

KSTAR Sync APP

Household Storage

End User Operation

Manual

File Version : 04

Release Date : 2026-04-10

Contents

1	About This Manual	5
1.1	<i>Users.....</i>	<i>5</i>
1.2	<i>Copyright Notice.....</i>	<i>5</i>
1.3	<i>Contact KSTAR.....</i>	<i>5</i>
2	Download APP	5
3	Registration and Login	5
3.1	<i>Registration.....</i>	<i>5</i>
3.2	<i>Login.....</i>	<i>6</i>
4	Binding End User - Operator User Account	7
4.1	<i>Precautions Before Binding Account</i>	<i>7</i>
4.2	<i>Finding Operator Code</i>	<i>7</i>
4.3	<i>End User Binding Operator Code</i>	<i>8</i>
5	Create Power Station	9
5.1	<i>Configuration Navigation for Creating Power Station.....</i>	<i>9</i>
5.2	<i>Add Device.....</i>	<i>13</i>
5.3	<i>Network Setup Preparation</i>	<i>14</i>
5.4	<i>Device Upgrade.....</i>	<i>17</i>
5.5	<i>Utility Standard</i>	<i>18</i>
5.6	<i>Op Mode.....</i>	<i>19</i>
5.7	<i>System Self-Check.....</i>	<i>20</i>
6	Power Station.....	22
6.1	<i>Overview of Power Station List Functions.....</i>	<i>23</i>
6.2	<i>Station Details</i>	<i>23</i>
6.2.1	<i>Real-time.....</i>	<i>23</i>
6.2.2	<i>Device.....</i>	<i>24</i>
6.2.3	<i>Operation Strategy</i>	<i>26</i>
6.2.3.1	Self-consumption	26
6.2.3.2	Peak Shaving.....	27
6.2.3.3	Battery Priority	28
6.2.3.4	Dynamic Tariff.....	29
6.2.4	<i>Alarms</i>	<i>32</i>

7	Alarms	33
8	Mine	34
8.1	<i>About</i>	<i>36</i>
8.1.1.1	Finding Third-party binding code	36
8.2	<i>Preference Settings.....</i>	<i>37</i>
8.2.1	Language Settings.....	38
8.2.2	Display Theme	38
8.3	<i>Bind Distributor.....</i>	<i>38</i>

Revision History

Version	Date	Description
4	2026-04-10	Added One-Click Station Creation、Enable operation strategies for dynamic electricity price
3	2026-01-23	Added Section 4 Binding End User - Operator User Account.
2	2026-01-09	Refresh 5 Create Power Station
1	2025-12-01	Initial release.

1 About This Manual

1.1 Users

This manual is for end users of KSTAR Sync APP (hereinafter referred to as this APP).

1.2 Copyright Notice

Copyright 2025© Shenzhen Kstar Science & Technology Co.,Ltd

Without authorization, no organization or individual may copy part or all of the content of this manual without permission. KSTAR reserves the right to modify this manual at any time without notifying users one by one. If users have objections to this manual, they can contact KSTAR. KSTAR has the final interpretation right.

1.3 Contact KSTAR

If you have any questions, please contact KSTAR.

Website: <https://www.kstar.com/>

Email: service_solarinverter@kstar.com

2 Download APP

- 1、 Android: Visit Google Play Store, search and download KSTAR Sync.
- 2、 iOS: Visit App Store, search and download KSTAR Sync.
- 3、 QR Code: Scan the QR code below to download KSTAR Sync.



3 Registration and Login

3.1 Registration

- Click the [Sign up] button on the login page to enter the registration

page.

- Fill in the login account, password, verification email and other information according to APP requirements, and finally click the [OK] button to successfully register an end user account.

09:48

< Sign Up

End User Installer

Account Name *
Please enter...

Nickname *
Please enter...

Password *
Please enter...

Confirm Password *
Please enter...

State *
Select..

Country *
Select..

Email *
Please enter...

Verification Code *
Please enter..

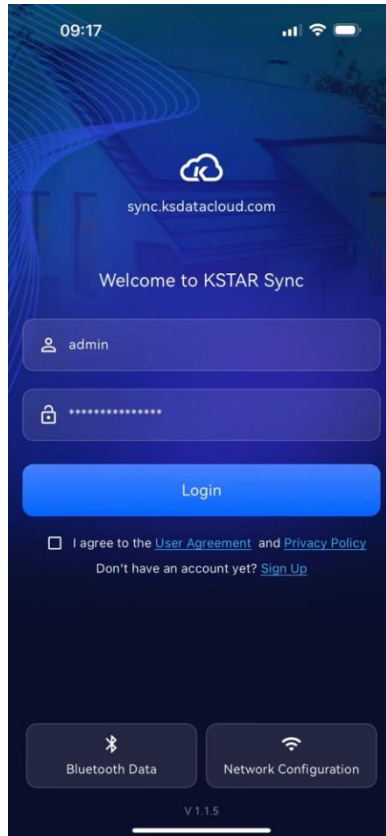
Send

Contact Information *
Please enter..

OK

3.2 Login

- Enter KSTAR Sync APP
- Enter account and password in the user login box
- Check to agree to the user agreement and privacy agreement, click the login button to successfully enter the APP.



4 Binding End User - Operator User Account

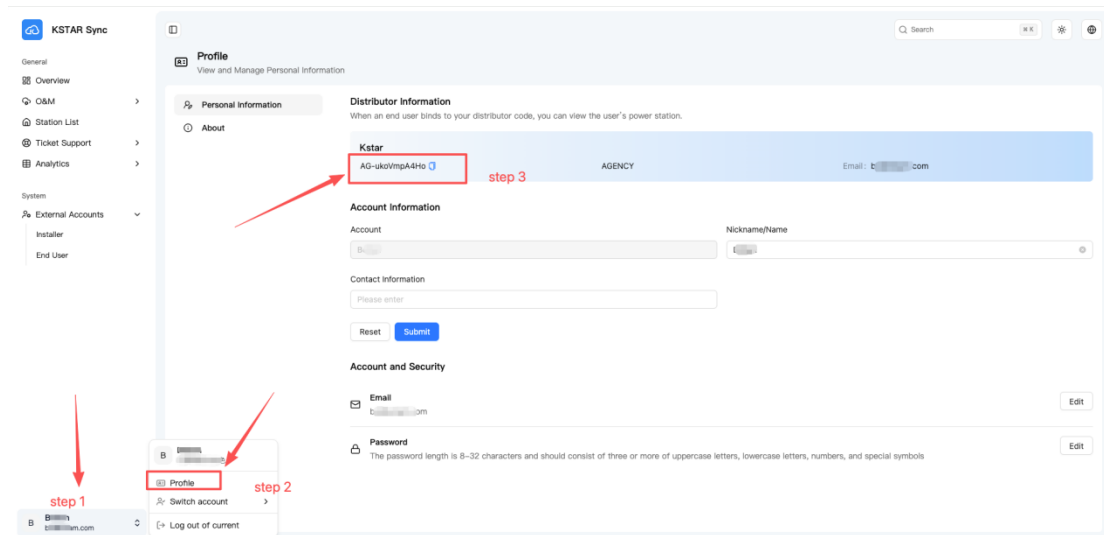
4.1 Precautions Before Binding Account

The account registered by the end user independently is an independent account and is not supervised by the operator. If the operator needs to view the end user's power station, the end user needs to bind the operator.

