MatriCloud Web

User Manual

Applicable to MatriCloud Web v2.14.0

Shanghai Chint Power Systems Co., Ltd.

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1. About This Manual

1.1. Purpose and Scope

This manual provides detailed guidance for the operation, configuration, and maintenance of photovoltaic (PV) and energy storage systems (ESS) through the MatriCloud Web portal. It describes the browser-based platform features, data monitoring dashboards, equipment management, and organizational administrative workflows.

In-Scope (Web Operations)

It covers browser-based administrative and operational tasks, including global site onboarding, bulk device parameter configuration, fleet-wide alarm management, firmware management, revenue scheme settings, operation reports, and organization/member governance.

Out of Scope

- Mobile Remote O&M: For mobile daily monitoring and field maintenance on smartphones, refer to the MatriCloud App Remote Operation and Maintenance Manual.
- Local Commissioning: For on-site commissioning and point-to-point parameter configuration via local Bluetooth or Wi-Fi direct connection, refer to the MatriCloud App Local Commissioning Manual.
- Hardware Installation: For hardware mounting, physical wiring, and electrical safety instructions, refer to the documentation supplied with the respective inverter, gateway, or electricity meter.

1.2. Target Audience

This manual is primarily intended for:

- Distributors
- Installers
- Owners

Your assigned account type and system role determine the menus, tabs, and functional permissions visible on the platform. If a specific module or button described in this manual is not displayed on your screen, your current account does not have permission to access that function.

1.3. Safety and Responsibility

General Compliance and Liability

- Operational Compliance: Read this manual carefully before use, follow the instructions strictly, and observe all safety precautions on product labels and within this manual.

- Applicability of Laws and Standards: In addition to the safety instructions in this manual, you must comply with relevant international, national, or regional laws, regulations, standards, and industry requirements.
- Limitation of Liability: The Company shall not be liable for any personal injury, death, or property loss resulting from improper equipment use or violation of safety requirements.

Web Management Safety Precautions

Web-based platform administration affects fleet assets and cloud configurations remotely over the network. Observe the following operational precautions:

- Target Entity Verification: Before delivering parameter adjustments, remote commands, or firmware packages, verify that the target site and device serial number (SN) match your intended equipment.
- Remote Parameter Delivery: Modified parameters are delivered directly to field devices over the network. Only personnel with professional qualifications and authorization should modify protection thresholds, grid codes, or power dispatch limits.
- Irreversible Data Operations: Operations such as deleting a site, canceling an account, or unbinding devices are permanent and result in the unrecoverable loss of historical generation, yield, and audit records. Ensure proper verification before confirming deletion actions.
- Coordination with Field Personnel: Do not issue startup, shutdown, or active control commands to devices while on-site installation, manual inspection, or mechanical maintenance is actively taking place.

NOTICE!

Operational permissions and accessible menus depend on your assigned system role. Remote configuration changes directly impact equipment operating strategies; operate with caution.

1.4. How to Use This Manual

This manual is structured around functional modules to help you locate operations based on administrative and operational tasks.

Because operational responsibilities differ by role, refer to the recommended reading paths below:

1.4.1. Distributor / Installer

Distributors and installers are typically responsible for site construction, device commissioning, system monitoring, and operational management. It is recommended to read the following chapters in sequence:

Table 1-1 Reading Path for Distributors and Installers

Chapter	Description
Chapter 5 Home	View the overall operating status of the platform and key operational data.
Chapter 6 Account	Manage organizational structures, user accounts, and role permissions.
Chapter 7 Site	Create sites, bind gateways/controllers, and monitor site.
Chapter 8 Device	Manage detailed settings and telemetry for inverters, gateways, and meters
Chapter 9 Firmware	Manage device firmware files and execute remote upgrade tasks.
Chapter 10 Maintenance	Review active/historical alarms, configure revenue plans, and set fault alerts.
Chapter 11 Report	Generate, download, and manage operation reports for sites and inverters.

