

SEMS+ App

User Manual

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Copyright Statement

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NOTICE

The information in this user manual is subject to change due to product updates or other reasons.

This guide cannot replace the notices and warnings of the device unless otherwise specified. All descriptions in the manual are for guidance only.

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1 About This Manual

1.1 Target Audience

This manual applies to end user or trained and knowledgeable technical professionals. The technical personnel has to be familiar with the product, local standards, and electric systems.

1.2 Symbol Definition

 DANGER
Indicates a high-level hazard that, if not avoided, will result in death or serious injury.
 WARNING
Indicates a medium-level hazard that, if not avoided, could result in death or serious injury.
 CAUTION
Indicates a low-level hazard that, if not avoided, could result in minor or moderate injury.
NOTICE
Highlights key information and supplements the texts. Or some skills and methods to solve product-related problems to save time.

2 Product Introduction

NOTICE

- All the interface screenshots or words in this document are based on SEMS+ App V2.0.0. The interface may be different due to the version upgrade. The images, words or data are for reference only.
- The interface parameters and device control options vary depending on your login role.
- The parameters displayed may differ based on the device model and the safety regulations of the country. Please refer to the actual interface.
- Before setting any parameters, read through user manual of the App and the equipment to learn the product functions and features. When the inverter parameters are set improperly, the inverter may fail to connect to the utility grid or fail to connect to the utility grid in compliance with related requirements and damage the battery, which will affect the inverter's power generation.

This manual introduces commonly used operations in SEMS+ App.

The SEMS+ App enables remote monitoring of power stations and local configuring devices. Installers and owners can:

- Conduct remote monitoring and configure parameters at both the station and device level.
- Establish a local connection to devices to review operational status and adjust settings.

2.1 Applicable Product Model

SEMS+ App can be used to monitor and manage GoodWe products, such as inverters, smart meters, smart loggers, chargers, batteries and so on.

2.2 Downloading and Installing the App

Make sure that the mobile phone meets the following requirements:

- Operating system: Android 7.0 or above, iOS 15.1 or above.

- Internet connection via browser.
- WLAN/Bluetooth capabilities.

Download Methods:

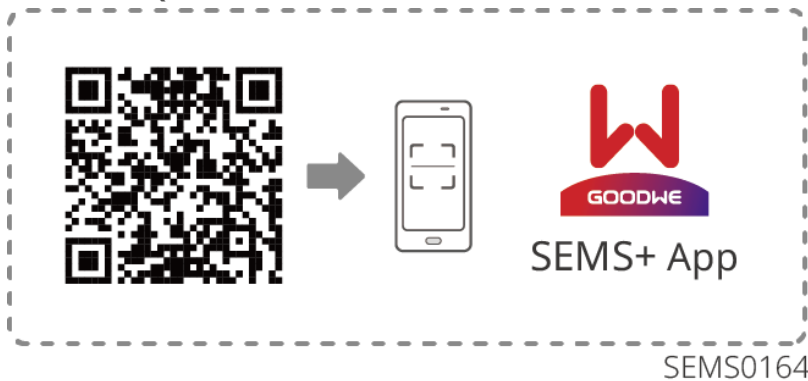
Method I

Search SEMS+ on Google Play, App Store, Huawei, Honor, Xiaomi, OPPO, vivo app store to download and install the App.

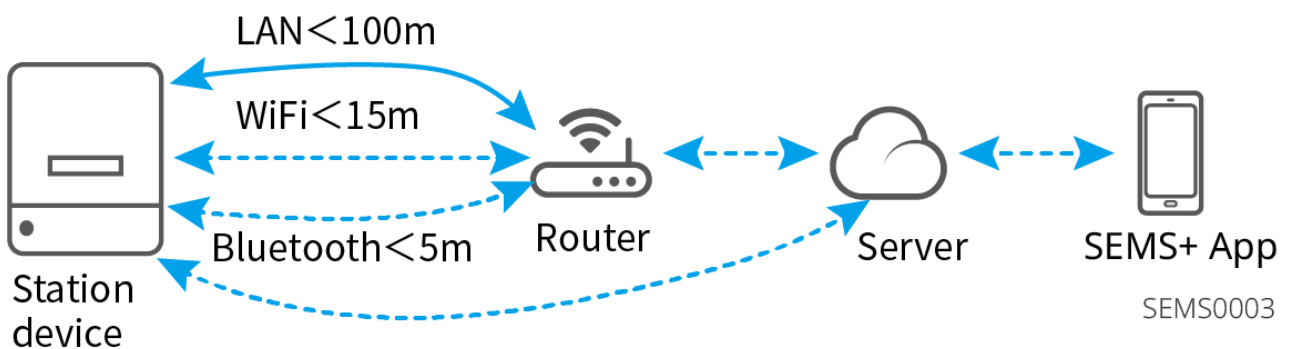


Method II

Scan the QR code below to download and install the App.



2.3 App Connection



2.4 Registering an Account

Steps:

1. Go to “Register”.
2. Select the server and account type based on actual needs, and tap “Next”.
3. Enter the account information and tap “Confirm”.

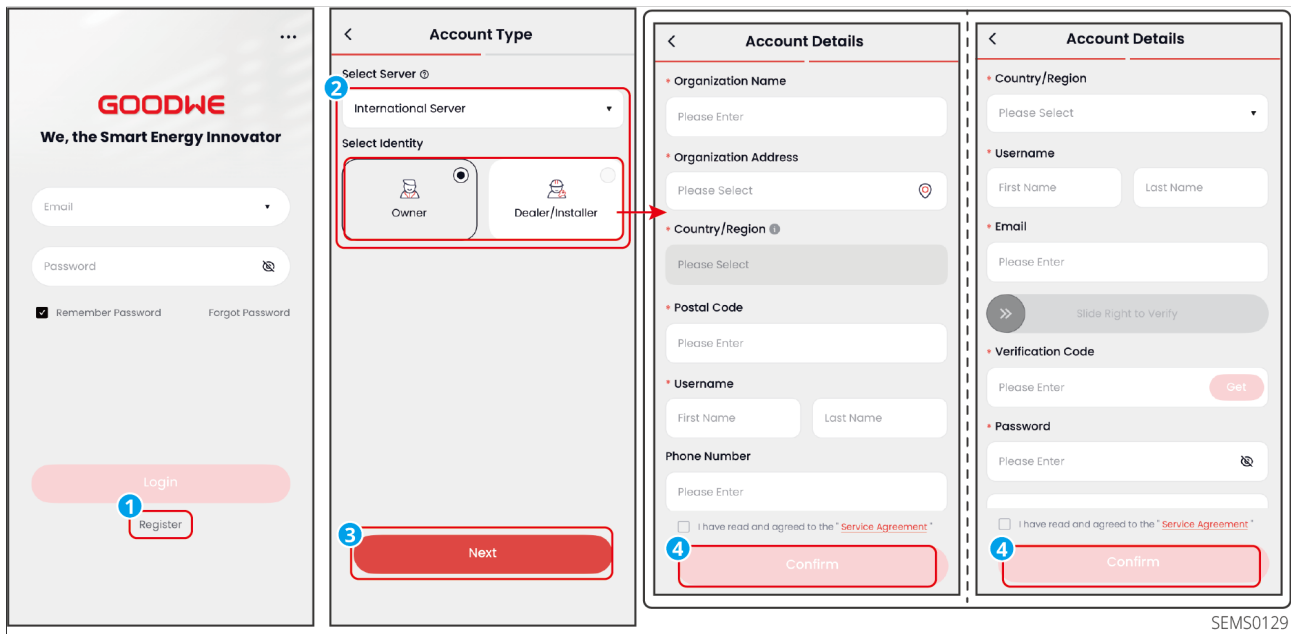


Figure1 Registering an Account

2.5 Logging in to the App

NOTICE

- Register an account or obtain an account from your dealer before logging in.
- Check and manage power station after logging in. The information displayed may vary depending on the account type, region, and station type.

Steps:

1. Enter the username and password, then tap “Log In”.

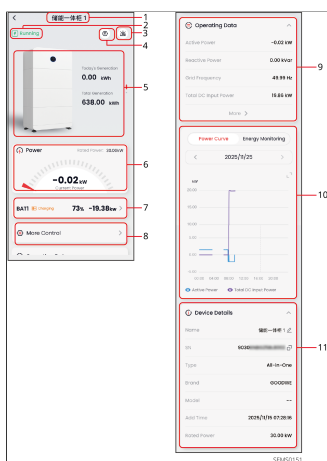


Figure1 Logging in to the App

3 Monitoring Remote Stations

NOTICE

The parameters may vary depending the account type, station type, or device type.

Once logged into the app with your account, you can create power plants, add devices, monitor plant operations, and view device information.

3.1 Power Station

3.1.1 Creating a Station

Supports creating power stations based on actual needs.

3.1.1.1 Filling Station Information

Steps:

1. After logging in, check there are any existing plants. If no, tap "Create Plant". If yes, tap  from the plant list screen.
2. Fill in the required details as prompted (e.g., address, name, capacity, rated power).
3. (Optional) To add visitors, enter the organization code and visitor information. Tap "Finish" to create the plant.
4. Choose whether to add devices now. To add devices now, refer to the [3.1.1.2.Adding Devices\(Page 11\)](#) chapter.

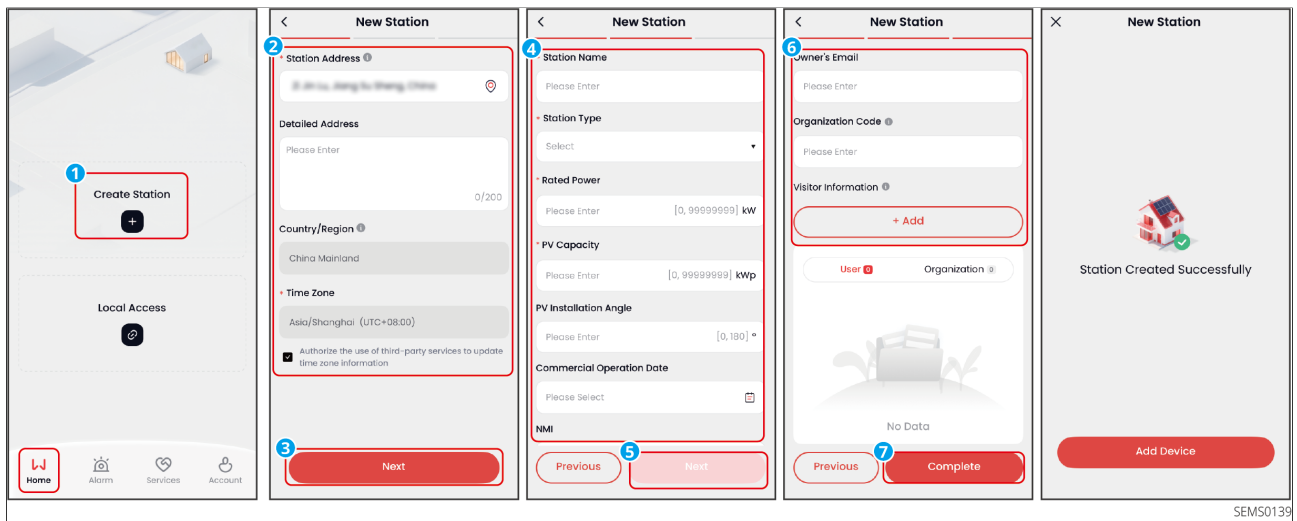


Figure1 Filling Station Information

Parameters	Description
Station Type	Set the actual station type. Supports: Residential PV Station, Residential Storage Station, C&I Storage Station, C&I PV Station.
Station Name	Set the power station name.
Rated Power	Set the total installed power of the station.
PV Capacity	Set the total capacity of PV modules in the station.
Battery Capacity	Set the total battery capacity in the station.
PV Installation Angle	Set the installation angle of the PV panels.
Commercial Operation Date	Set the station on-grid date.

3.1.1.2 Adding Devices

After creating a power station, devices can be added based on actual needs.

Steps for manually adding devices:

1. Tap  on the Device List interface.
2. Add devices based on actual needs. Select the device type and scan the device SN or manually enter the device SN.
3. Confirm whether the device SN and check code are correct. Modify the device

name as needed. Tap “Add Device” to complete the steps.

4. (Optional) To continue adding devices to the current power station, tap  and repeat steps for entering device SN.
5. (Optional) Tap "Quick Configuration" to modify the device's safety code settings, working mode settings, etc. For details, refer to [3.1.1.3.Quick Configuration\(Page 13\)](#).
6. Tap "Finish", devices will be added.

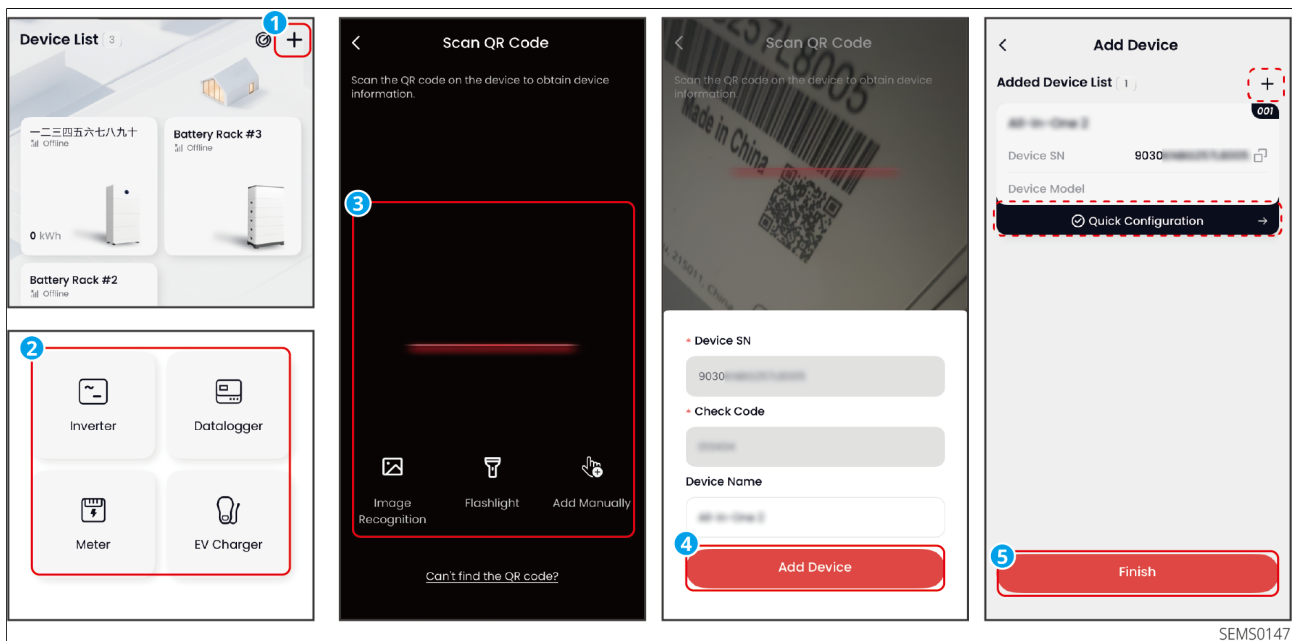


Figure1 Manually Add Devices

Steps for scanning and adding devices:

After manually adding inverter to power station, you can scan to add associated devices of the inverter, such as battery pack.

1. Tap  on the Device List interface.
2. After scanning, tick the devices to be added, and tap “Add”.
3. To add unscanned devices, tap “Continue Adding”. If all devices are found and added successfully, tap “Finish”.

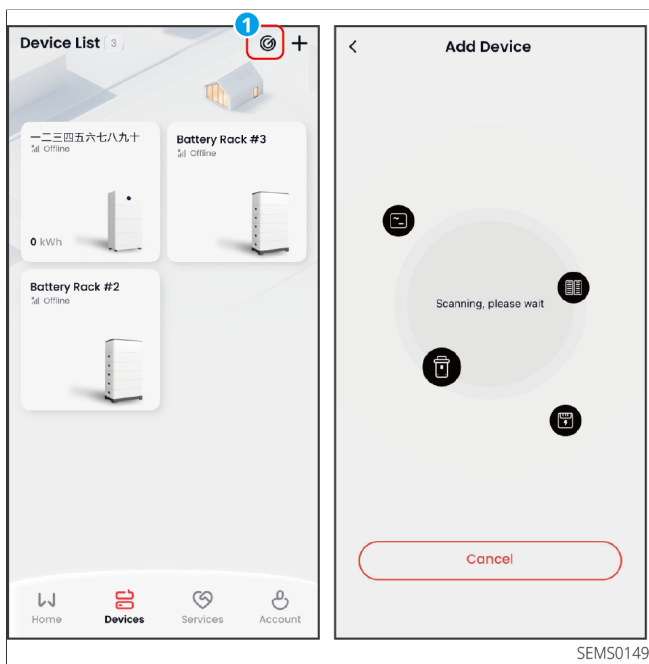


Figure2 Scan And Add Devices

3.1.1.3 Device Quick Configuration

NOTICE

- If the device is added to a station for the first time, quick configure the device to ensure basic operations.
- Ensure that all devices are power on and working normally before quick configuration.

Steps:

1. Tap "Quick Configuration" after adding the device successfully, or tap "Account" > "Local Access" to the device list interface.
2. On the device list interface, select "Bluetooth" or "WiFi" based on the signal type of smart dongle.
3. Pull down or tap "Search Device" to refresh the device list. Find the device by the the inverter serial number. Tap the device name to log into the home page.
4. Complete safety code, working mode, and self-check settings following to the interface prompts. To know more about working mode, refer to [8.2.2.Inverter Working Mode\(Page 73\)](#) section.