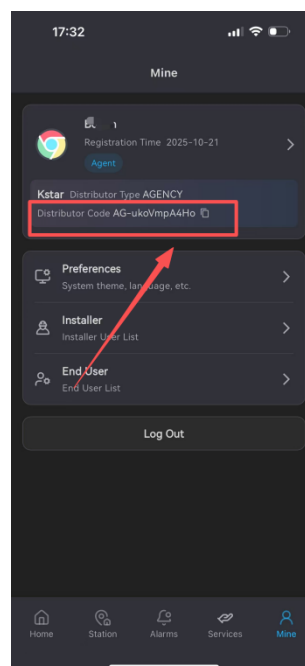
The account opened by the operator for the end user after logging into KSTAR Sync already has a binding relationship and does not require additional operations to bind the operator function.

4.2 Finding Operator Code

After the operator logs into KSTAR Sync WEB end, click [Account Name] at the bottom of the left navigation bar, and find [Mine] in the expanded secondary navigation bar. After clicking the navigation bar to enter the interface, the string of codes at the top of the page is the operator code, and the operator can copy the code.

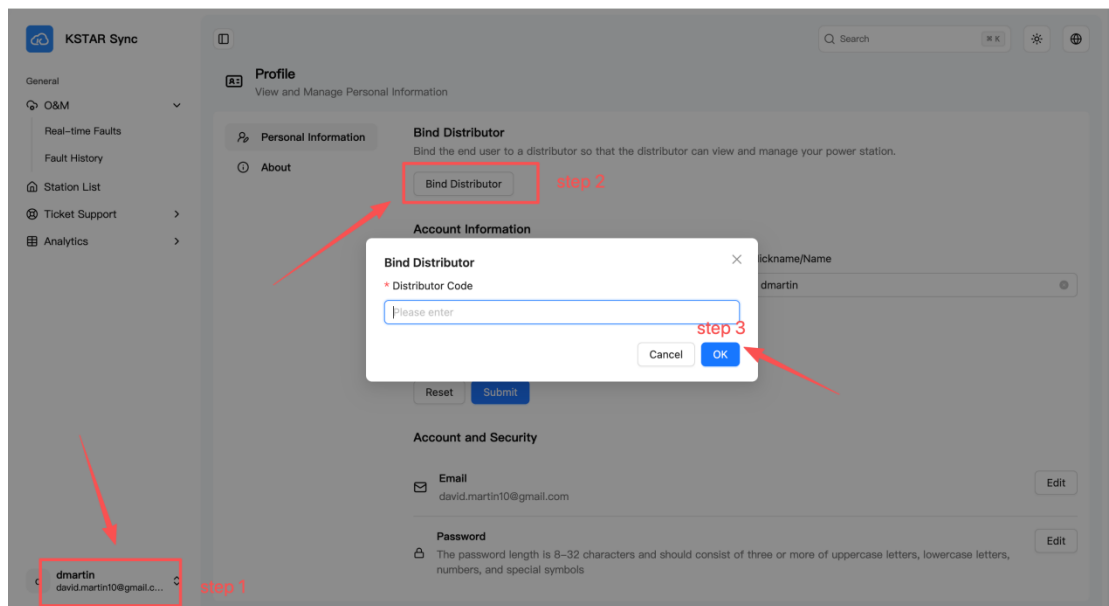


After the operator logs into KSTAR Sync APP, enter the [Mine] page, the code displayed in the upper left corner of the page is the operator code, and the operator can copy the code.

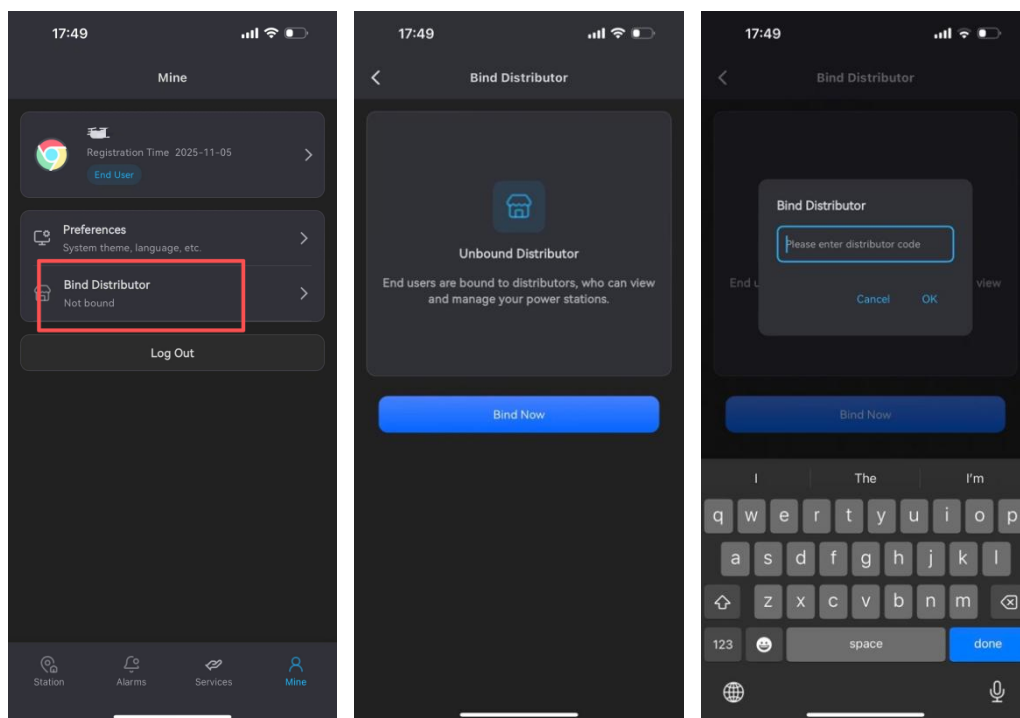


4.3 End User Binding Operator Code

After the end user logs into KSTAR Sync WEB end, click [Account Name] at the bottom of the left navigation bar, and find [Mine] in the expanded secondary navigation bar. After clicking the navigation bar to enter the interface, click the [Bind Operator] button, then enter the operator code, and click the [OK] button to successfully bind the operator account.



After the end user logs into KSTAR Sync APP, enter the [Mine] page, click [Bind Operator] - [Bind Now], enter the operator code, and click the [OK] button to successfully bind the operator account.

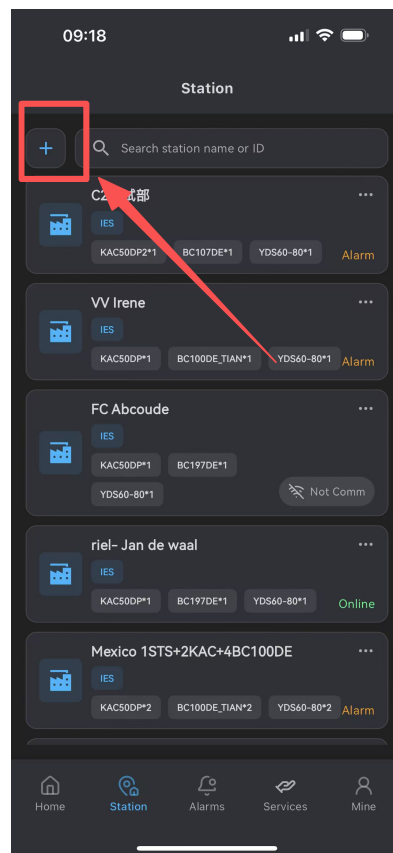


5 Create Power Station

5.1 Configuration Navigation for Creating Power Station

After logging in to the account, enter the [Station] page, click the [+] button in the upper left corner of the page to enter the new power station details page,

and follow the system prompts to complete the power station information to successfully add a new power station.



1、 Basic Information: Power station name, construction time, power station time zone, region/country, power station location, address, latitude and longitude (generated according to Google Maps selection or manually filled in), among which items marked with asterisks are required, while the more complete the other information is filled in, the more beneficial it is for you to manage the power station.

Create Power Station

Basic Info
Power Station Basic Info 1 of 5

Power Station Name
Please enter...

Build Time
2025-11-27

Time Zone
GMT+00:00 - Africa/Abidjan

State
Americas

Country
Barbados

City
Saint Philip

Map showing location near Blades Hill, Bayfield, and Three Houses Park.

Next

2、 System Information: Installed capacity (kWp), grid connection date

Create Power Station

System Info
Installed capacity is the total capacity at the power station system level, not the capacity of 2 of 5

Capacity(kWp)
Please enter...

Grid Connection Date
2025-11-27

Next

Previous

3、 Third-party Controller Information: Whether there is a third-party controller, third-party manufacturer name, contact person, contact

person email.

09:20

Create Power Station

Third-Party Controller Info
Third-party

3 of 5

Has Third-Party Controller Info

Next

Previous

4、 Revenue Information: Electricity price unit.

09:20

Create Power Station

Revenue Info
Power Station Revenue Info

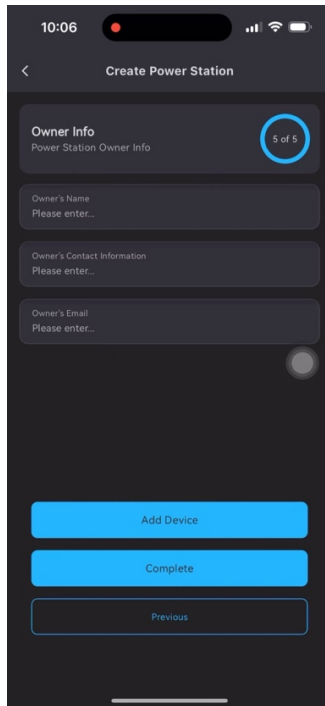
4 of 5

Electricity Price Unit
€

Next

Previous

5、 Owner Information: Owner name, owner contact phone, owner email.



6、 After filling in the information, click the [Complete] button to successfully create the power station. This marks the end of the power station creation process. To add a collector afterward, you will need to go to the power station page and click [Add Device] to continue with the operation.

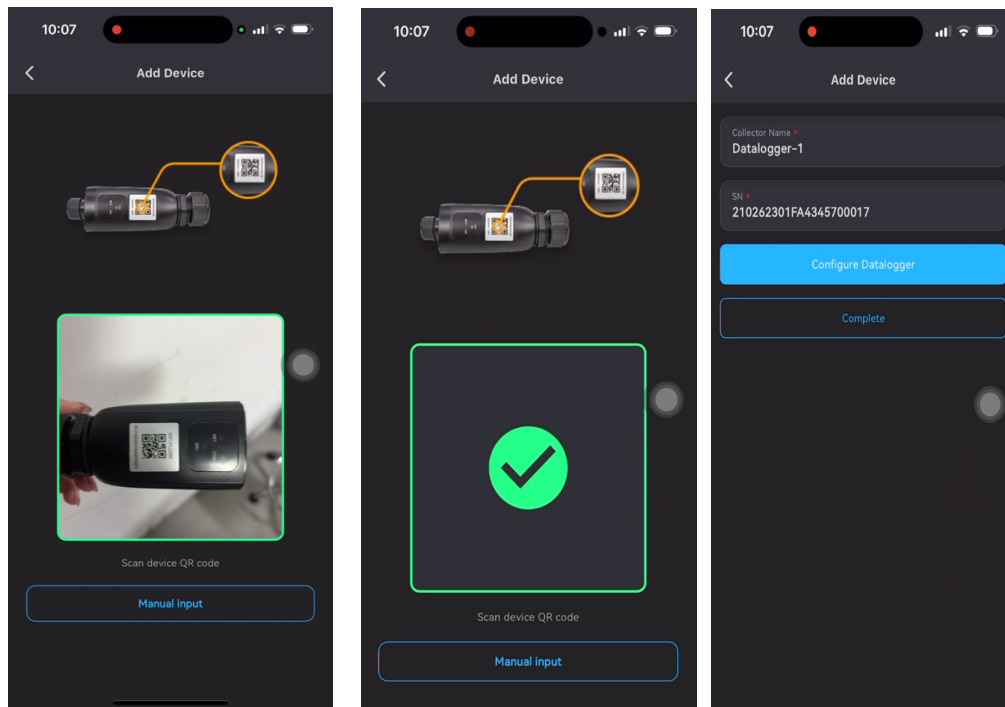
By clicking the [Add Device] button, you will be able to proceed to the next step.

5.2 Add Device

Use your phone to scan the QR code on the collector. Once the scan is successful, a success indicator will appear on the screen, and the collector's SN will be automatically recognized. At the same time, you can also modify the collector's name if needed.

After confirming all the information, click [Complete] , and the device will be successfully added. At the same time, a one-click power station setup process will be introduced. If users need to configure the collector later on, they will have to return to the power station page and adjust the settings there.

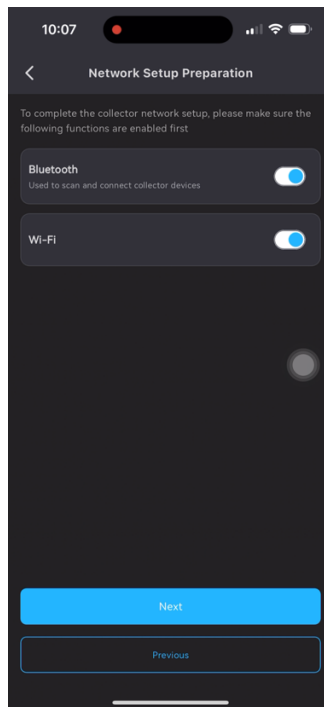
By tapping the [Configure datalogger] button, users can seamlessly move on to the next stage. There, they can set up the collector's network connection, enabling the device to go online and connect to the KSTAR Sync server without any issues.



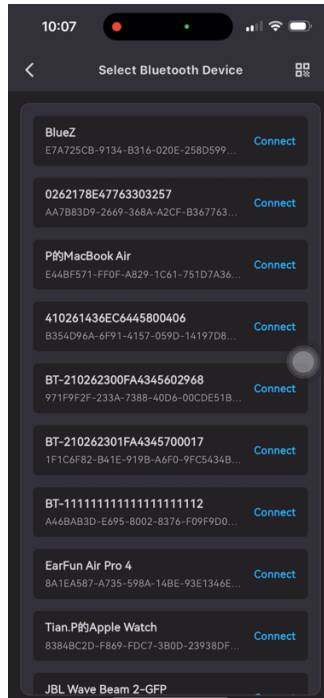
5.3 Network Setup Preparation

Before configuring the network, users need to first turn on both the Bluetooth and Wi-Fi switches on their phones. This allows the app to successfully detect and connect to the collector via Bluetooth, and also ensures that the device can connect to the Wi-Fi network smoothly when configuring the collector's network settings later on.

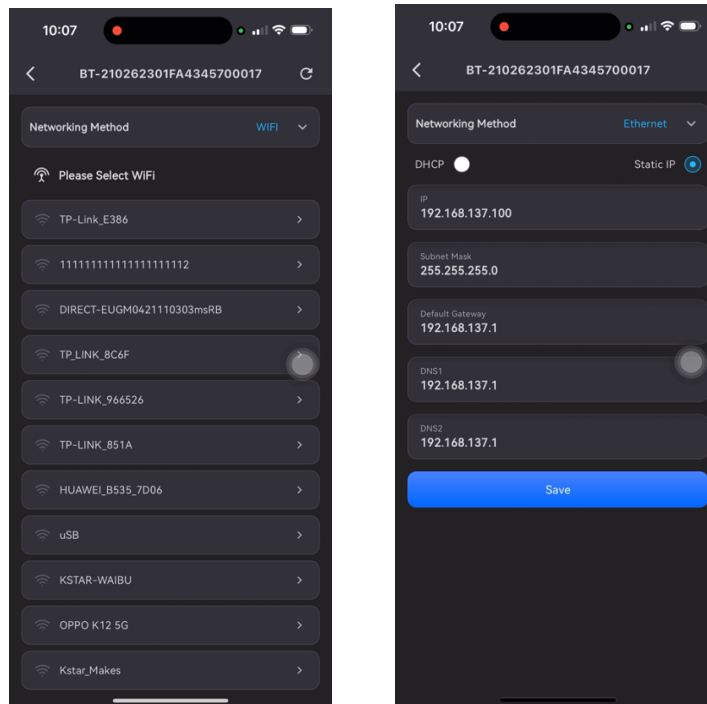
Once Bluetooth and Wi-Fi are enabled, click the [Next] button to begin configuring the collector's network.



The app will automatically scan for nearby Bluetooth devices. Users need to locate the Bluetooth device that corresponds to the collector — the Bluetooth name will match the SN printed on the collector. Once found, tap the [Connect] button.

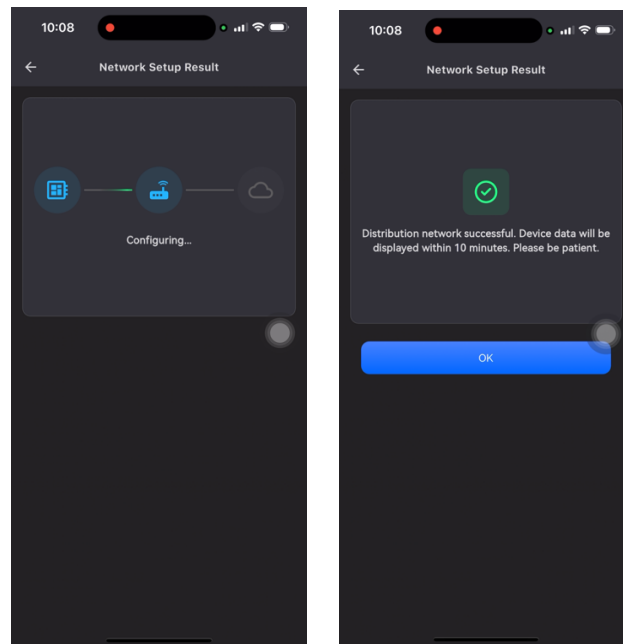


The collector offers two networking options — Ethernet and Wi-Fi. Depending on the available network setup at the installation site, users can select the one that best suits their needs.



- For the Wi-Fi networking method: The app will automatically detect nearby Wi-Fi networks. Users simply need to select their own Wi-Fi name (SSID), enter the password, and the connection will be successfully established.
- For the Ethernet networking method: After physically connecting the network cable, the app will automatically detect network information such as the IP address. Users also have the option to manually enter IP address and other network parameters. Once the network settings are confirmed, simply click the [Save] button, and the collector will successfully connect to the network.

After a successful network connection, the collector will perform a network connectivity check to verify whether it can successfully connect to the internet and establish a connection to the KSTAR Sync server. Once the connection is confirmed, the page will display a success indicator, signaling that the collector configuration is complete. Then, click the [OK] button to proceed to the next step.

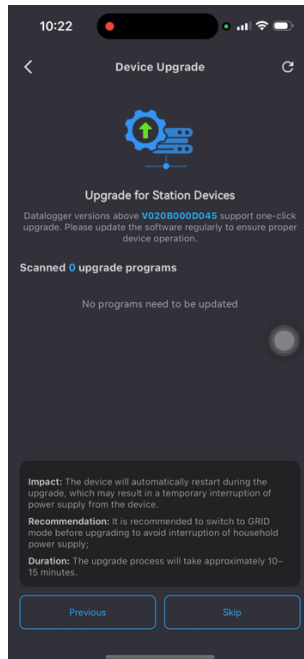
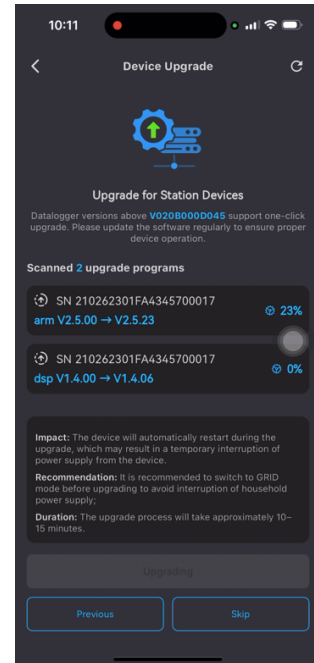
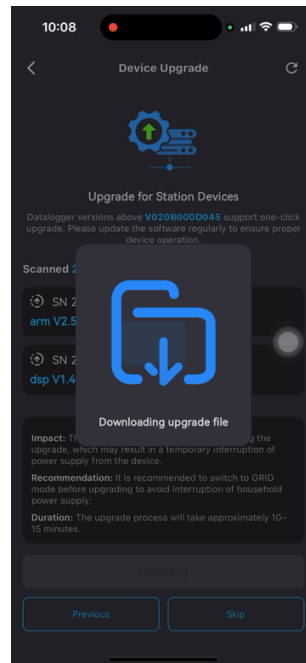
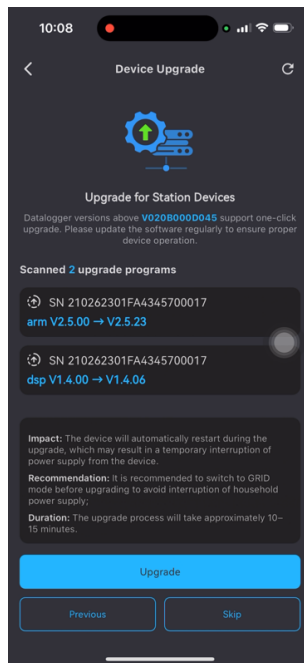


5.4 Device Upgrade

Once the network configuration is successful, the app will automatically check for available software upgrades, including ARM, DSP, and BMS. Users can perform a one-click upgrade. By tapping the [Upgrade] button at the bottom of the page, the upgrade process will begin. First, the upgrade file needs to be downloaded, which may take some time — please be patient. After the file is successfully downloaded, the software upgrade will proceed automatically, and users can monitor the upgrade progress.

After the upgrade is successfully completed, users can proceed to the next step.

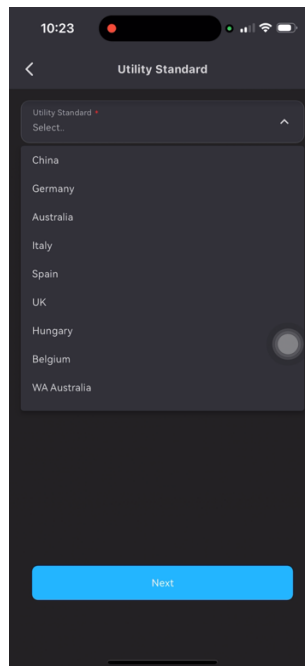
If users prefer not to proceed with the upgrade, they can click the [Skip] button at the bottom of the page to go directly to the next step.



5.5 Utility Standard

In the Grid Standard Configuration page, users are required to choose the appropriate local grid code or utility standard. This ensures that the device can communicate correctly with the electrical grid while meeting all relevant legal and regulatory requirements.

After selecting the appropriate grid standard, click the [Next] button to proceed with the subsequent operations.



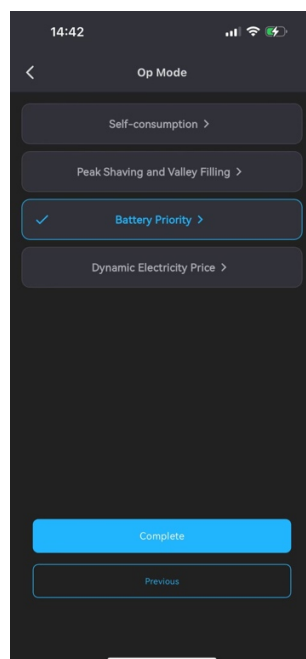
5.6 Op Mode

The operational strategy module serves as the intelligent control core of the system, offering four operational modes: Self-consumption, Peak Shaving, Battery Priority and Dynamic Tariff. This enables automated management of power station charging and discharging operations. Users can flexibly select the optimal strategy based on actual electricity demand, pricing policies, and grid requirements, achieving the comprehensive goals of improving economic efficiency, ensuring power supply security, and participating in grid dispatching.

- Self-consumption mode: Prioritizes consuming photovoltaic power generation, excess electricity is stored in battery, when insufficient, battery discharges, maximizing green electricity Self-consumption rate.
- Peak shaving and valley filling mode: Discharges during peak electricity hours to reduce grid demand, charges during load valley periods, smooths electricity curve, reduces capacity electricity fees.
- Battery priority mode: Prioritizes supplying load from battery (discharge), photovoltaic electricity is used for charging; if battery is insufficient, then uses power grid.
- Dynamic Tariff : The energy storage system will automatically sort all electricity prices for the day based on the high electricity price range and low electricity price range you have set, distinguishing between the high electricity price interval (red interval), low electricity price interval (green

interval), and normal electricity price interval (intervals other than red and green). The system will automatically identify whether the current time falls within your preset intervals and operate according to the charge, discharge, or standby strategies you have configured for each interval.

After the operation strategy has been successfully configured, click the [Complete] button to proceed to the next step.



5.7 System Self-Check

The One-Click Self-Test function is used to automatically check the connection status and operational health of all key system components after equipment installation or maintenance. Before starting the self-test, users need to close the following physical switches:

- PV Switch
- Battery Switch
- Grid Switch
- BACKUP Switch

Once the self-test is completed, the system will detect and report the status of the following 5 core modules:

1. PV Self-Test

- ◆ Checks whether PV voltage and insulation impedance are normal
- ◆ Determines whether PV input is present

2. Battery Connection Status Detection

- ◆ Whether BMS communication is functioning properly
- ◆ Identification of the number of battery packs
- ◆ Whether battery voltage, current, and temperature are within allowable ranges
- ◆ Whether any alarms exist
- ◆ Whether SOC (State of Charge) and SOH (State of Health) readings are normal

3. Grid Self-Test

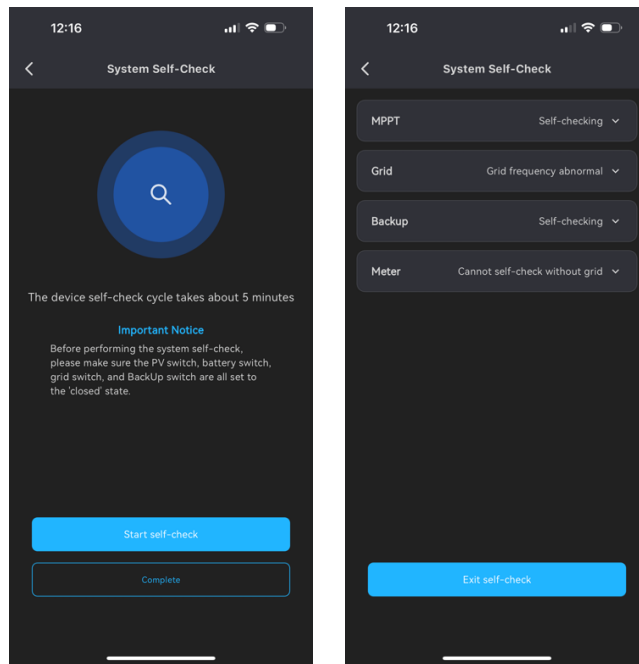
- ◆ Whether grid voltage is within the standard range
- ◆ Whether grid frequency is normal
- ◆ Whether phase sequence is correct
- ◆ Whether any overvoltage, undervoltage, overfrequency, or underfrequency faults exist

4. BACKUP Self-Test

- ◆ Whether output voltage is normal under grid bypass or off-grid mode
- ◆ Whether output current and power are normal (not overloaded)
- ◆ Whether output frequency is stable

5. Meter or CT Self-Test

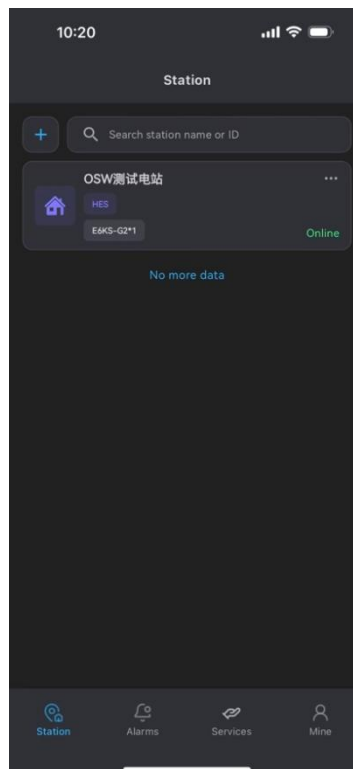
- ◆ Whether meter communication is functioning properly
- ◆ Whether CT wiring direction is correct (automatic correction is available if the direction is wrong)
- ◆ Whether the three-phase CT phase sequence is correct
- ◆ Whether the CT is damaged or not connected
- ◆ Whether charge/discharge power meets the required standard (1KW for single-phase, 3KW for three-phase)
- ◆ Whether power and energy metering data are normal



After the device self-test has finished, the whole station creation process is successfully concluded.

6 Power Station

The power station list module centrally displays and manages all power station data under your name, supporting adding power stations, querying, and detail viewing.



6.1 Overview of Power Station List Functions

- Power station query: You can input power station name, collector SN to query power station data, the system will perform fuzzy query according to the power station name you input to quickly search corresponding power station information.
- Add power station: Click the [+] button in the upper left corner of the page, jump to the corresponding page, complete the power station information according to the prompts to complete the function operation of creating power station.
- Enter power station details: Click the power station name in the power station list, a new page will open to enter the corresponding power station interface.

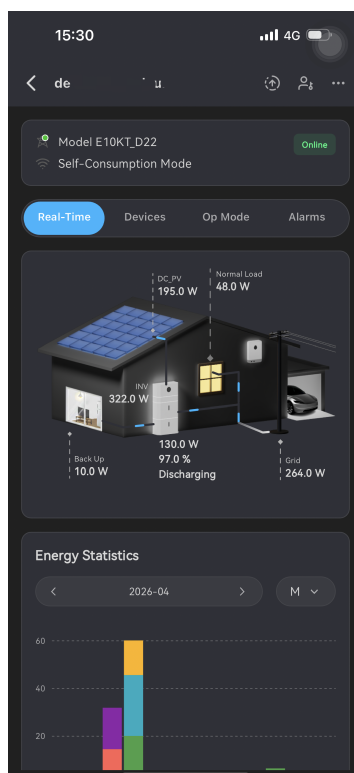
6.2 Station Details

6.2.1 Real-time

The real-time module provides users with a centralized monitoring view of residential energy storage power stations.

- In the form of system diagram, dynamically displays the real-time operation status of power stations, key functions include:
 - Current path visualization: Dynamically displays energy flow direction between photovoltaic, energy storage, electrical load and power grid.
 - Real-time presentation of key data: Accurately displays key parameters such as instantaneous power of core Device like inverters and batteries.
- Energy statistics are divided into 2 parts: power analysis, this week's energy trend.
 - Power analysis: Through multi-curve comparison chart, synchronously displays the power changes of photovoltaic, power grid, load, battery and battery SOC curve on the current day. Users can flexibly query detailed data of any historical date through date selector.
 - Weekly energy trend: In the form of bar chart or data table,

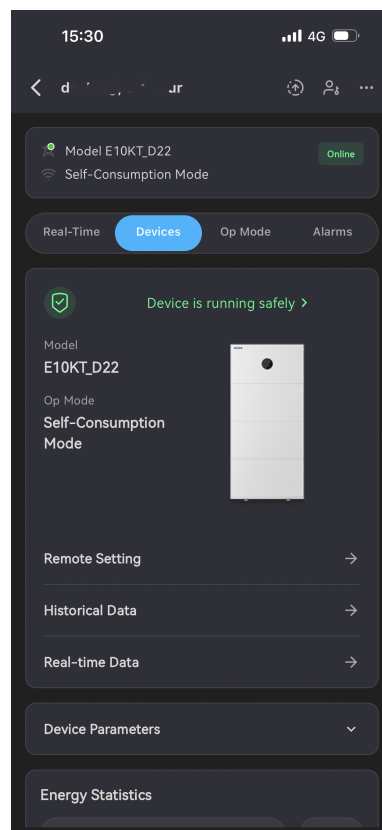
statistics and displays cumulative energy data of the recent 7 days, key indicators include: photovoltaic power generation, grid power purchase, load electricity consumption and battery charge/discharge amount, helping you understand weekly energy consumption patterns.



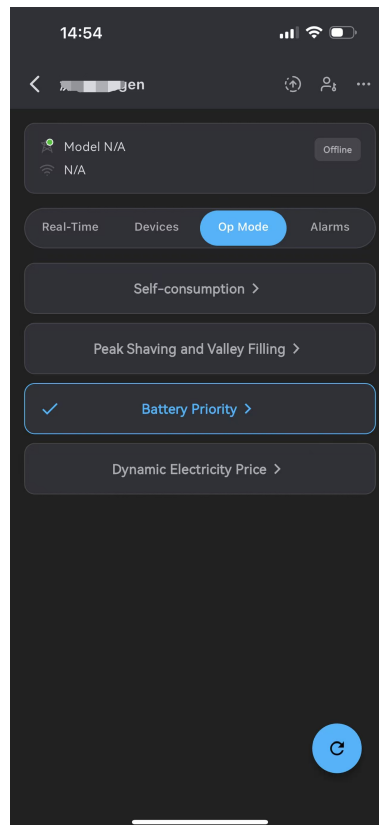
6.2.2 Device

- Basic information: Displays Device status, Device model, Device current operation strategy.
- Remote setting: Remote setting provides authorized users with cross-regional, high-efficiency Device control capabilities through cloud platform. This function allows operation and maintenance personnel or system administrators to directly perform parameter configuration, system soft reset and safety protection threshold adjustment operations on various Device in the power station without needing to arrive at the site. With this function, users can uniformly manage energy storage units distributed in different locations, achieving centralized remote monitoring and control from individual Device to power station clusters, effectively improving system operation and maintenance response speed and management precision.

- Real-time data: From 4 dimensions of PV&INV, battery, power grid, load, displays real-time power, photovoltaic power generation, battery charge and discharge amount, electricity consumption and other basic parameters of Device.
- Historical data: Device data is automatically saved to the system at a frequency of 5 minutes/time. Supports query and trend analysis, providing complete, traceable data basis for operation and maintenance optimization and decision-making.



6.2.3 Operation Strategy



6.2.3.1 Self-consumption

1. Charging Period Operation Strategy

During the charging period, the system executes the "PV Priority Charging" strategy. PV generation is prioritized for battery charging. When the available PV power is lower than the preset charging power limit, the system automatically supplements power from the grid to ensure charging.

When the demand control function is enabled, the system will supplement power from the grid under the constraint that the sum of load power consumption and battery charging power from the grid does not exceed the demand current setpoint. Meanwhile, the actual battery charging power remains no higher than the preset charging power limit.

2. Non-Charging Period Operation Strategy

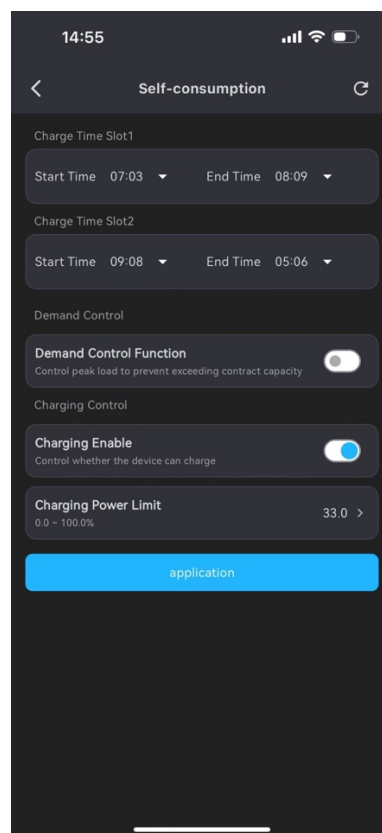
During the non-charging period, the system executes the "PV Priority for Load" strategy. PV generation is prioritized for powering loads. When PV power is insufficient to meet load demand, the energy storage system discharges to compensate. When the combined power of PV and storage is still lower than the

load demand, the grid supplies the remaining shortfall.

When there is surplus PV power after meeting load demand, the surplus power is prioritized for battery charging. After the battery is fully charged, the system handles the situation according to the anti-reverse power flow function status:

Anti-reverse power flow function enabled: Limit excess PV output (PV curtailment).

Anti-reverse power flow function disabled: Allow excess PV power to be exported to the grid.