1.4.2. Owner

Owners focus on site operating status, equipment health, daily generation, and financial revenue. It is recommended to focus on the following chapters:

Chapter	Description
Chapter 5 Home	Check operating status, daily yield, and environmental contributions.
Chapter 7 Site	View plant overview, 2D/3D energy flow diagrams, and yield statistics.
Chapter 8 Device	Check device operational data and alarm records.
Chapter 10 Maintenance	View alarm events and recommended troubleshooting steps.
Chapter 11 Reports	Download site operation and yield performance reports.

1.5. Symbol Introduction

The symbols in this document are defined as follows:



DANGER!

DANGER indicates a hazardous situation with high level of risk which, if not avoided, will result in death or serious injury.



WARNING!

WARNING indicates a hazardous situation with medium level of risk which, if not avoided, could result in death or serious injury.



CAUTION!

CAUTION indicates a hazardous situation with low level of risk which, if not avoided, could result in minor or moderate injury.



NOTICE!

NOTICE indicates a hazardous situation which, if not avoided, could result in equipment working abnormally or property loss.



IMPORTANT!

IMPORTANT! indicates important supplementary information or provides skills or tips that can be used to help you solve a problem or save your time.

2. System Overview and Architecture

2.1. MatriCloud Plattform Overview

MatriCloud is an intelligent SaaS management platform for full lifecycle monitoring, operation, and maintenance for photovoltaic (PV) and energy storage systems (ESS). Built on an independent regional platform architecture across Europe, North America, and the Asia-Pacific region, the platform provides highly reliable services for global users while ensuring data security and compliance.

The platform is accessed through two primary client interfaces: the browser-based web application (MatriCloud Web) and the mobile application (MatriCloud App). Both interfaces synchronize with the same cloud backend, ensuring that site telemetry, device states, and operational records remain consistent across platforms.

Relationship Between Access Clients and Physical Devices

Table 2-1 summarizes the purpose of each client interface and clarifies the scope covered in this manual.

Table 2-1 Clien Inerfaces and Operational Scope

Client / System Component	Purpose	Covered by This Manual
MatriCloud Web	Comprehensive platform for site administration, bulk device management, system configuration, and data auditing via a web browser	Yes. This is the primary scope of this manual.
MatriCloud App (remote mode)	The mobile entry point for the remote monitoring and O&M of sites and devices through the cloud service.	No. Refer to the MatriCloud App Remote Operation and Maintenance Manual.
MatriCloud App (local mode)	On-site local commissioning and functional testing through a direct Bluetooth or Wi-Fi connection to a device.	No. Refer to the MatriCloud App Local Commissioning Manual.

2.2. Core Functional Modules

MatriCloud Web centralizes full-lifecycle plant management into several core modules:

- **Site Management:** Create sites, associate devices, monitor operations in real time, and collect generation statistics.

- **Device Management:** Centrally monitor inverters, energy storage devices, and other equipment, with support for parameter configuration and status monitoring.
- **Intelligent Monitoring:** Perform real-time data acquisition and analysis, including performance analysis and trend forecasting.
- **Alarm Management:** Support alarm notifications with multiple severity levels (Critical / Major / Minor) through multiple notification channels.
- **Remote Control:** Support device start-up and shutdown, mode switching, parameter adjustment, and strategy control.
- **Firmware Upgrade:** Support remote firmware updates to reduce on-site maintenance costs.
- **Report Management:** Generate, download, and export operation reports for sites and inverters in PDF and Excel formats.

Platform Features

- **Visualization Dashboard:** Visually presents key operational data such as plant distribution, power generation, revenue, and carbon reduction statistics, helping users quickly understand the overall operating status of the platform.
- **AI Smart Answer:** Leverages artificial intelligence to provide fault troubleshooting, frequently asked questions, product information inquiries, and user guidance, improving problem-solving efficiency.

Typical Application Scenarios

- **Residential PV and ESS:** