System

Commissioning Guide

Version: 01

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Contents

Revision History

Version	Date	Description
01	2023.08.31	First official release.

Overview

Introduction

This document principally covers how to use the mySigen App and the WEB version or MAC and Windows versions of Sigen 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	Danger. Failure to comply may result in serious personal injury or property damage.
Caution	Caution. Failure to comply will result in property damage.
Tips	Important or key information, and supplementary operation tips.

Chapter 1 Commissioning for System Creation

Tips

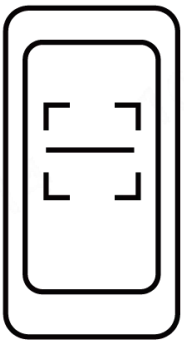
- **Please use the App version of mySigen to create new system for the device. This document takes version 1.3.0 as an example to describe related operations.**
- **Please make sure that the device is powered on before starting operation.**

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.



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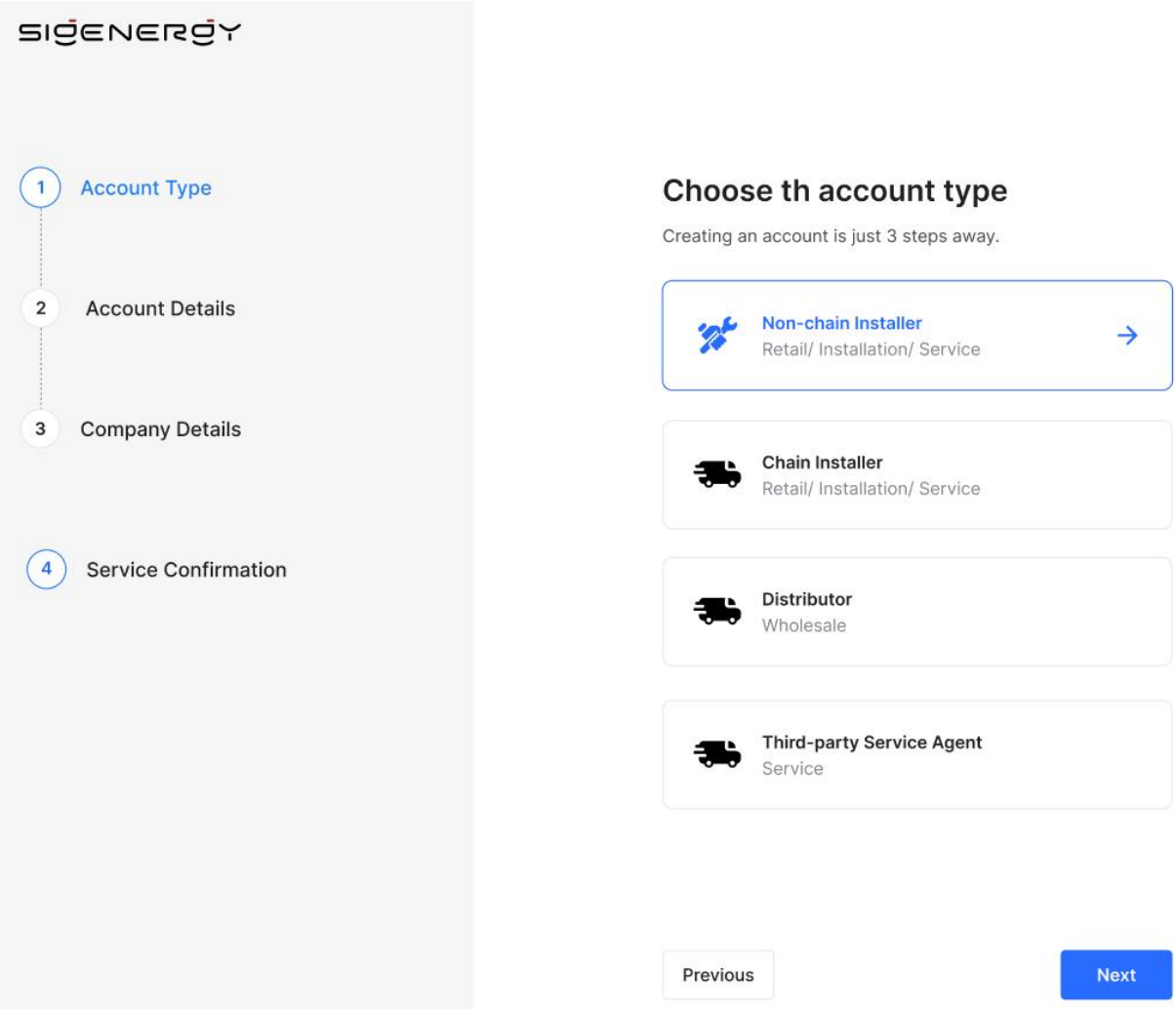
1.2 Installer Account Registration

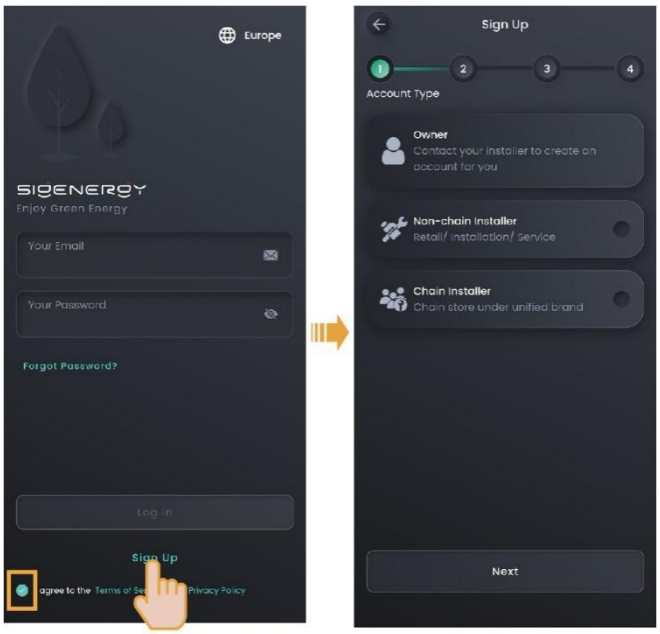
Method 1: Web operation

Please enter the “Partner” → “Register Now” at the Company's official website (https://www.sigenergy.com), and complete the account registration based on facts.



Method 2: App operation

Register an account under the App's “Sign Up” interface based on facts.



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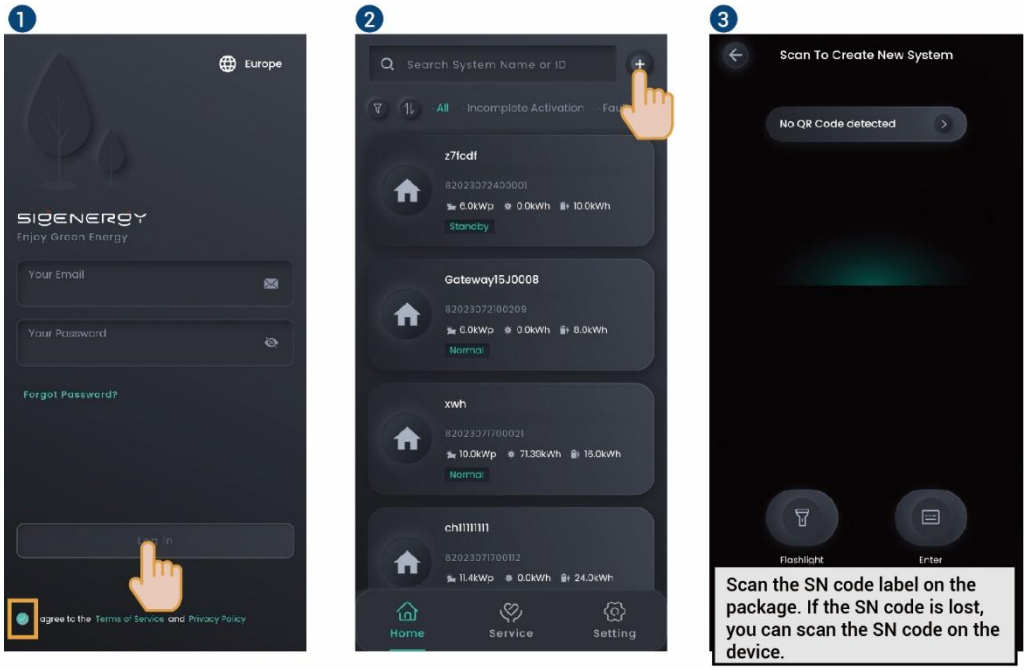
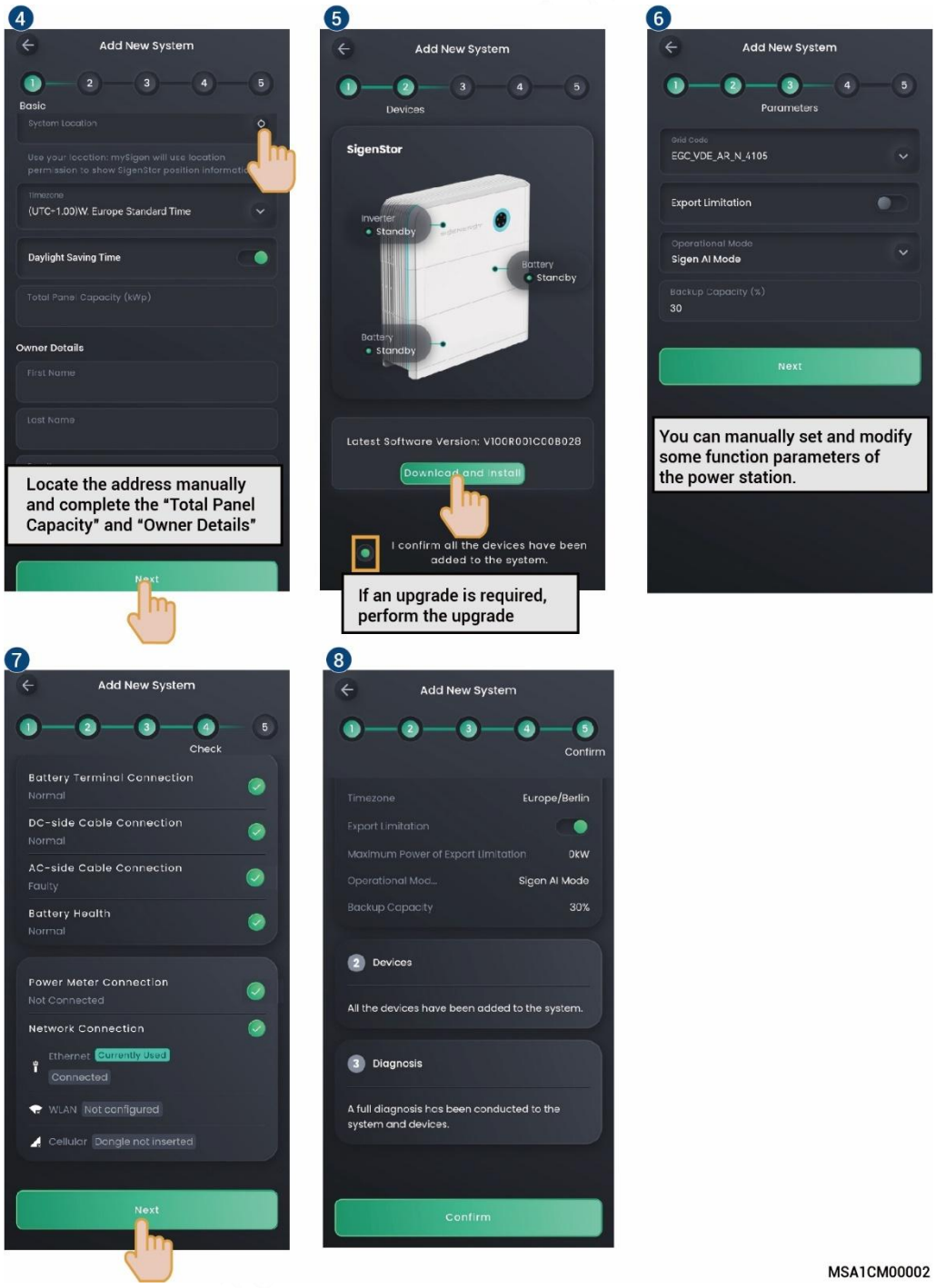
1.3 System Creation for Device

Tips

Do not use only WLAN communication for creating the new system. To use the WLAN, install Sigen CommMod or RJ45 network cables at the same time. Otherwise, it would be impossible to create the new system.

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 "sigencloud" email within 24 hours and complete the account activation.

Chapter 2 Daily O&M of Power Station & Equipment

Tips

- **It is recommended to use the Sigen Cloud WEB version or MAC/Windows version for routine maintenance.**
- **This document takes WEB as an example to describe the operation steps. The screenshots in the document are for illustrative purposes only, and there may be differences in the web interface in different periods. Please refer to the actual interface.**

- Website of the WEB version: https://app-eu.sigencloud.com; for best compatibility and performance, Chromium-based browsers, such as Google Chrome, are recommended.
- MAC/Windows applications: Please download and install the App at the "Support" → "Download" interface of our official website (https://www.sigenergy.com).

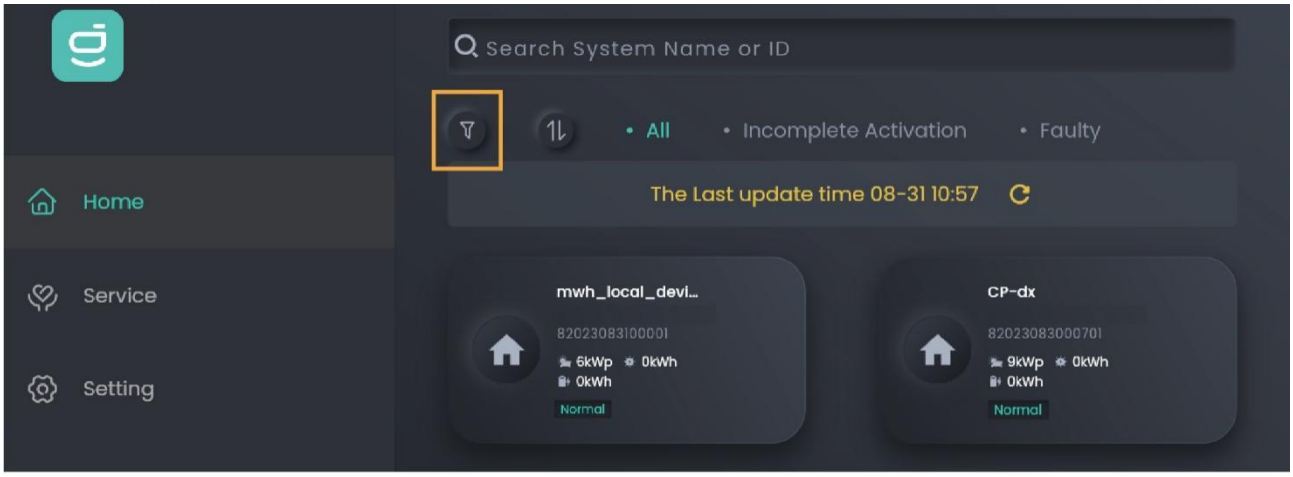
2.1 Connotation of Signs

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 parent 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.



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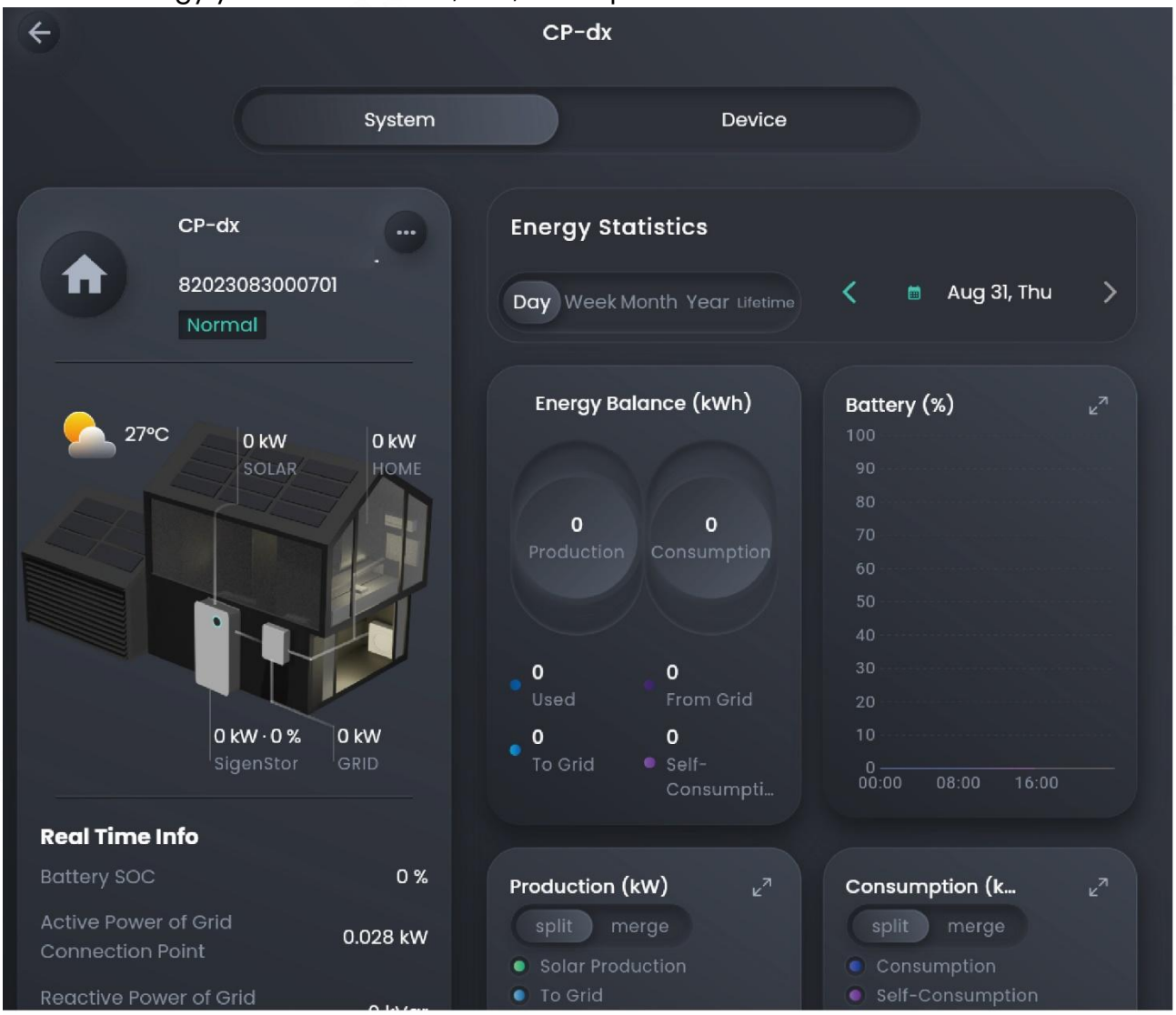
2.2.1 Power station information

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.



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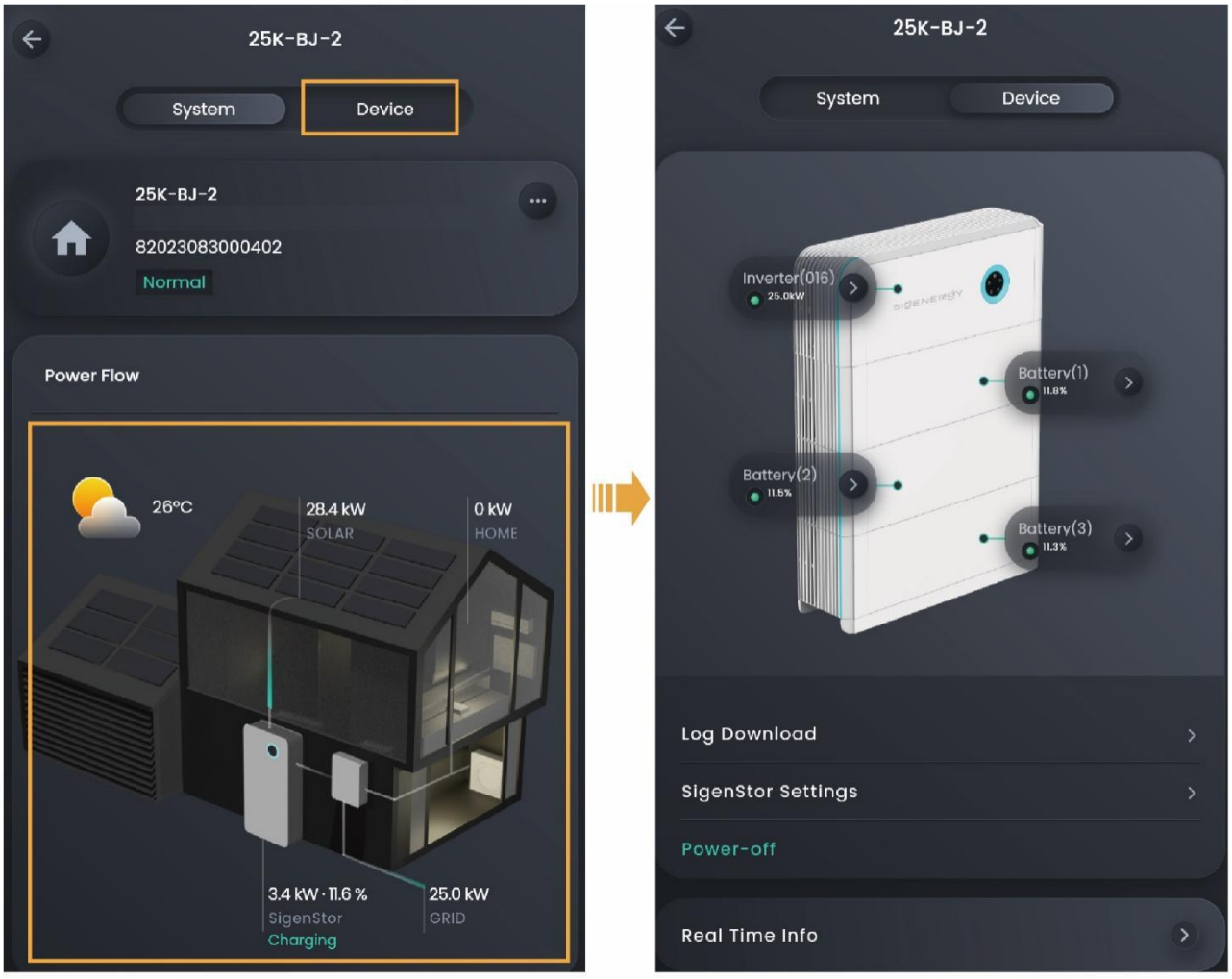
2.2.2 Device information

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.