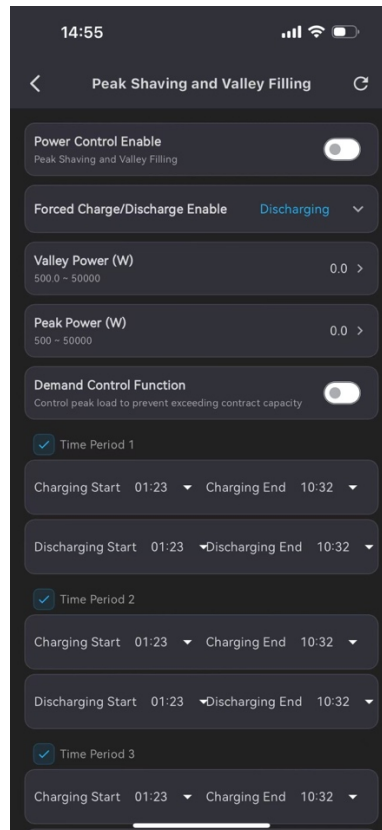


6.2.3.2 Peak Shaving

Time-of-Use Control: The battery charges and discharges according to the set time period. If the current time is outside the set period, the battery neither charges nor discharges, and PV power is exported to the grid.

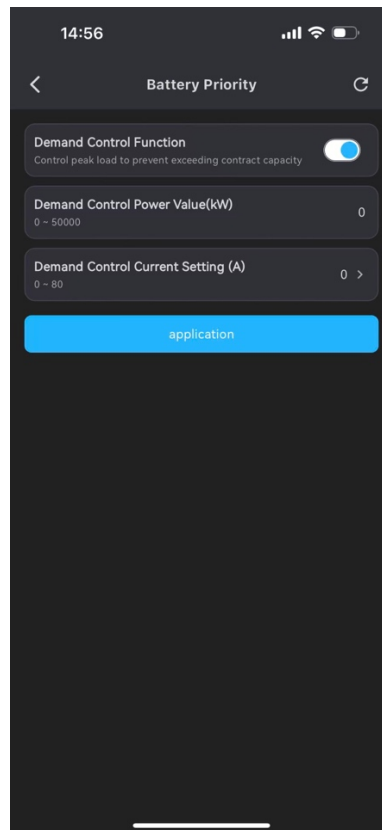
Peak-Valley Power Control: When the grid power is between the peak and valley values, the load draws power from the grid, PV is used only for battery charging, excess PV power is curtailed, and the battery is charged to full while PV

is curtailed. When the grid power is below the valley value, the battery actively draws power from the grid to maintain the grid power until the grid power reaches the valley value. When the grid power exceeds the peak value, the battery actively discharges to maintain the grid power at the peak value.



6.2.3.3 Battery Priority

PV power is prioritized for battery charging. Any remaining energy is then supplied to the load. When PV power is insufficient, power is drawn from the grid to charge the battery.



6.2.3.4 Dynamic Tariff

The energy storage system will automatically sort all electricity prices for the day based on the high electricity price range and low electricity price range you have set, distinguishing between the high electricity price interval (red interval), low electricity price interval (green interval), and normal electricity price interval (intervals other than red and green). The system will automatically identify whether the current time falls within your preset intervals and operate according to the charge, discharge, or standby strategies you have configured for each interval.

1. High Electricity Price Interval Strategy

- If you have set a discharge strategy:

The energy storage system will discharge to the grid at maximum power while ensuring that the discharge power does not exceed the Maximum Discharging Power limit you have set, and taking into account anti-reverse power flow conditions. The system will stop discharging and switch to standby when the SOC discharges to the Maximum Discharging Power SOC you have set.

- If you have set a charge strategy:

The energy storage system will charge from the grid at maximum power while

ensuring that the charge power does not exceed the Maximum Charging Power limit you have set, and taking into account demand limits. The system will stop charging and switch to standby when the SOC reaches the Charging SOC Upper Limit you have set.

- If you have set a standby strategy:

The energy storage system will remain in standby mode.

2. Normal Electricity Price Interval Strategy

- If you have set a discharge strategy:

The energy storage system will discharge to the grid at maximum power while ensuring that the discharge power does not exceed the Maximum Discharging Power limit you have set, and taking into account anti-reverse power flow conditions. The system will stop discharging and switch to standby when the SOC discharges to the Maximum Discharging Power SOC you have set.

- If you have set a charge strategy:

The energy storage system will charge from the grid at maximum power while ensuring that the charge power does not exceed the Maximum Charging Power limit you have set, and taking into account demand limits. The system will stop charging and switch to standby when the SOC reaches the Charging SOC Upper Limit you have set.

- If you have set a standby strategy:

The energy storage system will remain in standby mode.

3. Low Electricity Price Interval Strategy

- If you have set a charge strategy:

The energy storage system will charge from the grid at maximum power while ensuring that the charge power does not exceed the Maximum Charging Power limit you have set, and taking into account demand limits. The system will stop charging and switch to standby when the SOC reaches the Charging SOC Upper Limit you have set.

- If you have set a discharge strategy:

The energy storage system will discharge to the grid at maximum power while ensuring that the discharge power does not exceed the Maximum Discharging Power limit you have set, and taking into account anti-reverse power flow conditions. The system will stop discharging and switch to standby when the

SOC discharges to the Maximum Discharging Power SOC you have set.

- If you have set a standby strategy:

The energy storage system will remain in standby mode.

4. Negative Electricity Price Interval Strategy

When the electricity price is negative, the energy storage system will control the equipment to charge (with charging power not exceeding the customer-set Maximum Allowed Charging Power) while taking into account demand limits, and will suppress PV generation according to the customer-set PV Generation Inhibition Rate. The system will stop charging when the SOC reaches the customer-preset Charging SOC Upper Limit.

Dynamic Tariff Activation: Automatically sets the price threshold based on electricity prices in ascending order (user-defined range).

Customizable charge/discharge strategies for high, medium, and low electricity price tiers.

Set Dynamic Electricity Price Strategy :

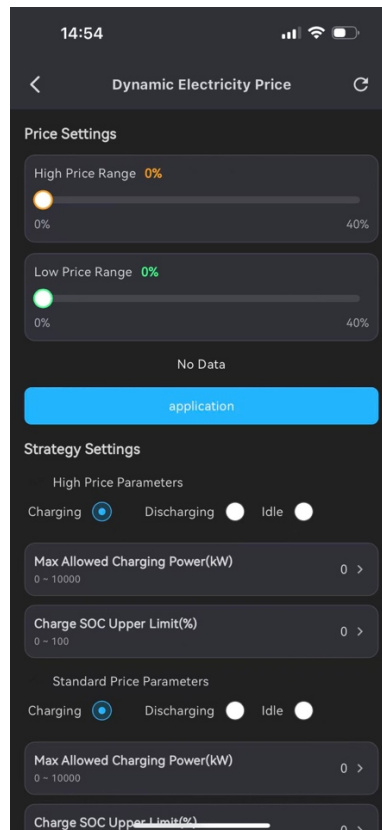
- Enable the Dynamic Tariff module , Operation Steps: Go to the "Operation Strategy" → "Dynamic Tariff" module.
- Electricity Price Settings are used to define the high electricity price range and the low electricity price range. When the electricity price falls within the red interval (high electricity price), the system will execute the high-electricity-price strategy; when the electricity price falls within the green interval (low electricity price), the system will execute the low-electricity-price strategy. The system automatically sorts the daily electricity prices in ascending order, with the high-electricity-price interval defaulting to the top 30%, the low-electricity-price interval defaulting to the bottom 30%, and the middle 40% serving as the normal electricity price interval. Users can customize the electricity price thresholds, which will take effect automatically in the future.

We provide configurable parameters for complex electricity pricing. The parameters you can set include: maximum allowable charging power, PV generation percentage limit required for the energy storage system, and battery SOC upper limit for charging during negative electricity price periods.

- You can set the actions the system should take when the electricity price

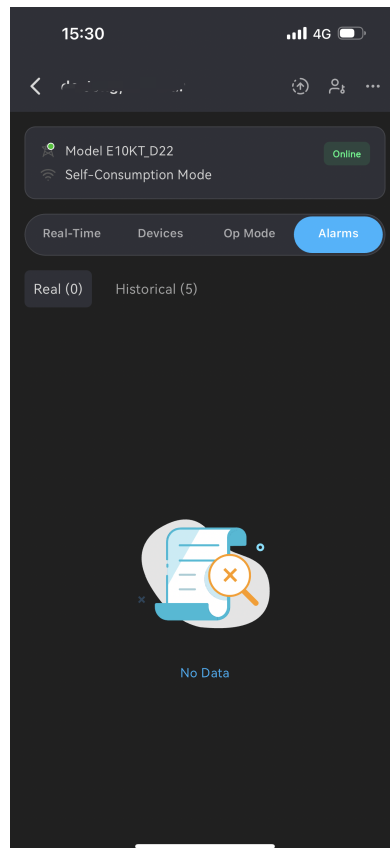
falls into the high, medium, or low intervals: charge, discharge, or standby. For charge and discharge actions, you need to set the maximum power threshold and the stop SOC threshold.

- If you need to suspend dynamic electricity price operation, you can switch to one of the following operating modes: "Self-Consumption", "Peak Shaving", or "Battery Priority".



6.2.4 Alarms

The alarm module is divided into real-time alarms and historical alarms, 2 modules displaying all alarm data of single power station Device, and providing query, filtering, classification and other functional operations.



7 Alarms

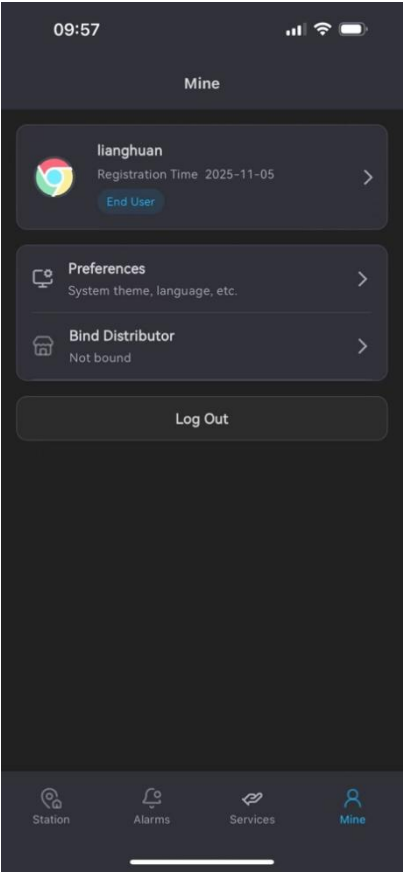
The alarm module centrally displays unrecovered alarm data of Device from all power stations, and provides query, filtering, classification and other functional operations.



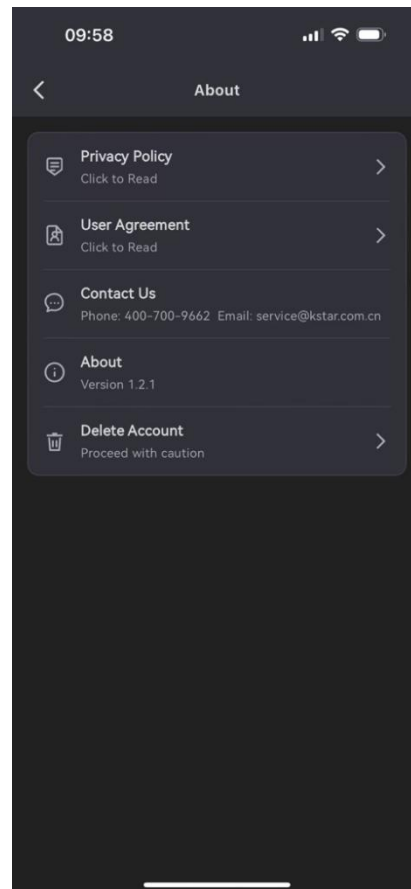
Alarm level description:

- Level A alarm: Refers to emergency alarms that may involve safety hazards
- Level B alarm: Refers to alarms for machine damage, requiring machine replacement
- Level C alarm: Refers to some faults/or restart requiring manual operation, alarms for restoring machine work
- Level D alarm: Refers to minor alarms that do not affect system operation

8 Mine



8.1 About



From the [Mine] page, tap the username section to access the [About] page. This interface provides centralized information about the app across five main sections:

- Privacy Policy: Online access to read the complete privacy policy.
- User Agreement: Can read the user agreement online.
- Contact Us: Displays KSTAR contact information, can contact KSTAR through phone or email.
- About: Displays APP version information.
- Delete Account: Account deletion function, please use with caution, data cannot be recovered after account deletion.

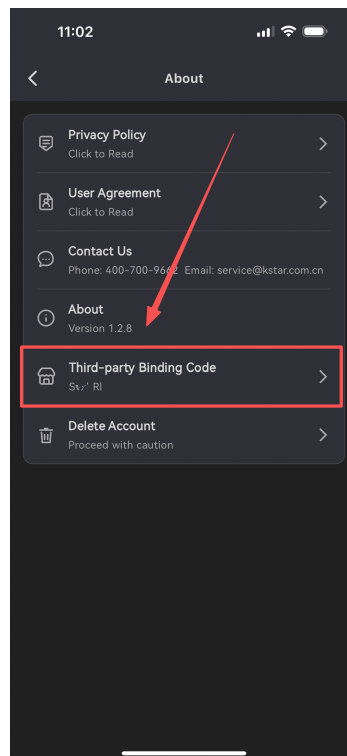
8.1.1.1 Finding Third-party binding code

Power stations created in KSTAR Sync can be linked to the Third-party platform.

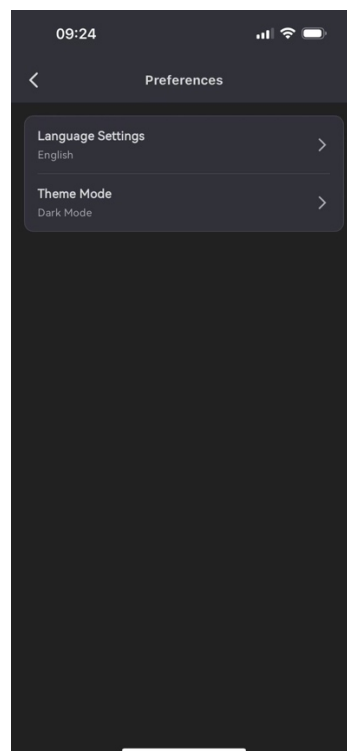
Users can bind their stations and associated devices to Third-party platform

by Third-party binding code

On the **【About】** page that opens, your Third-Party Binding Code is displayed and available for copying.



8.2 Preference Settings



8.2.1 Language Settings

The system supports Chinese and English dual languages, click the language switching icon in the upper right corner of the page, users can switch the system language.

8.2.2 Display Theme

The system provides white and black two theme skins, click the theme icon in the upper right corner of the page, users can freely switch according to environmental lighting or personal habits. Light mode is fresh and bright, dark mode protects eyes and saves power.

8.3 Bind Distributor

The account registered by end users through KSTAR Sync is an independent account and is not supervised by distributors. If distributors need to view the power stations of end users, the end users must bind with the distributor.

After logging into the KSTAR Sync APP, end users can go to the **【Mine】** page, click **【Bind Distributor】** - **【Bind Now】** , enter the distributor code, and click the **【Confirm】** button to successfully bind with the distributor's account.