5. Tap “Complete” to complete the quick settings.

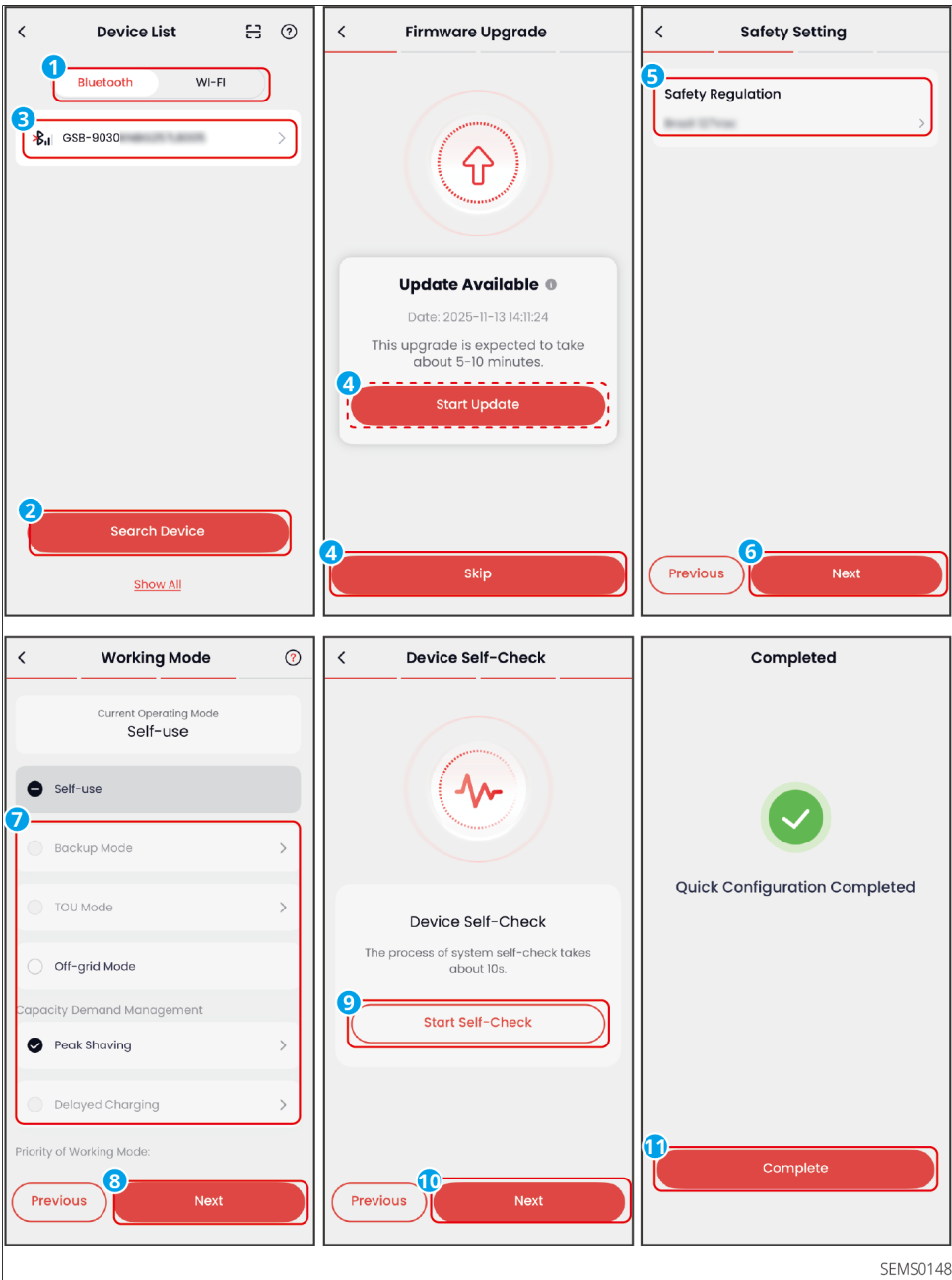


Figure1 Device Quick Configuration

3.1.2 Viewing Station Information (Installer)

3.1.2.1 Power Station List

Logging as a installer, the overview information of all stations under the account will be displayed on the homepage.

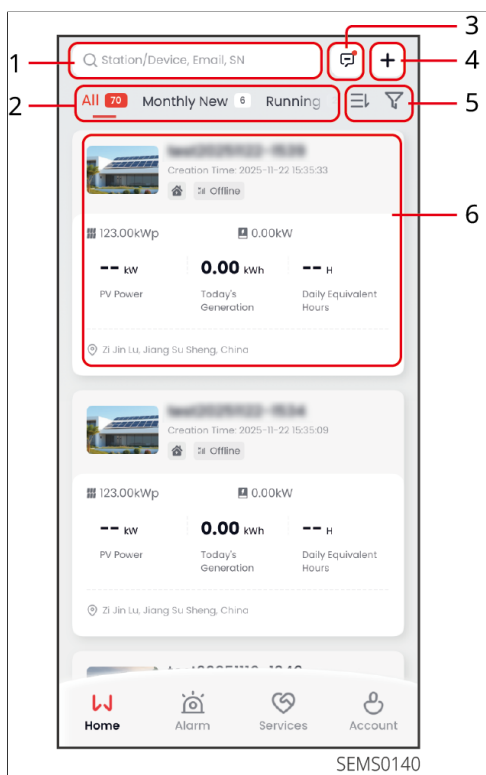


Figure1 Power Station List

No.	Descriptions
1	Search for a specific station. Enter device information to quickly locate the specific station.
2	Station status tab. Tap to switch stations under different working status.
3	Station message. View power station alarms, events, and other notifications.
4	Tap to create a new power station.
5	- Station sorting. Sort by installed capacity or station creation time in ascending or descending order. - Station filtering. Filter the station by station type, nominal power, whether it is favorited, etc.

No.	Descriptions
6	- Station card. Displays basic information such as station name, working status, power generation, address, etc. - Tap to enter the station details interface. - Long press the station for starring, deleting or sharing.

3.1.2.2 Detailed Power Station Information

On the station list page, select and tap any station name to enter the station details interface. Information such as station basic information, power generation, income, energy flow chart, and environmental contribution, can be viewed on the details interface.

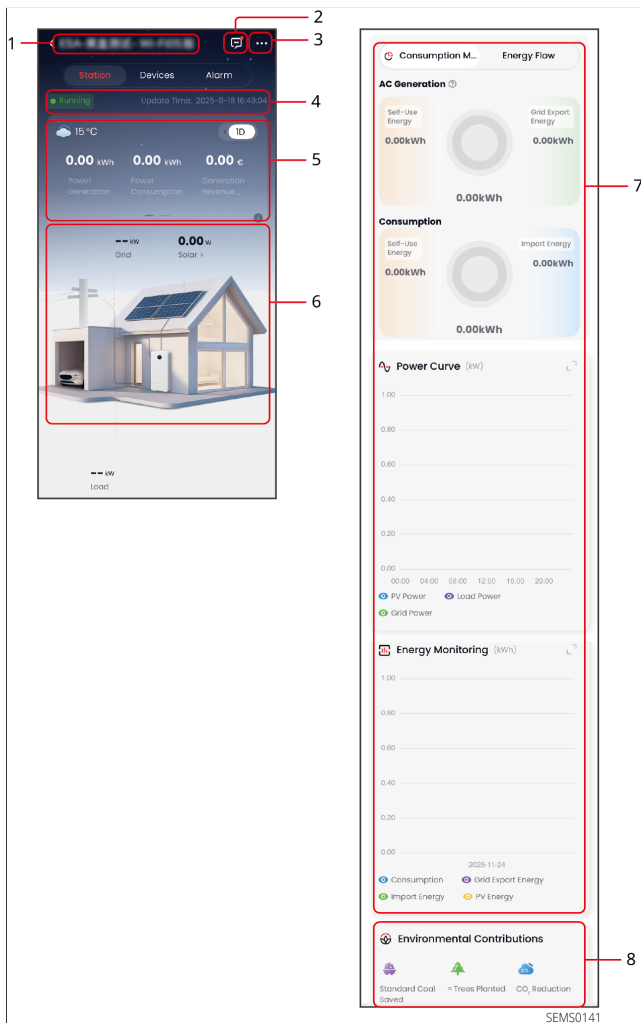


Figure1 Station details

No.	Descriptions
1	The current name of the power station.
2	Station message. View power station alarms, events, and other notifications.
3	Configuring Station Information. Supports: setting station basic information, sharing station, and setting electricity price.
4	Current working status and update time.
5	• Current weather condition, power generation, electricity consumption, generation revenue, export power, to-grid revenue, etc. • Station revenue statistics require tariff configuration; otherwise, the system cannot calculate revenue. • Generation Revenue: Displays the total power generation revenue under the current station type. ◦ Calculated based on the station-level electricity price. $\text{Generation Revenue} = \text{Grid Export Energy} \times \text{Grid Electricity Price}$. ◦ If the station uses a scheduled tariff, it is calculated according to the organization-level fixed tariff. If the power station uses a fixed tariff, it is calculated according to the station-level tariff. • Power Generation: Displays the total power generation under the current station type. • To-Grid Revenue: Displays the total to-grid revenue under the current station type. ◦ To-Grid Revenue is calculated based on the to-grid electricity price at the station level. $\text{To-Grid Revenue} = \text{Grid Export Energy} \times \text{Grid Electricity Price}$. ◦ For power stations with a scheduled tariff, the calculation shall be based on the policy of fixed tariff and adopt the fixed to-grid tariff at station level. • Grid Export Energy: Displays the total grid export energy under the current station type.

No.	Descriptions
6	Displays power station energy flow.
7	Consumption management, energy flow, power curve, and energy monitoring. Through visual charts, display the power station operation status and power station energy dynamics.
8	Environmental Contributions. Shows the environmental benefits generated by photovoltaic power generation, including: CO ₂ emission reduction, standard coal saving, and equivalent tree planting.

3.1.2.3 Alarm(Installer)

When logging in as a installer, tap "Alarm" on the homepage to view all alarms within the account.

- The default display shows "All" alarms, which can be switched to "Occurring" or "Recovered" alarms via the status tab.
- Long press the alarm for starring, deleting or confirming.

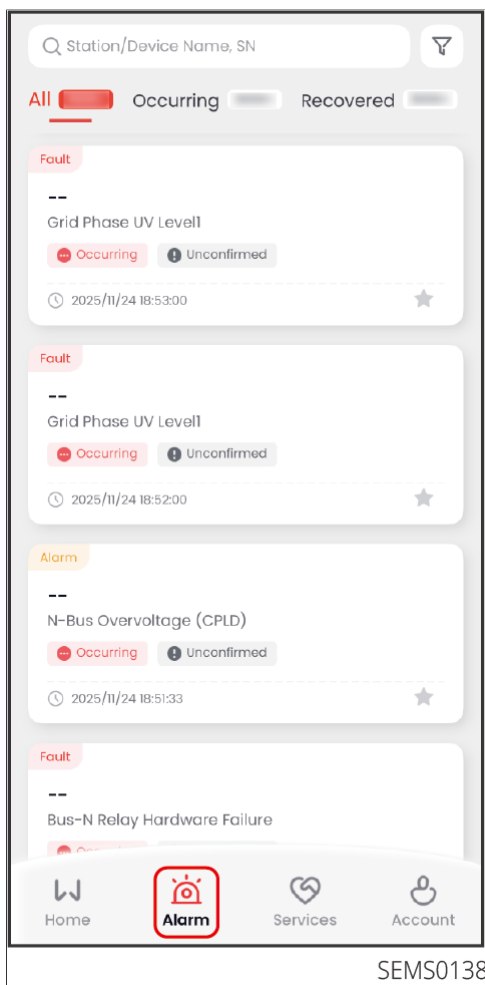


Figure1 Alarm

3.1.3 Viewing Station Information (Owner)

3.1.3.1 Power Station List

When there are multiple power stations in the owner's account, the stations can be accessed through the sidebar. Tap  to view all stations, and switch the station displayed on the homepage.

All stations in the account will be displayed in the list, including shared stations. The function of shared stations may be restricted. Refer to the actual interface.



Figure1 Power Station List

No.	Descriptions
1	Search for a specific station. Enter device information to quickly locate the specific station.
2	Tap to create a new power station.
3	- Station card. Displays basic information such as station name, working status, power generation, address, etc. - Tap to enter the station details interface. - Long press the station for starring, deleting or sharing.

3.1.3.2 Detailed Power Station Information

Logging as an owner, the overview information of all stations under the account will be displayed on the homepage. Information such as station basic information, power generation, income, energy flow chart, and environmental contribution, can be viewed on the details interface.

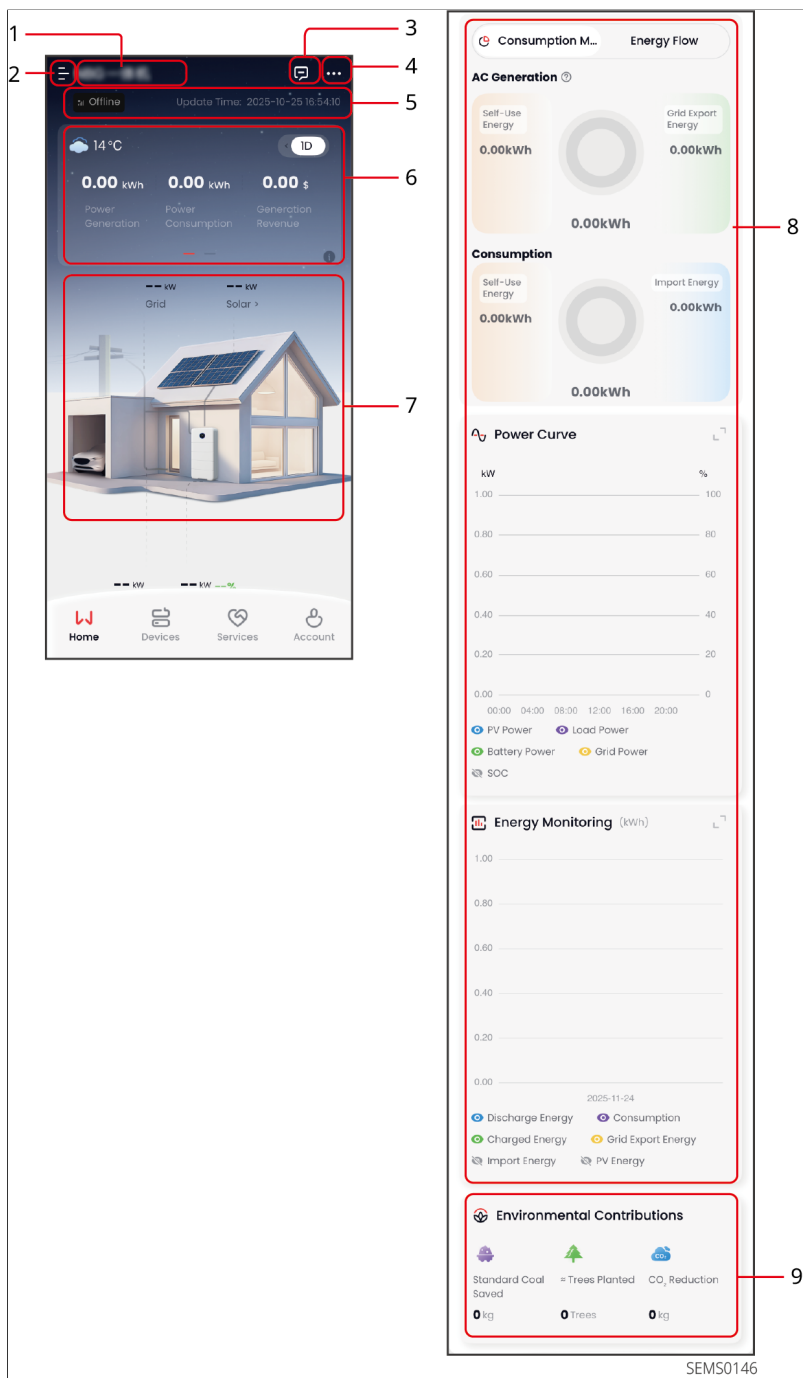


Figure1 Station details

No.	Descriptions
1	The current name of the power station.
2	Power station list. Tap to show all stations in the account and switch quickly.

No.	Descriptions
3	Station message. View power station alarms, events, and other notifications.
4	Configuring Station Information. Supports: setting station basic information, sharing station, and setting electricity price.
5	Current working status and update time.
6	• Current weather condition, power generation, electricity consumption, generation revenue, export power, to-grid revenue, etc. • Station revenue statistics require tariff configuration; otherwise, the system cannot calculate revenue. • Generation Revenue: Displays the total power generation revenue under the current station type. ◦ Calculated based on the station-level electricity price. $\text{Generation Revenue} = \text{Grid Export Energy} \times \text{Grid Electricity Price}$. ◦ If the station uses a scheduled tariff, it is calculated according to the organization-level fixed tariff. If the power station uses a fixed tariff, it is calculated according to the station-level tariff. • Power Generation: Displays the total power generation under the current station type. • To-Grid Revenue: Displays the total to-grid revenue under the current station type. ◦ To-Grid Revenue is calculated based on the to-grid electricity price at the station level. $\text{To-Grid Revenue} = \text{Grid Export Energy} \times \text{Grid Electricity Price}$. ◦ For power stations with a scheduled tariff, the calculation shall be based on the policy of fixed tariff and adopt the fixed to-grid tariff at station level. • Grid Export Energy: Displays the total grid export energy under the current station type.
7	Power station energy flow chart.
8	Consumption management, energy flow, power curve, and energy monitoring. Through visual charts, display the power station operation status and power station energy dynamics.

No.	Descriptions
9	Environmental contribution. Displays environmental contributions like CO ₂ Reduction, Trees Stationed Equivalent, and Standard Coal Saved.

3.1.4 Modifying Station Information

Basic information of the station can be modified, including the station name, station type, nominal power, battery capacity, PV capacity, station address, and others. Station type modifying is only for energy storage stations, not for PV stations.

Steps:

1. Tap  on the station details interface.
2. Go to "Station Information" > .
3. Tap  to save changes.

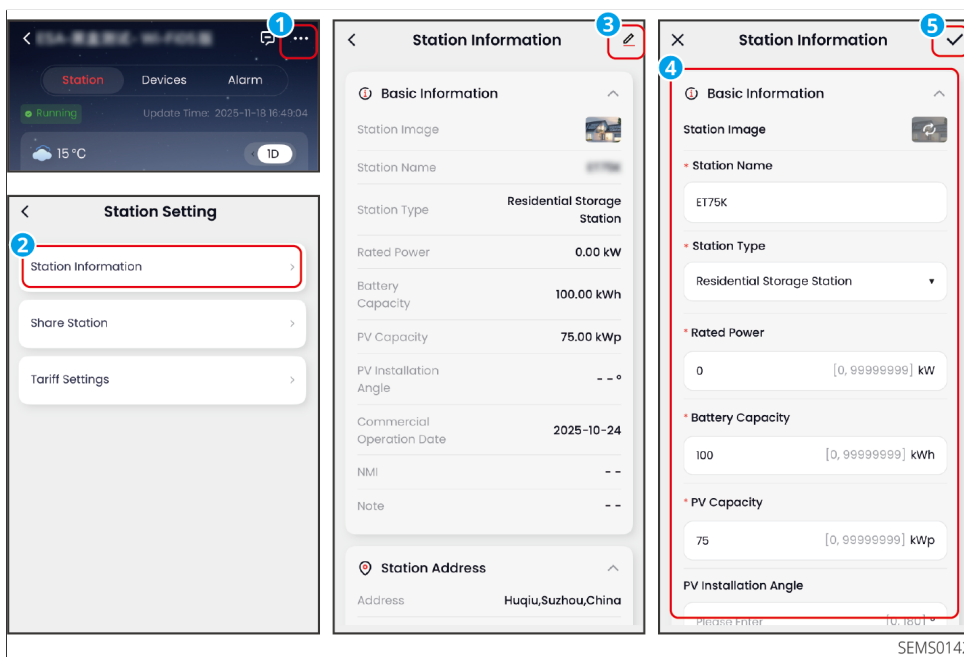


Figure1 Modifying Station Information

3.1.5 Setting Station Price Information

Supports viewing or setting the electricity price information based on actual needs.

Steps:

1. Tap **⋮** > “Tariff Settings” on the station details interface.
2. Select “Export Tariff” or “Import Tariff”. Set the price type, supports: Fixed Tariff, Time-of-Use Tariff, and Dynamic Electricity Tariffs.
 - Fixed Tariff: set the tariff based on the actual electricity price.
 - Time-of-Use Tariff: set the tariff in different time periods based on the actual electricity prices. Multiple sets of prices can be set.
 - Dynamic Electricity Tariffs: obtains the dynamic electricity price from the utility company and factors in the user-configured price surcharge to dynamically adjust the actual buy/sell rate. Applicable to certain regions and specific devices.

Tap **+** to set the tariff information and save.

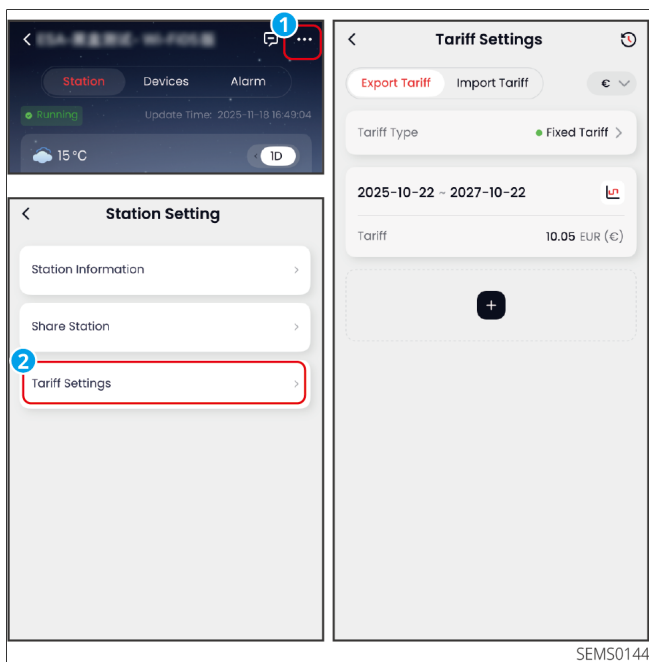


Figure1 Setting Station Price Information

3.1.6 Managing Station Sharing

After creating a station, the station can be shared with other organizations or end users, and set sharing permissions.

Steps:

1. Go to **⋮** > “Share Station” on the station details interface.
2. Tap “Add Sharing”, and set the visitor information, permission, and time limit. Tap **✓**

, the visitor will be added. To remove sharing, tap .

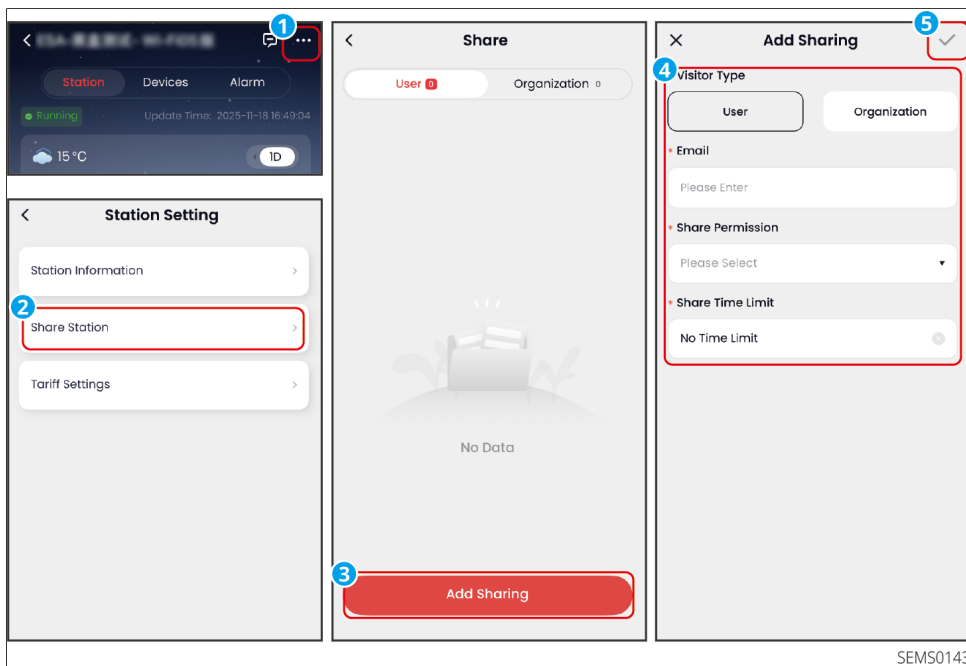


Figure1 Managing Station Sharing

3.2 Devices

3.2.1 Device List

Supports viewing an overview of all devices on the device list interface, including device names, working status, etc.

- When logging in with a installer, select the desired station from the station list to view the device list of the station.
- When logging in as an owner, tap the "Devices" tab to view the device list of the station.

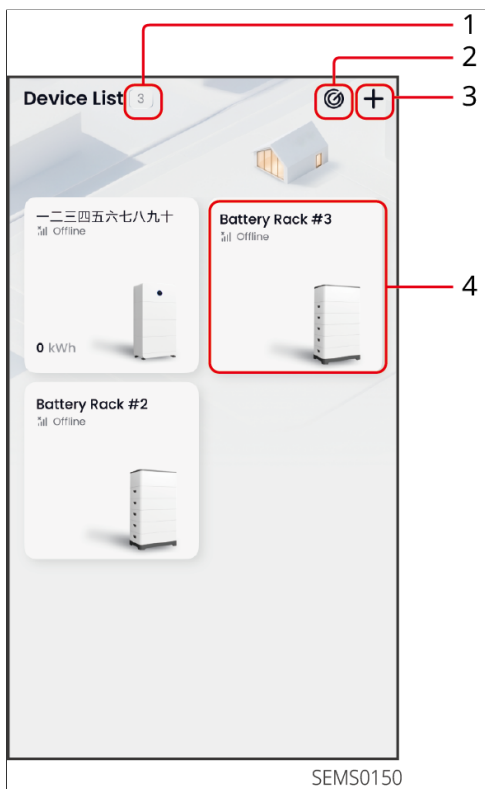


Figure1 Device List

No.	Descriptions
1	Number of devices in current station.
2	Scan and add devices to current station.
3	Manually add devices to current station.
4	• Device card. Displays data such as device name, device status, power generation, etc. • The card information varies depending on the device type. • The card form varies depending on the station type. • The device figure is for reference only.

3.2.2 Detailed Device Information

Supports viewing the following information in the device interface: device information, working status, power generation, power curve. And supports setting

device parameters, like on-grid parameters, safety parameters, battery parameters, etc.

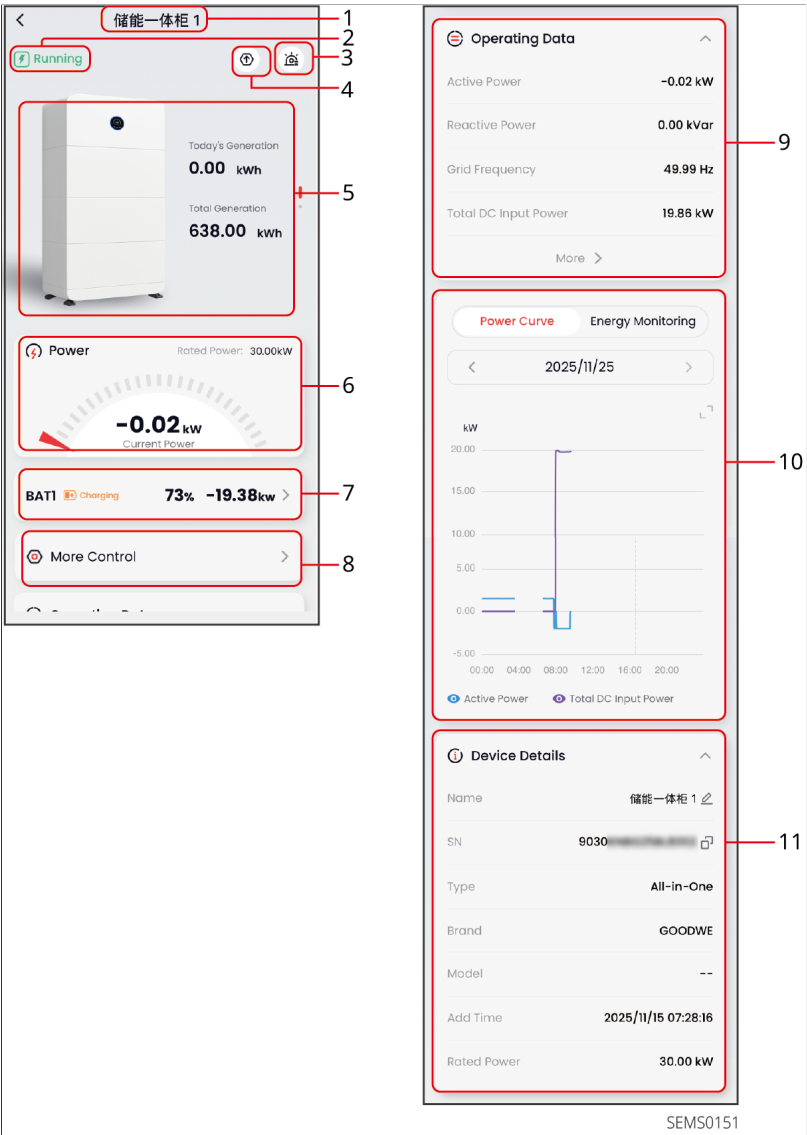


Figure1 Device details

No.	Descriptions
1	Device name.
2	Device working status.
3	Devices alarm information. Tap to view detailed alarms.
4	When logging in as a installer, supports upgrading devices or viewing device upgrade records.

No.	Descriptions
5	Power generation information. Displays power Today's Generation, Total Generation, etc.
6	Power dashboard. Displays current power and nominal power.
7	- Battery information. Displays battery system SOC, charge/discharge status, charge/discharge power, etc. - Tap to enter the battery details interface.
8	- Remote control. Provide quick access to commonly used controls. - Tap "More Control" to set all control parameters. - Refer to Remote Control section for more details.
9	- Operation data. Displays current working parameters of the device, such as active power, reactive power, power factor, etc. - Tap "More" to show all data details. - Tap  to show less data. - Displayed information varies depending on device type.
10	- View power curves and energy monitoring charts for different timeframes (e.g., hourly, daily, monthly). - Tap the icon  for a larger view of the chart.
11	- Device details. Displays device information. - Tap  to duplicate device SN, device model, etc. - Tap  to show less data.

3.2.3 Remote Control

Set parameters directly from the device details screen: either by tapping a quick-access icon for a specific setting or by tapping “More Control” to access the full list.

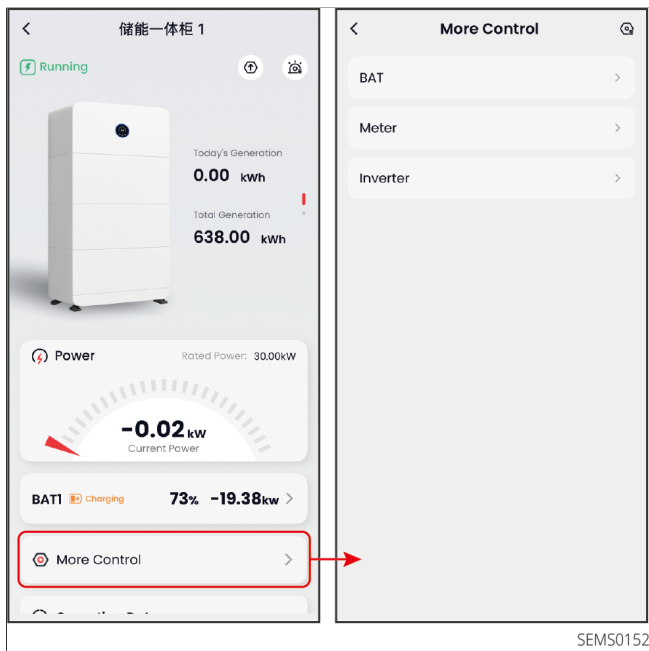


Figure1 Remote Control

4 Configuring Local Devices

NOTICE

The parameters may vary depending the account type, station type, or device type.

Once logged in, you can connect to devices locally using Bluetooth or Wi-Fi, allowing you to view information and configure settings directly from the App.

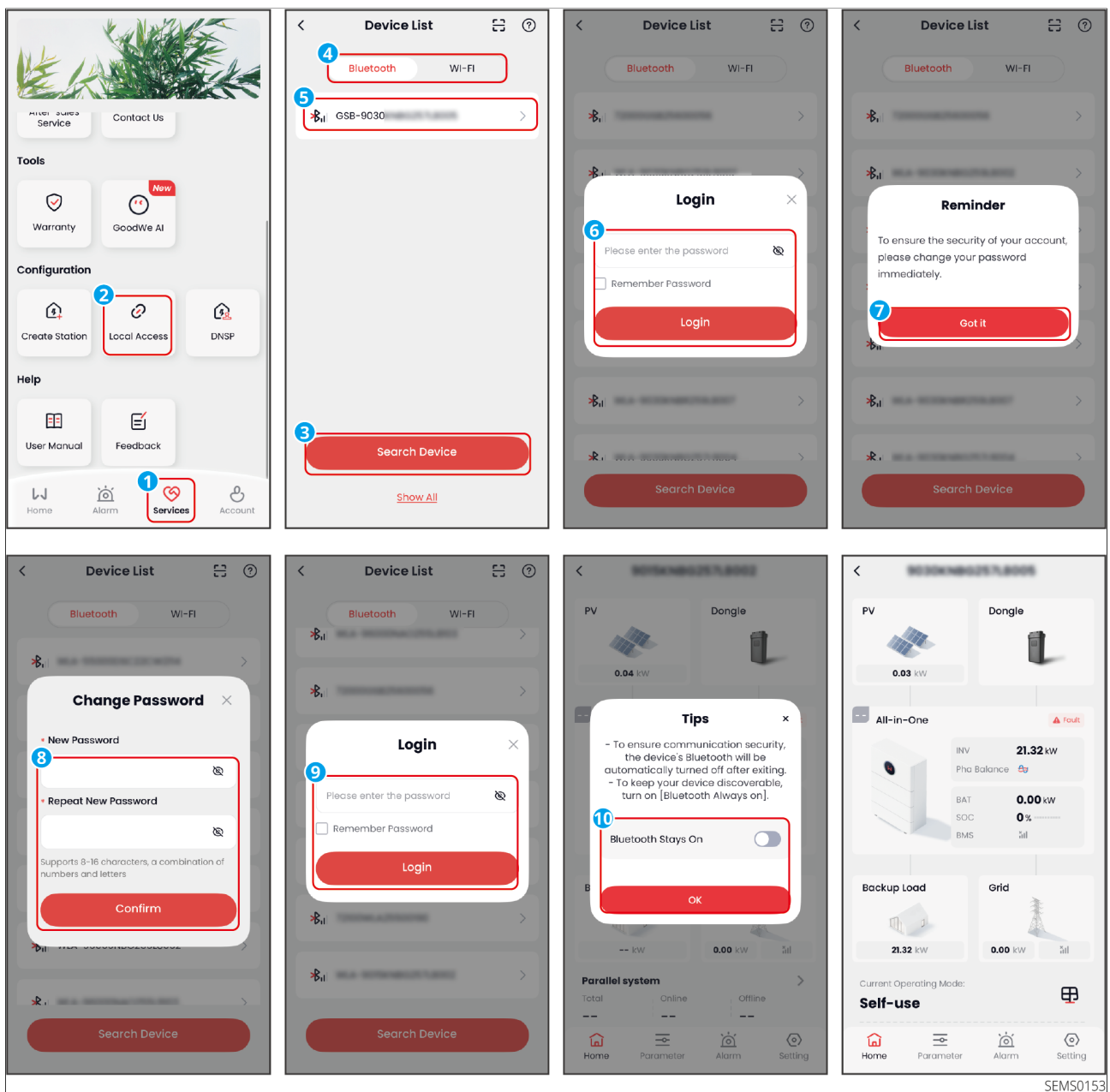
4.1 Connecting Local Devices

NOTICE

- Ensure that the device is power on and working properly before local connection.
- The device name varies depending on the inverter model or smart dongle model.
 - Wi-Fi/LAN Kit, Wi-Fi Kit, Wi-Fi Box: Solar-WiFi***
 - WiFi/LAN Kit-20: WLA-***
 - WiFi Kit-20: WFA-***
 - Ezlink3000: CCM-BLE***, CCM-***, ***
 - 4G Kit-CN-G20/4G Kit-CN-G21: GSA-***, GSB-***
 - 4G Kit-G20: LGA-***
 - AC Charger: ***

Steps:

1. Log into the App, and tap "Services" > "Local Access".
2. On the device list interface, select "Bluetooth" or "WiFi" based on the signal type of smart dongle. Tap "Search Devices" to refresh the device list, and find the device by serial number.
3. Enter the login password and change the initial password following the prompt. Default password: 1234.
4. When connecting via Bluetooth, enable "Bluetooth Stays On" as prompted. Otherwise, the bluetooth signal of the device will be off after disconnection.

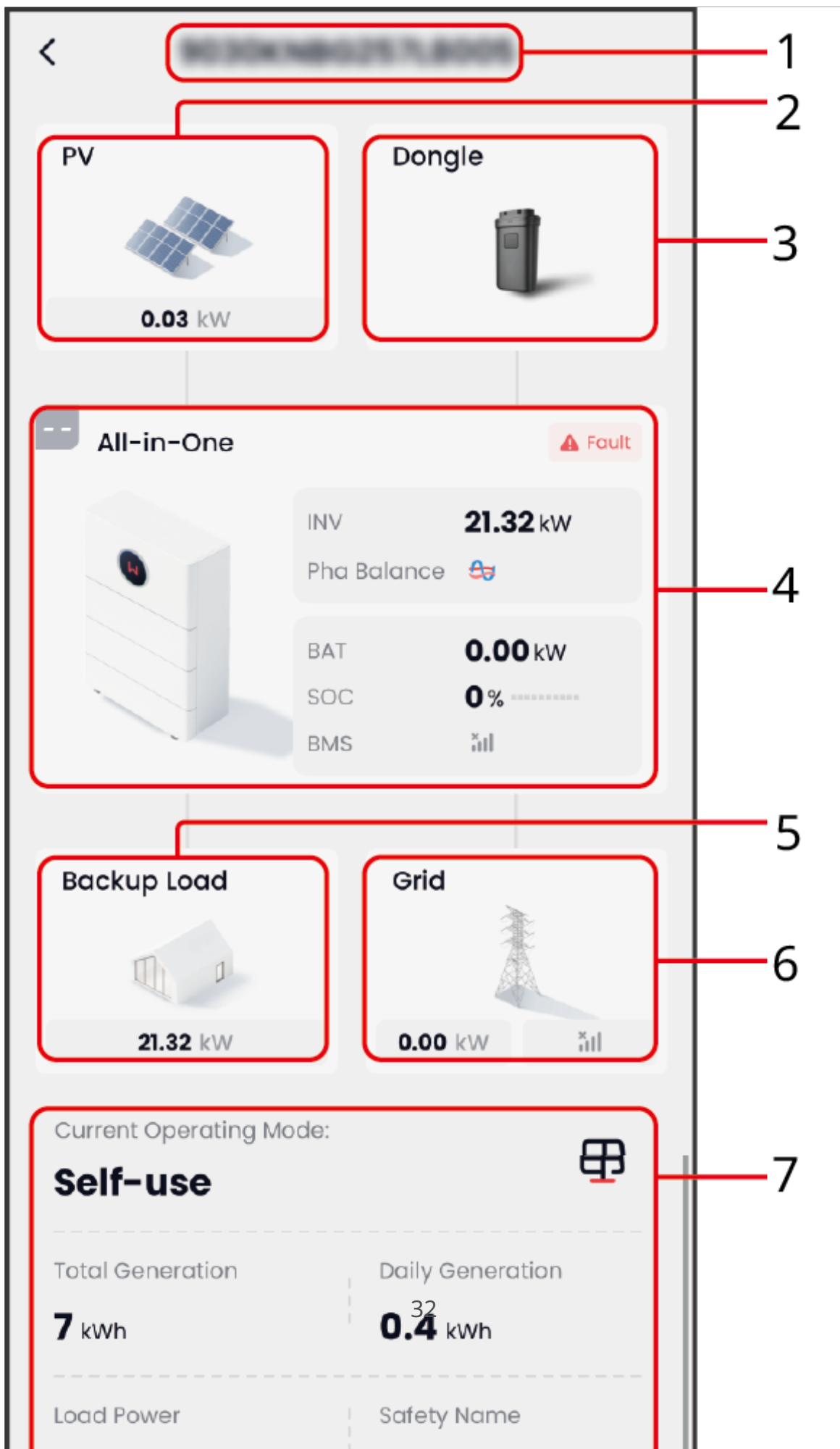


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Figure1 Connecting Local Devices

4.2 Overview of Local Access Interface

Enter the local access homepage after connecting the device via Bluetooth or WiFi. Supports viewing device parameters or modifying them.



No.	Descriptions
2	PV card. Tap to view PV input related parameters and settings.
3	Smart dongle card. Tap to view dongle related parameters and settings.
4	• Inverter card. Displays current working status and basic parameter. • Tap to view more parameters and settings. • When the inverter is an all-in-one inverter, tap to select inverter or battery respectively. • When the system is a parallel system, "M" will be placed in the upper left corner of the master inverter card.
5	• Backup loads. Displays current operating parameters. • For systems connected with backup loads. • Tap to view more parameters and settings.
6	• Utility grid. Displays current grid power parameters and status. • Tap to select grid or smart meter.
7	• Parallel information will be displayed when the system is a parallel system. Including number of parallel inverters, online inverters, and offline inverters. • Tap to view serial number of slave inverters.
8	Current system operating information. Including working mode, power generation, power, etc.
9	Quick configuration. Quickly set the safety code, working mode, device self-test, etc. Refer to 3.1.1.3.Quick Configuration(Page 13) for more information.

No.	Descriptions
10	• One-click configuration. Only for some models. • For devices that support one-click configuration, a template can be generated based on the completed configuration.
11	Home. Displays system information, including system devices, system status, and quick access to parameters.
12	Parameter. View device information, operation parameters, etc. of different devices.
13	• Alarm. Displays device alarm information. • Tap to get detailed information, such as alarm type, alarm cause, and handling suggestions.
14	Settings. Displays parameters available based on device type.

4.3 Setting Device Parameters

Once the device is connected locally, you can modify its parameters as needed.

4.3.1 One-click Configuration

Only for some models.

After completing the [3.1.1.3.Quick Configuration\(Page 13\)](#), tap "Generate Template" to store the current configuration as a template. When needed, simply tap the "One-Click Configuration Mode" to quickly apply a saved template.

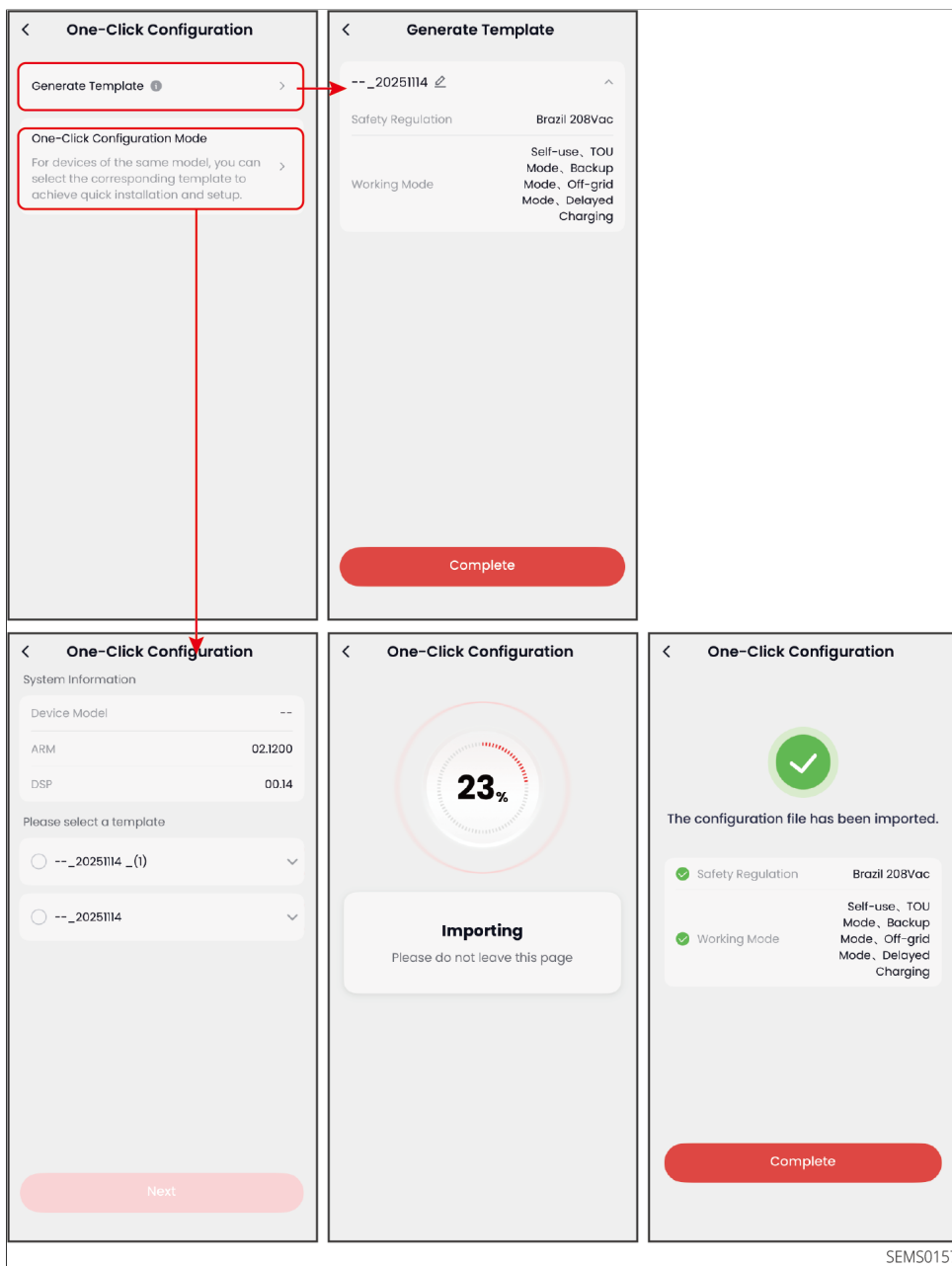


Figure1 One-click Configuration

4.3.2 Setting Inverter Parameters

Method 1 (Home Screen): Tap the inverter card > "Setting" to configure parameters.

Method 2 (Settings Menu): Go to "Setting" directly from the home screen to configure inverter parameters.

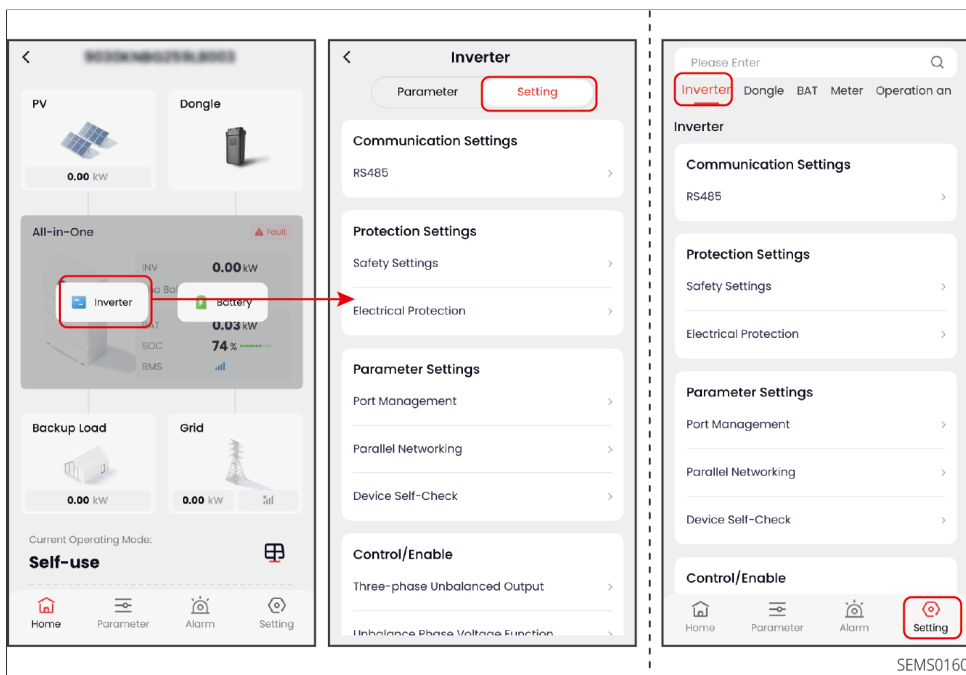
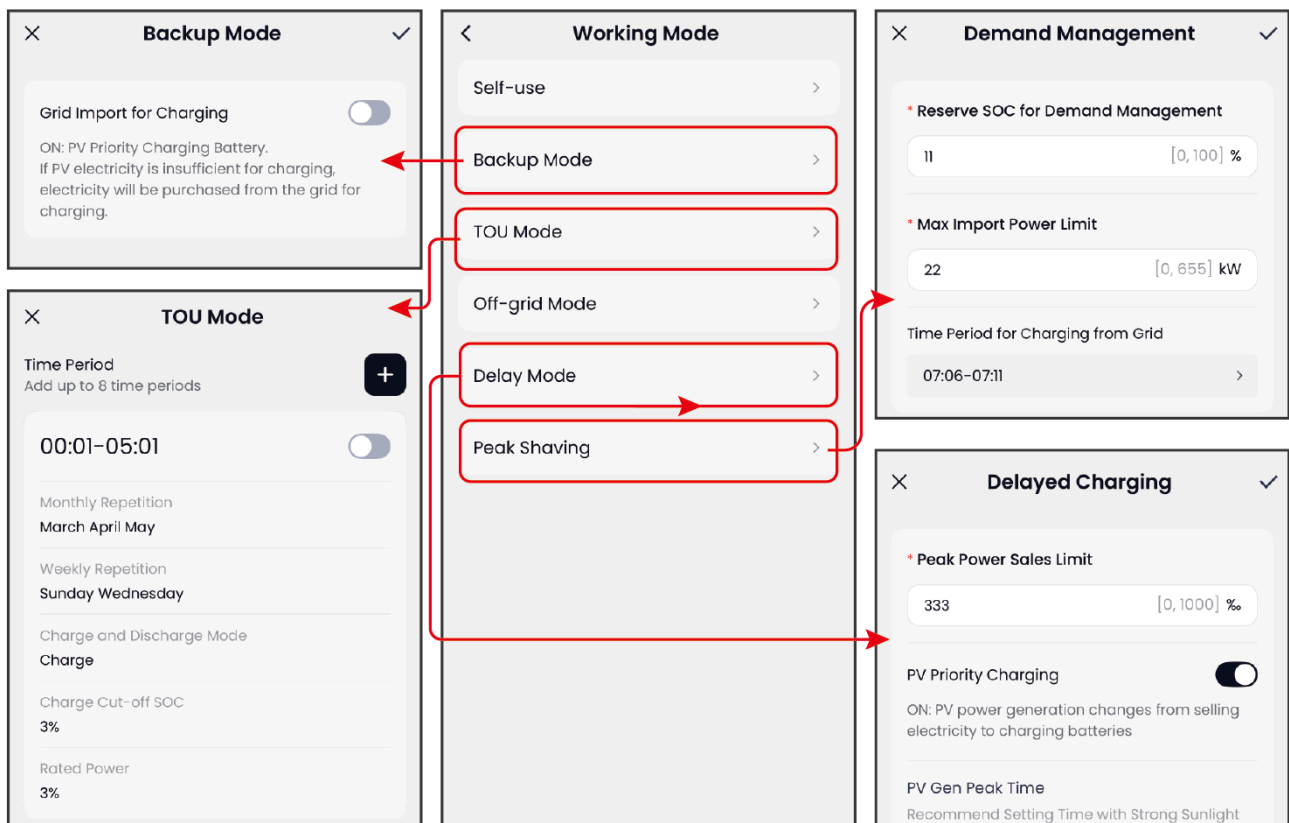


Figure1 Setting Inverter Parameters

Setting Inverter Working Mode Steps:

1. Tap "Setting" > "Working Mode".
2. Set the working mode based on actual needs.



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Setting the RS485 Parallel System

NOTICE

- When paralleling hybrid inverters via RS485, you must set each inverter as the master or slave inverter individually using the App.
- When an inverter in a parallel system needs to be used as a single unit, it must be set to standalone inverter via the App.
- set the inverter connected to the meter as the master.
- first set the slave inverter address, then set the parallel network through the master.

Steps:

1. Tap "Setting" > "Parallel Networking".
 2. Set the inverter to Master, Slave, or Standalone based on its actual wiring.
- If the inverter is the master inverter, set it to Master and then exit the connection. After setting the slave inverter address, back to this interface, tap "Parallel

Networking”, set the number of inverters in the parallel system, and then tap “Networking”.

- If the inverter is the slave inverter, set the inverter address and tap v.

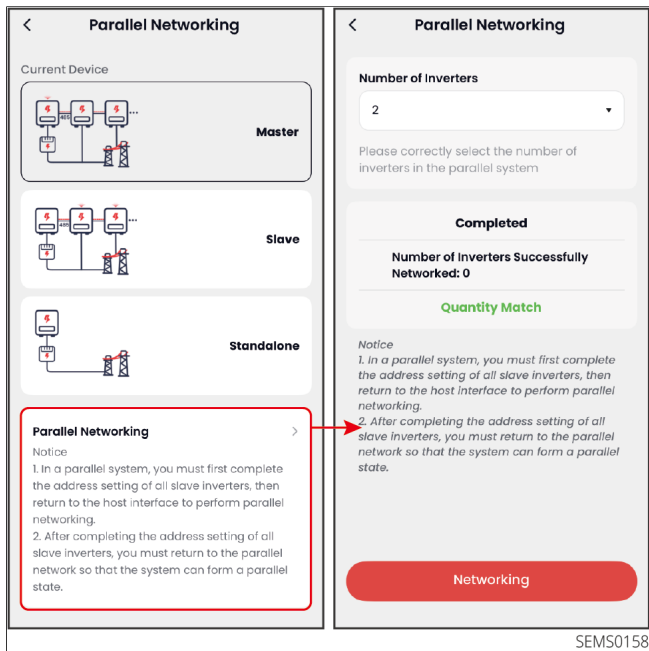


Figure2 Setting the RS485 Parallel System

4.3.3 Setting Smart Dongle Parameters

Method 1 (Home Screen): Tap the dongle card > “Setting” to configure parameters.