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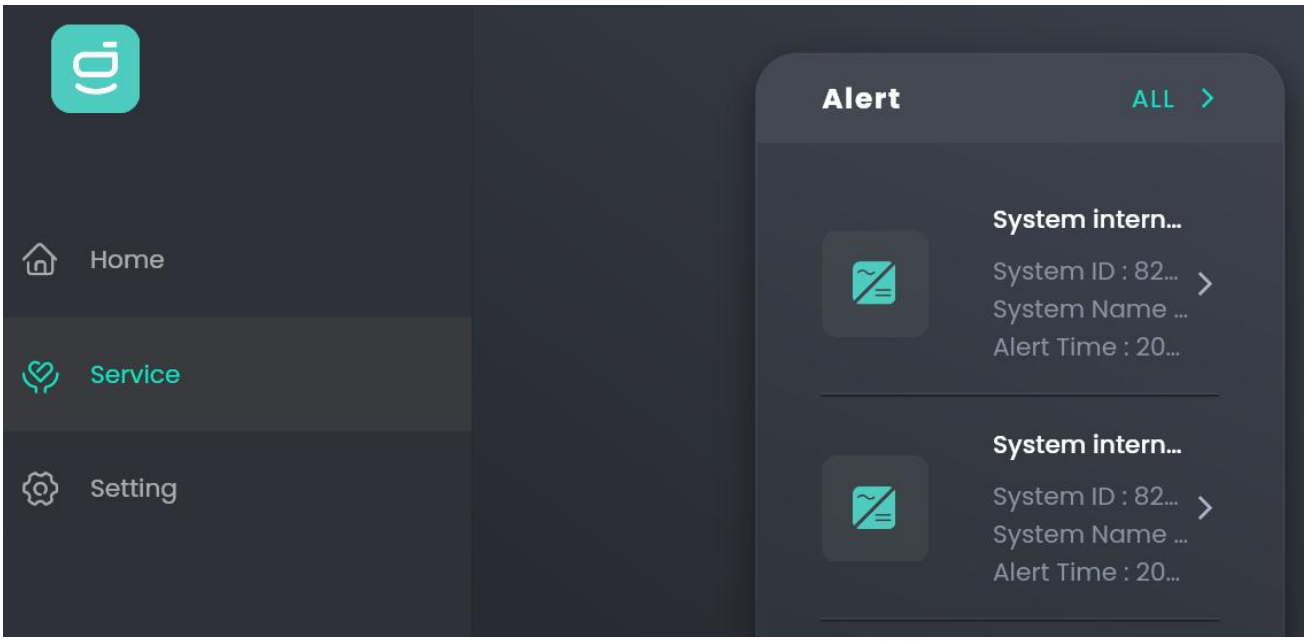
2.3 Query Alarm Information

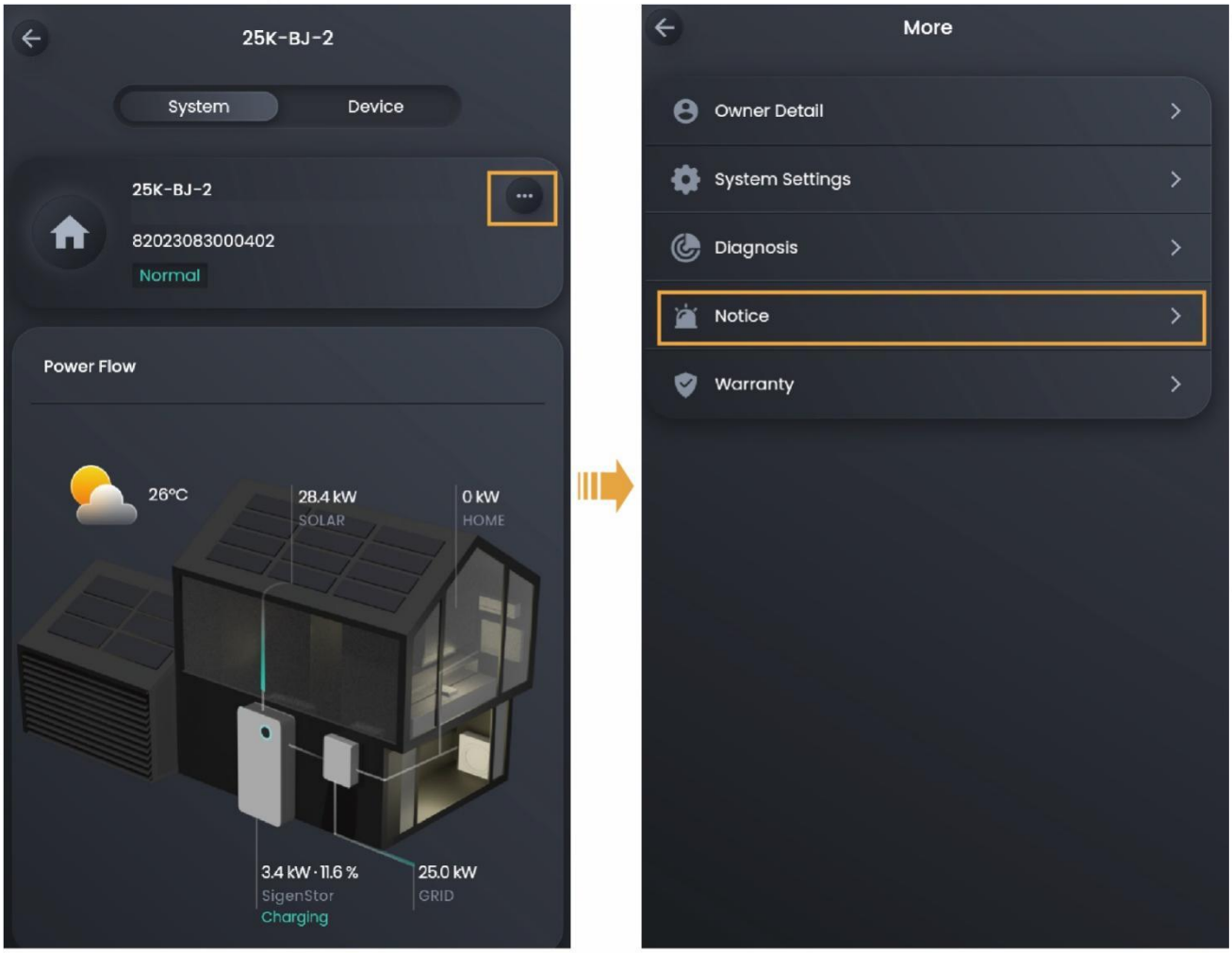
2.3.1 All power station alarms

In the event of a fault, an alarm will be sent via the mySigen app with the description o f how to solve the fault. For the meaning of the alarm code, please refer to Alarm List, which explains what each code means. The alarm would not disappear until it is sove d. Click “Service” to view the alarm information of all power stations.



2.3.2 Single power station 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.



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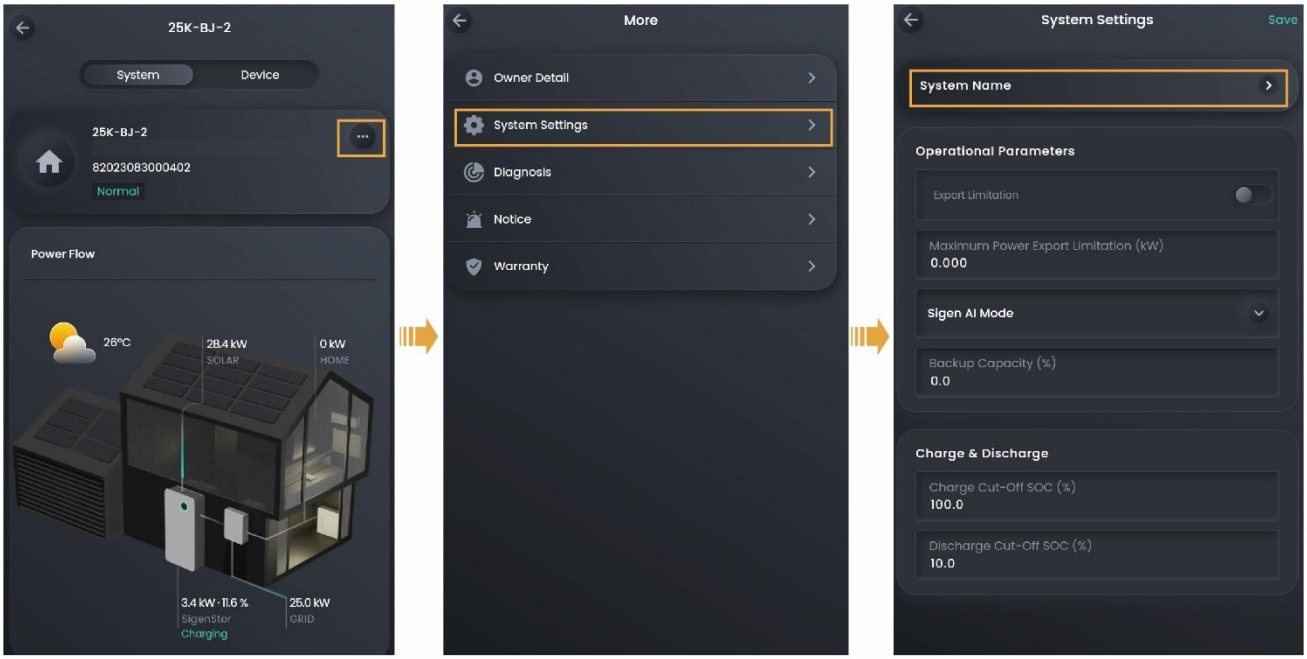
2.4 Power Station Parameter Setup

2.4.1 Change the station 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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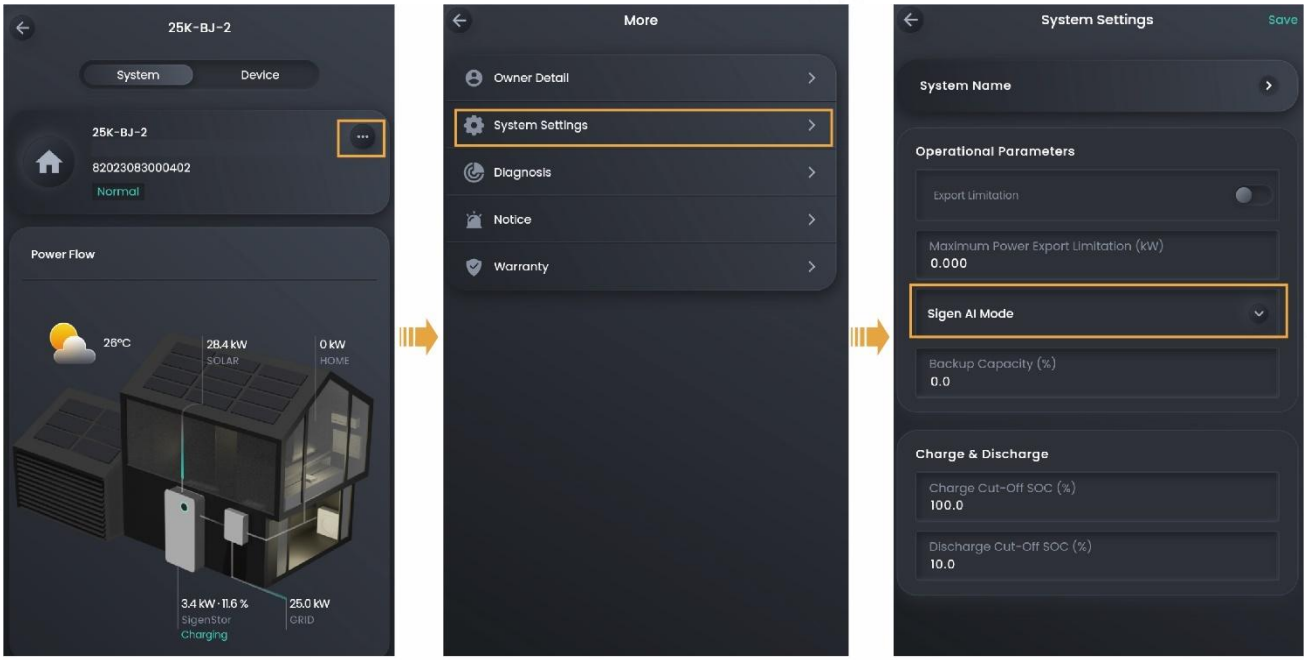
2.4.2 Set the energy storage operating mode

Tips

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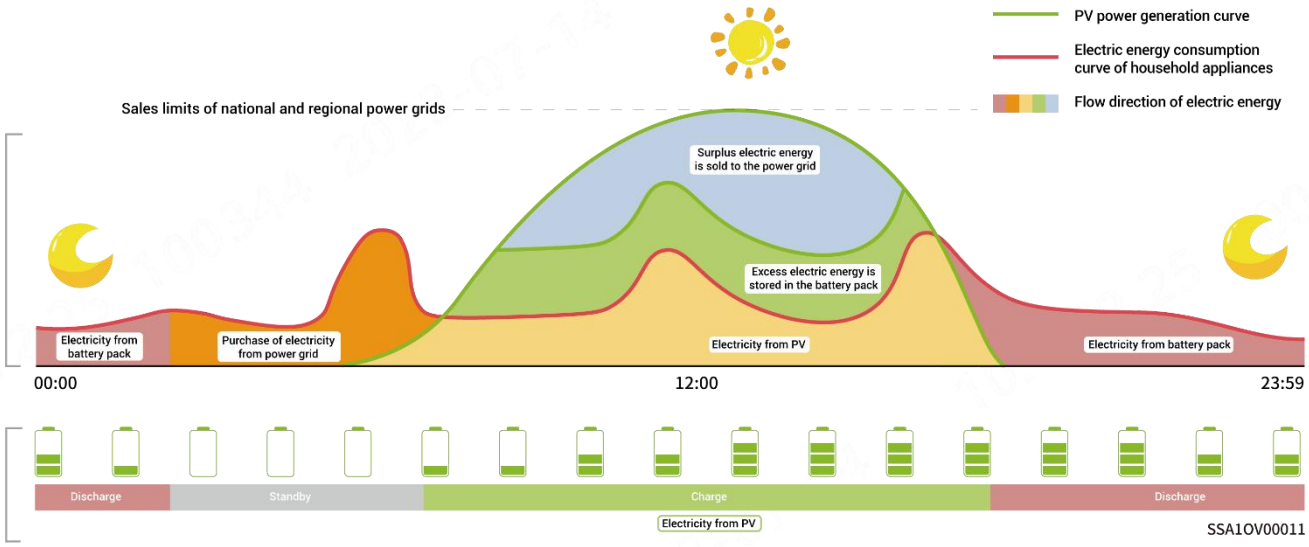
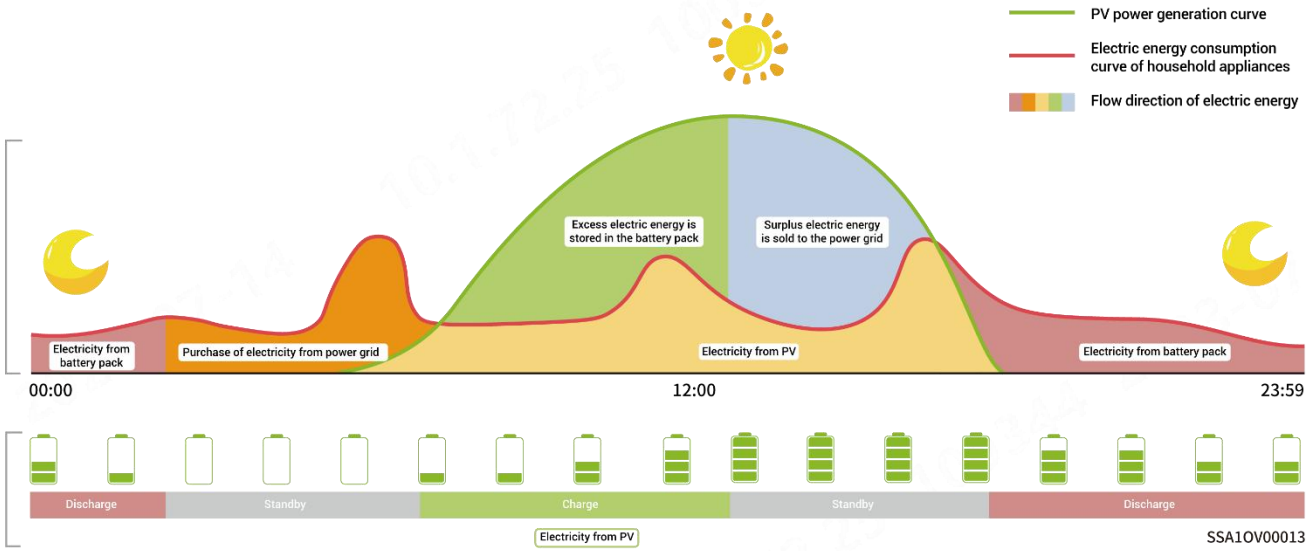
Sigen AI Mode

By recording the peaks and troughs of users' consumption habits and local electricity prices for one week, Sigen 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.



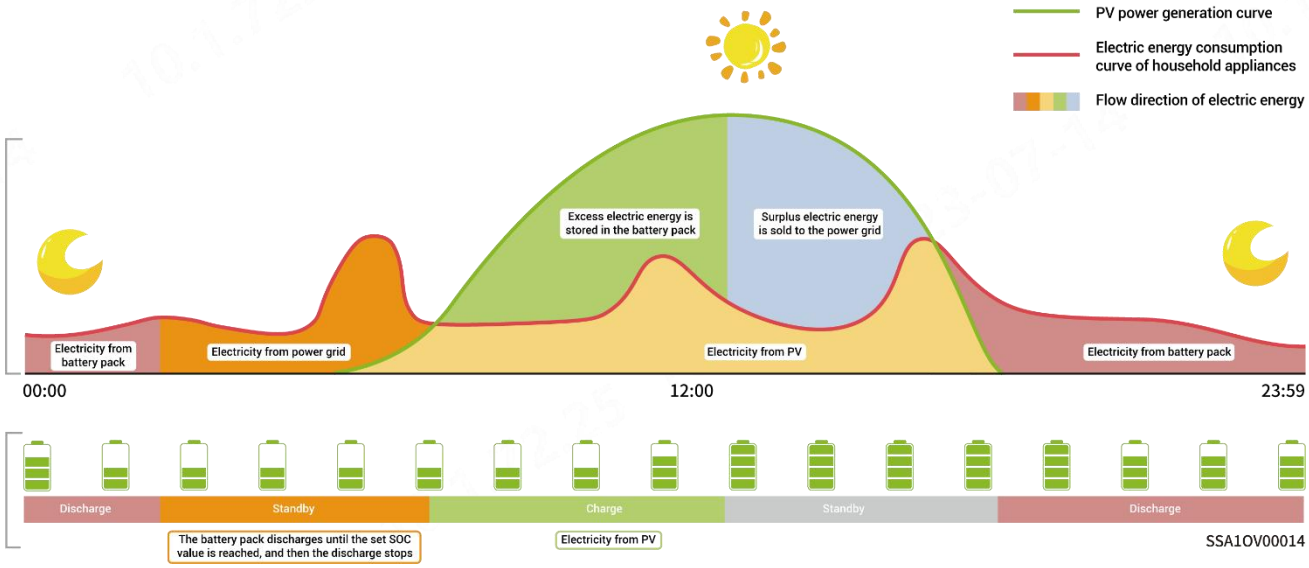
Fully Fed to Grid

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

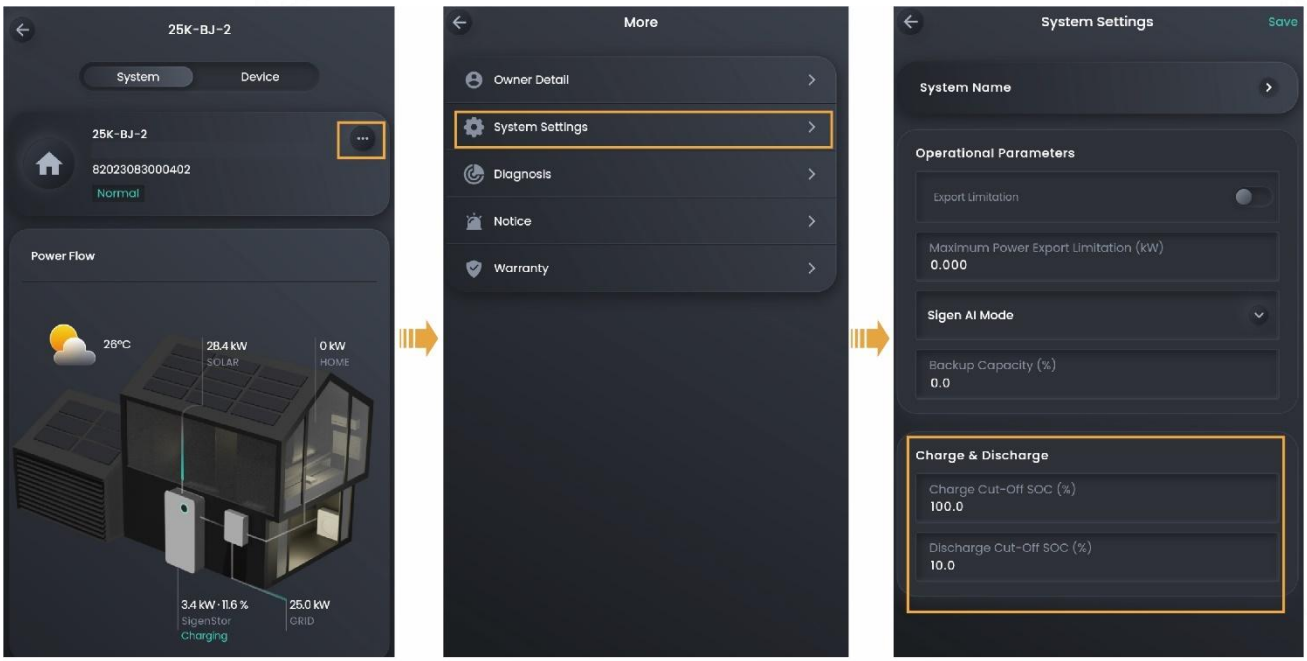
If there is a Gateway in the network, you can manually set the “Backup Reserve” value in mySigen App. When the grid is connected, the battery stops discharging when the set backup SOC is reached; when the grid is powered down, the battery power from the backup can be used.

Example: Self-Consumption Mode involves backup SOC.



2.4.3 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.

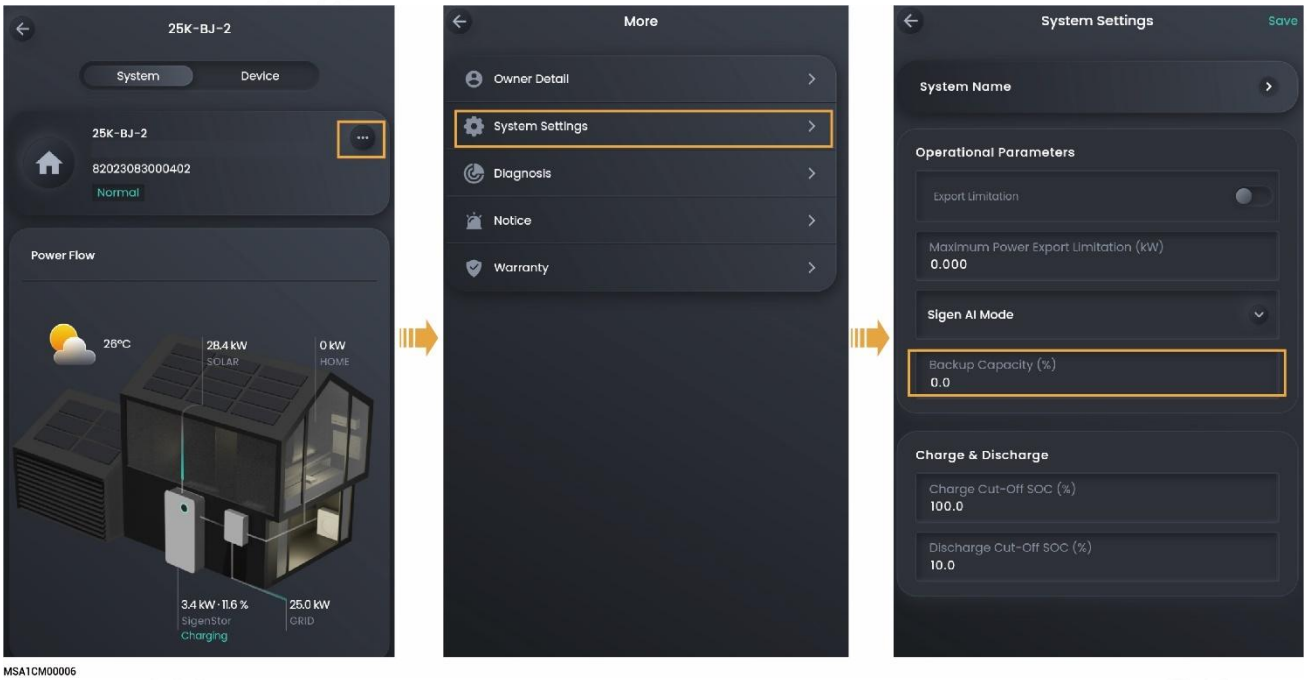
2.4.4 Reserve capacity setup

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.



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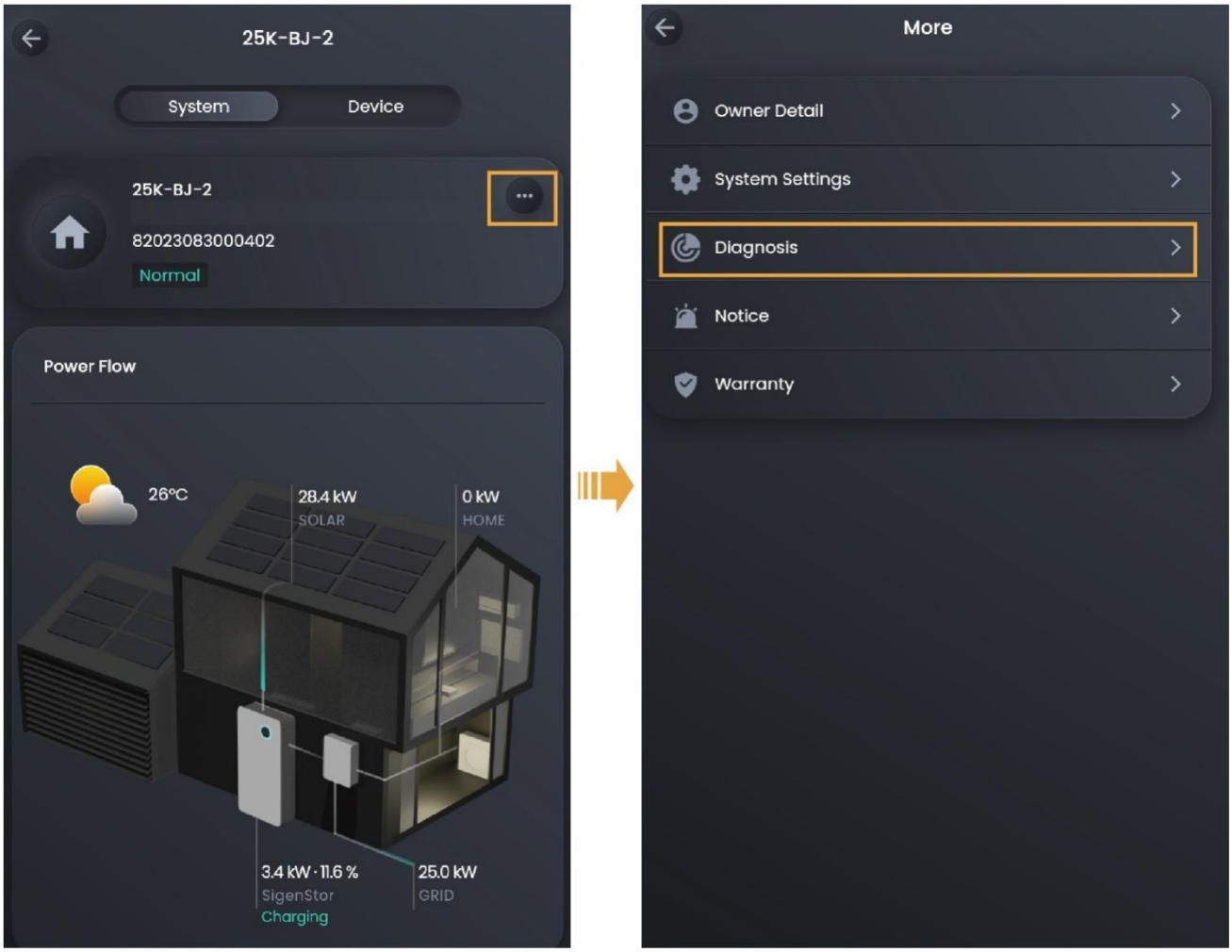
2.4.5 Power Station Detection

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.



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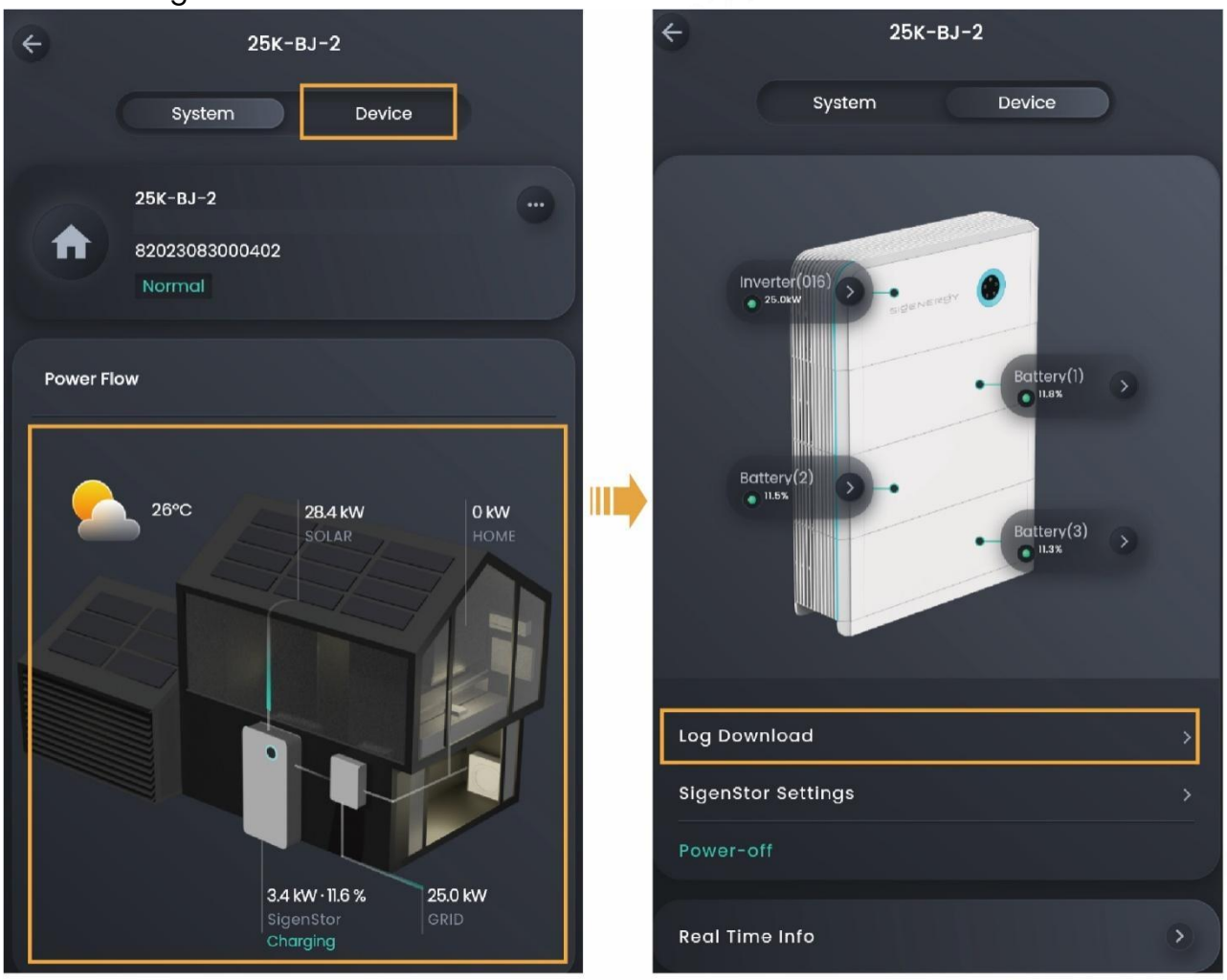
2.5 Device Parameters Setup

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.



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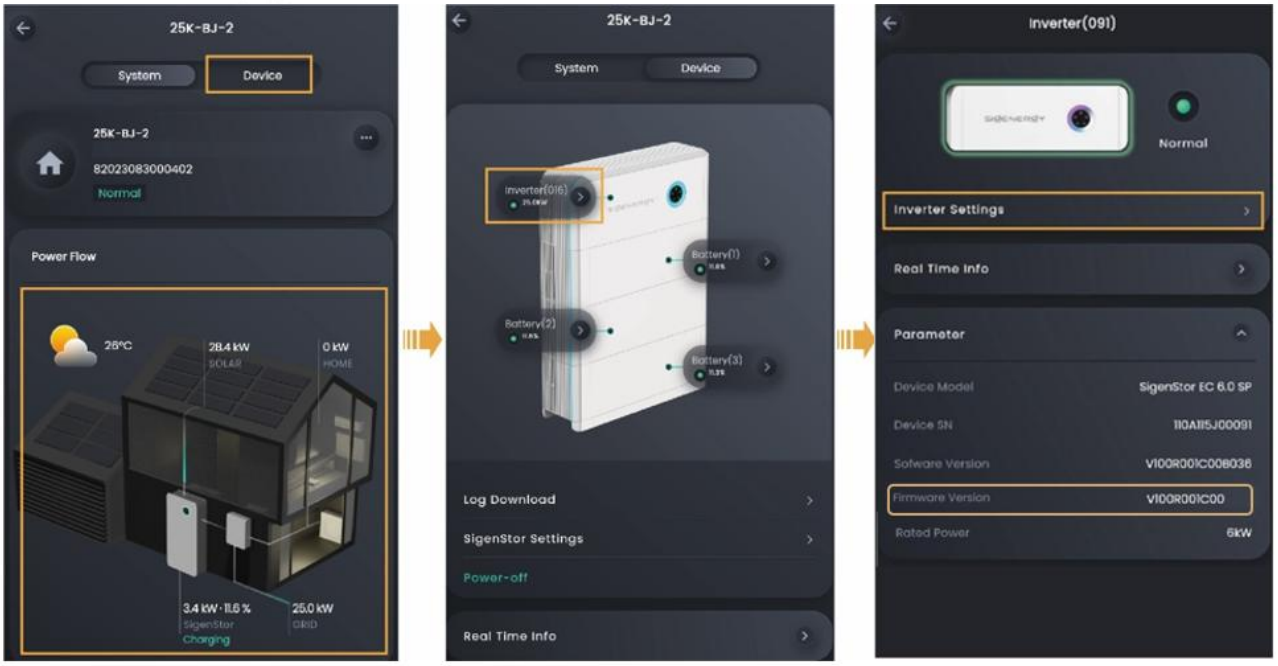
2.5.2 Inverter parameters setup

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. And the firmware version of the devices can be found as below



Power

SN.	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

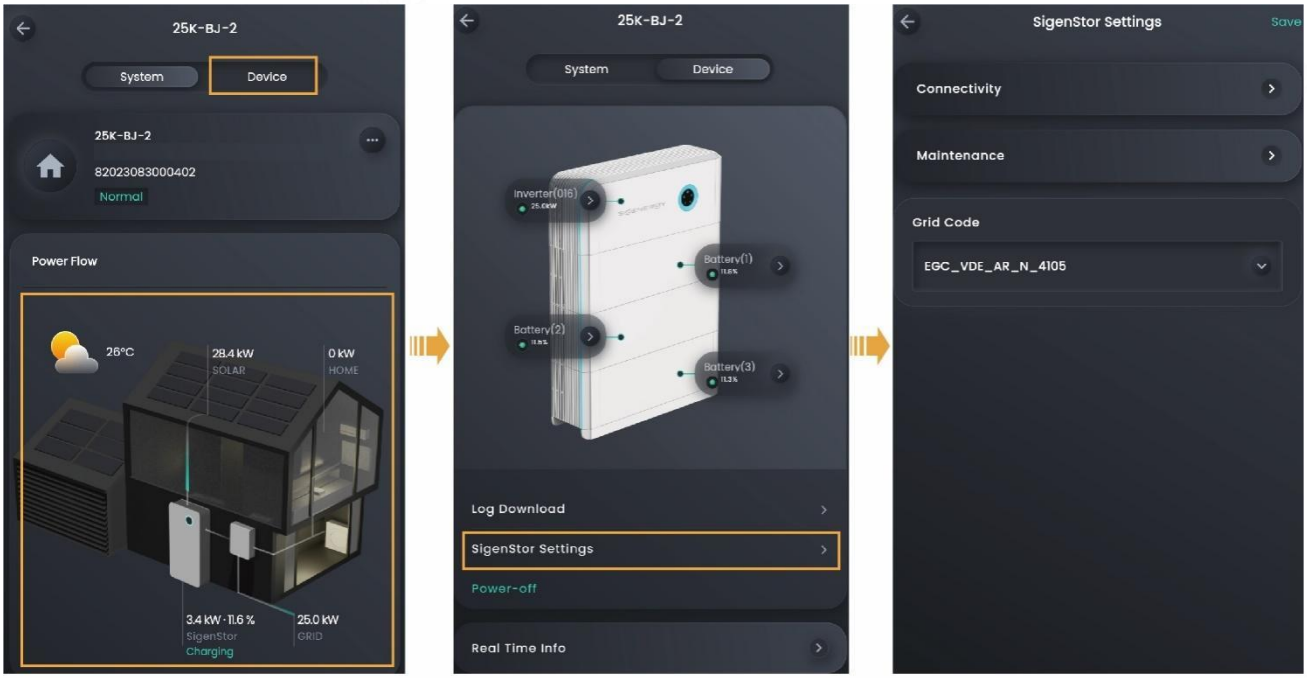
SN.	Parameter name	Description
1	Level-***N*** Overvoltage Protection Threshold	Set the level-***N*** overvoltage protection value of the grid voltage. When the actual voltage is greater than the set protection value and the set protection time is elapsed, the device alarm will be triggered; otherwise, 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

SN.	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 SigenStor 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 “SigenStor Settings” to enter the setting interface.



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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 Sigen CommMod is installed on the device before activating the 4G communication.**
- **It is recommended to use FE and WLAN for communication. Sigen 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 “Grid Code” and set it to local requirements.

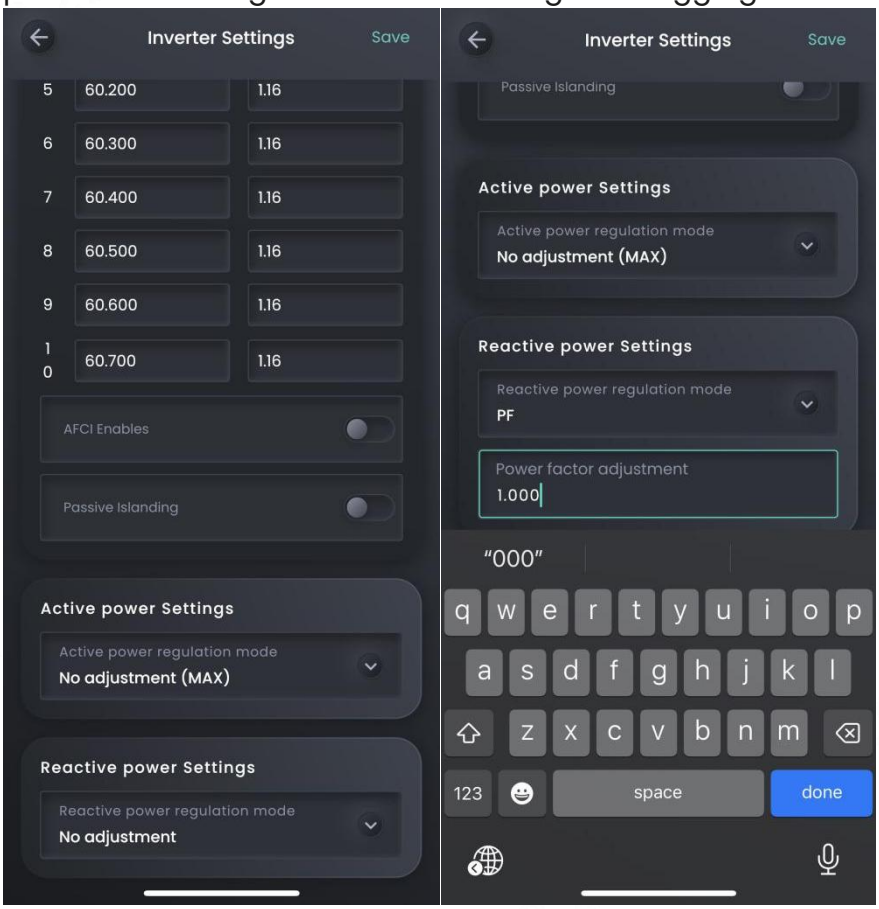
Setting Reactive Power Control (for Australia)

1. Setup Fixed Power Factor Mode and Fixed Reactive Power Mode

Fixed Power Factor Mode

Step 1 : Select reactive power settings.

