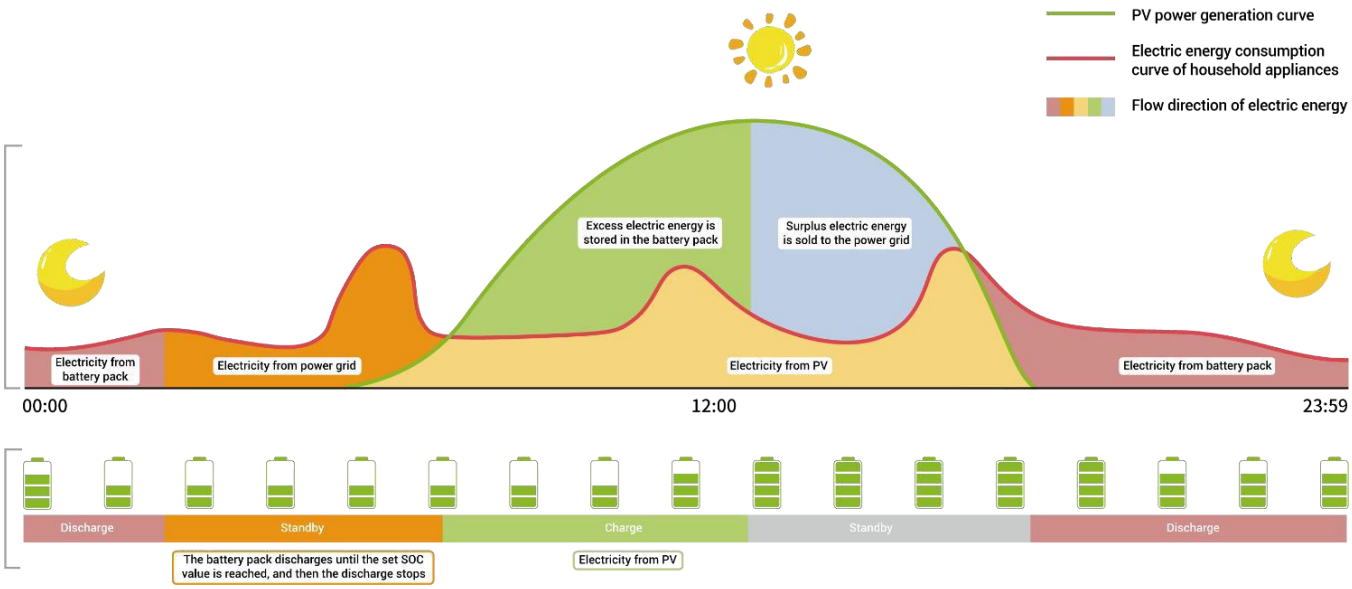
The PV power generation can be maximized for sale to the power grid. During the daytime when the PV-generated power is greater than maximum output capacity of the inverter, the

inverter stays at maximum output while the excess electricity is stored in batteries; when the PV-generated power is lower than maximum output capacity of the inverter or when no PV power is generated at night, the batteries are discharged to ensure that the inverter can maximize the output.

Backup Reserve

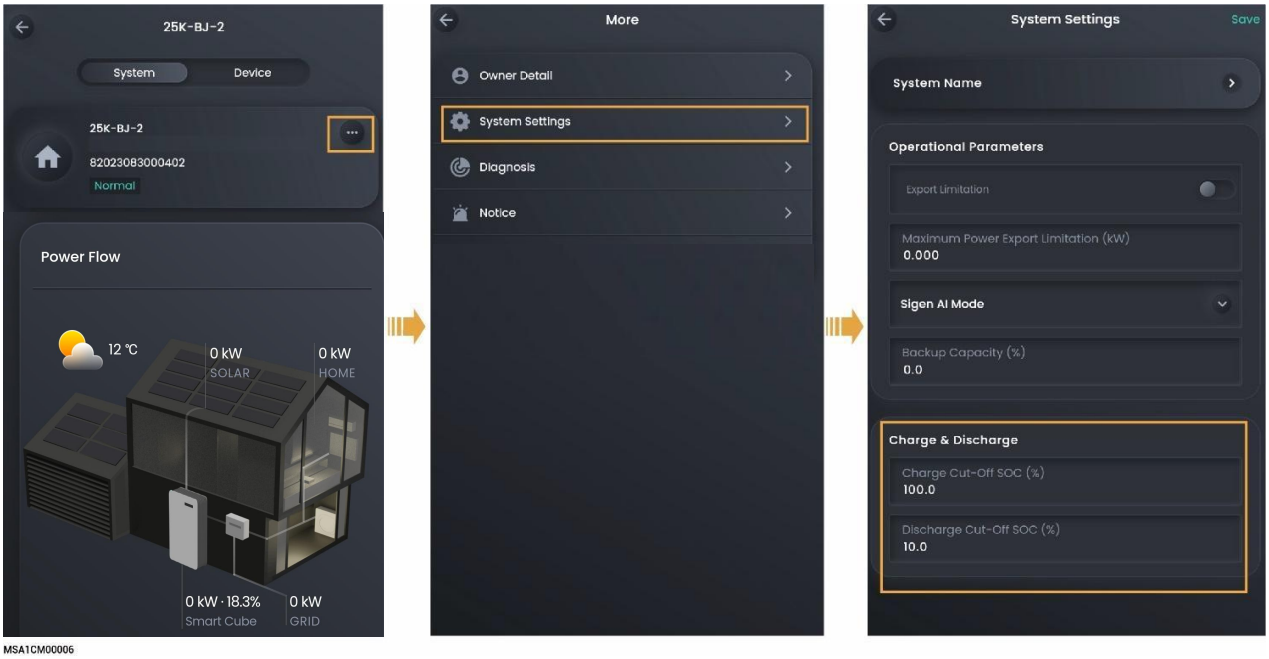
If there is a Gateway in the network, you can manually set the "Backup Reserve" value in Haier Smart Cube App. When the grid is connected, the battery stops discharging when the set backup SOC is reached; when the grid is powered down, the battery power from the backup can be used.

