KSTAR Sync WEB Household Storage Agent/Distributor/Installer Operation Manual

（web：https://sync.ksdatacloud.com）

File Version：04
Release Date：2026-04-10

Contents

Revision History

Version	Date	Description
4	2026-04-10	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 Agent, Distributor, Installer (hereinafter referred to as Operator) of KSTAR Sync APP (hereinafter referred to as this APP).

1.2 Icon Definition

The following icons may be used in the document to indicate safety precautions or key information. Before installation and operation, please be familiar with and master the icons and the corresponding definitions.

Icon	Definitions
Warning	Warning. Indicates an imminently hazardous situation which, if not avoided, will result in serious personal injury or property damage.
Attention	Attention. Indicates a potentially hazardous situation which, if not avoided, will result in property damage.

1.3 Copyright Notice

1.4 Contact KSTAR

If you have any questions, please contact KSTAR.

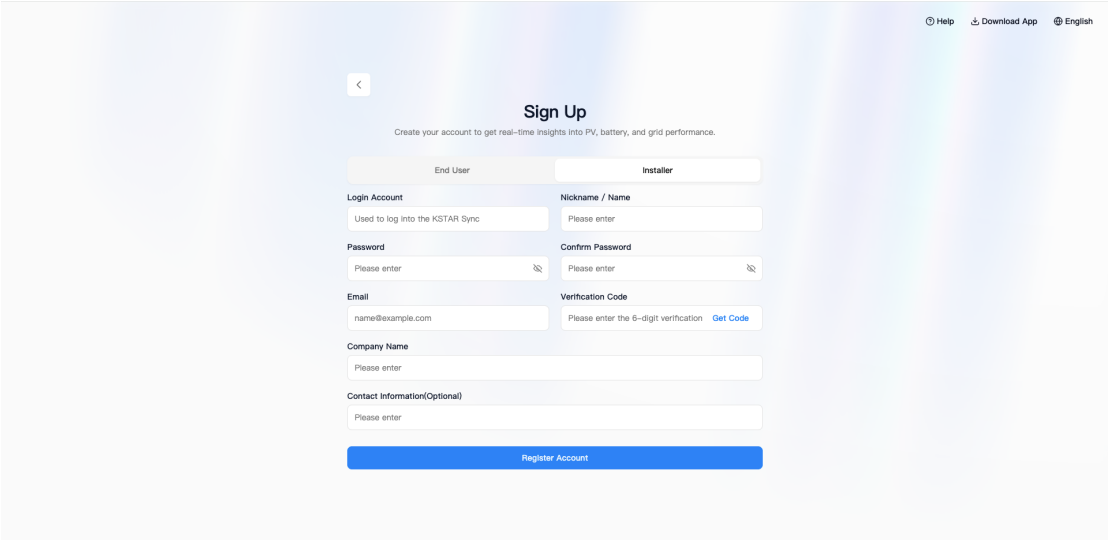
Website: https://www.kstar.com/

Email: service_solarinverter@kstar.com

2 Registration and Login

2.1 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.
- After successful account registration, the account information will be reviewed by KSTAR staff. Once approved, the account details will be sent to your registered email address. Please ensure that the email address provided is correct and valid.



2.2 Login

Enter the system URL in the browser address bar: https://sync.ksdatacloud.com/;

Enter your username and password in the login box, then click [Login Now].

To make it easier for users to log in again, click [Remember password].

Note: This system does not support IE browser. We recommend using Chrome 58, Firefox 49, or IE9 or later.

3 Binding End User - Operator User Account

3.1 Precautions Before Binding Account

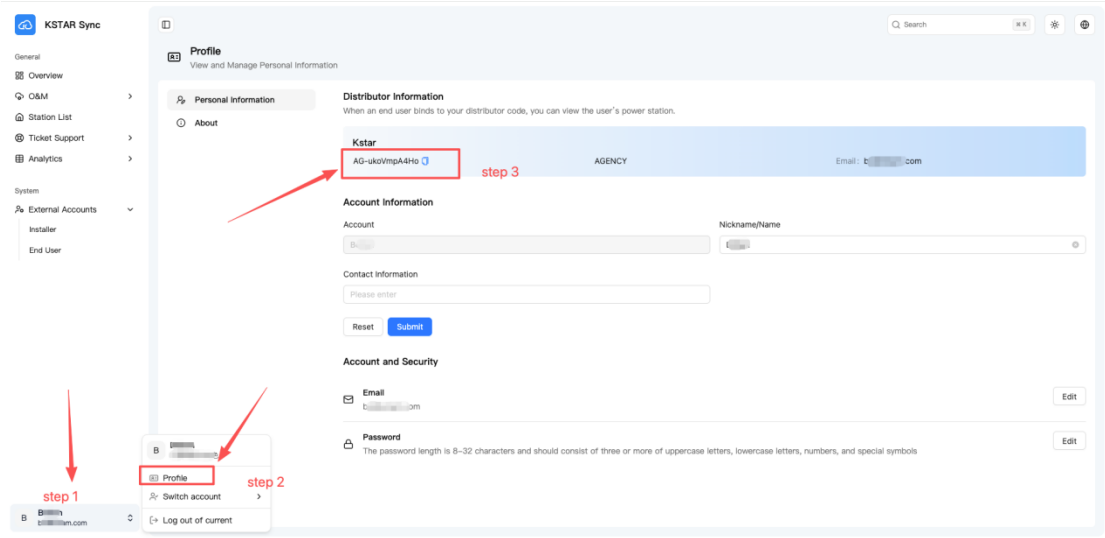
The account registered by the end user independently is an independent

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.

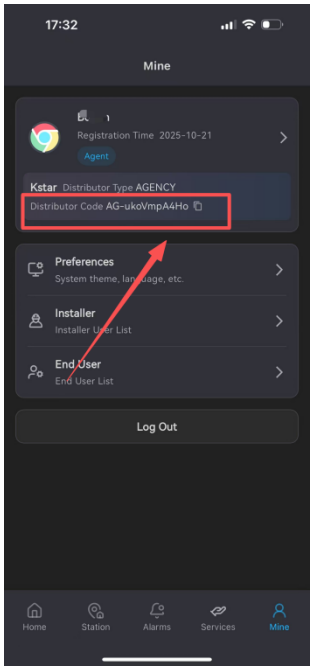
The account opened by the operator for the end user after logging into KSTAR Sync already has a binding relationship and does not require additional operations to bind the operator function.

3.2 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 [Profile] 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.

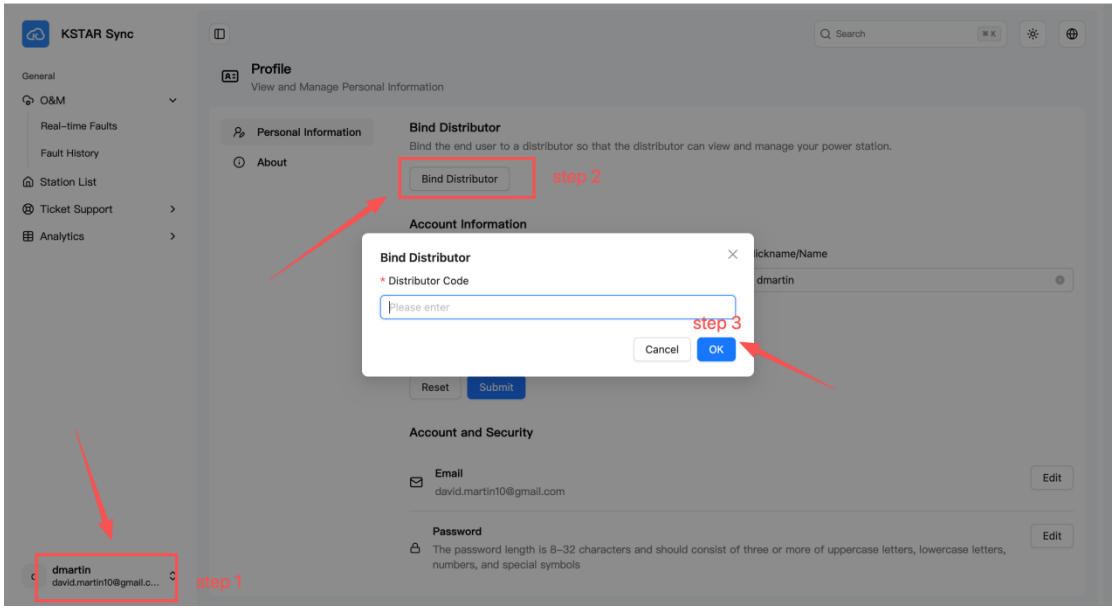


After the operator logs into KSTAR Sync APP, enter the [Mine] page, the code displayed in the upper left corner of the page is the operator code, and the operator can copy the code.