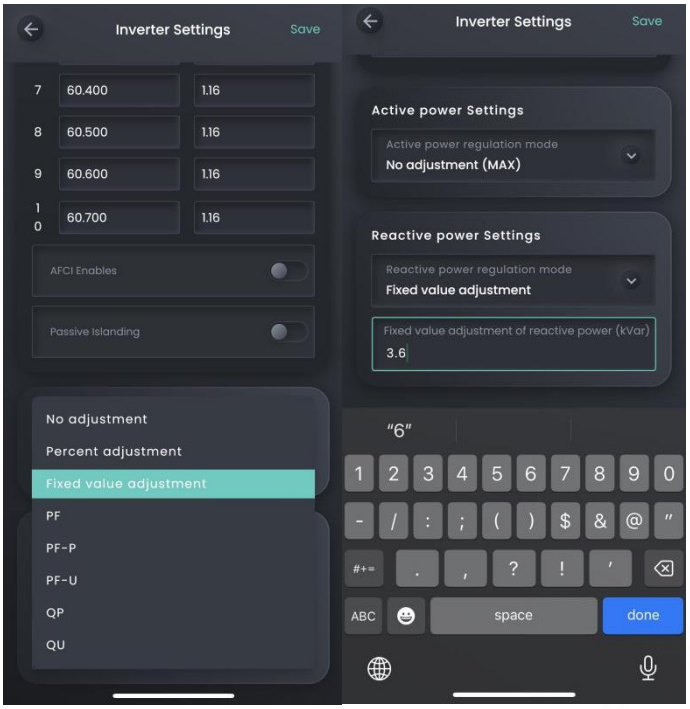
Step 2 : Select PF and enter the power factor according to your local grid regulation. The power factor range is from 0.8 leading ~ 0.8 lagging.



Fixed Reactive Power Mode

Step 1 : Select reactive power settings.

Step 2 : Select Fixed value adjustment and enter the fixed value adjustment of reactive power according to your local grid regulation. The power range is from -60%Pn ~ 60%Pn.

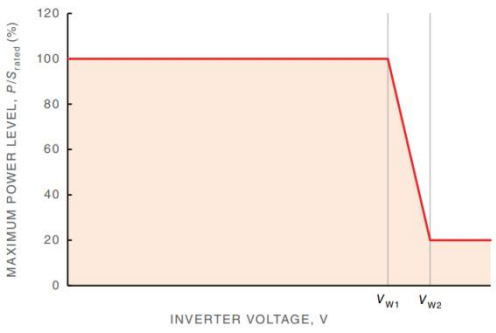


2. Setup V-Watt and Volt-Var Mode

This inverter complies with AS/NZS 4777.2: 2020 for power quality response modes. The inverter satisfies different regions of DNSPs' grid connection rules requirements for volt-watt and volt-var Settings. e.g.: AS4777 series setting as below Figures.

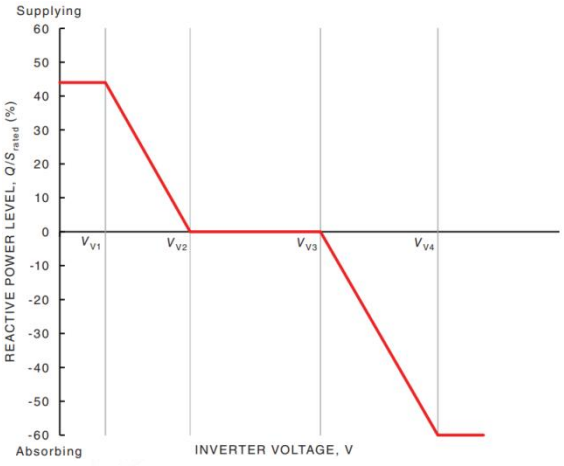
Region	Default value	V_{W1}	V_{W2}
Australia A	Voltage	253 V	260 V
	Inverter maximum active power output level (P) % of S_{rated}	100 %	20 %
Australia B	Voltage	250 V	260 V
	Inverter maximum active power output level (P) % of S_{rated}	100 %	20 %
Australia C	Voltage	253 V	260 V
	Inverter maximum active power output level (P) % of S_{rated}	100 %	20 %
New Zealand	Voltage	242 V	250 V
	Inverter maximum active power output level (P) % of S_{rated}	100 %	20 %
Allowed range	Voltage	235 to 255 V	240 to 265 V
	Inverter maximum active power output level (P) % of S_{rated}	100 %	0 % to 20 %

NOTE Australia C parameter set is intended for application in isolated or remote power systems.



Region	Default value	V_{V1}	V_{V2}	V_{V3}	V_{V4}
Australia A	Voltage	207 V	220 V	240 V	258 V
	Inverter reactive power level (Q) % of S_{rated}	44 % supplying	0 %	0 %	60 % absorbing
Australia B	Voltage	205 V	220 V	235 V	255 V
	Inverter reactive power level (Q) % of S_{rated}	30 % supplying	0 %	0 %	40 % absorbing
Australia C	Voltage	215 V	230 V	240 V	255 V
	Inverter reactive power level (Q) % of S_{rated}	44 % supplying	0 %	0 %	60 % absorbing
New Zealand	Voltage	207 V	220 V	235 V	244 V
	Inverter reactive power level (Q) % of S_{rated}	60 % supplying	0 %	0 %	60 % absorbing
Allowed Range	Voltage	180 to 230 V	180 to 230 V	230 to 265 V	230 to 265 V
	Inverter reactive power level (Q) % of S_{rated}	30 to 60 % supplying	0 %	0 %	30 to 60 % absorbing

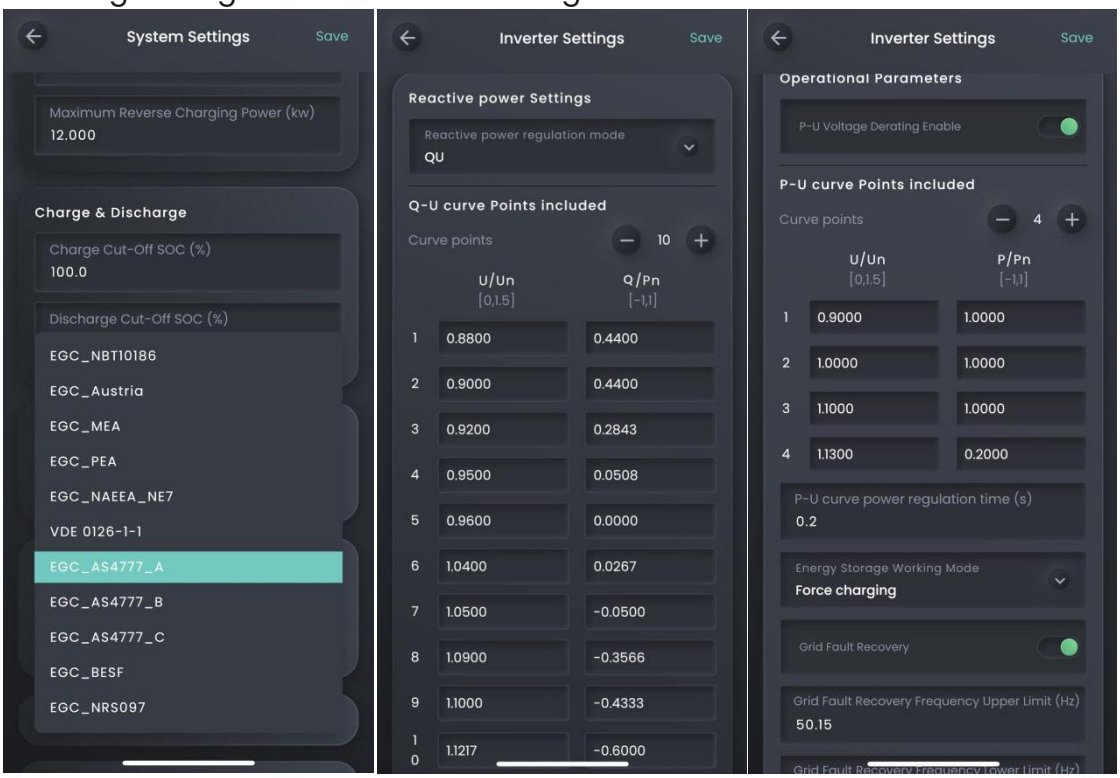
NOTE 1 Inverters may operate at a reactive power level with a range up to 100 % supplying or absorbing.
NOTE 2 Australia C parameter set is intended for application in isolated or remote power systems.



Setting procedure：

1. AS4777 grid compliance has been set during production, please select corresponding grid compliance according to state regulation during installation. You can choose a state regulation compliance with your local grid via mySigen App.

2. Select reactive power settings and choose QU mode and enable P-U voltage derating settings to enter DNSPs settings.



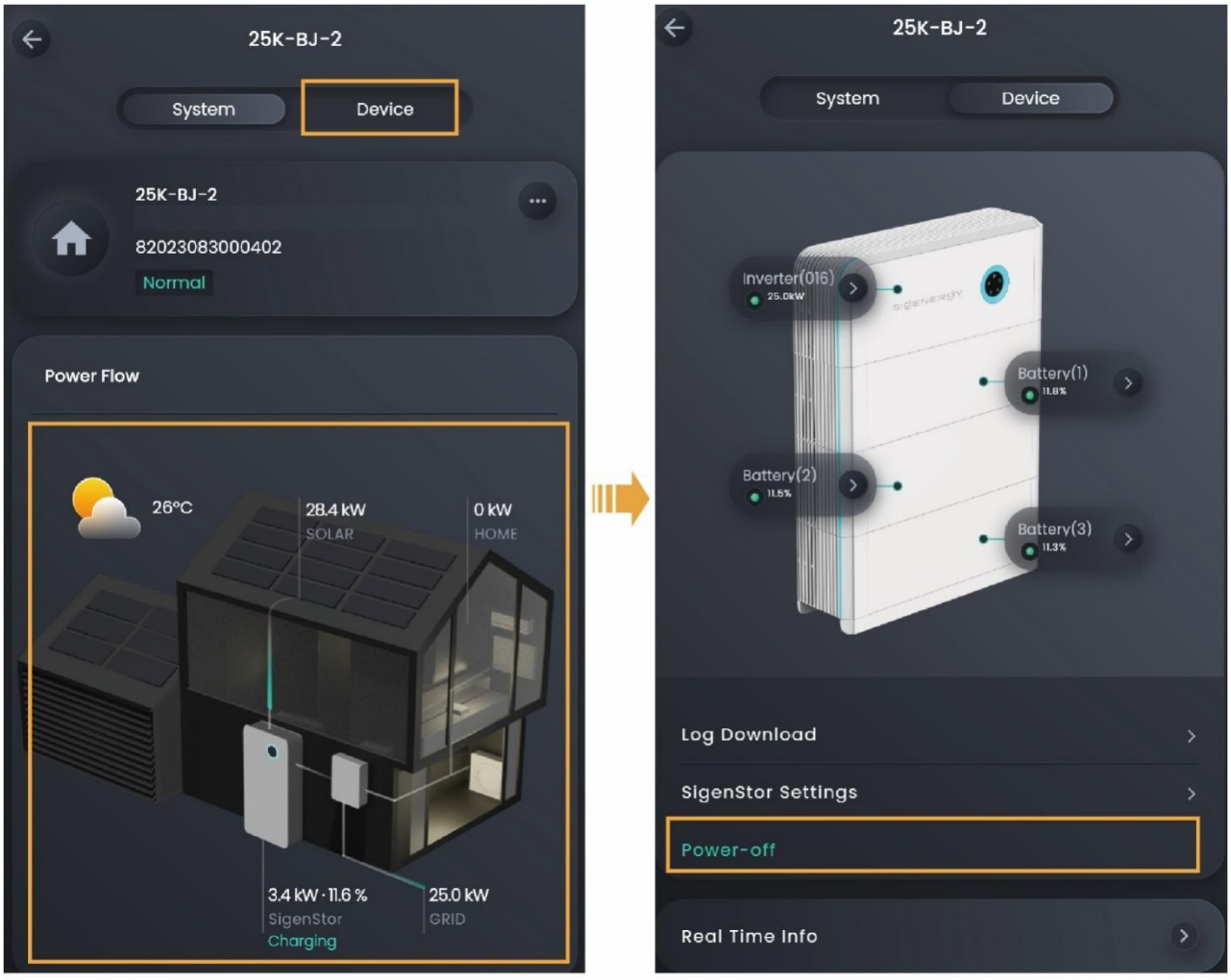
Note: With regard to the Power rate limit mode, Sigenergy sets the product WGra to 16.67%Pn by default in the following cases according to the requirements of 3.3.4.2 as 4777.2: 2020.