Example: Self-Consumption Mode involves backup SOC.



2.4.4 Charge & discharge settings

1. Tap the name of the power station to set up on the "Home" screen.
2. Click behind the station name, and tap "System Settings" → "Charge &Discharge" to set up the charge & discharge.



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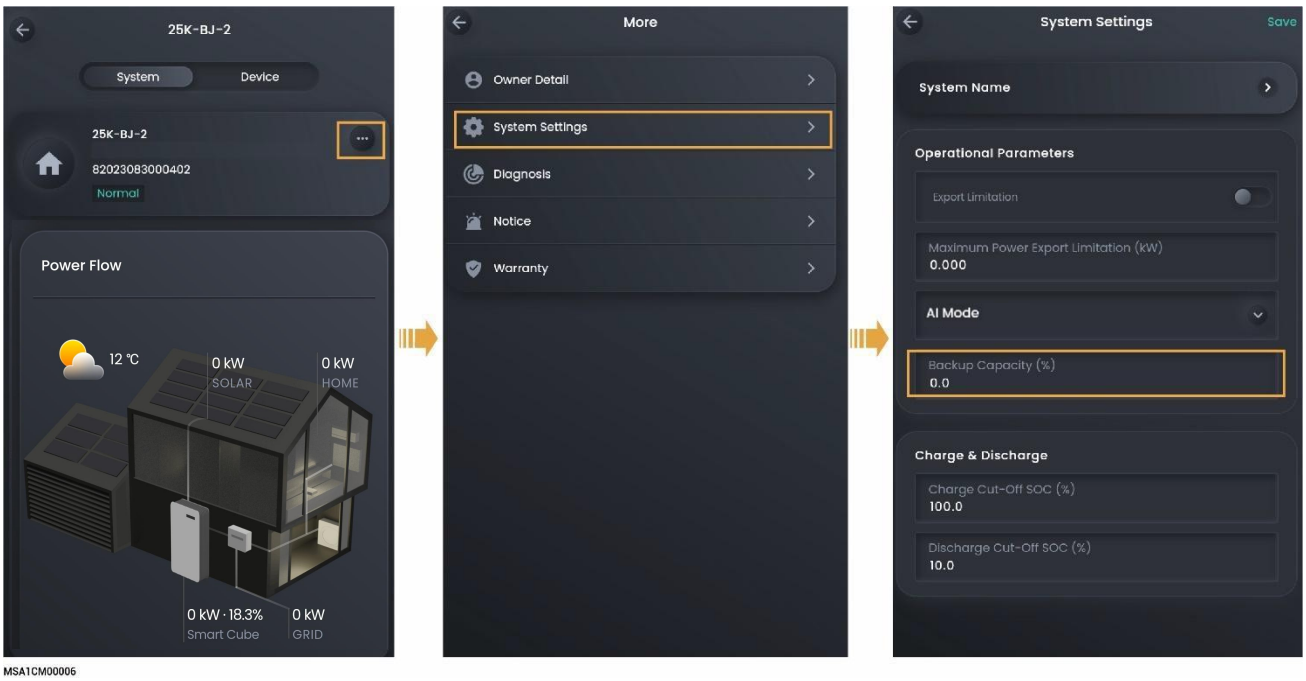
SN.	Parameter name	Description
1	Charge Cut-off SOC	Set the capacity at which the battery pack stops charging.
2	Discharge Cut-off SOC	Set the capacity at which the battery pack stops discharging. • The permissible range is 0%-20%, but you are advised not to set this parameter to 0 to avoid irreversible attenuation caused by the battery pack not being charged in time. • In backup networking, "Backup Capacity" is preferred; in non-backup networking, this parameter is preferred.

2.4.5 Reserve capacity setup

Tips

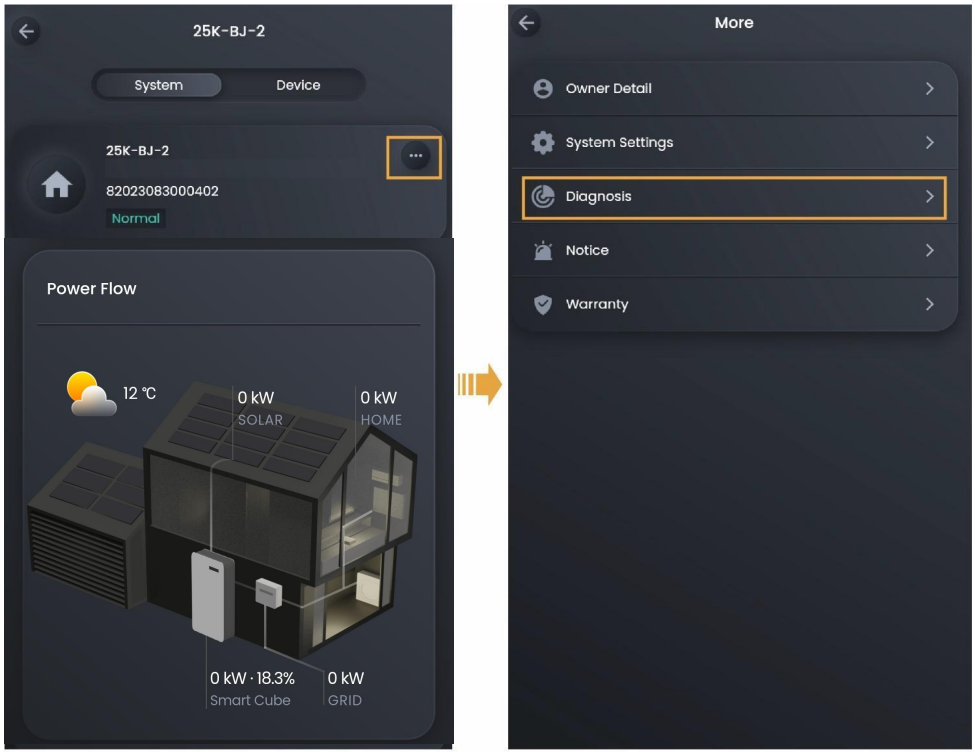
- When there is a Gateway in the networking, the backup capacity parameter can be set up.
- In grid-connected scenarios, the battery pack will no longer be discharged when it is discharged to the backup capacity level. In off-grid scenarios, the battery pack supplies power to the electrical equipment and stops discharging when it reaches the set "Discharge Cut-off SOC".
- Users set this manually depending on the region's power failure frequency and the time away from home. You are advised not to set this parameter to 0 to avoid irreversible attenuation caused by the battery pack not being charged in time.

1. Tap the name of the power station to set up on the "Home" screen.
2. Click behind the station name, and tap "System Settings" → "Backup Capacity" to set the backup capacity.



2.4.6 Power Station Diagnosis

1. Tap the name of the power station to set up on the "Home" screen.
2. Click behind the station name, and tap "System Settings" → "Backup Capacity" to detect.

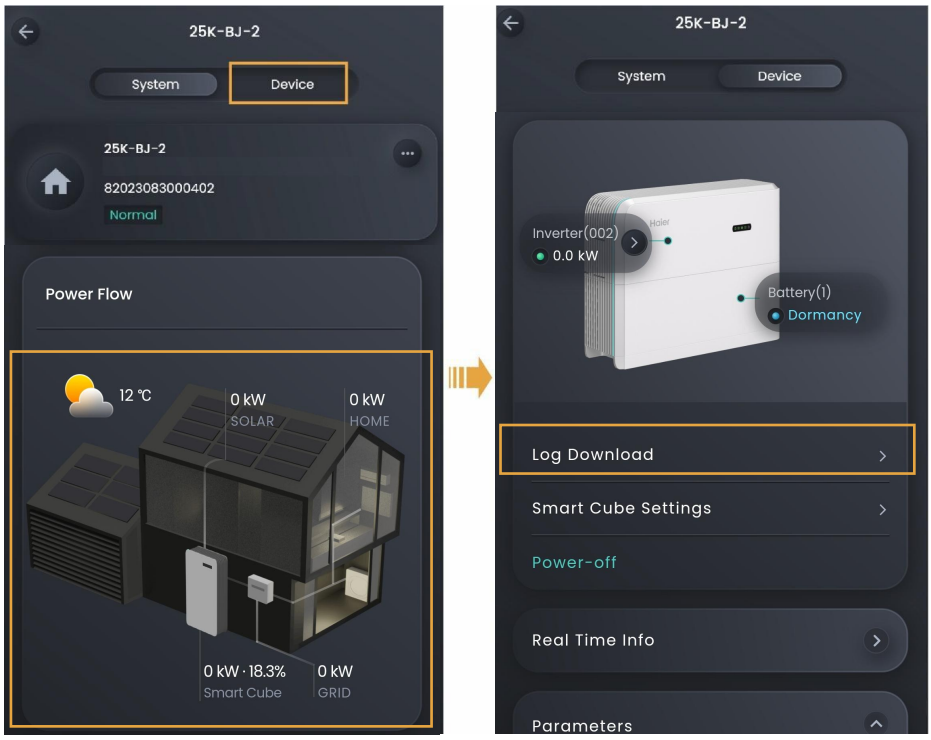


2.5 Device Parameters Setup

2.5.1 Log download

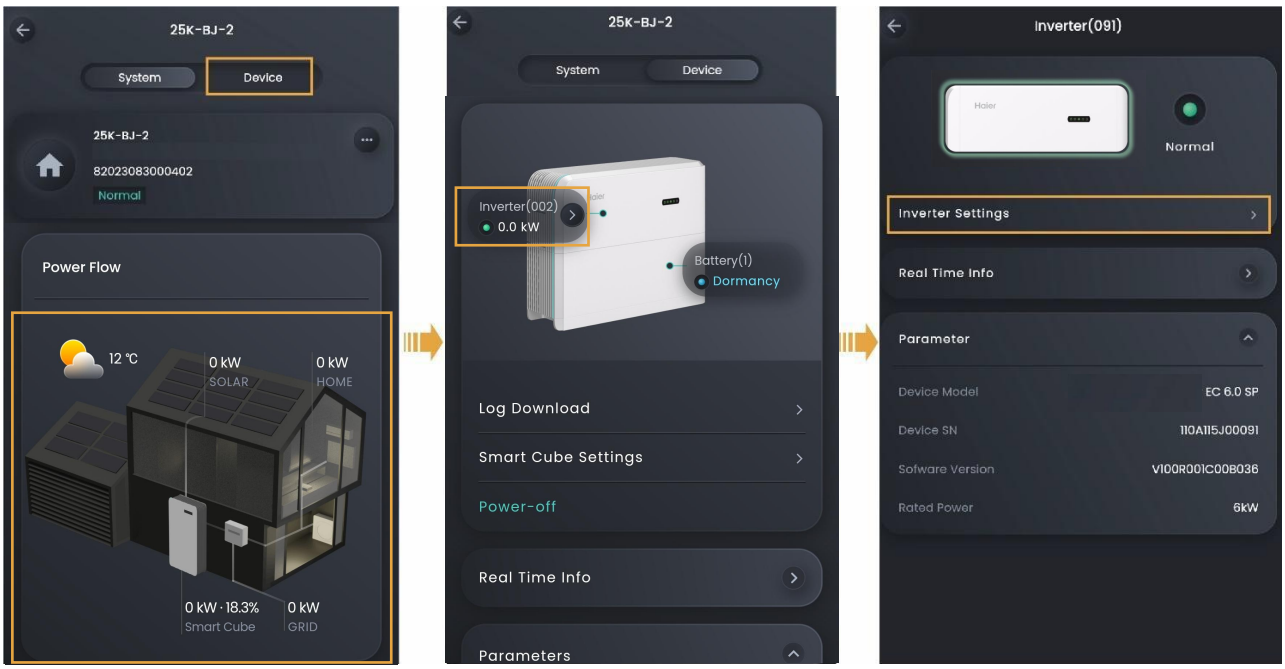
> **Tips**
>
> When a device malfunctions and you need to locate the problem, you can download device logs for analysis.

1. Tap the name of the power station where the device resides on the "Home" screen.
2. Click the device on the energy flow chart in the "System" tab or click the "Device" tab.
3. Click "Log Download" to download.



2.5.2 Inverter parameters setup

1. Tap the name of the power station where the device resides on the “Home” screen.
2. Click the device on the energy flow chart in the “System” tab or click the “Device” tab.
3. Click “Inverter” to enter the inverter interface.



Power

Code	Parameter name	Description
1	Fixed value adjustment of active power	Adjust the active power output of the device based on the set fixed value.
2	Percentage active power adjustment	Adjust the active power output of the device based on the set percentage.
3	Fixed value adjustment of reactive power	Adjust the reactive power output of the device based on the set fixed value.
4	Reactive power Q/S regulation	Adjust the reactive power output of the device based on the ratio of the set reactive power to the apparent power of the device.
5	Power factor adjustment	Adjust the reactive power output of the device based on the set power factor.
6	Active power gradient	Set the speed of active power scheduling.
7	Reactive power variation gradient	Set the speed of reactive power scheduling.
9	Insulation impedance threshold	To protect device security, the device cannot run when it detects that the actual insulation impedance output by the PV array to the ground is lower than the value set in this parameter.