Method 2 (Settings Menu): Go to “Setting” directly from the home screen to configure dongle parameters.

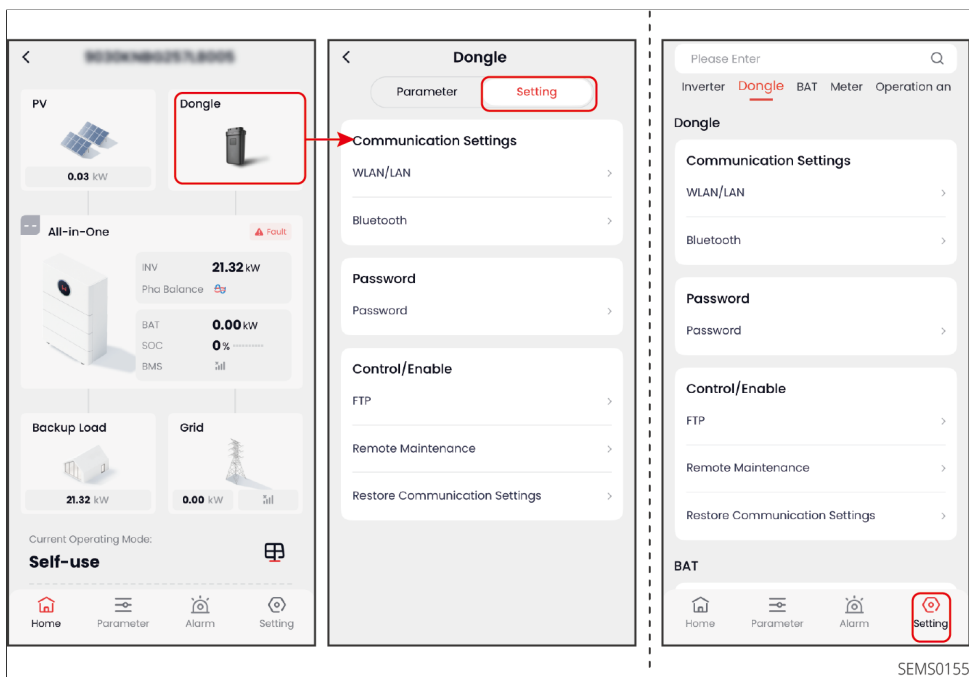


Figure1 Setting Smart Dongle Parameters

4.3.4 Setting Battery Parameters

Method 1 (Home Screen): Tap the battery card > “Setting” to configure parameters.

Method 2 (Settings Menu): Go to “Setting” directly from the home screen to configure battery parameters.

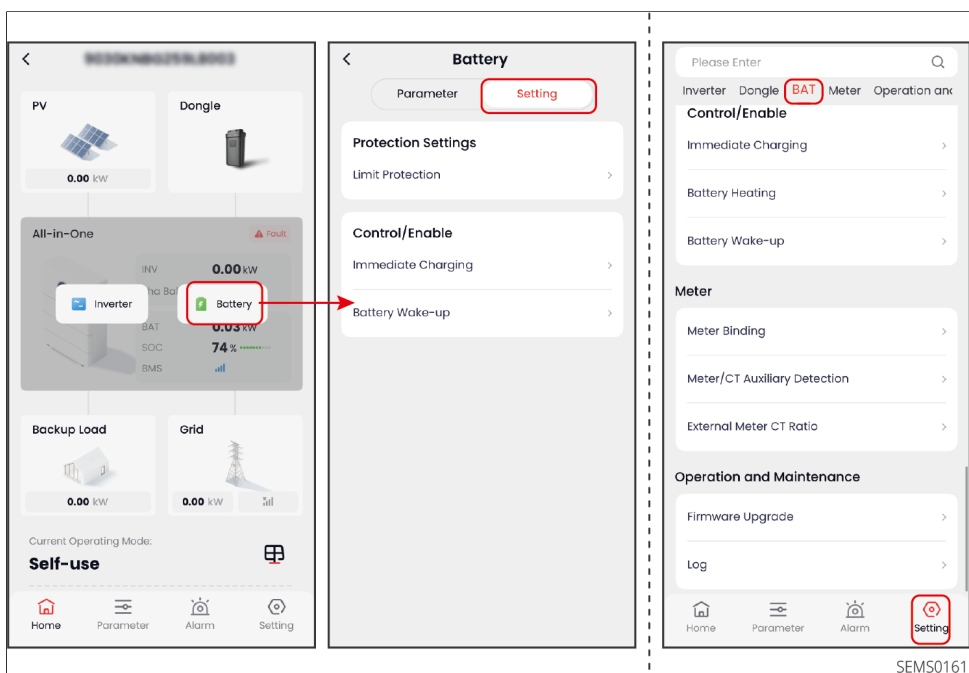


Figure1 Setting Battery Parameters

4.3.5 Setting Smart Meter Parameters

Method 1 (Home Screen): Long press the Grid card, then tap “Meter” > “Setting” to configure parameters.

Method 2 (Settings Menu): Go to “Setting” directly from the home screen to configure meter parameters.

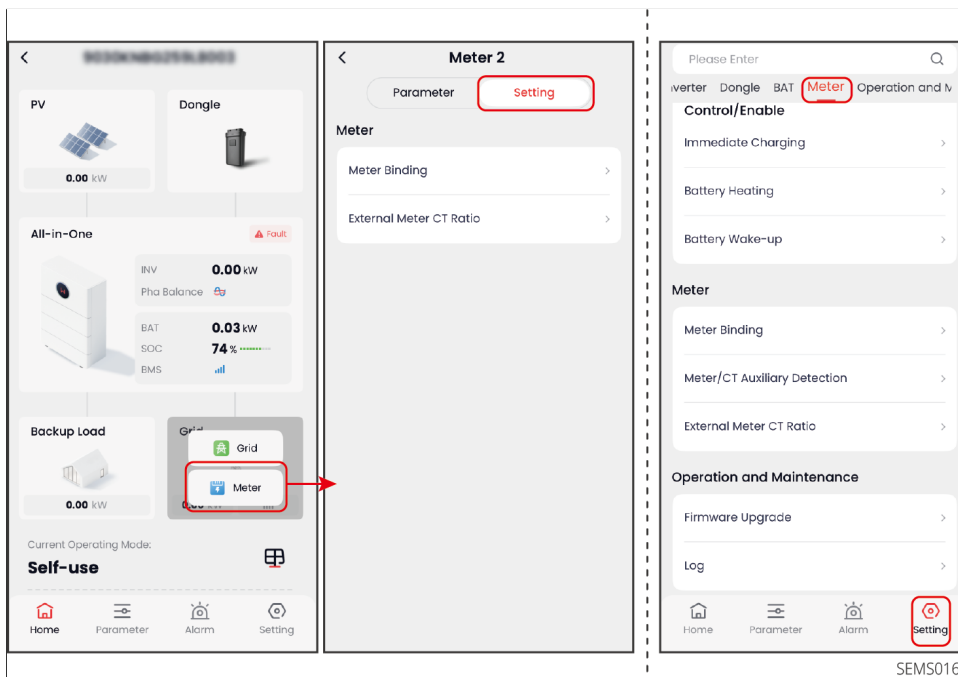


Figure1 Setting the Smart Meter Parameters

Steps for binding the smart meter:

1. Tap “Home” and long press grid card. Then go to “Meter” > “Setting” > “Meter Binding”. Or go to “Setting” > “Meter” > “Meter Binding”.
2. Tap “Meters Number/Quantity” and select the actual application scenario.
Supported options: Meter 1 (built-in) No Meter 2; Meter 1 (external) No Meter 2; Meter 1 (built-in) Meter 2 (external); Meter 1 (external) Meter 2 (external). The interface of Meter 1 (external) No Meter 2 is used as an example to explain how to bind the meter.
3. As shown in the figure below, when you choose to use an external meter, you need to manually add the external meter information. Tap to bind the meter by

manually entering the meter SN or scanning the meter SN QR code. When the bound meter model is GM330, set the meter CT ratio according to the actual situation. If other meters are used, no need to set the meter CT ratio.

Meter Binding

☒ GoodWe Meters Only

Meters Number/Location

1 Meter 1 (External) No Meter 2 ▼

Meter 1: Grid meter, used for on-grid power limitation.
Meter 2: Used to monitor third-party generators/pv
inverters.

Meters Number/Location

Meter1	Location	External
2 + Bind		

Meter Binding

3 Meter Information

Please enter the meter SN

Please check the information on the side of the meter, you can scan the QR code or enter SN number manually.



4 Save

Figure2 Binding the Meter

5 Services

Tap “Services”, which is the hub for: warranty checks, pre-sales and after-sales support, plant configuration, manual downloads, and AI support.

NOTICE

Different accounts have varying functional permissions. Refer to the actual interface for details.

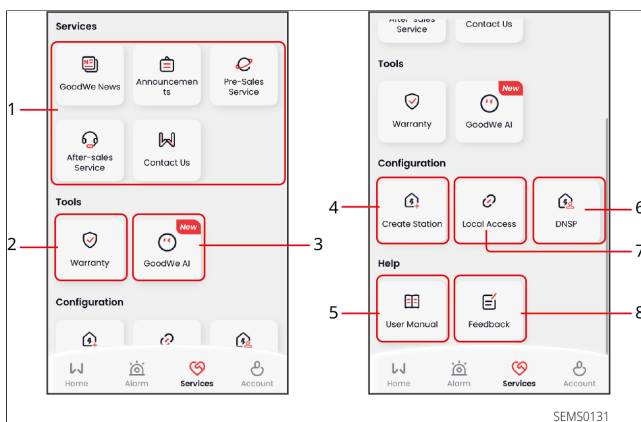


Figure1 Services

No.	Descriptions
1	News, announcements, pre-sales and after-sales service portal.
2	Query the warranty period through the device serial number.
3	Create Station. For detailed steps, refer to the Creating Power Station section.
4	View the SEMS+ App user manual.
5	- AI assistant. Through intelligent Q&A, quickly access knowledge base information, query business data, etc. - Supports enabling the AI assistant floating window for quick access to the conversation interface.

No.	Descriptions
6	DNSP settings. Applicable to Australia only.
7	Local access. For detailed steps, refer to the Connecting the Local Device section
8	Provide feedback on issues and optimization suggestions.

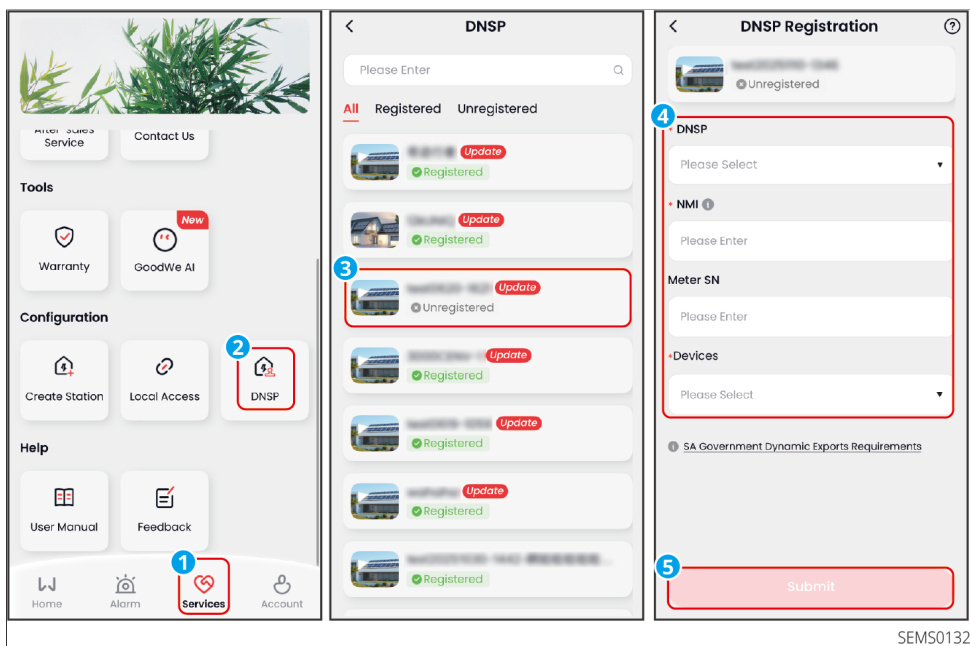
5.1 Setting the DNSP

NOTICE

- For Australia only.
- Register the station to DNSP, which allows power service providers to remotely limit the station's output power.
- The installer account allows for the diagnosis of DNSP operational issues post-registration, including communication failures, outdated firmware, and system time offsets.

Steps for DNSP registration:

1. Go to "Services" > "DNSP".
2. Select "Unregistered" stations and tap to enter the registration interface.
3. Fill in the registration information and submit.



SEMS0132

Figure1 DNSP Registration

Parameters	Description
DNSP	Select the utility grid company.
NMI	National Meter Identifier. Set the NMI number.
Meter SN	Enter the connected meter SN number.
Devices	Select the added devices from the station. The device serial number and other information will be automatically filled in.

Steps for DNSP Check:

1. Go to "Services" > "DNSP".
2. Select "Registered" stations and tap to enter the check interface.
3. Check for any abnormal information prompts, such as:
 - Is the NMI number correct;
 - Is there a time difference between the server and the equipment;
 - Are the devices online;
 - Does the equipment version need to be upgraded;
 - Check whether the equipment operation power is within the set range, etc.

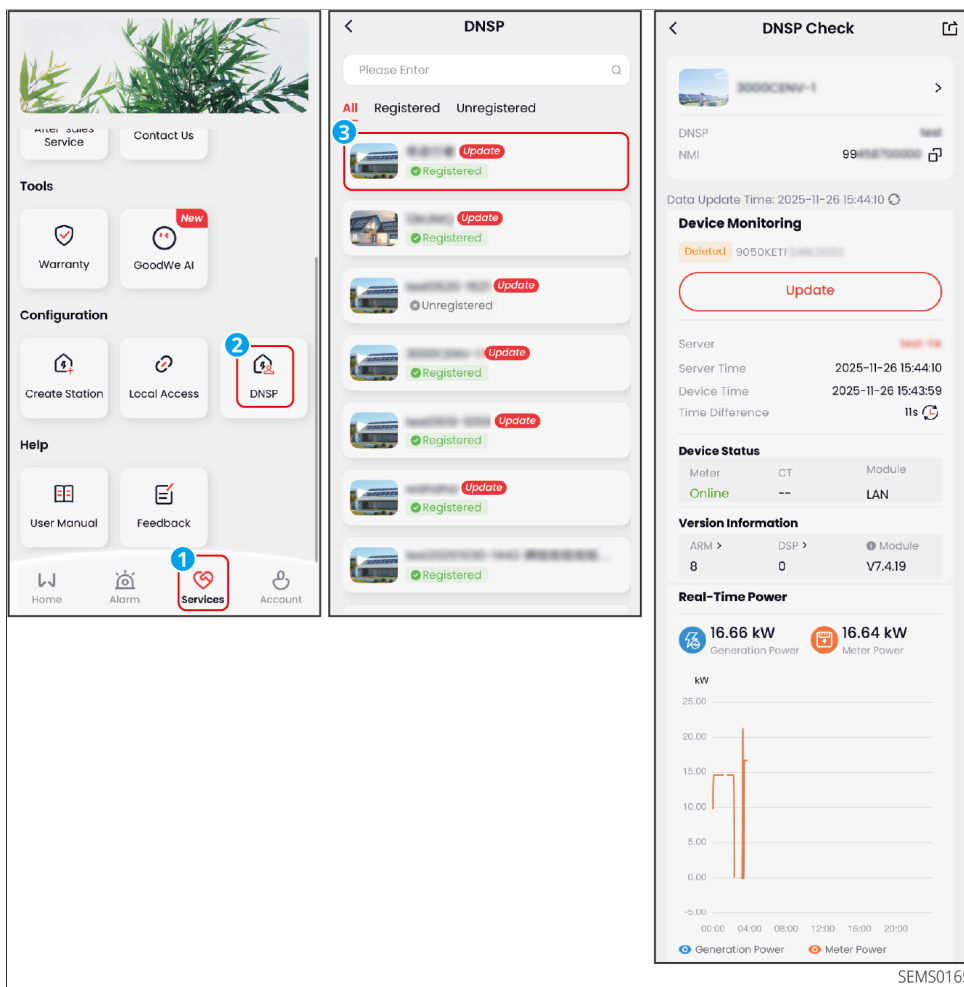


Figure2 DNSP Check

5.2 Using AI Assistant

Obtain graphic and text information quickly through the GoodWe AI assistant's Q&A format.

- Supports querying knowledge base information, such as GoodWe product equipment manuals, etc.
- Supports querying station data, such as power generation, faults, power data, etc.
- Supports querying external data, such as weather information, date information, etc.

Steps:

1. Go to "Services" > "GoodWe AI".

2. Enter the question you need to ask in the dialog box to quickly get the answer.

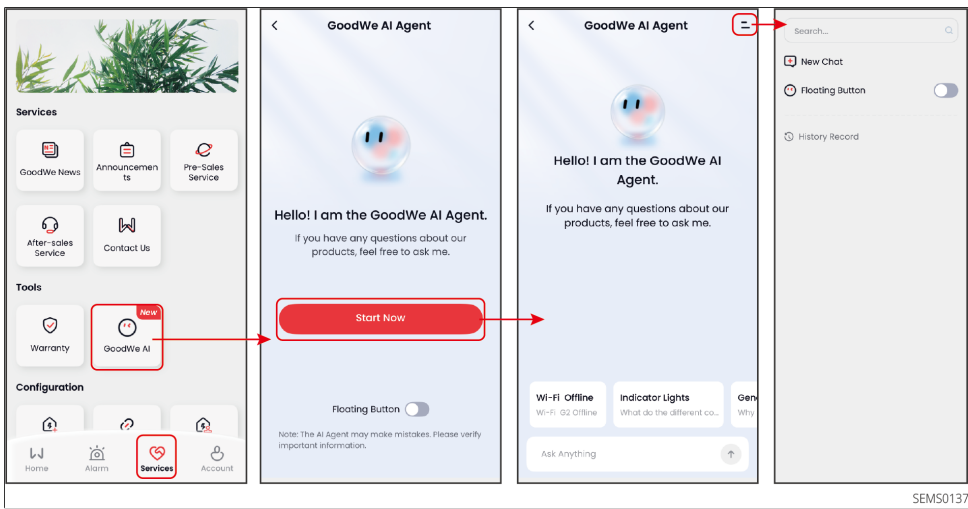


Figure1 AI assistant

6 Account

6.1 Modifying User Information

Supports modifying user-related information, such as username, avatar, country/region, etc.