1. Soft ramp up after connect,

2. 2. Reconnect or soft ramp up/down following a response to frequency disturbance.

2.5.4 Equipment Powering-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.



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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 mySigen software

Tips

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

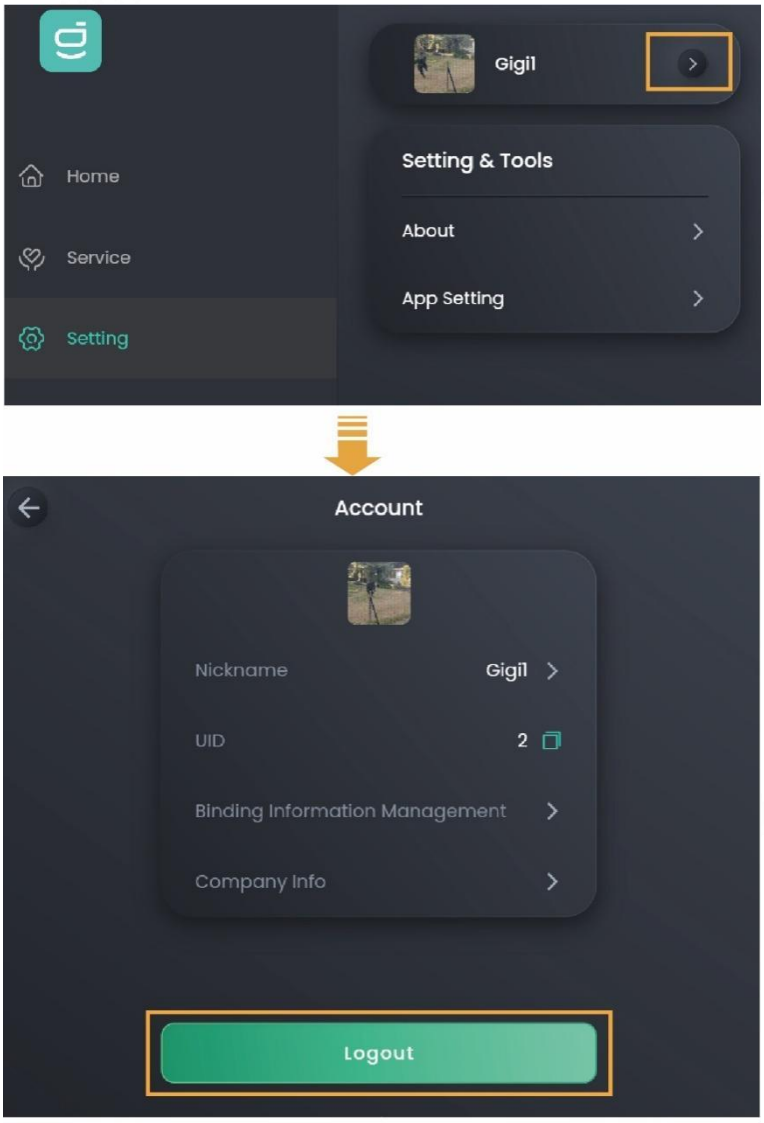
Click “Setting” → “About” → “Version Update” to upgrade the App.

3.1.6 View warranty information

1. Tap the name of the power station to view on the “Home” screen.
2. Click  behind the station name, and tap “Warranty”.

Chapter 4 Exit the Account

Click “Setting”, click  at the top of the screen, and tap “Log out”.



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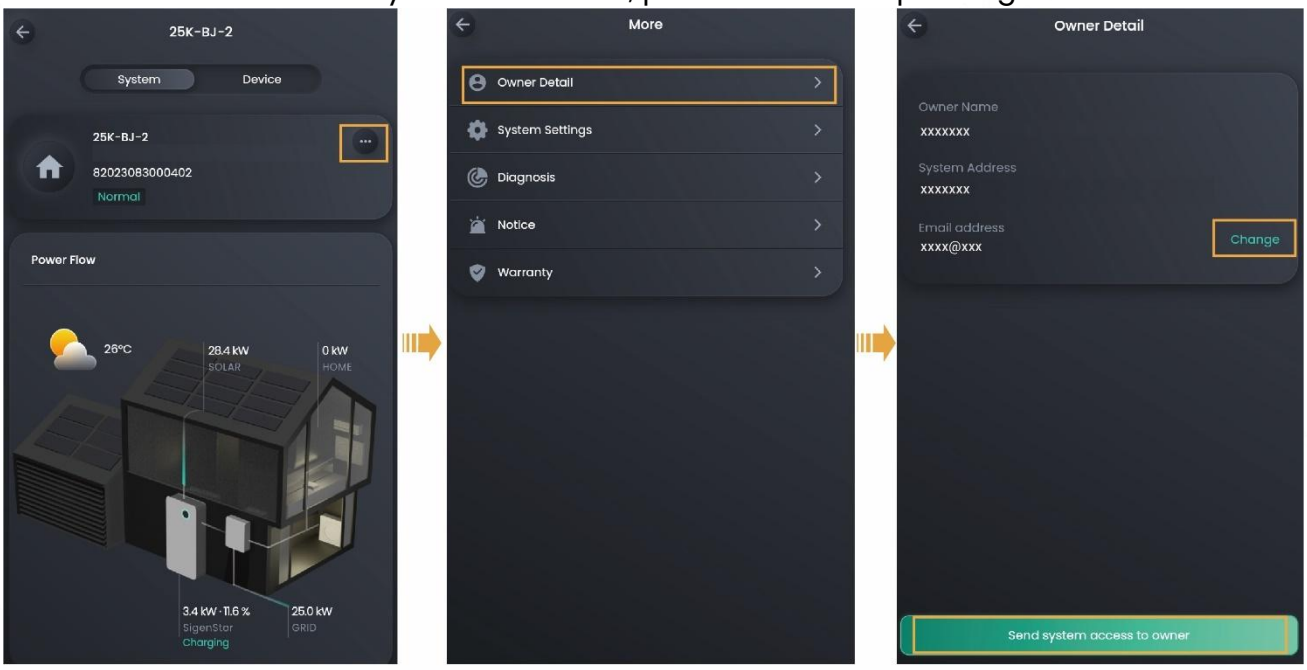
Chapter 5 FAQs

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 “sigencloud” 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.



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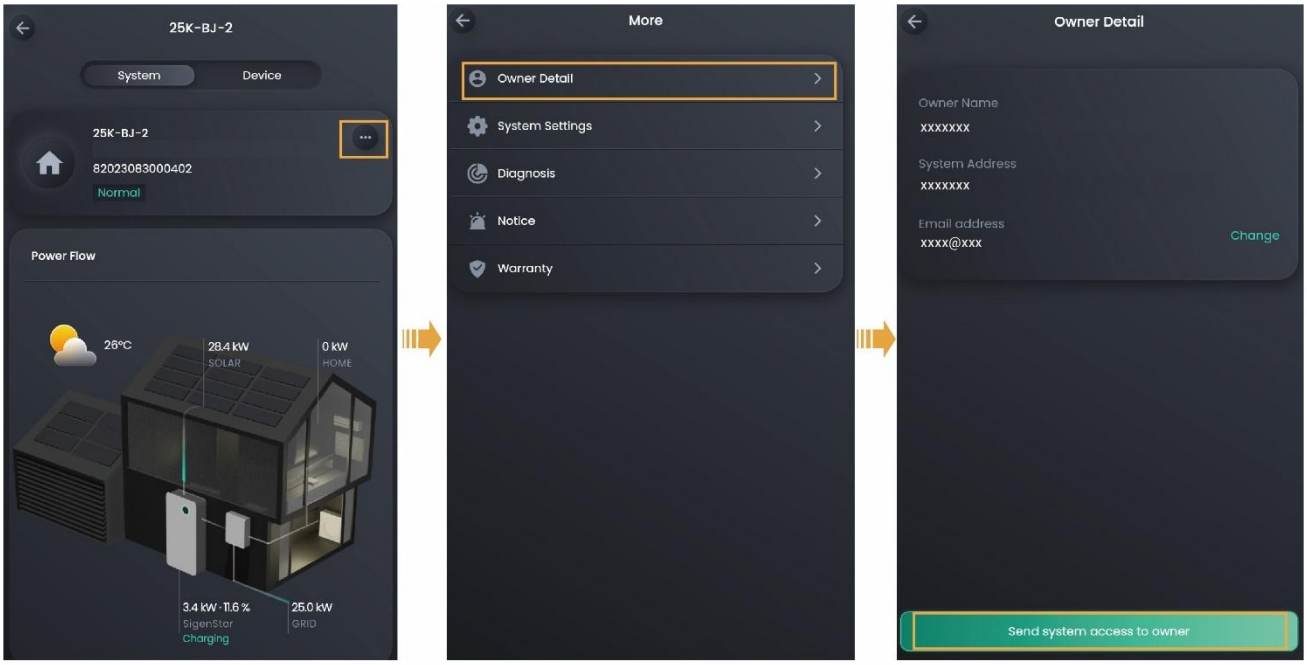
5.2 What should I do if the activation of the account times out?

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



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

Please get the contact information at “Support” → “Local Contacts” on our official website (https://www.sigenergy.com).

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 “sigencloud” account.
- Send again.