Frequency Setting

SN.	Parameter name	Description
1	Overfrequency Derating Enable	When , the output power of the device will be limited if the grid frequency is greater than the trigger value.

Voltage Protection

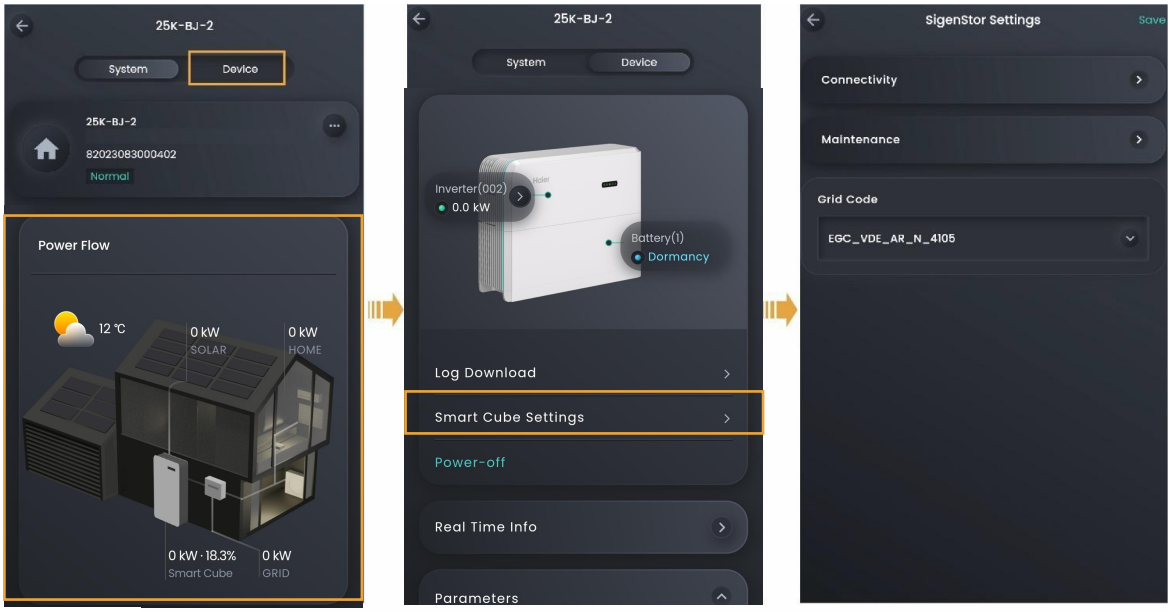
Code	Parameter name	Description
1	Level-N Overvoltage Protection Threshold	Set the level-N overvoltage protection value of the grid voltage. When the actual voltage is greater than the set protection value and the set protection time is elapsed, the device alarm will be triggered; otherwise, the alarm will be cleared.
2	Level-N Overvoltage Protection Duration	Set the level-N overvoltage protection time for grid voltage.
3	Level-N Undervoltage Protection Threshold	Set the level-N undervoltage protection value of the grid voltage. When the actual voltage is smaller than the set protection value and the set protection time is elapsed, the device alarm will be triggered; otherwise, the alarm will be cleared.
4	Level-N Undervoltage Protection Duration	Set the level-N undervoltage protection time for grid voltage.
Note: N represents 1-3. The settable parameters of "Voltage Protection" are associated with "Grid Code"; the parameters that can be set are based on the actual screen.		

Frequency Protection

Code	Parameter name	Description
1	Level-N Overfrequency Protection Threshold	Set the level-N overfrequency protection value of the grid voltage. When the actual voltage is greater than the set protection value and the set protection time is elapsed, the device alarm will be triggered; otherwise, the alarm will be cleared.
2	Level-N Overfrequency Protection Duration	Set the level-N overfrequency protection time for grid voltage.
3	Level-N Underfrequency Protection Threshold	Set the level-N underfrequency protection value of the grid voltage. When the actual voltage is smaller than the set protection value and the set protection time is elapsed, the device alarm will be triggered; otherwise, the alarm will be cleared.
4	Level-N Underfrequency Protection Duration	Set the level-N underfrequency protection time for grid voltage.
Note: N represents 1-3. The settable parameters of "Frequency Protection" are associated with "Grid Code"; the parameters that can be set are based on the actual screen.		

2.5.3 Smart Cube settings

1. Tap the name of the power station where the device resides on the “Home” screen.
2. Click the device on the energy flow chart in the “System” tab or click the “Device” tab.
3. Click “Smart Cube Settings” to enter the setting interface.



Change the type of network connection

Click “Connectivity” to change the network connection type as required.

Tips

- Before activating the WLAN communication, ensure that an antenna is installed on the device.、
- Please make sure that CommMod is installed on the device before activating the 4G communication.
- It is recommended to use FE and WLAN for communication. CommMod users must top up their own 4G data plan after a period of 2 years.

Historical Information Maintenance

Click “Maintenance” to clear the historical data.

Tips

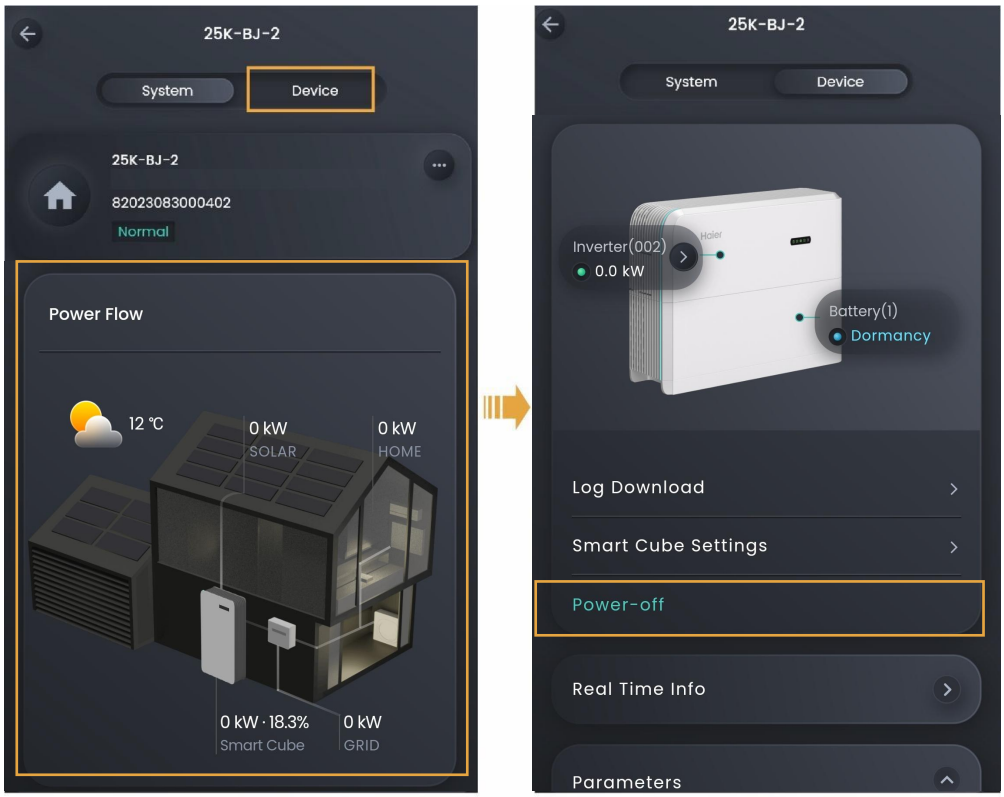
- Run Reset to restart the device.
- Run the “Erase All Content” command to clear the 5-minute performance data, alarms, and hour-day-month-year energy yield. Exercise caution when performing this operation.

Change the power grid standard code

Click “that you can change it remotely,that you can change it remotely.

2.5.4 Equipment Power-on/Power-off

1. Tap the name of the power station where the device resides on the “Home” screen.
2. Click the device on the energy flow chart in the “System” tab or click the “Device” tab.
3. Click “Power-off” or “Power-on” to switch the device on or off.



Chapter 3 Others

3.1.1 Change password

Tap “Forgot Password” on the login screen to reset the password.

3.1.2 Change language

Click “Setting” → “App Setting” → “Language” → “Select Language” to change the language.

3.1.3 Change nickname

Click “Setting” and click at the top of the screen to change the “Nickname”.

3.1.4 Change the Interface Style

Click “Setting” → “App Setting” → “Dark Mode” → “Select Style” to change the style.

3.1.5 Upgrade the Haier Smart Cube software

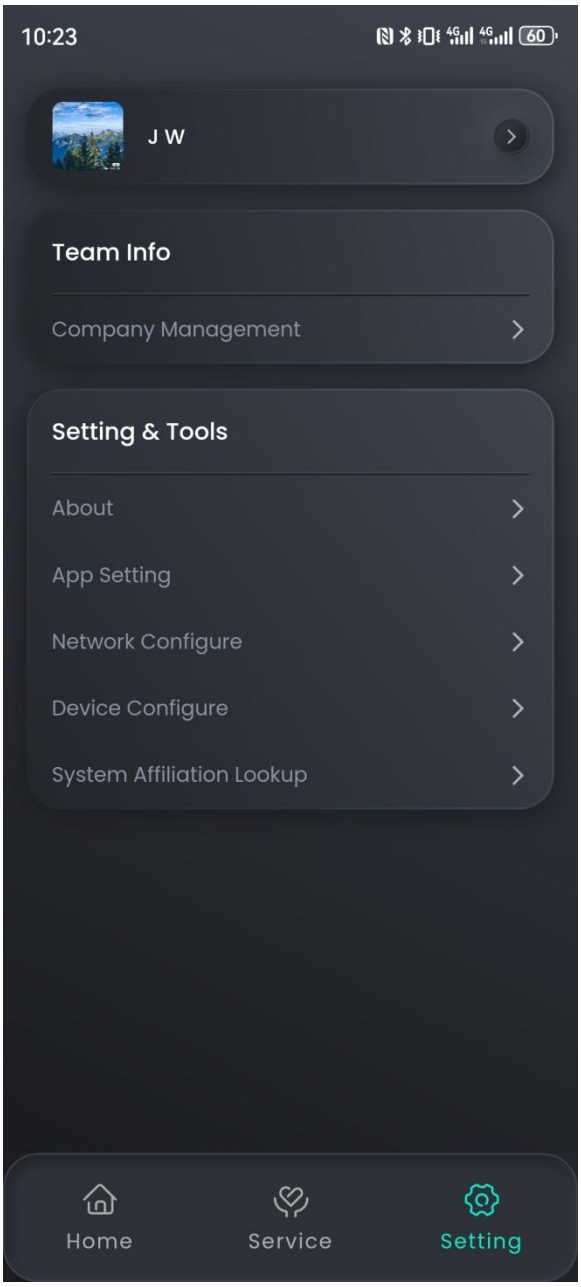
Tips

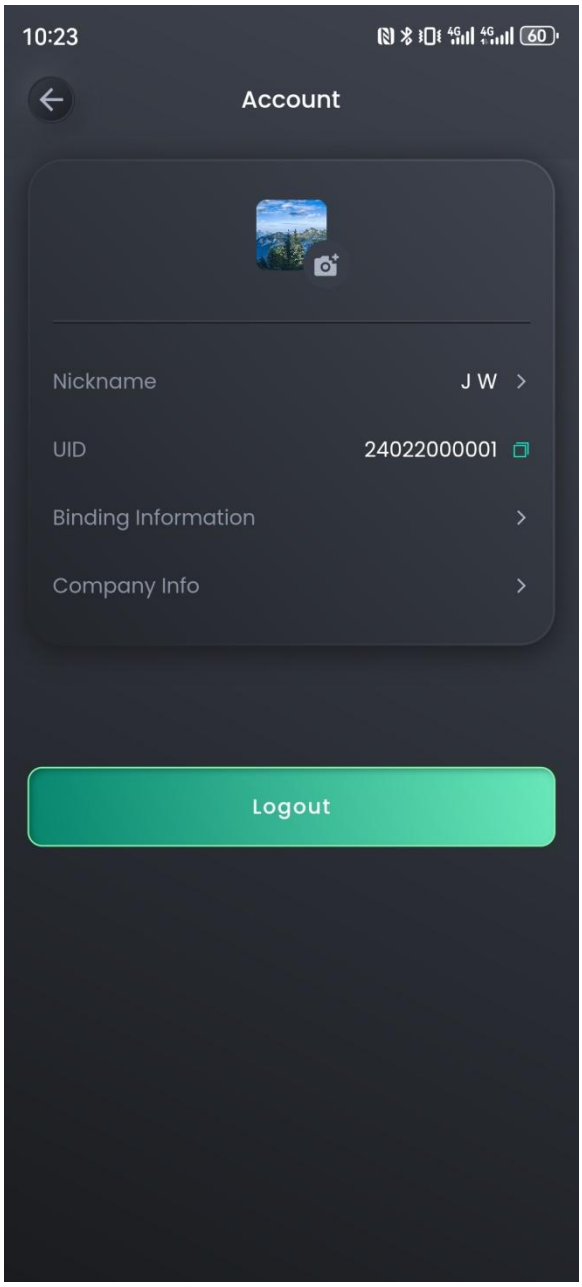
> For best compatibility and performance, Haier Smart Cube App, Nahui Cloud's MAC, and Windows app versions are recommended to be upgraded regularly. Skip this section for the web version.

Click “Setting” → “About” → “Version Update” to upgrade the App.