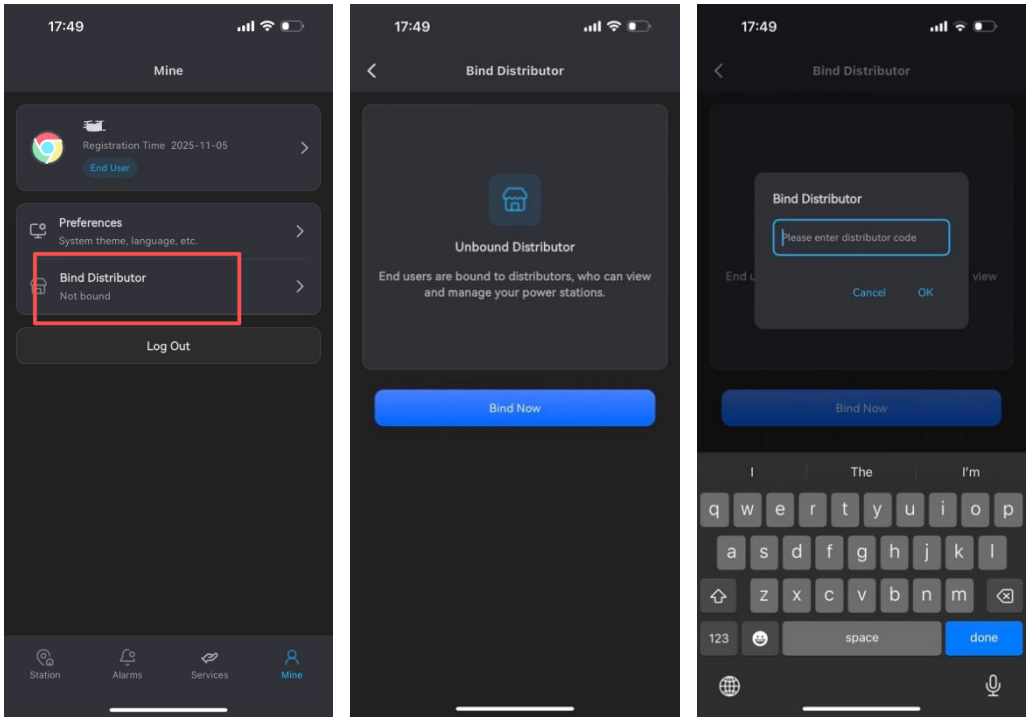


3.3 End User Binding Operator Code

After the end user logs into KSTAR Sync WEB end, click [Account Name] at the bottom of the left navigation bar, and find [Profile] 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.



4 Authorize Station

Authorized Power Stations refer to power stations created by distributors that can be authorized to end-users within the organizational structure. For example, installers can authorize power stations for end-users to view. When sharing a power station, simply select the corresponding end-user and choose the authorized permissions to successfully assign the power station to the end-user. The end-user can log in to KSTAR Sync to view the power station.

Operation Method:

After logging into the KSTAR Sync WEB platform, the distributor can click 【O&M】–【Station Migration】 at the bottom of the left navigation bar, then locate 【Authorize Stations】 in the top navigation bar of the page.

On the Authorize Power Stations page, find the station that needs to be authorized and click the 【Station Assignment】button next to it.

In the pop-up window, select the end-user account name that will receive the station and assign the role.

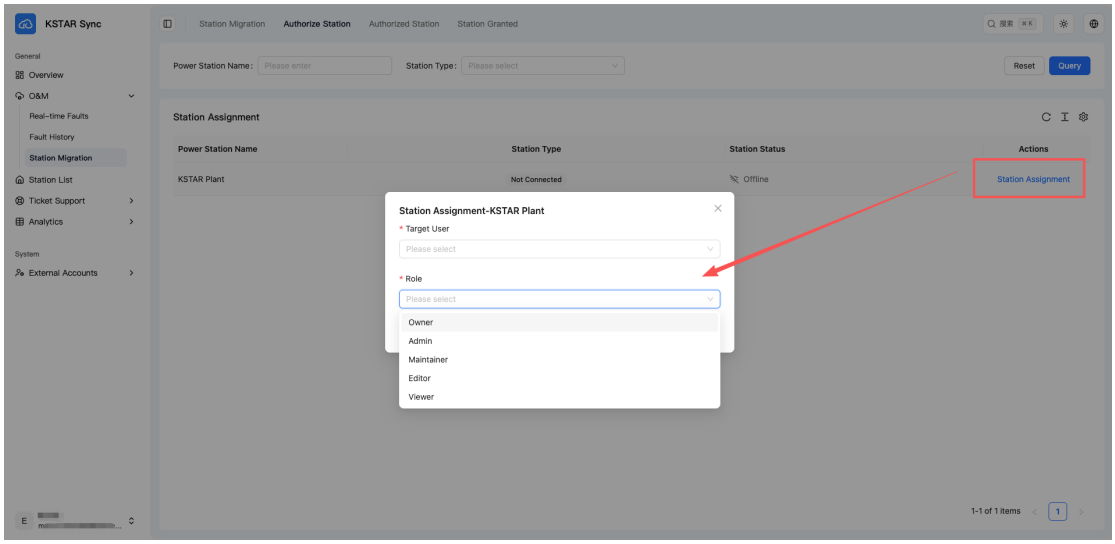
Note:The authorized end user must be either an end-user account created by the distributor or an end-user account already bound to the distributor.

Permission Description:

- Owner: Has full permissions over the power station, including viewing,

managing, sharing, deleting, and all other operations.

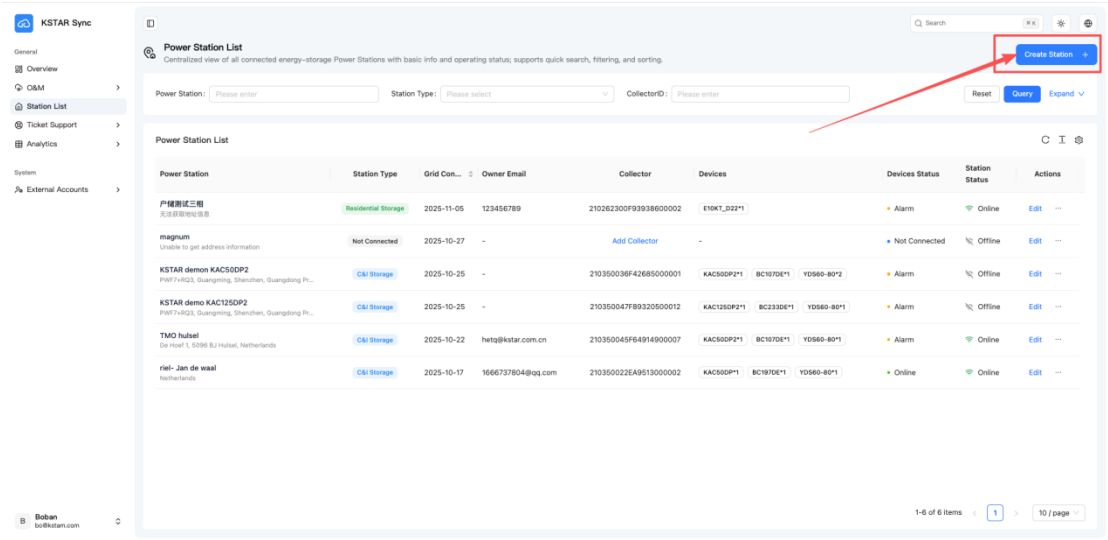
- Admin:Has permissions second only to the owner, including viewing, managing, and sharing the power station.
- Maintainer:Has permissions to view, manage, and share the power station.
- Editor:Has permissions to view and manage the power station.
- Viewer:This role only has permission to view the power station.



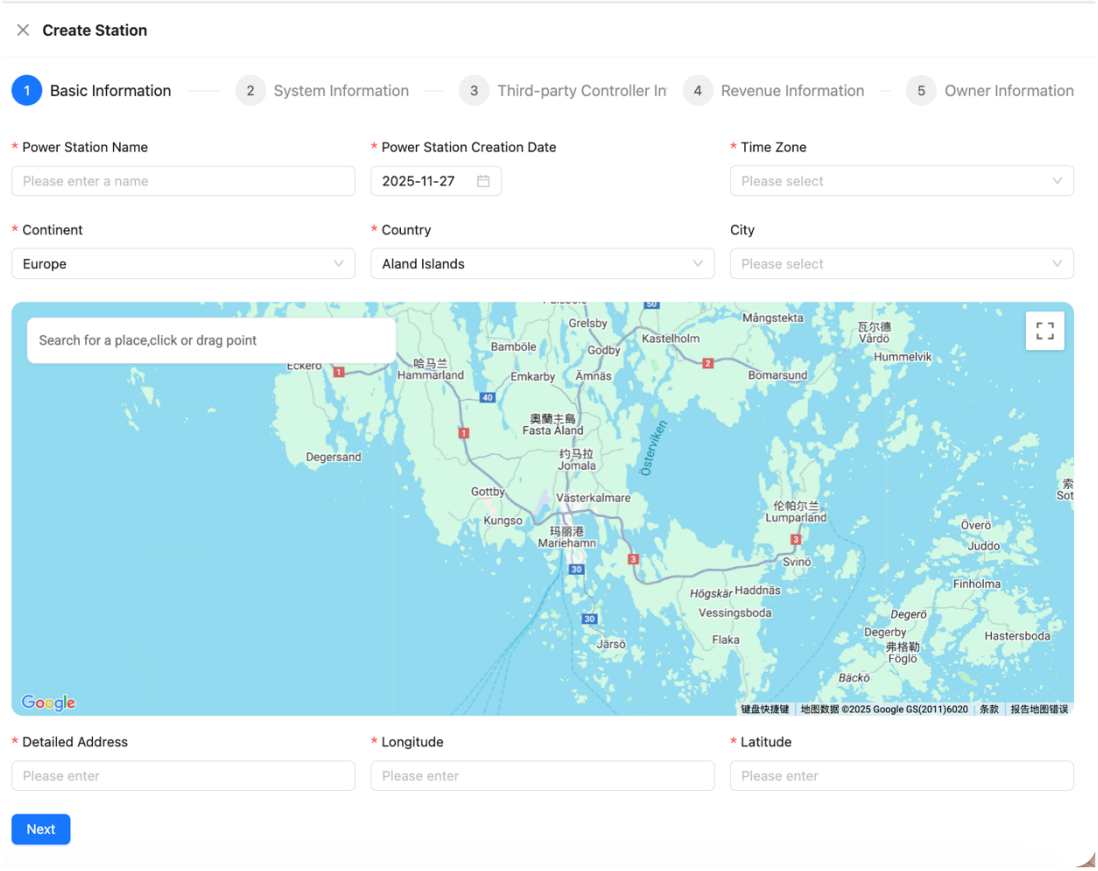
5 Create a power station

5.1 Configure the power station

After logging in, go to the Power Station List page and click the Create Power Station+ button in the upper right corner to enter the power station creation details page. Complete the power station information according to the system prompts to successfully create a new power station.

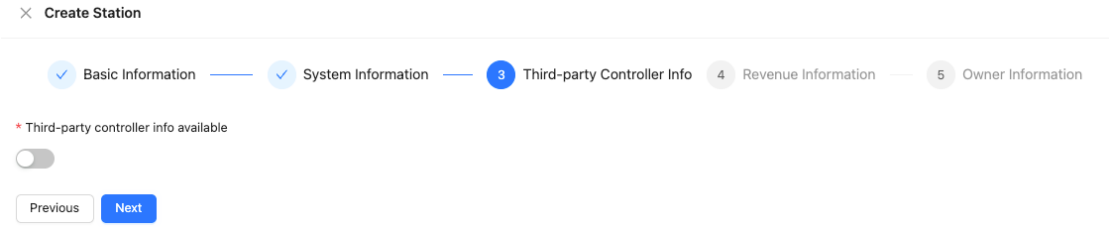


1、 Basic information: Power station name, construction time, time zone, region/country, location, address, latitude and longitude (select from Google Maps or enter manually). Items marked with an asterisk are required. The more complete the information, the better it will be for your power station management.

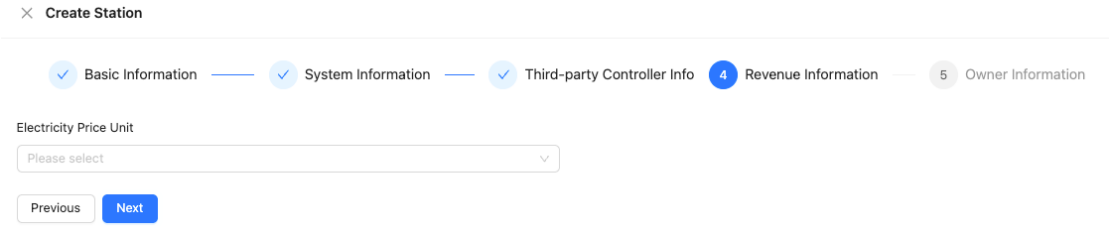


2、 System information: installed capacity (kWp), grid connection date

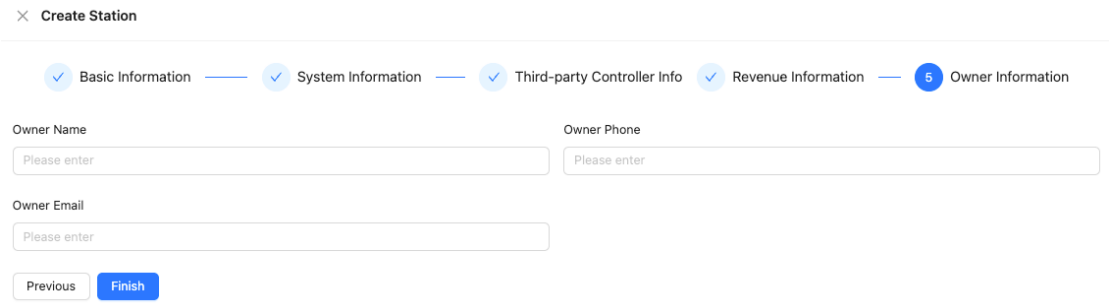
3、 Third-party Controller Information: Whether there is a third-party controller, third-party manufacturer name, contact person, contact person email.



4、 Revenue information: electricity price unit.



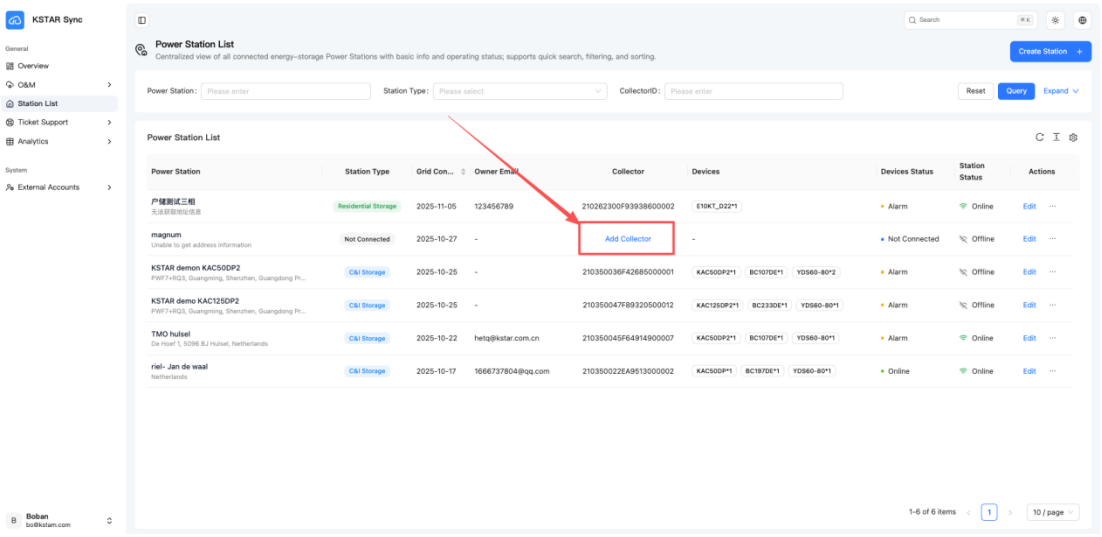
5、 Owner Information: Owner name, owner contact phone, owner email.



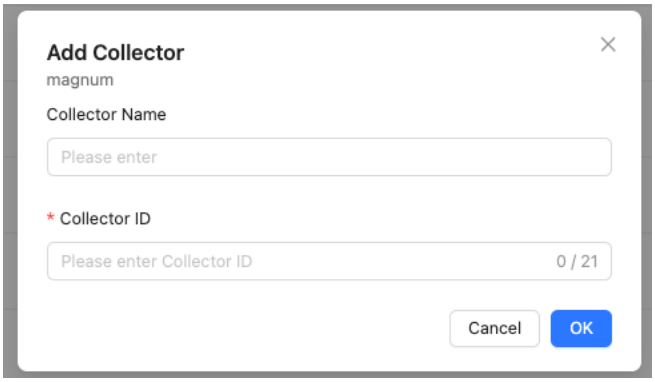
6、 After completing the information, click the [Submit] button to create the power station successfully.

5.2 Add device configuration navigation

After adding the power station, you need to add a collector. On the [Power Station List] page, click [Add Collector] and enter the collector ID and name to add the device.

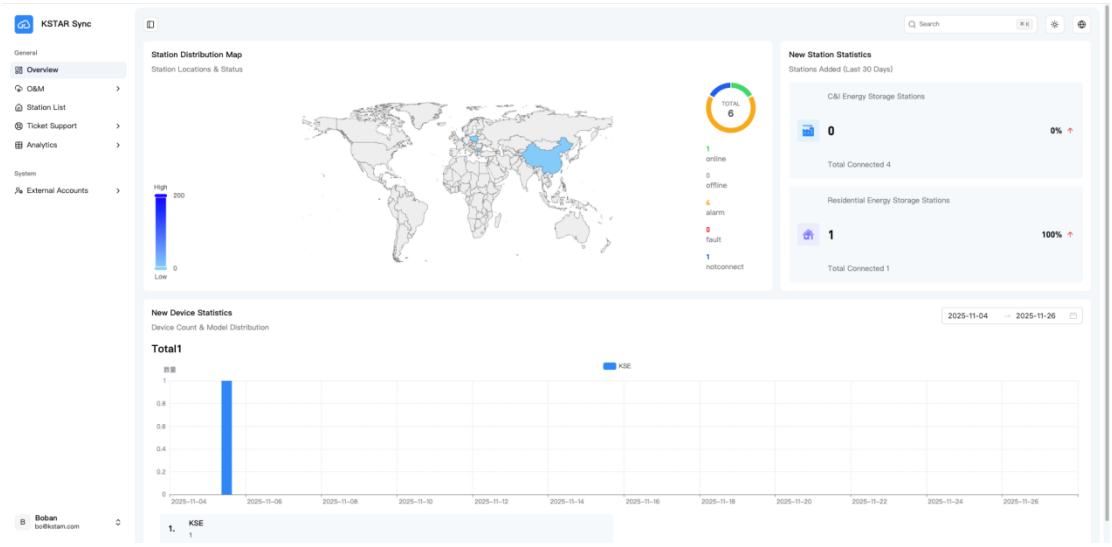


- Enter the collector name.
- Enter the collector ID.



6 overview

The overview page is the main control interface after user login, adopting a modular design that centrally displays the core operating data and status information of the power station system. The page layout is divided into three main functional areas: site map distribution, new site statistics, and new device statistics.

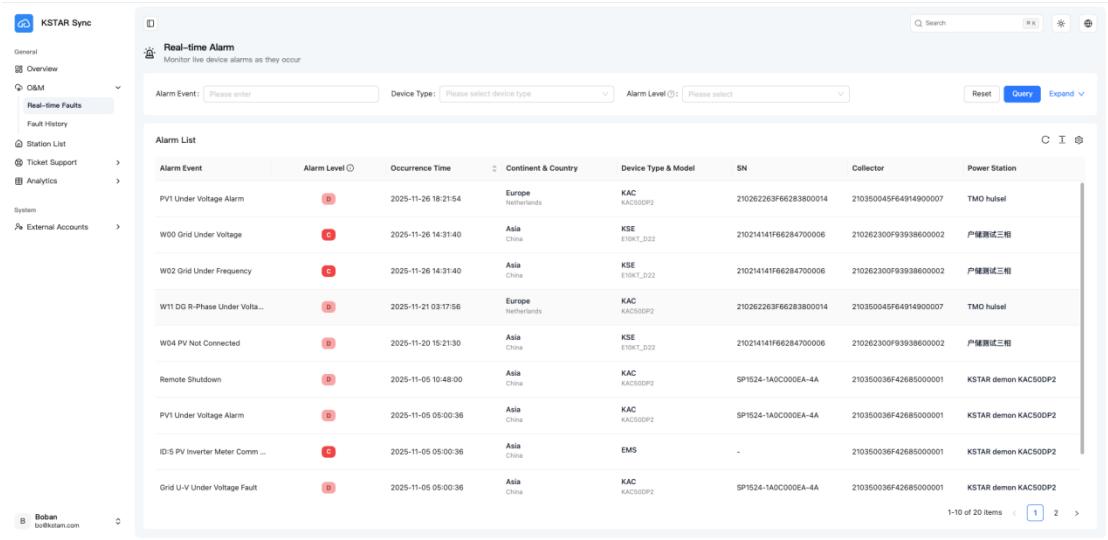


- Site Map Distribution: Operators can view power station distribution in map form, and can view the number of power stations and power station status within each region.
- New Site Statistics: Operators can view statistics of newly added sites within one month.
- New Device Statistics: Supports filtering by time period to view the number and details of newly added devices of various types within a specified time period.

7 Operation

7.1 Real-time alarms

The real-time alarm module displays all unrecovered alarm data from power stations in a centralized manner and provides query, filtering, and classification functions.



Alarm level description:

- Level A alarm: An emergency alarm that may involve security risks
- Level B alarm: indicates a machine failure requiring replacement.
- Class C alarm: An alarm indicating that certain failures or restarts require manual intervention to restore machine operation.
- Level D alarm: a minor alarm that does not affect system operation

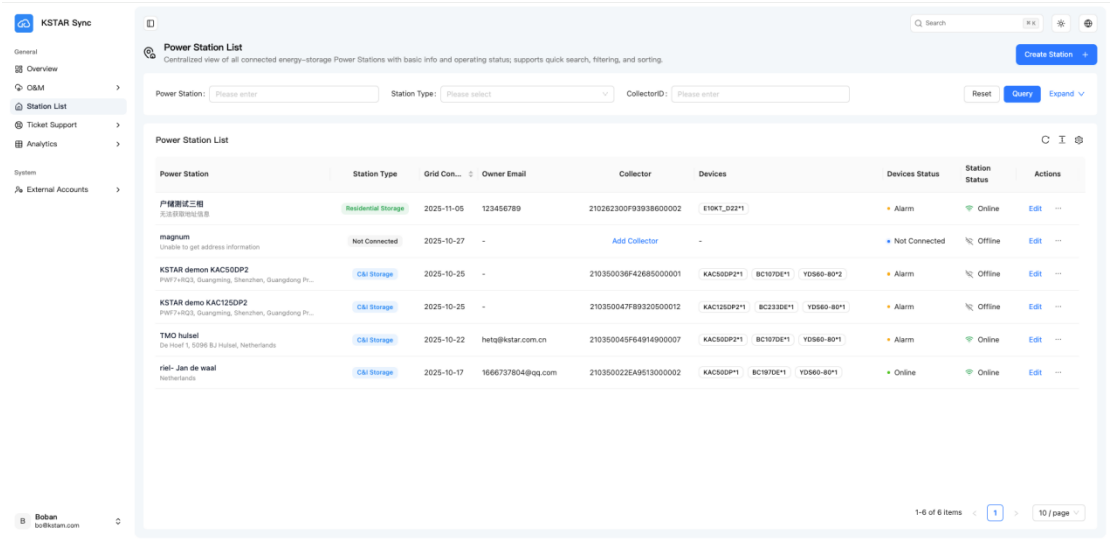
Alarm query: Enter conditions such as power station name, alarm event, or device type to search alarm data. The system performs fuzzy matching based on the entered power station name and alarm name to retrieve corresponding alarm information.

7.2 Historical alarm

The historical alarm module displays all restored alarm data from the Device of all power stations and provides query, filter, and classification functions.

8 Power Station List

The power station list module displays and manages all your power station data in a centralized manner. It supports the entire lifecycle operations, from adding, querying, and viewing details to editing and deleting, to meet one-stop management needs.

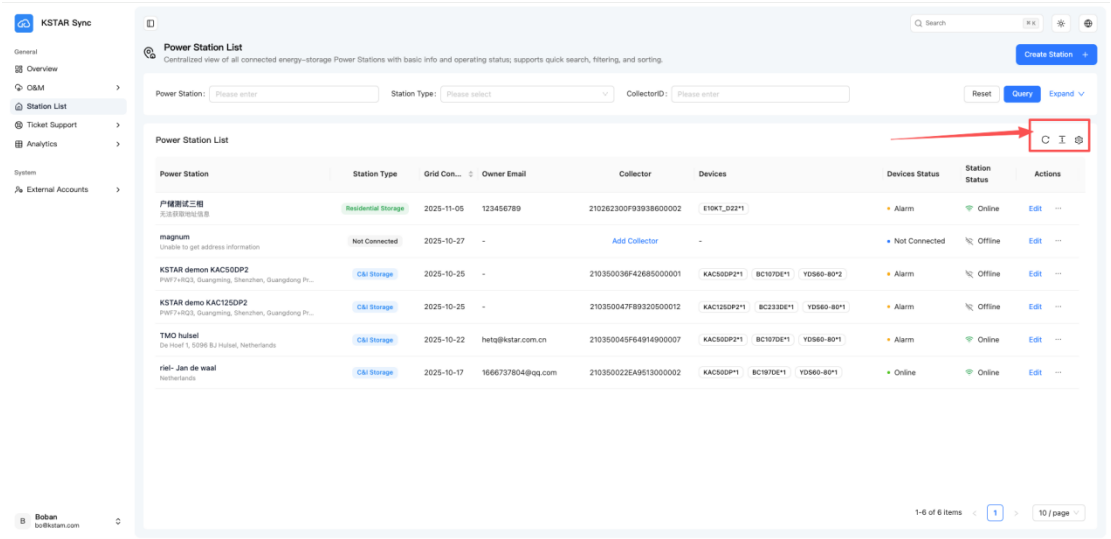


8.1 Overview of the power station list

- Power station query: Enter the power station name, type, status, or communication status to retrieve data. The system performs fuzzy search based on the entered name to quickly find the corresponding power station information.
- Add a power station: Click the [Create Power Station] button on the right side of the page to go to the corresponding page. Complete the power station information according to the prompts to finish the operation.
- Edit power station: In the "Operation" column of the power station list, each added power station has an [Edit] button. If your account has the corresponding permissions, click the button to modify the power station information, which facilitates timely updates and maintenance of power station data.
- Delete power station: In the "Operation" column of the power station list, each added power station has a [Delete] button. If your account has the corresponding permissions, click the button to delete all data of the power station. This is suitable for scenarios such as archiving power stations or data cleanup.
- Refresh function: Click the refresh icon to update the current power station data list immediately. This ensures you see the latest system status and effectively solves display lag caused by data delays or cache.
- Adjust list width: Click the layout density icon to choose "Loose", "Medium", or "Compact" mode. This allows you to flexibly adjust the row

height and spacing of columns in the list, optimizing the visual presentation and browsing efficiency of information.

- Custom list field: Click the custom list field icon. In the pop-up window, you can check or uncheck fields as needed to flexibly control the information displayed in the list.
- Power station details: Click the power station name in the list to open a new page and access the corresponding power station interface.

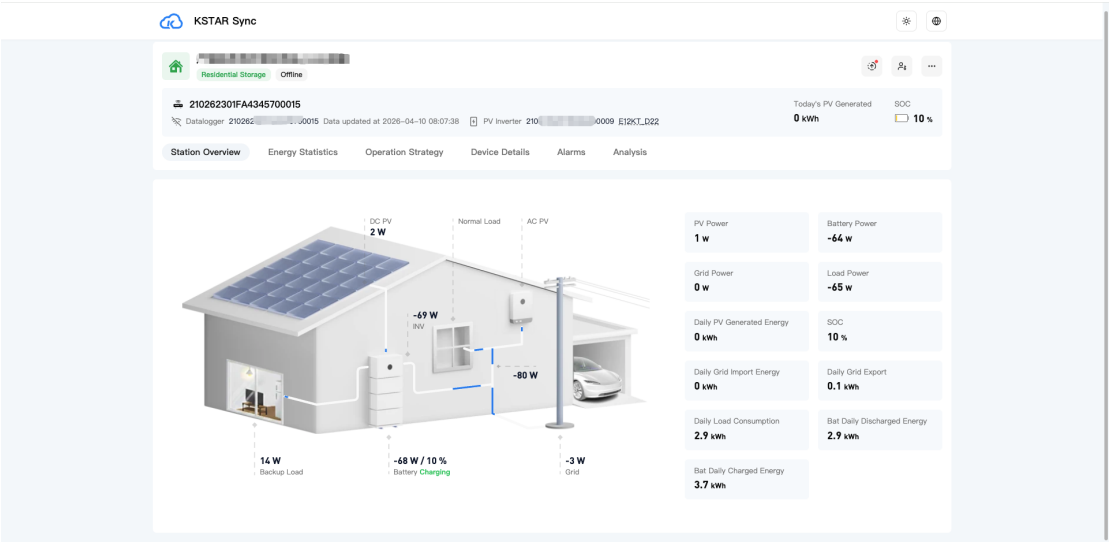


8.2 Station Details

8.2.1 Station Overview

The Power Station Overview module provides users with a centralized monitoring view of household energy storage stations. Its core displays the real-time operating status of the power station in the form of a system diagram. Key functions include:

- Current path visualization: dynamically display the energy flow between photovoltaic, energy storage, power load and grid.
- Real-time presentation of key data: accurate display of key parameters such as instantaneous power of core Device such as inverter and battery.



8.2.2 energy statistics

Energy statistics is divided into two parts: electricity analysis and energy trends for the week.

- Power analysis: The multi-curve comparison chart displays the power changes of PV, grid, load, and battery, along with the battery SOC curve. Users can flexibly query detailed data for any historical date through the date selector.
- Weekly Energy Trends: A bar chart or data table that shows the cumulative energy data of the last 7 days. Key indicators include photovoltaic power generation, grid purchase power, load power consumption, and battery charge/discharge power, helping you understand the weekly energy consumption pattern.

8.2.3 Operation Strategy

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.

8.2.3.1 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.

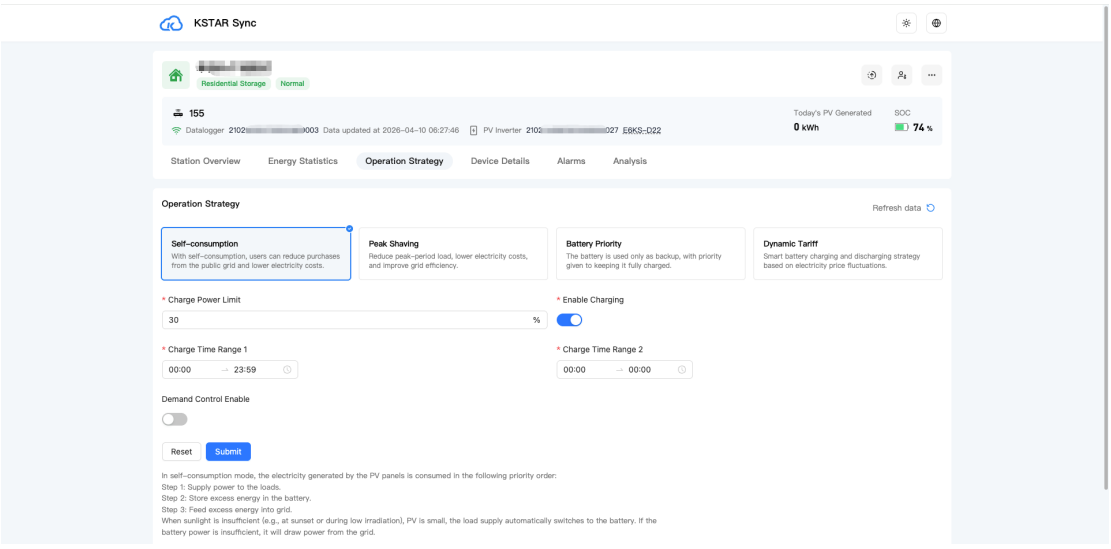
2. Non-Charging Period Operation Strategy

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.

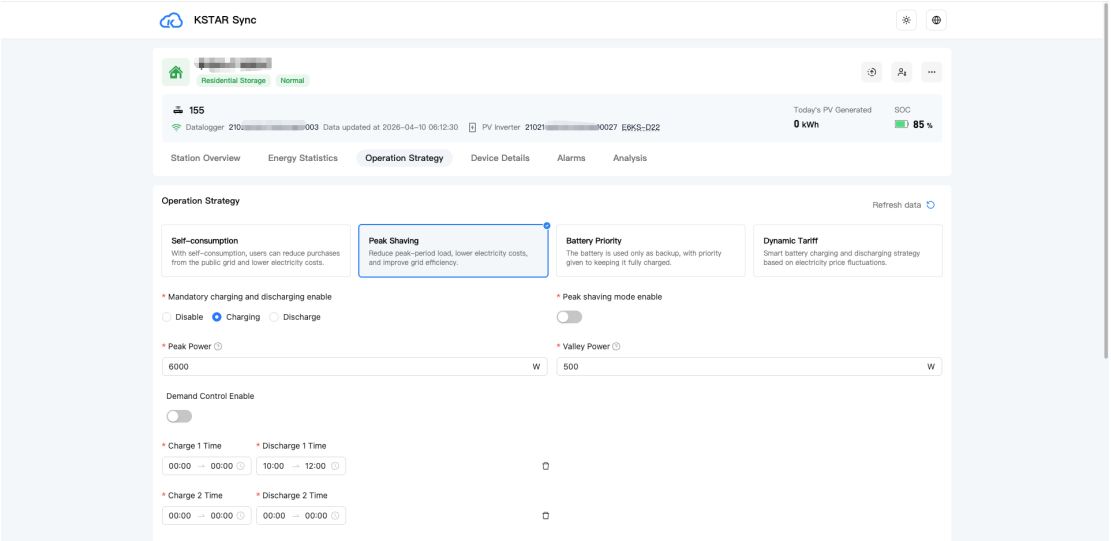
Anti-reverse power flow function disabled: Allow excess PV power to be exported to the grid.