Steps:

Go to “Account” > “User Information”.

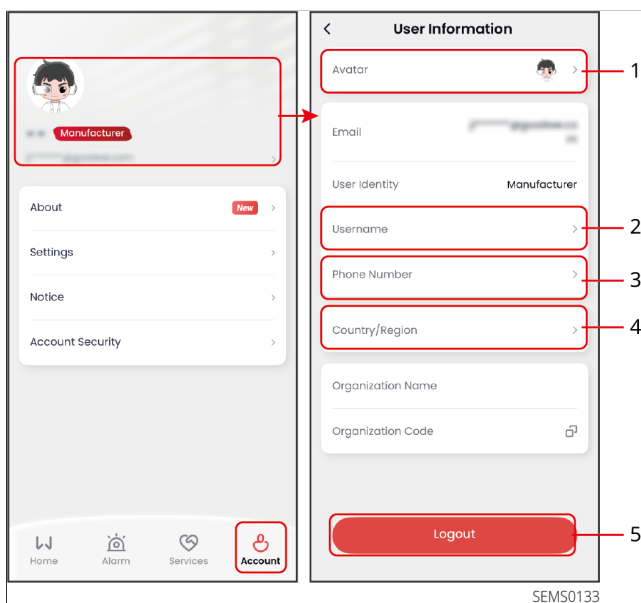


Figure1 Modifying User Information

No.	Description
1	Change the avatar.
2	Modify account username.
3	Bind or change the mobile number.
4	Modify country/region information.
5	Log out of the current account.

6.2 Setting the App Notification

Supports modifying App notification message types, push channel, notification time, etc.

Steps:

Go to “Account” > “Notice”, enable or disable message notifications and configure message types.

- Alarm Subscription Settings: Enable to receive timely notifications when device alarms.
 - Supports configuring push channels, like message center, App push, E-mail, etc.
 - Supports setting when to push alarm notifications.
 - Supports setting time periods and alarm types for ignoring.
- Shared Station Subscription: Receive notifications when get new shared stations.

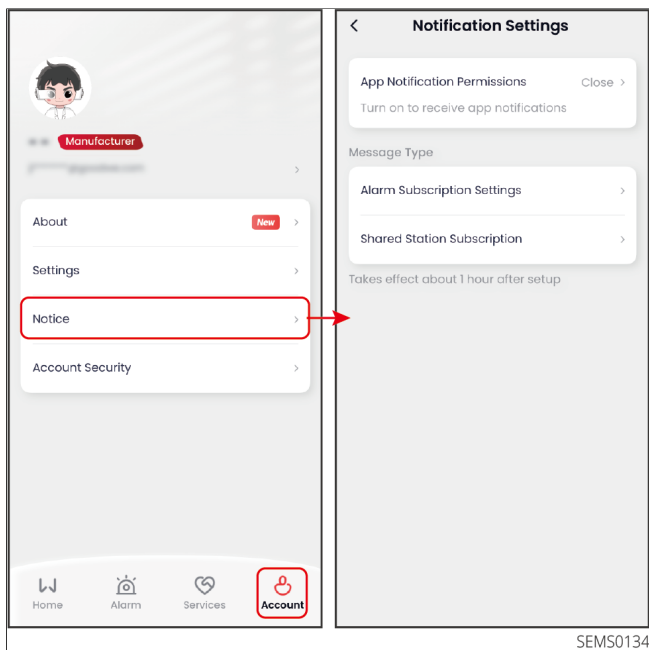


Figure1 Setting the App Notification

6.3 Setting Account Security Information

To enhance account security, it supports updating the email address or password

linked to the account, also allowing delete accounts without active stations.

Steps:

Go to “Account” > “Account Security”.

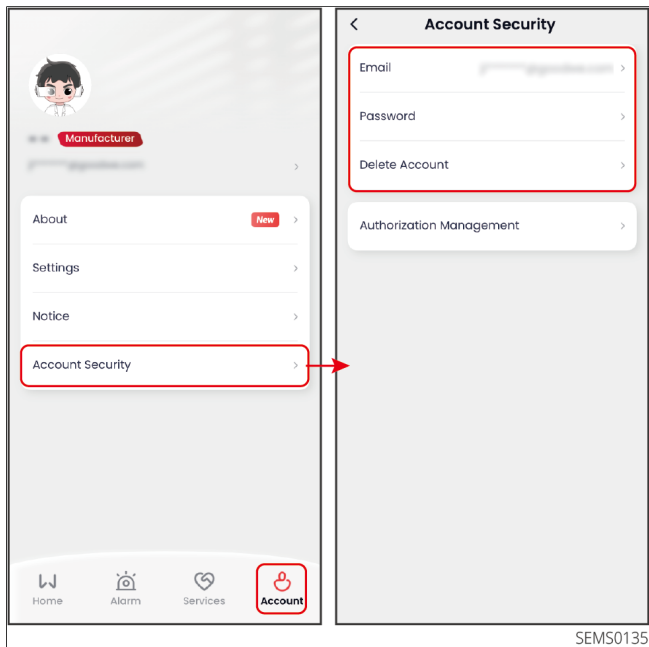


Figure1 Setting Account Security Information

6.4 Setting Authorization Management

NOTICE

- Monitoring Authorization is available for AUS/NZ and Europe server.
- If a third-party grid company requires remote control, contact GoodWe for authorization.
- Monitoring Authorization is only for station Owner. According to the European GDPR regulations, the owner can configure monitoring permissions as needed. Apart from the owner and authorized visitors, other accounts cannot monitor this power station.

Steps:

1. Go to “Account” > “Account Security” > “Authorization Management”.

2. Set monitoring permissions based on actual needs.

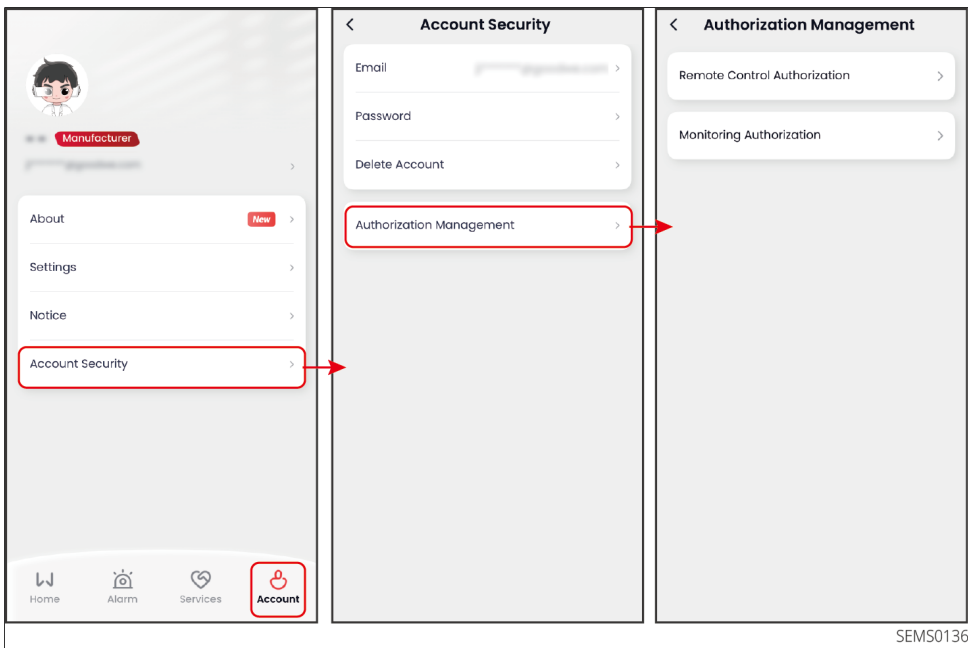


Figure1 Setting Authorization Management

7 Troubleshooting

No.	Fault	Cause	Solutions
1	Unable to install SEMS+ App	1. The smart phone operating system version is too low. 2. The smart phone prevents installing the App.	1. Upgrade the phone operating system. 2. Select "Setting" > "Security" > "Install Apps from external sources" on your smart phone.
2	The WiFi signal is not included in the App device list.	The App is not connected to the WiFi signal.	1. Make sure that the WiFi dongle works normally. 2. Refresh the device list. If the signal is still missing, restart the App.
3	Login failed	1. The smart phone is not connected to the Internet. 2. SEMS+ App is in maintenance.	1. Check if mobile data of the cell phone is enabled and has access to the Internet. 2. SEMS+ is in maintenance. Try again later.
4	Unable to launch SEMS+ App	1. The smart phone operating system version is too low. 2. The App version is too low.	1. Upgrade the phone operating system. 2. Check if the App version is the latest version.
5	Data acquisition failure during operation	Communication between the device and SEMS+ is interrupted.	1. Check whether the communication between the device and the router is normal. 2. Check if the communication between the router and the cloud is normal.

8 Appendix

8.1 Safety Country

No.	Safety Code	No.	Safety Code
Europe			
1	IT-CEI 0-21	43	CZ-C
2	IT-CEI 0-16	44	CZ-D
3	DE LV with PV	45	RO-A
4	DE LV without PV	46	RO-B
5	DE-MV	47	RO-D
6	ES-A	48	GB-G98
7	ES-B	49	GB-G99-A
8	ES-C	50	GB-G99-B
9	ES-D	51	GB-G99-C
10	ES-island	52	GB-G99-D
11	BE	53	NI-G98
12	FR	54	IE-16/25A
13	FR-island-50Hz	55	IE-72A
14	FR-island-60Hz	56	IE-ESB
15	PL-A	57	IE-EirGrid
16	PL-B	58	PT-D
17	PL-C	59	EE
18	PL-D	60	NO
19	NL-16/20A	61	FI-A
20	NL-A	62	FI-B
21	NL-B	63	FI-C
22	NL-C	64	FI-D
23	NL-D	65	UA-A1
24	SE-A	66	UA-A2
25	SE MV	67	EN 50549-1

No.	Safety Code	No.	Safety Code
26	SK-A	68	EN 50549-2
27	SK-B	69	DK-West-B-MVHV
28	SK-C	70	DK-East-B-MVHV
29	HU	71	DK-West-C-MVHV
30	CH	72	DK-East-C-MVHV
31	CY	73	DK-West-D-MVHV
32	GR	74	DK-East-D-MVHV
33	DK-West-A	75	FR-Reunion
34	DK-East-A	76	BE-LV (>30kVA)
35	DK-West-B	77	BE-HV
36	DK-East-B	78	CH-B
37	AT-A	79	NI-G99-A
38	AT-B	80	NI-G99-B
39	BG	81	NI-G99-C
40	CZ-A-09	82	NI-G99-D
41	CZ-B1-09	83	IE-LV
42	CZ-B2-09	84	IE-MV
Globe			
1	60Hz-Default	5	IEC 61727-50Hz
2	50Hz-Default	6	IEC 61727-60Hz
3	127Vac-60Hz-Default	7	Warehouse
4	127Vac-50Hz-Default		
American			
1	Argentina	30	US-ISO-NE-480Vac
2	US-208Vac	31	US-ISO-NE-208Vac-3P
3	US-240Vac	32	US-ISO-NE-220Vac-3P
4	Mexico-220Vac	33	US-ISO-NE-240Vac-3P
5	Mexico-440Vac	34	PR-208Vac
6	US-480Vac	35	PR-240Vac
7	US-208Vac-3P	36	PR-480 Vac
8	US-220Vac-3P	37	PR-208Vac-3P

No.	Safety Code	No.	Safety Code
9	US-240Vac-3P	38	PR-220Vac-3P
10	US-CA-208Vac	39	PR-240Vac-3P
11	US-CA-240Vac	40	Cayman
12	US-CA-480Vac	41	Brazil-220Vac
13	US-CA-208Vac-3P	42	Brazil-208Vac
14	US-CA-220Vac-3P	43	Brazil-230Vac
15	US-CA-240Vac-3P	44	Brazil-240Vac
16	US-HI-208Vac	45	Brazil-254Vac
17	US-HI-240Vac	46	Brazil-127Vac
18	US-HI-480Vac	47	Brazil-ONS
19	US-HI-208Vac-3P	48	Barbados
20	US-HI-220Vac-3P	49	Chile-BT
21	US-HI-240Vac-3P	50	Chile-MT
22	US-Kauai-208Vac	51	Colombia
23	US-Kauai-240Vac	52	Colombia<0.25MW 1P
24	US-Kauai-480Vac	53	Colombia<0.25MW 3P
25	US-Kauai-208Vac-3P	54	IEEE 1547-208Vac
26	US-Kauai-220Vac-3P	55	IEEE 1547-20Vac
27	US-Kauai-240Vac-3P	56	IEEE 1547-240Vac
28	US-ISO-NE-208Vac	57	IEEE 1547-230/400Vac
29	US-ISO-NE-240Vac		
Oceania			
1	Australia-A	4	Newzealand
2	Australia-B	5	Newzealand:2015
3	Australia-C	6	NZ-GreenGrid
Asia			
1	中国 A	25	JP-420Vac-50Hz
2	中国 B	26	JP-420Vac-60Hz
3	中国较高压	27	JP-480Vac-50Hz
4	中国最高压	28	JP-480Vac-60Hz

No.	Safety Code	No.	Safety Code
5	中国电站	29	Sri Lanka
6	中国 242 山东	30	Singapore
7	中国 242 河北	31	Israel-OG
8	China PCS	32	Israel-LV
9	臺灣	33	Israel-MV
10	HONGKONG	34	Israel-HV
11	中国 242 东北	35	Vietnam
12	Thailand-MEA	36	Malaysia-LV
13	Thailand-PEA	37	Malaysia-MV
14	Mauritius	38	DEWA-LV
15	Korea	39	DEWA-MV
16	India	40	Saudi Arabia
17	India-CEA	41	JP-690Vac-50Hz
18	Pakistan	42	JP-690Vac-60Hz
19	Philippines	43	Srilanka
20	Philippines-127Vac	44	IEC 61727-127Vac-50Hz
21	JP-50Hz	45	IEC 61727-127Vac-60Hz
22	JP-60Hz	46	JP-550Vac-50Hz
23	JP-440Vac-50Hz	47	JP-550Vac-60Hz
24	JP-440Vac-60Hz	48	India-Higher
Africa			
1	South Africa-LV	4	Ghana
2	South Africa-B-MV	5	Ghana-HV
3	South Africa-C-MV		

8.2 Inverter Parameters

Communication Parameters

Parameters	Descriptions
RS485	Set the communication address of the inverter. For a single inverter, the address is set based on actual needs. For multi connected inverters, the address of each inverter should be different while cannot be 247.

Electrical Protection Parameters

Parameters	Descriptions
SPD Alarm	Enable the function, when the SPD module is abnormal, there will be SPD module abnormal alarm prompt.
DC Arc Detection	• Enable the function to monitor whether there are arc dangers. • Tap "DC Arc Self-Check" to start self-check and verify the status. View the results via "Detection Status". • If the inverter triggers the alarm less than 5 times within 24 hours, the alarm will be automatically cleared after 5 minutes, and the inverter will reconnect to the grid and work again. The inverter will shutdown for protection after the 5th electric arc fault within 24 hours. The inverter cannot work normally until tap "Clear Arc Fault Alarm".
Backup N to PE Relay Switch	To comply with local laws and regulations, ensure that the relay inside the back-up port remains closed and the N and PE wires are connected when the inverter is working off-grid.

Port Management

Parameters		Descriptions
PV Access Mode		Select the PV access mode based on the actual connections between the PV strings and MPPT ports of the inverter. Supports: • Stand-alone Connect: The PV strings are connected to the MPPT terminals one by one. • Partial Parallel Connect: The PV strings are connected to the inverter in both stand alone and parallel connection. For example, one PV string connect to MPPT1 and MPPT2, another PV string connect to MPPT3. • Parallel Access: The external PV strings are connected to the Y-type connector, then connecting to multi MPPT terminals of the inverter.
Multiplexed Port		Supports connecting loads, generators, and micro grid devices depending on inverter ports. Refer to 8.2.5.Multiplexed Port Parameters(Page 80) for more information.
Backup Control	Back-up	After enabling Backup, the battery will power the load connected to the backup port of the inverter to ensure Uninterrupted Power Supply when the power grid fails.
	Detection Mode	• UPS mode - Full Wave Detection: Check whether the utility grid voltage is too high or too low. • UPS mode - Half Wave Detection: Check whether the utility grid voltage is too low. • EPS Mode - Supports Low Pass: Stop detecting utility grid voltage.
	Off-grid First Cold Start	It will only take effect once. In off-grid mode, enable the function to output backup supply with battery or PV.

Parameters		Descriptions
	Off-grid Cold Start Holding	Take effect multiple times. In off-grid mode, enable the function to output backup supply with battery or PV.
	Clear Overload Fault	Once the power of loads connected to the inverter BACK-UP ports exceeds the rated load power, the inverter will restart and detect the power again. The inverter will perform restart and detection several times until the overloading problem is solved. Tap Clear Overload History to reset the restart time interval after the power of the loads connected to the BACK-UP ports meets the requirements. The inverter will restart immediately.

Parallel Management

When inverter are parallel connected via RS485, it is necessary to manually set the master or slave inverter, and set information such as the slave address.

Control/Enable

Parameters	Descriptions
Device Self-check	Start device self-check.
Three-phase Unbalanced Output	Enable the Three-phase unbalanced output when connecting unbalanced loads, which means L1, L2, L3 of the inverter respectively connected to loads with different power. Only for three phase inverters.
Unbalance Phase Voltage Function	The inverter will adjust power output and distribution based on grid voltage of each phase to maximum power use.
Shadow Scanning	Enable Shadow Scan when the PV panels are severely shadowed to optimize the power generation efficiency.
Restore Factory Settings	Reset some device settings to factory default.