Chapter 4 Exit the Account

Click "Setting", click *at the top of the screen, and tap "Log out".*

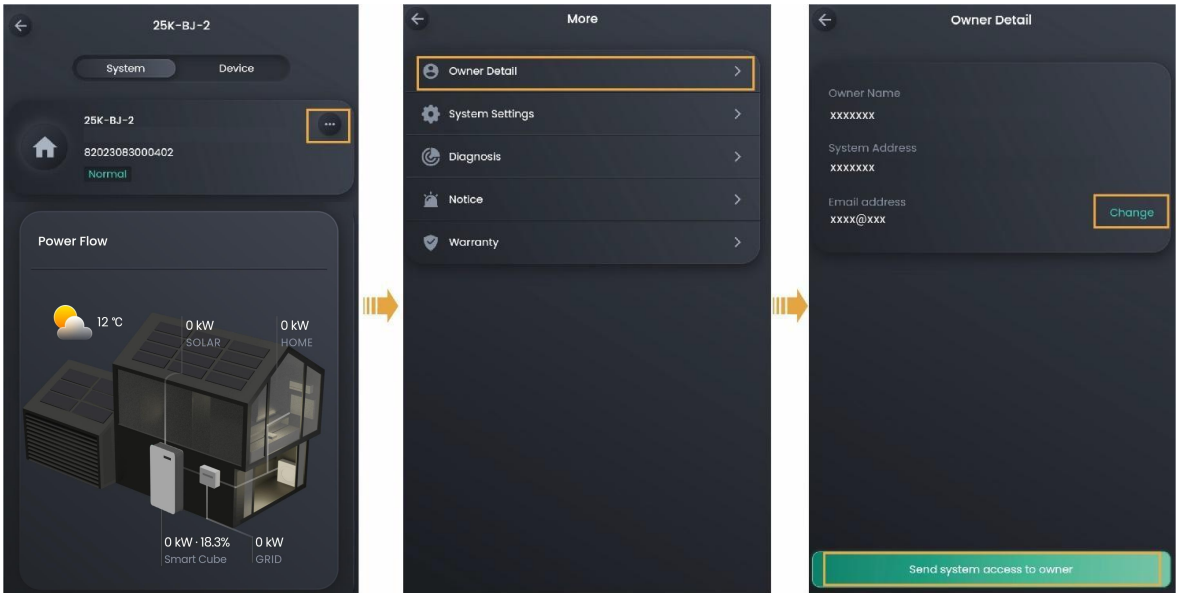




Chapter 5 FAQS

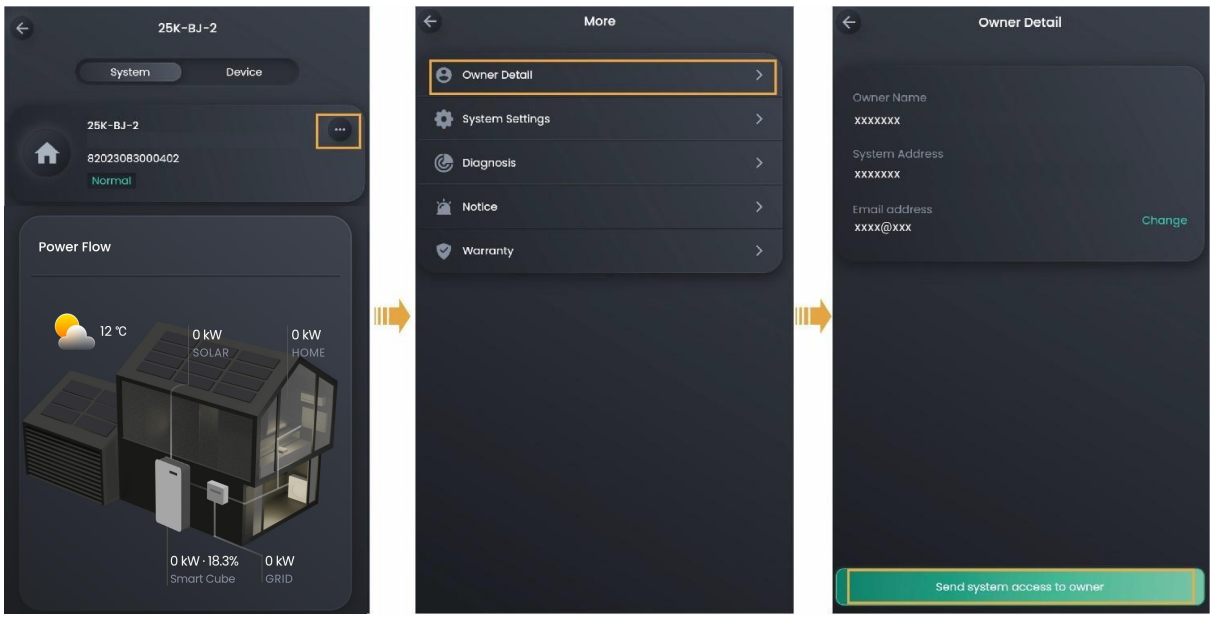
5.1 What if the user does not receive the account activation email?

- You can check the "Junk Mail" in your email box to see if you have received any emails regarding the "Nahui Cloud" account.
- If nothing is found in "Junk Mail", please confirm that the email information of the user is filled in correctly. If it is incorrect, please reset and push again.



5.2 What should I do if the activation of the account times out?

Please push the account activation information again and notify the user to activate the account within 24h.



5.3 What should I do if I encounter problems during operations like Inizialization?

Please get the contact information at “Support” → “Local Contacts” on our official website (https://eur.nahui-newenergy.com/service.html).

5.4 How can I proceed if I haven't received the email (verification code, log, etc.) sent by the system?

- You can check the “Junk Mail” in your email box to see if you have received any emails regarding the “Nahui Cloud” account.
- Send again.

Haier

Official website of NAHUI

Haier Smart Cube

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