8.2.3.1 Peak Shaving

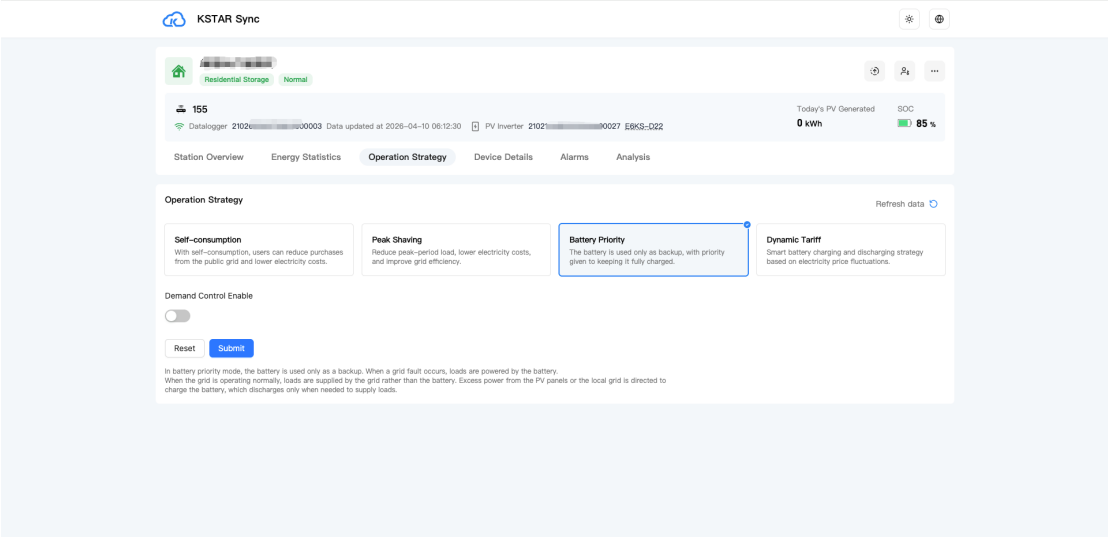
Time-of-Use Control: The battery charges and discharges according to the set time period. If the current time is outside the set period, the battery neither charges nor discharges, and PV power is exported to the grid.

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.



8.2.3.1 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.



8.2.3.2 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

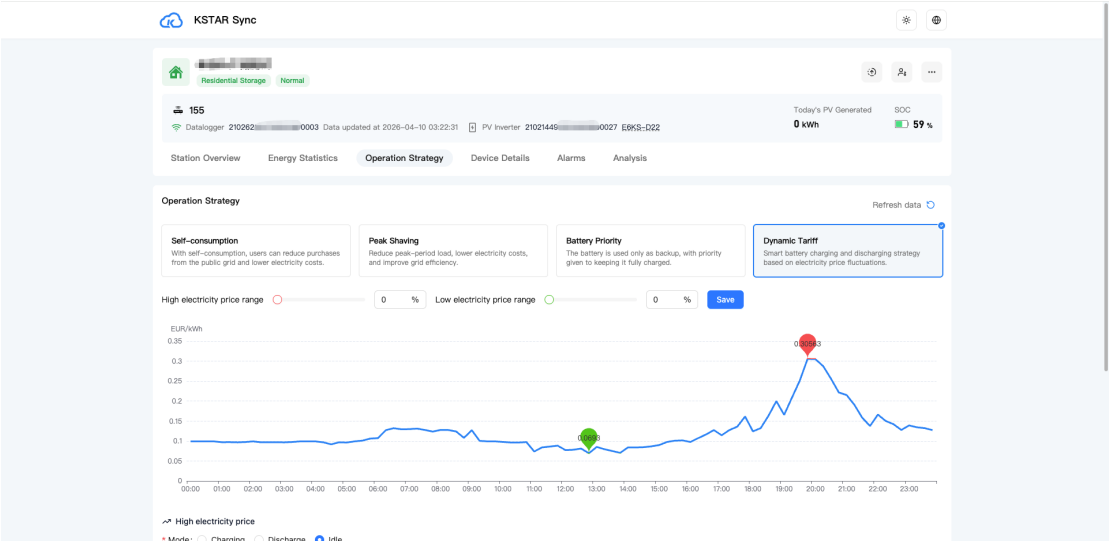
When the electricity price is negative, the energy storage system will control the equipment to charge (with charging power not exceeding the customer-set Maximum Allowed Charging Power) while taking into account demand limits, and will suppress PV generation according to the customer-set PV Generation 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 Strstegy" → "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

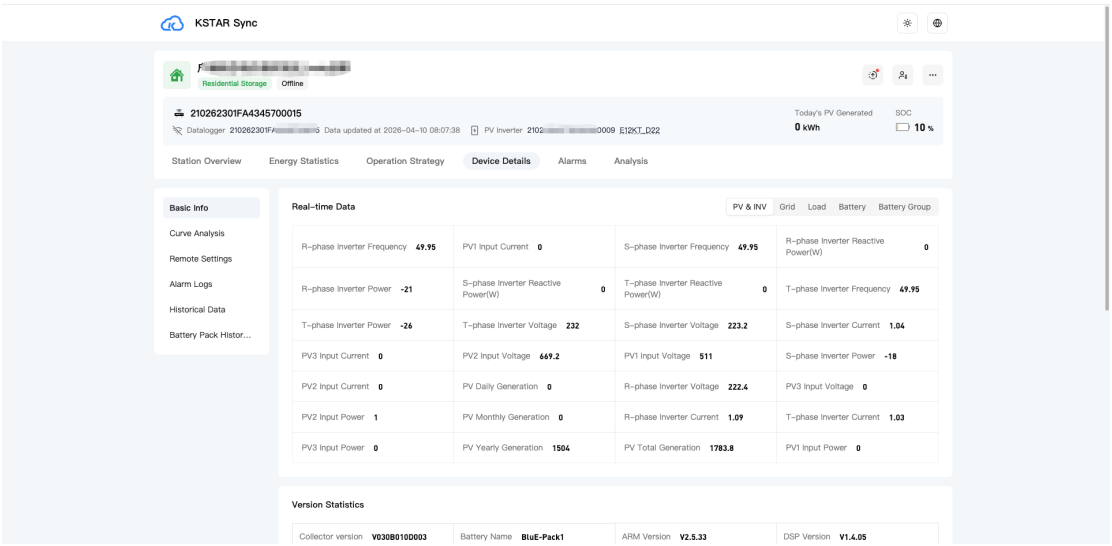
in ascending order, with the high-electricity-price interval defaulting to the top 30%, the low-electricity-price interval defaulting to the bottom 30%, and the middle 40% serving as the normal electricity price interval. Users can customize the electricity price thresholds, which will take effect automatically 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".

8.2.4 Device

- Basic information: Displays real-time parameters such as power, photovoltaic generation, battery charge/discharge, and electricity consumption. Presents data changes through a power statistics bar chart and supports multi-dimensional filtering by day, month, and year, enabling users to fully understand the Device's operational status.



- Curve analysis: Parameters are grouped by device type. Users can freely select different parameters for multi-curve comparison and analysis to achieve accurate Device performance tracking and fault location.
- Remote Configuration: The cloud-based platform provides authorized users with cross-regional, efficient device management capabilities. This feature enables maintenance personnel or system administrators to perform parameter configuration, system soft reset, and security threshold adjustments for power station Device remotely, eliminating the need for on-site visits. Through this functionality, users can centrally manage distributed energy storage units across multiple locations, achieving centralized remote monitoring and control from individual devices to entire power station clusters. This significantly enhances system operation response speed and management precision.
- Alarm records: The alarm module displays all alarm data for a single device and provides query, filter, and classification functions.
- Historical data: Device data is automatically saved to the system at 5-minute intervals. Query and trend analysis are supported to provide complete and traceable data for operations optimization and decision-making.
- Battery pack historical data: Provides a separate historical data recording module for the battery pack. The data is automatically saved to the system at 5-minute intervals. Query and export are supported.

8.2.5 alarm

The alarm module consists of two components: real-time and historical alarms. It displays all alarm data from a single power station and provides functions such as query, filtering, and categorization.

9 Dynamic Electricity Price

Dynamic electricity pricing provides guidance for household storage power stations. Users first select a power supplier and then choose the corresponding power market area where the power station is located. After setting the price, they can obtain the corresponding purchase and sale data. Users can set different operation strategies according to the daily price trend.

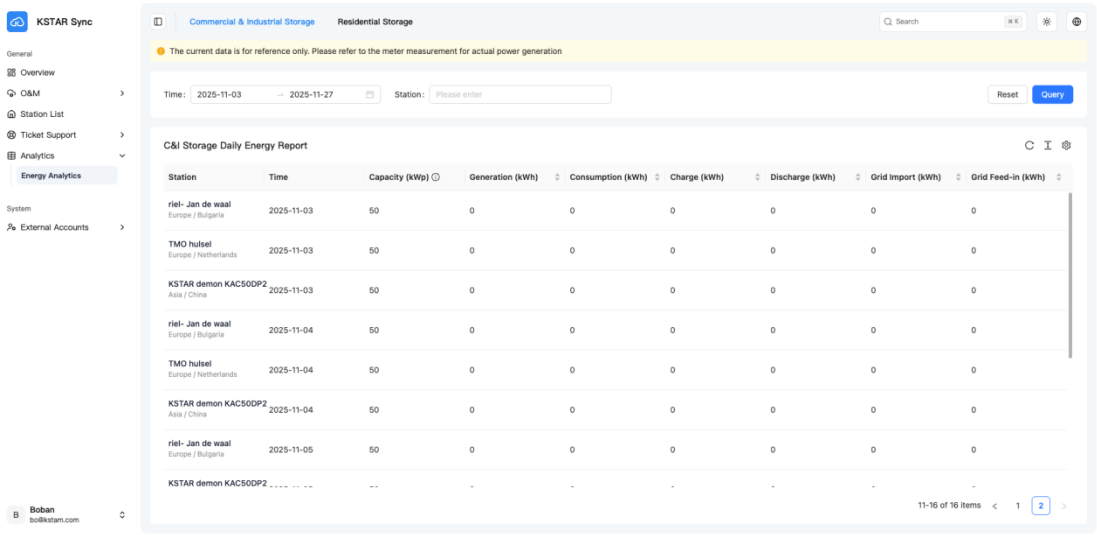
The dynamic electricity pricing feature provides essential market price guidance for household energy storage systems. After users select a power supplier and the corresponding electricity market region, the system automatically generates the associated purchase and sale data.

After obtaining the electricity price data, the user can issue the optimal strategy for the energy storage system according to the price fluctuation in the future day (such as the peak-valley price difference), so that the power station can charge when the price is low and discharge when the price is high, so as to realize the optimal cost of energy use.

10 Analytics

10.1 Energy Analytics

The energy statistics module conducts statistical analysis of the whole-link power data of the power station, covering the core links such as photovoltaic power generation, battery charging and discharging, power grid feeding and load power consumption. It supports data query and report export according to multiple cycles such as month and year, providing accurate data support for energy management and benefit analysis.

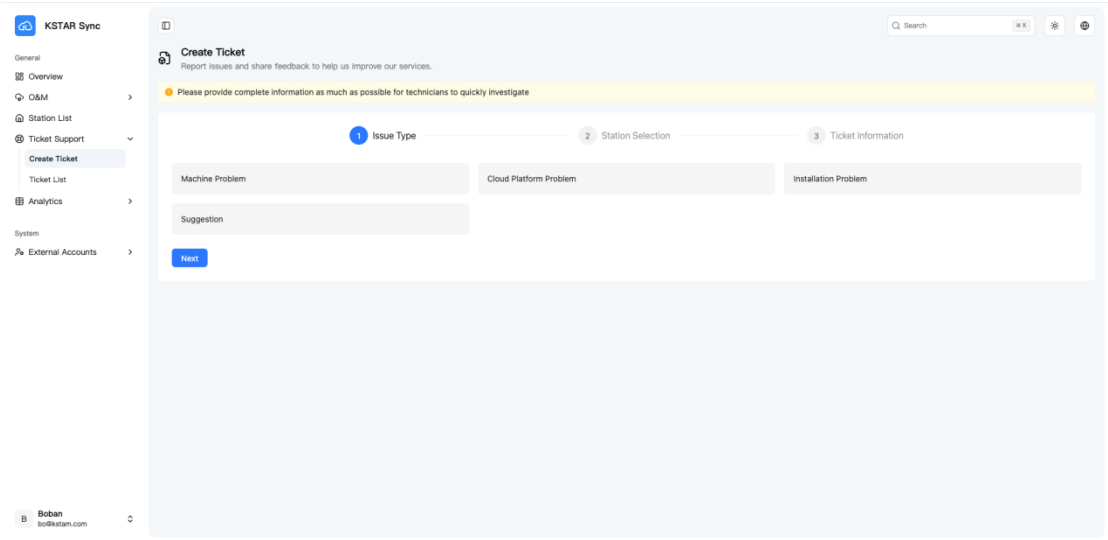


11 Ticket support

11.1 Create ticket

Users can submit tickets to the Kstar technical support team to report problems.

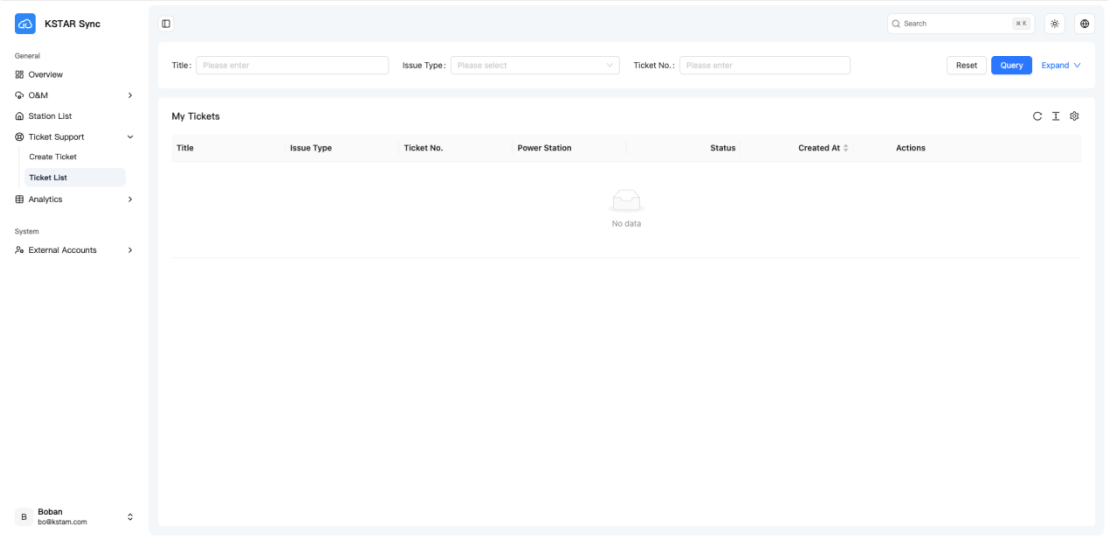
1. Select problem type (machine problem, cloud platform problem, installation and commissioning, or suggestion).
2. Specify associated power station and Device (supports multiple selection).
3. Fill in problem title, severity level, detailed problem description, and can upload attachments in formats such as images, videos, Word, Excel, etc., to facilitate precise positioning and efficient problem handling.
4. Click the [Submit] button to successfully submit the ticket to Kstar.



11.2 Ticket List

After submitting a ticket, users can track the progress and final outcome of the issue in real time through the ticket list. This feature provides a complete visual representation of the after-sales support process.

- Real-time status updates: Work order statuses are dynamically displayed, clearly indicating "Pending", "In Progress", "Resolved", and "Closed"
- Complete record: fully preserve the technical support personnel's handling records, solutions, and related communication content
- Multi-dimensional query: Filter by ticket status, time range, problem type, and other conditions



12 System

12.1 Internal Accounts

The internal account module provides operators with a complete internal employee account management system, supporting the creation and management of company internal personnel accounts. Operators can create account types with different permission roles according to organizational structure and business needs, and assign corresponding permissions to employees, achieving fine-grained control through separation of powers and domains.

Role Definition: Customize role types, such as administrator, operations personnel, viewer, etc.

Permission Assignment: Precisely configure permissions such as data viewing, device operation, and system management based on roles.

Organizational Structure Mapping: Supports account grouping management by organizational levels such as departments and positions.

Account Creation: Quickly create internal employee accounts and complete basic information and position configuration.

12.2 External Accounts

The external account module provides operators with a complete partner and end user account management system, implementing hierarchical account management for installers, subsidiaries, and end users. Through this external account system, operators can build a multi-level management architecture covering the entire business chain, ensuring controllability of the entire process from installation implementation to terminal operation.

12.2.1Installer

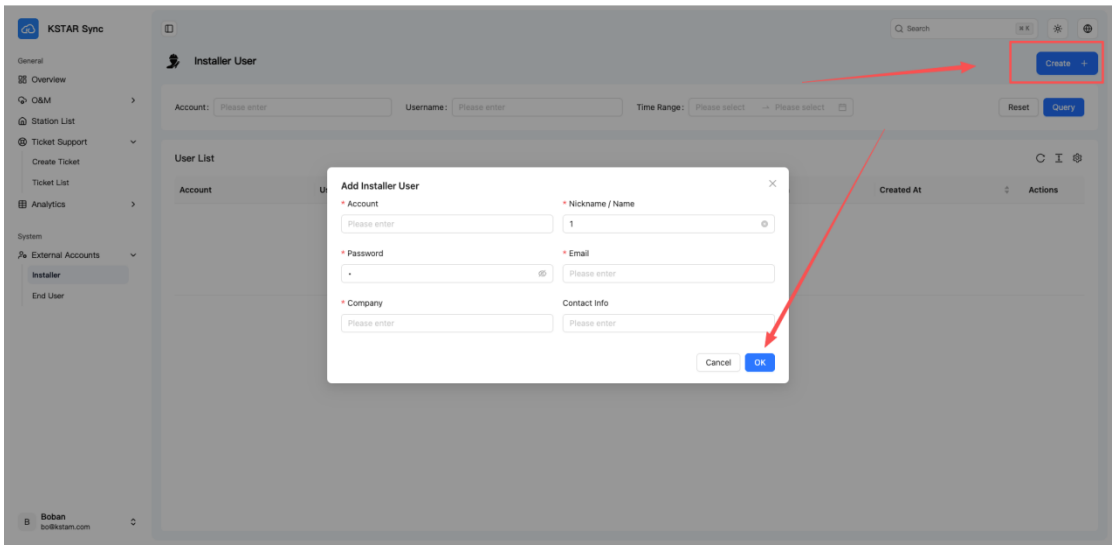
Operators can initiate the account creation process through the [Add Installer User] button in the upper right corner of the page. Fill in the necessary content such as basic account information according to system requirements. After completing the information entry, click OK to successfully create an installer account.