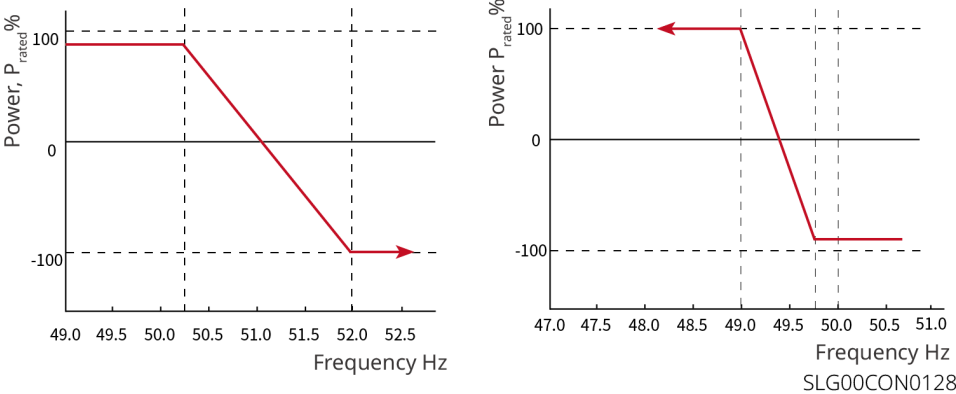
8.2.1 Customized Safety Parameters

NOTICE

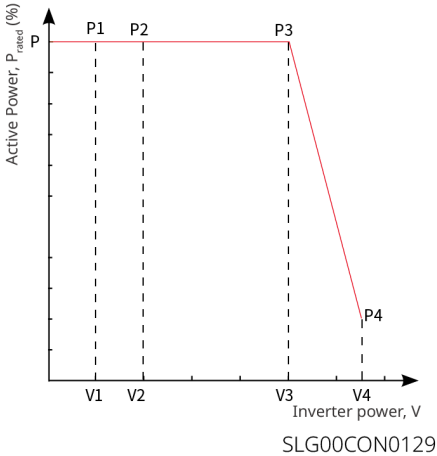
Set the custom safety parameters in compliance with local requirements. Do not change the parameters without the prior consent of the grid company.

Active Power Mode

P(F) Curve



P(U) Curve



Parameters	Description
Generation Power Limit	Set the change slope when the active output power increases or decreases.
Power Change Gradient	Set the active power change slope.

Parameters	Description
Overfrequency Unloading	
P(F) Curve	Enable P(F) Curve when it is required by local grid standards and requirements.
Over-Frequency Load Shedding Mode	Set the overfrequency unloading mode based on actual needs. • Slope mode: adjust the power based on overfrequency point and deloading slope. • Stop mode: adjust the power based on overfrequency threshold and endpoint.
Over-Frequency Start Point	The inverter output active power will decrease when the utility grid frequency is too high. The inverter output power will decrease when the utility grid frequency is higher than Overfrequency Threshold.
Import/Export Electricity Conversion Frequency	When the set frequency value is reached, the system switches from selling electricity to buying electricity.
Over-Frequency End Point	The inverter output active power will decrease when the utility grid frequency is too high. The inverter output power will stop decreasing when the utility grid frequency is higher than Over-Frequency End Point.
Over-Frequency Power Slope Reference Power	Adjust the inverter output power based on Apparent Active Power, Rated Active Power, Momentary Active Power, Or Max. Active Power.
Power response to overfrequency gradient	The inverter output active power will increase when the utility grid frequency is too high. Indicates the slope when the inverter output power decreases.
Silence Time	Indicates the delayed response time when the inverter output power is higher than the Overfrequency Threshold.
Hysteretic Function	Enable the hysteretic function.

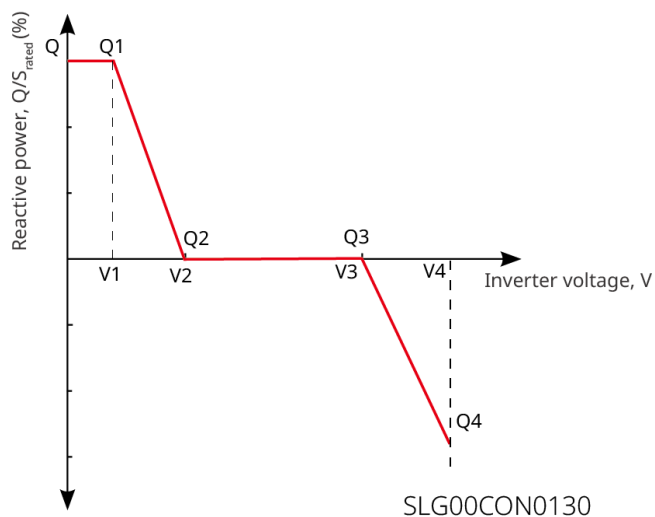
Parameters	Description
Frequency Hysteresis Point	During over-frequency load reduction, if the frequency decreases, the power output is based on the lowest point of the load reduction power until the frequency is less than the hysteresis point and the power is restored.
Hysteresis Waiting Time	For over-frequency load reduction and frequency decrease, when the frequency is less than the hysteresis point, the power recovery waiting time, that is, it takes a certain amount of time to recover the power.
Hysteresis Recovery Power	For over-frequency derating and frequency decrease, when the frequency drops below the hysteresis point, the recovery reference is calculated as recovery slope * reference power for power recovery. Supports: P _n rated power, P _s apparent power, P _m current power, P _{max} maximum power, Power difference (ΔP).
Hysteretic Power Recovery Slope	For over-frequency load reduction and frequency reduction, when the frequency is less than the hysteresis point, the power change slope when the power is restored.
Underfrequency Loading	
P(F) Curve	Enable P(F) Curve when it is required by local grid standards and requirements.
Underfrequency Load Mode	Set the underfrequency unloading mode based on actual needs. - Slope mode: adjust power based on underfrequency and loading slope. - Stop mode: adjust power based on underfrequency threshold and underfrequency endpoint.
Underfrequency Threshold	The inverter output active power will increase when the utility grid frequency is too low. The inverter output power will increase when the utility grid frequency is lower than Underfrequency Threshold.

Parameters	Description
Import/Export Electricity Conversion Frequency	When the set frequency value is reached, the system switches from selling electricity to buying electricity.
Under-Frequency End Point	The inverter output active power will increase when the utility grid frequency is too low. The inverter output power will stop increasing when the utility grid frequency is lower than Under-Frequency End Point.
Over-Frequency Power Slope Reference Power	Adjust the inverter output power based on Apparent Active Power, Rated Active Power, Momentary Active Power, Or Max. Active Power.
Under-Frequency Power Slope	The inverter output active power will increase when the utility grid frequency is too low. The slope of the inverter output power when it rises.
Tentional Delay Ta	Indicates the delayed response time when the inverter output power is lower than the Underfrequency Threshold.
Hysteretic Function	Enable the hysteretic function.
Frequency Hysteresis Point	During underfrequency loading, if the frequency increases, the power is output according to the lowest point of the loaded power until the frequency is higher than the hysteresis point and the power is restored.
Hysteresis Waiting Time	For underfrequency loading, the frequency increases, when the frequency is higher than the hysteresis point, the waiting time for power recovery, that is, it takes a certain amount of time to recover the power.
Hysteresis Power Recovery Slope Reference Power	For under-frequency derating and frequency decrease, when the frequency is higher than the hysteresis point, the recovery reference is calculated as recovery slope * reference power for power recovery. Supports: Pn rated power, Ps apparent power, Pm current power, Pmax maximum power, Power difference (ΔP).

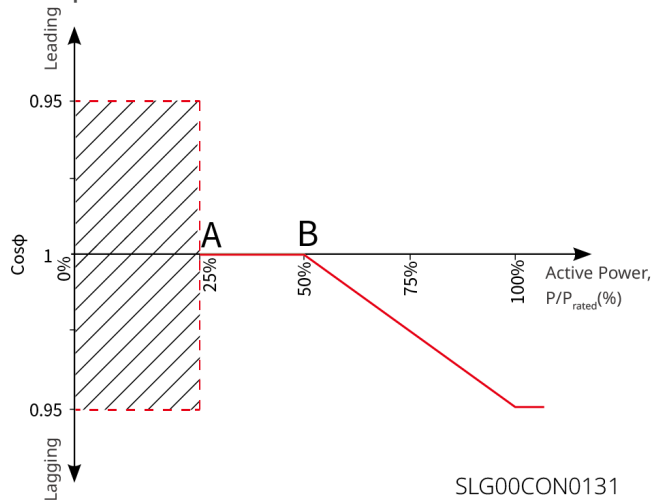
Parameters	Description
Hysteretic Power Recovery Slope	For under-frequency loading, frequency increase, when the frequency is higher than the hysteresis point, the power change slope when power is restored.
P(U) Curve	Enable P(U) Curve when it is required by local grid standards and requirements.
Vn Voltage	The percentage of actual voltage to the rated voltage at Vn point, n=1, 2, 3, 4. For example, setting Vn Voltage to 90 means $V/V_{rated}\%=90\%$.
Vn Active Power	The percentage of the output active power to the apparent power at Vn point, (n=1, 2, 3, 4). For example, setting Vn Reactive Power to 48.5 means $P/P_{rated}\%=48.5\%$.
Output Response Mode	Set the active power output response mode. Supports: • First-order Low-pass Filter, realize active scheduling based on the first-order LPF curve within the response time constant. • Slope Scheduling, realize active scheduling based on the power change slope.
Power Change Gradient	When the output response mode is set to Gradient Control, active power scheduling is achieved according to the power change gradient.
First-order Low-pass Filter Time Parameter	Set the time constant within which the active power changes based on the first order LPF curve when the Output Response Mode is set to be First-order Low-pass Filter Time Parameter.
Overload Function Switch	When enabled, the maximum active power output is 1.1 times the rated power; otherwise, the maximum active power output is consistent with the rated power value.

Reactive Power Mode

Q(U) Curve



Cosφ Curve



Parameters	Description
Fixed PF	
Fixed PF	Enable Fixed PF when it is required by local grid standards and requirements. The power factor remains fixed during the inverter working process.
Under Excitation	Set the power factor as lagging or leading based on actual needs and local grid standards and requirements.
Over Excitation	
Power Factor	Set the power factor based on actual needs. Range: 0~-0.8, or +0.8~+1.
Fixed Q	

Parameters	Description
Fixed Q	Enable Fixed Q when it is required by local grid standards and requirements.
Over-Excited / Under-Excited	Set the reactive power as inductive or capacitive reactive power based on actual needs and local grid standards and requirements.
Reactive Power	The percentage of reactive power to the apparent power.
Q(U) Curve	
Q(U) Curve	Enable Q(U) Curve when it is required by local grid standards and requirements.
Mode Selection	Set Q (U) Curve mode. Supports: basic mode, slope mode.
Vn Voltage	The percentage of actual voltage to the rated voltage at Vn point, n=1, 2, 3, 4.
	For example, setting Vn Voltage to 90 means $V/V_{rated}\%=90\%$.
Vn Reactive Power	The percentage of the reactive output power to the apparent power at Vn point, n=1, 2, 3, 4. For example, setting Vn Reactive Power to 48.5 means $Q/S_{rated}\%=48.5\%$.
Voltage Dead-Band Width	When the Q(U) curve mode is set to slope mode, set the voltage dead zone. Within this dead zone, there is no requirement for reactive power output.
Over Excitation Slope	In Q(U) curve mode set to slope mode, the power change slope is set to a positive or negative value.
Under Excitation Slope	
Vn Reactive Power	The percentage of the reactive output power to the apparent power at Vn point, n=1, 2, 3, 4. For example, setting Vn Reactive Power to 48.5 means $Q/S_{rated}\%=48.5\%$.

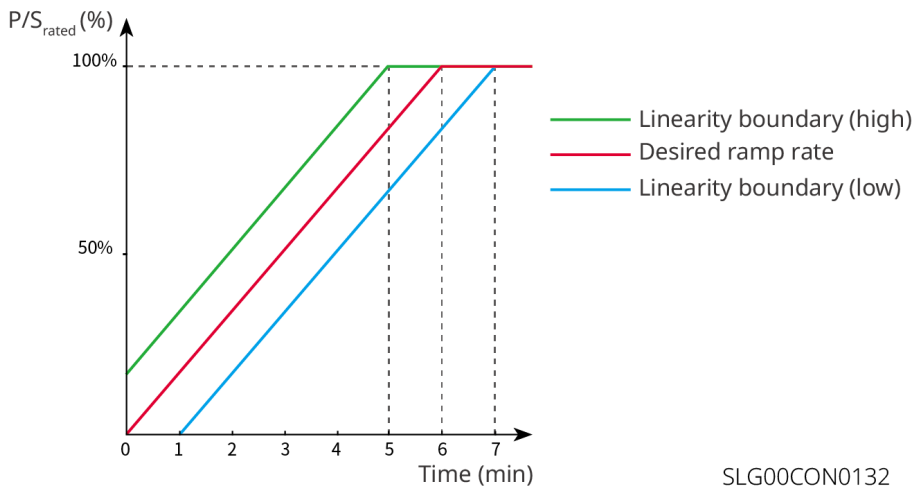
Parameters	Description
Q(U) Curve Response Time Constant	The power is required to reach 95% in the first order LPF curve within three time constant.
Extended Functions	After enabling, set corresponding parameters.
Ramp-Up Power	When the inverter output reactive power to the rated power ratio is between the Ramp-Up Power and Ramp-Down Power, the ratio meets Q(U) curve requirements.
Ramp-Down Power	
cosφ(P) Curve	
cosφ(P) Curve	Enable Cosφ Curve when it is required by local grid standards and requirements.
Mode Selection	Set cosφ(P) Curve mode. Supported: basic mode, slope mode.
A/B/C/D/E Power	The percentage of the output active power to the rated power at N point. N=A, B, C, D, E.
N cosφ	N Power Factor N=A, B, C, D, E.
Over Excitation Slope	In cosφ (P) curve mode set to slope mode, the power change slope is set to a positive or negative value.
Under Excitation Slope	
N Power	The percentage of the output active power to the rated power at N point. N=A, B, C.
N cosφ	N Power Factor N=A, B, C.
cosφ(P) Curve Response Time Constant	The power is required to reach 95% in the first order LPF curve within three time constant.
Extended Functions	After enabling, set corresponding parameters.

Parameters	Description
Voltage Ramp-Up	When the grid voltage is between Lock-in Voltage and Lock-out Voltage, the voltage meets Cosφ curve requirements.
Voltage Ramp-Down	
Q(P) Curve	
Q(P) Curve	Enable Q(P) Curve when it is required by local grid standards and requirements.
Mode Selection	Set Q (P) Curve mode. Supported: basic mode, slope mode.
Pn Power	The percentage of the output reactive power to the rated power at Pn point, n= 1, 2, 3, 4, 5, 6. For example, setting Pn Power to 90 means Q / Prated%=90%.
Pn Reactive Power	The percentage of the output active power to the rated power at Pn point, n=1, 2, 3, 4, 5, 6. For example, setting Pn Reactive Power to 90 means P / Prated%=90%.
Over Excitation Slope	In Q(P) curve mode set to slope mode, the power change slope is set to a positive or negative value.
Under Excitation Slope	
Pn Power	The percentage of the output reactive power to the rated power at Pn point, n= 1, 2, 3. For example, setting Pn Power to 90 means Q / Prated%=90%.
Pn Reactive Power	The percentage of the output reactive power to the rated power at Pn point, n= 1, 2, 3. For example, setting Pn Reactive Power to 90 means P / Prated%=90%.
Response Time Constant	The power is required to reach 95% in the first order LPF curve within three time constant.

Grid Protection Parameters

Parameters	Description
OV Trigger Ln Value	Set the grid overvoltage protection threshold value, n= 1, 2, 3, 4.
Over-voltage Stage n Trip Time	Set the grid overvoltage protection tripping time, n= 1, 2, 3, 4.
UV Trigger Ln Value	Set the grid undervoltage protection threshold value, n= 1, 2, 3, 4.
UV Trigger Ln Trip Time	Set the grid undervoltage protection tripping time, n= 1, 2, 3, 4.
10min Over-voltage Trigger Value	Set the 10min overvoltage protection threshold value.
10min Over-voltage Trip Time	Set the 10min overvoltage protection tripping time..
OF Trigger Ln Value	Set the grid overfrequency protection threshold value, n= 1, 2, 3, 4.
OF Trigger Ln Trip Time	Set the grid overfrequency protection tripping time, n= 1, 2, 3, 4.
UF Trigger Ln Value	Set the grid underfrequency protection threshold value, n= 1, 2, 3, 4.
UF Trigger Ln Trip Time	Set the grid underfrequency protection tripping time, n= 1, 2, 3, 4.

Grid Connection Parameters



Parameters	Description
Startup On-Grid	
Connection Voltage Upper Limit	The inverter cannot connect to the grid if it is powered on for the first connection and the grid voltage is higher than the Connection Voltage Upper Limit.
Connection Voltage Lower Limit	The inverter cannot connect to the grid if it is powered on for the first connection and the grid voltage is lower than the Connection Voltage Lower Limit.
Connection Frequency Upper Limit	The inverter cannot connect to the grid if it is powered on for the first connection and the grid frequency is higher than the Connection Frequency Upper Limit.
Connection Frequency Lower Limit	The inverter cannot connect to the grid if it is powered on for the first connection and the grid frequency is lower than the Connection Frequency Lower Limit.
On-Grid Waiting Time	The waiting time for connecting the inverter to the grid when meeting the following requirements. 1. The inverter is powered on for the first connection. 2. The utility grid voltage and frequency meet certain requirements.
Startup Ramp Rate	Enable the start up power slope.
Soft Ramp Up Slope	Indicates the percentage of incremental output power per minute based on the local requirements when the inverter is powered on for the first time.

Parameters	Description
Fault Reconnection	
Connection Voltage Upper Limit	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid voltage is higher than the Connection Voltage Upper Limit.
Connection Voltage Lower Limit	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid voltage is lower than the Connection Voltage Lower Limit.
Connection Frequency Upper Limit	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid frequency is higher than the Connection Frequency Upper Limit.
Connection Frequency Lower Limit	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid frequency is lower than the Connection Frequency Lower Limit.
On-Grid Waiting Time	The waiting time for connecting the inverter to the grid when meeting the following requirements. 1. The inverter is reconnecting to the grid due to a fault. 2. The utility grid voltage and frequency meet certain requirements.
Reconnection Ramp-up Slope	Enable the start up power slope.
Reconnection Gradient	In some countries/regions, set the percentage of incremental output power per minute when the inverter is not powered on for the first connection. For example, set Reconnection Gradient to 10 means the reconnection slope is $10\%P_{rated}/min$.

Voltage Ride Through

Parameters	Description
LVRT	
U _{vn} Voltage	The ratio of the ride through voltage to the rated voltage at U _{Vn} point during LVRT. N=1, 2, 3, 4, 5, 6, 7.

Parameters	Description
UVn Time	The ride through time at UVn point during LVRT. N=1, 2, 3, 4, 5, 6, 7.
Enter LVRT Threshold	The inverter will not be disconnected from the utility grid immediately when the grid voltage is between Enter LVRT Threshold and Exit LVRT Threshold.
Exit LVRT Threshold	
K1 Slope	K-factor for reactive power during LVRT.
Zero Current Mode	The system outputs zero current during LVRT.
Entry Threshold	Set the entry threshold of zero current mode.
HVRT	
OVn Voltage	The ratio of the ride through voltage to the rated voltage at OVn point during HVRT. N=1, 2, 3, 4, 5, 6, 7.
OVn Time	The ride through time at OVn point during HVRT. N=1, 2, 3, 4, 5, 6, 7.
Enter High Voltage Ride-Through Threshold	The inverter will not be disconnected from the utility grid immediately when the grid voltage is between Enter High Voltage Ride-Through Threshold and Exit High Crossing Threshold.
Exit High Voltage Ride-Through Threshold	
K2 Slope	K-factor for reactive power during HVRT.
Zero Current Mode	The system outputs zero current during HVRT.
Entry Threshold	Set the entry threshold of zero current mode.

Frequency Fault Ride Through

Parameters	Description
Frequency Ride-Through	Enable the frequency ride through function.

Parameters	Description
UFn Frequency	The frequency at the UFn point during frequency ride through. N= 1, 2, 3.
UFn Time	The ride through duration at the UFn point during frequency ride through. N= 1, 2, 3.
OFn Frequency	The frequency at the OFn point during frequency ride through. N= 1, 2, 3.
OFn Time	The ride through duration at the OFn point during frequency ride through. N= 1, 2, 3.

8.2.2 Inverter Working Mode

NOTICE

Support setting the working mode of hybrid inverters. Default working mode: Self use mode.

Self-use

Self-use mode is the basic working mode of the system. When the power generated in the PV system is sufficient, it will supply the loads in priority. The excess power will charge the batteries first, then the remaining power will be sold to the utility grid. When the power generated in the PV system is insufficient, the battery will supply the loads in priority. If the battery power is insufficient, the load will be powered by the utility grid.

Backup mode

The backup mode is mainly applied to the scenario where the grid is unstable. When the grid is disconnected, the inverter turns to off-grid mode and the battery will supply power to the backup loads; when the grid is restored, the inverter switches to grid-tied mode.

Parameters	Description
Charging Power From Grid	Enable Charging Power From Grid to allow power purchasing from the utility grid.
Charging Power	The percentage of the purchasing power to the rated power of the inverter.

TOU mode

It is recommended to use TOU mode in scenarios when the peak-valley electricity price varies a lot. Select TOU mode only when it meets the local laws and regulations. For example, set the battery to charge mode during Vally period to charge battery with grid power. And set the battery to discharge mode during Peak period to power the load with the battery.

Parameters	Description
Start Time	Within the Start Time and End Time, the battery is charged or discharged according to the set Battery Mode as well as the Rated Power.
End Time	
Charge Discharge Mode	Charge or discharge according to actual needs.
Charge Cut-off SOC	The battery stop charging/discharging once the battery SOC reaches Charge Cut-off SOC.
Rated Power	The percentage of the charging/discharging power to the rated power of the inverter.

Off-grid Mode

The off-grid mode is mainly applied to the scenario where there is no utility grid. PV and battery form a pure off-grid system, where PV generation supplies power to the load, and excess power charges the battery. When PV generation cannot meet the load consumption demand, the battery supplies power to the load.

Peak Shaving

Peak shaving mode is mainly applicable to industrial and commercial scenarios.

When the total power consumption of the loads exceeds the peak shaving limit, the battery discharges to reduce the power consumption exceeds the peak shaving limit

Parameters	Description
Reserve SOC for Demand Management	In Peak Shaving mode, the battery SOC should be lower than Reserved SOC For Peakshaving. Once the battery SOC is higher than Reserved SOC For Peakshaving, the peak shaving mode fails.
Peak Power Purchase Limit	Set the maximum power limit allowed to purchase from the grid. When the loads consume power exceed the sum of the power generated in the PV system and Peak Power Purchase Limit, the excess power will be made up by the battery.
Time for Charging From Grid	The utility grid will charge the battery between Start Time and End Time if the load power consumption do not exceed the power quota. Otherwise, only PV power can be used to charge the battery. Otherwise, only PV power can be used to charge the battery.

Delayed Charging

In some countries/regions, the PV power feed into the utility grid is limited. Set peak limit power, charge the battery using the surplus power when the PV power exceeds the peak limit power. Or set charging time, during the charging time, the PV power can be used to charge the battery.

Parameters	Description
Peak Power Sales Limit	Set the Peak Power Sales Limit in compliance with local laws and regulations. The Peak Limiting Power shall be lower then the output power limit specified by local requirements.
PV Priority Charging	During charging time, the PV power will first charge the battery.
Start Charging Time	

8.2.3 On-grid Power Dispatch Parameters

On-Grid Power Limit (General)

Parameters	Descriptions
On-Grid Power Limit	Enable On-Grid Power Limitation when power limiting is required by local grid standards and requirements.
Power Limit	Set the value based on the actual maximum power feed into the utility grid.

On-Grid Power Limit (AU)

Parameters	Descriptions
Soft Power Limit	Enable On-Grid Power Limitation when power limiting is required by local grid standards and requirements.
Power Limit	- Set the value based on the actual maximum power feed into the utility grid. - Supports setting of fixed power value or percentage. The set percentage is the percentage of the limit power to the rated power of the inverter. - After setting the fixed value, the percentage changes automatically; after setting the percentage, the fixed value changes automatically.
Hard Power Limit	Enable the function, when the electricity fed into the grid exceeds the limit value, the inverter will automatically disconnect from the grid.

On-Grid Power Limit (UK)

Parameters	Descriptions
Power Export Limit	Enable On-Grid Power Limitation when power limiting is required by local grid standards and requirements.

Parameters	Descriptions
Mode Selection	- Current limit mode needs to be selected for some models. Supports: Split-phase Current and Three-phase Total Current. - When set to split-phase current, limit the current of each phase; when set to total current, limit the total current of three phases.
Current Limit	Set the value based on the actual maximum current feed into the utility grid.

Power Dispatch

Parameters	Descriptions
Active Dispatch	The standards of some countries/regions require to control the active power according to the dispatch mode. Supports: - Disabled: disables active dispatch mode. - Active power setting value: enable the active dispatch mode based on fixed values. - Active power percentage setting: enable the active dispatch mode based on the percentage of the rated power.
Active Power	- The active power is a fixed value when the active dispatch mode is set to active power setting value - The reactive power is the percentage of the active power and the rated power when the active dispatch mode is set to active power percentage setting.

Parameters	Descriptions
Reactive Dispatch Mode	The standards of some countries/regions require to control the reactive power according to the dispatch mode. Supports: • Disabled: disables reactive dispatch mode. • Reactive power setting value: enable the reactive dispatch mode based on fixed values. • Reactive power percentage setting: enable the reactive dispatch mode based on the percentage of the rated power. • PF Compensation
Status	Set the power factor when the reactive dispatch mode is set to PF compensation.
Reactive Power	The reactive power is a fixed value when the reactive dispatch mode is set to reactive power setting value. The reactive power is the percentage of the reactive power and the rated power when the reactive dispatch mode is set to reactive power percentage setting.
Power Factor	Set the power factor when the reactive dispatch mode is set to PF compensation.

Power Scheduling Response Parameters

Parameters	Descriptions
Active Dispatch Response Mode	Achieve the active power dispatch value through dispatch response mode, supports: • First-order Low-pass Filter, which regulates active power dispatch along a first-order lag curve within the response time constant. The time constant parameter sets the duration over which the active power change occurs according to this curve. • Slope Mode, in which active power dispatch is regulated by following a specified rate of change (slope). The Slope parameter defines this permitted change rate for power scheduling.
Reactive Dispatch Response Mode	Achieve the reactive power dispatch value through dispatch response mode, supports: • First-order Low-pass Filter, which regulates reactive power dispatch along a first-order lag curve within the response time constant. The time constant parameter sets the duration over which the reactive power change occurs according to this curve. • Slope Mode, in which reactive power dispatch is regulated by following a specified rate of change (slope). The Slope parameter defines this permitted change rate for power scheduling.

8.2.4 Grid Remote Dispatch Parameters

To comply with grid standards of certain countries or regions, it is necessary to connect third-party dispatching devices to achieve remote dispatching functionality for the photovoltaic system.

- Remote shutdown: realize remote shutdown function by signal control port. Control the device and stop it once any accident happens.
- DRED(Demand Response Enabling Device): satisfies Australian DERD certification with DRED signal control port.

- RCR (Ripple Control Receiver): satisfies Germany power dispatch requirements with RCR signal control port.
- EnWG(Energy Industry Act)14a): all controllable loads need to accept the emergency dimming of the grid. Grid operators can reduce the maximum grid purchasable power of controllable loads to 4.2kW temporarily.

8.2.5 Multiplexed Port Parameters

Load Control Parameters

Loads can be controlled by App when the inverter supports load control function. For ET40-50kW series inverters, the load control function is supported only when the inverter is used with STS. The inverter supports load control of the GENERATOR port or the BACKUP LOAD port.

- Dry Contact Mode: when the switch is ON, the loads will be powered; when the switch is OFF, the power will be cut off. Turn on or off the switch based on actual needs.
- Time Mode: set the time to enable the load, and the load will be powered automatically within the setting time period. Select standard mode or intelligent mode.

Parameters	Descriptions
Standard	The loads will be powered within the setting time period.
Intelligent	Once the excess energy of the photovoltaic exceeds the load nominal power within the time period, the loads will be powered.
Start Time	The time mode will be on between the Start Time and End Time.
End Time	
Repeat	The repeat days.
Load Consumption Time	Only for Intelligent mode. The shortest load working time after the loads been powered. The time is set to prevent the loads be turned on and off frequently when the PV power fluctuates greatly.

Parameters	Descriptions
Load Rated Power	Only for Intelligent mode. The loads will be powered when the excess energy of the photovoltaic exceeds the nominal power of load.

- SOC Mode: the inverter has integrated dry contact controlling port, STS integrated controlling port for ET40-50kW series inverter, which can control whether the load is powered or not by contactor. In off-grid mode, the load connected to the port will not be powered if the BACKUP overload is detected or the battery SOC value is lower than the Off-grid battery protection value. Set Offgrid Battery Protection Value based on actual needs.

Generator Control Parameters

Generators can be controlled by App when the inverter supports generator control function.

For ET40-50kW series inverters, the generator control function is supported only when the inverter is used with STS.

For ET50-100kW series inverters, the generator control function is supported only when the inverter is used with STS.

- Diesel Generator Not Connected: no generator is connected in the system.
- Manual Diesel Generator Control (Does Not Support Dry Contact Connection): Start or stop the generator manually. The inverter cannot control the generator when Manual Control Of Generator(Doesn't Support Dry Node Connection) is selected
- Automatic Diesel Generator Control (Supports Dry Contact Connection): If the generator has dry contact port and is connected to the inverter, set the generator control mode to Switch Control Mode or Automatic Control Mode based on actual needs.
 - Switch Control Mode: The generator will start working when the Diesel Generator Dry Node Switch is on, and stop automatically after reaching Run Time.
 - Automatic Control Mode: The generator will work during Run Time, but stop working during Prohibited Working Hours.

Parameters	Description
Dry Node Control Method	Switch Control Mode/Automatic Control Mode.

Parameters	Description
Switch Control Mode	
Diesel Generator Dry Node Switch	Only for Switch Control Mode.
Run Time	Set the generator's continuous runtime, after which the generator will be turned off.
Automatic Control Mode	
Prohibited Working Hours	Set the time period during which the generator cannot work.
Run Time	Set the generator's continuous runtime, after which the generator will be turned off. If the generator start-up operation time includes prohibited working time, the generator will stop running during this time period; after the prohibited working time, the generator will restart running and timing.
Generator Information Settings	
Rated Power	Set the rated power of the generator.
Run Time	Set the generator's continuous runtime, after which the generator will be turned off.
Voltage Upper Limit	Set the operation voltage range of the generator.
Voltage Lower Limit	
Frequency Upper Limit	Set the operation frequency range of the generator.
Frequency Lower Limit	
Preheating Time	Set the generator no-load preheating time.
The parameter settings for the diesel generator charging the battery	

Parameters	Description
Switch	Whether to charge the battery using the generator.
Max Charging Power	Set the charging power to charge the battery with a generator.
Start Charging SOC	When the battery SOC is lower than this value, the generator generates electricity to charge the battery.
Stop Charging SOC	When the battery SOC is higher than this value, stop charging the battery.

Micro-grid Control Parameters

Parameters	Description
Battery Max Charging SOC	Set the upper limit of charging SOC, and stop charging when the upper limit is reached.
Manual Wake-up	- When the grid fails, if the battery power is low, the energy storage inverter cannot be supported to work off the grid. Tap to force the energy storage inverter to output voltage to the grid-connected inverter, thereby starting the gridconnected inverter. - Single effect.
Automatic Wake-up	- When the grid fails, if the battery power is low, the energy storage inverter cannot be supported to work off the grid. Enable this function, the system will force the energy storage inverter to output voltage to the grid-connected inverter at a fixed time, thereby starting the grid-connected inverter. - Multiple effect.
Grid Import Power Limit Offset	Set the adjustable range of the maximum power that the device can actually buy from the grid.

8.3 Battery Parameters

Information Configuration

Select the actual battery model.

SOC Limit Protection

Parameters	Descriptions
SOC Limit Protection	Start battery protection when the battery capacity is lower than the Depth of Discharge.
SOC Upper Limit	The upper limit value for battery charging. Charging stops when the battery SOC reaches the SOC upper limit.
On-Grid DOD	The maximum depth of discharge of the battery when the system is working on-grid.
Backup SOC Maintenance	The battery will be charged to preset SOC protection value by utility grid or PV when the system is running on-grid. So that the battery SOC is sufficient to maintain normal working when the system is off-grid.
Off-grid DOD	The maximum depth of discharge of the battery when the system is working off-grid.
Off-grid Recovery SOC	When the inverter is operating in off-grid mode, if the battery SOC drops to the SOC lower limit, the inverter will stop outputting power and only charge the battery until the battery SOC reaches the off-grid recovery SOC value. If the SOC lower limit is higher than the off-grid recovery SOC value, charging will continue until the SOC reaches (SOC lower limit + 10%).

Immediate Charging

Parameters	Descriptions
Immediate Charging	Enable to charge the battery by the grid immediately. It will only take effect once. Enable or Disable based on actual needs.
Charge Cut-off SOC	Stop charging the battery once the battery SOC reaches Charge Cut-off SOC
Immediate Charging Power	Indicates the percentage of the charging power to the inverter rated power when enabling Immediate Charging. For example, setting the Immediate Charging Power of a 10kW inverter to 60 means the charging power of the inverter is $10\text{kW} \times 60\% = 6\text{kW}$.

Battery Wake-up

- After turned on, the battery can be awakened when it shuts down due to undervoltage protection.
- Only applicable to lithium batteries without circuit breakers. After turned on, the output voltage of the battery port is about 60V.

Battery Heating

- Optional. This option is displayed on the interface when a battery that supports heating is connected. After the battery heating function is turned on, when the temperature is below the value that starts up the battery, PV power or electricity from the grid will be used to heat the battery.
- The heating mode temperatures vary for different model Battery.

Breathing Light

- Applicable only to ESA 3-10kW series inverter.
- Set the breathing LED duration. Supports: always on, always off, 3min.
- Default: The LED turns on for 3 minutes upon power-up and then automatically turns off.

8.4 Smart Meter Parameters

No.	Parameters	Descriptions
1	Meter Binding	- When the PV system uses both the grid-connected inverter and the energy storage inverter to achieve coupling or microgrid functions, dual meters may be used in the system. Please set the meter binding information according to the actual usage. - Applicable only to GoodWe meters.
2	Meter/CT-Assisted Test	Check whether the meter CT is correctly connected and its current operating status.
3	External Meter CT Ratio	Set the ratio of the primary side to the secondary side current of the external CT for the energy meter.

8.5 Smart Dongle Parameters

NOTICE

Depending on the smart dongle connected to the inverter, the configuration interface may vary. Please refer to the actual interface.

Parameters	Descriptions
WLAN/LAN	
WLAN Control	Disabled by default. Enable the function, the device and the App can be connected through the WLAN when they are on the same LAN. Otherwise, they cannot be connected even if they are on the same LAN.
Modbus TCP	Enable the function, the third party monitoring platform can access inverter through Modbus-TCP communication protocol.
LAN	Automatically identify the LAN network connected to the device.

Parameters	Descriptions
WLAN	Select WiFi based on the actual connecting to enable communication between the device and router or switch.
Bluetooth	
Bluetooth Stays On	Disabled by default. Enable the function, the bluetooth of the device will be contentious on to keep connected to the App. Otherwise, the bluetooth will be off in 5 minutes.
Password	
Change Password	Change the login password for local access.
Control/Enable	
FTP	After enabling FTP, system operation data can be uploaded to the specified server via the FTP protocol to implement the remote monitoring function.
Remote Maintenance	Enable this function allows remote maintenance of the equipment, such as remote upgrades.
Restore Communication Settings	Reset the smart dongle.

8.6 Operation and Maintenance Parameters

Parameters	Descriptions
Firmware Upgrade	• Supports view and upgrade the DSP version, ARM version of the inverter , or firmware version of the smart dongle. • Some devices do not support upgrading the firmware version through the App.

Parameters	Descriptions
Log	• Supports exporting, downloading, and sharing logs. • Supports exporting logs of different types, such as smart dongle logs, inverter logs, etc. • After selecting the safety code, some models support exporting safety parameter files.

9 Contact Information

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