Account Query: Can input account name, user name, and creation time range to search for corresponding account information.

Edit Account: In the "Operation" column of the user list, each added account

is equipped with an [Edit] button. If your account has the corresponding permissions, clicking this button allows you to modify account information, facilitating account information updates.

Delete Account: In the "Operation" column of the user list, each added account is equipped with a [Delete] button. If your account has the corresponding permissions, clicking this button will delete the account. Please use the delete account function with caution; accounts cannot be retrieved or recovered after deletion.



12.2.2End User

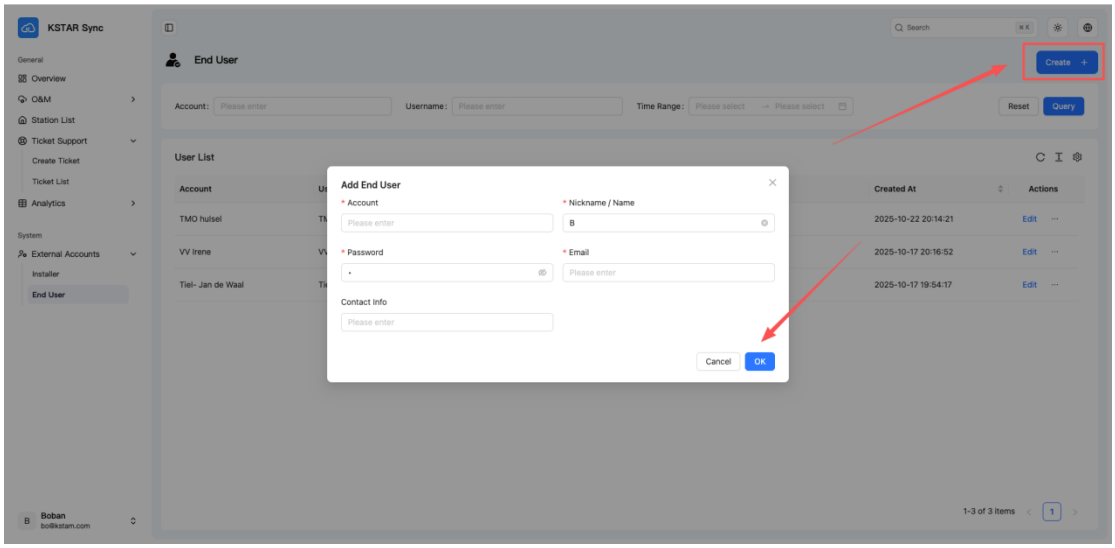
Operators can initiate the account creation process through the [Add End User] button in the upper right corner of the page. Fill in the necessary content such as basic account information according to system requirements. After completing the information entry, click OK to successfully create an end user account.

Account Query: Can input account name, user name, and creation time range to search for corresponding account information.

Edit Account: In the "Operation" column of the user list, each added account is equipped with an [Edit] button. If your account has the corresponding permissions, clicking this button allows you to modify account information, facilitating account information updates.

Delete Account: In the "Operation" column of the user list, each added account is equipped with a [Delete] button. If your account has the corresponding permissions, clicking this button will delete the account. Please use the delete

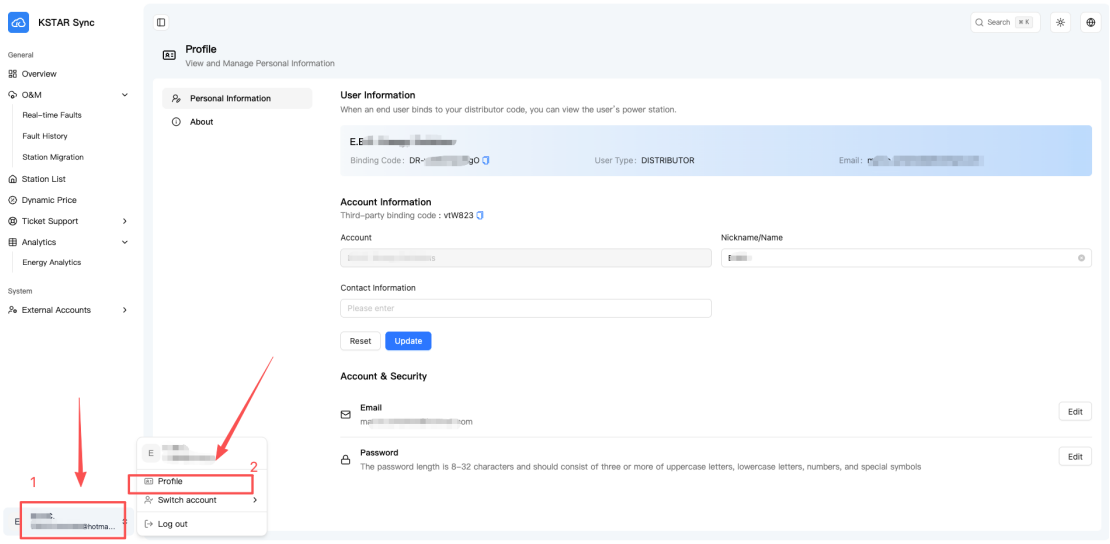
account function with caution; accounts cannot be retrieved or recovered after deletion.



13 Profile

Click the account name in the lower-left corner of the page, then click the [Profile] button to enter the Profile interface. This interface displays core information and management functions related to your account, including the following three sections:

- Dealer information: Displays the superior dealer code to help users verify their dealer identity and contact details.
- Account information: Clearly list the currently logged-in account and its associated contact information, and provide a modification function to allow users to update their information promptly.
- Account and Security: Modify email, change account password, and log out.

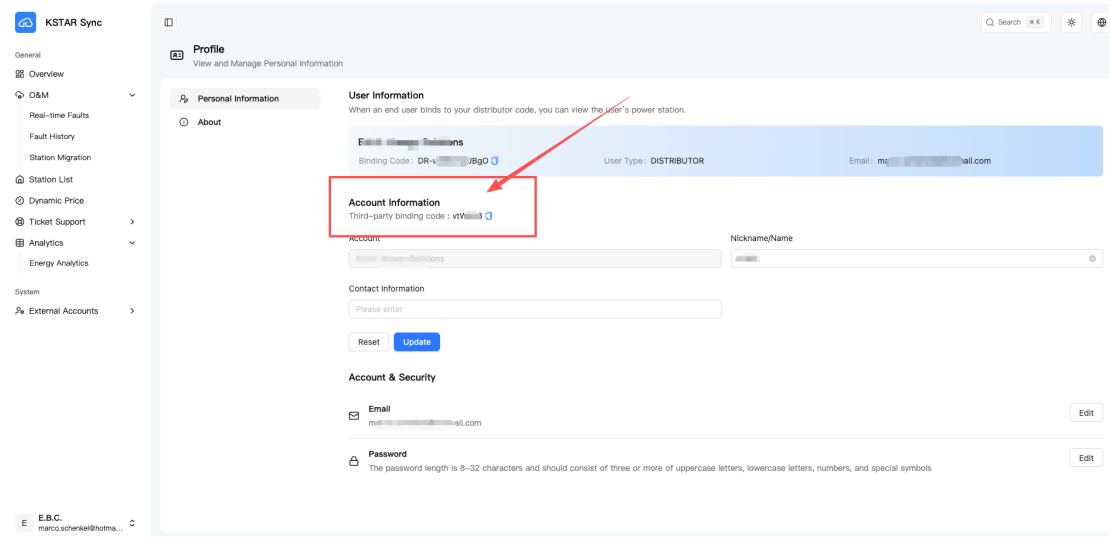


13.1 Finding Third-party binding code

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

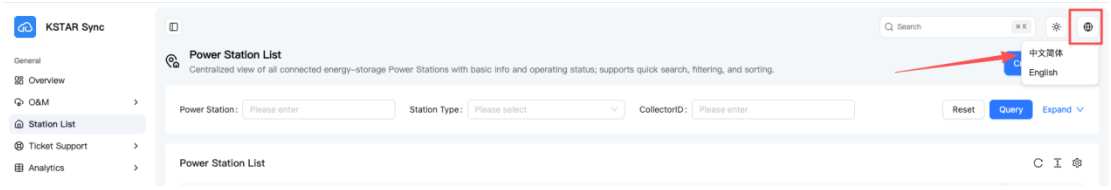
Copy Code: On the 【 Profile 】page, the string of code displayed at the top is your Third-Party Binding Code. You may copy it from here.



14 system configuration

14.1 Language Settings

The system supports Chinese and English. Click the language icon in the upper right corner of the page to switch the system language.



14.2 Switch system theme

The system offers two theme skins: white and black. Click the theme icon in the upper right corner of the page to switch between them based on ambient lighting or personal preference. Light mode is bright and refreshing, while dark mode is eye-friendly and energy-efficient.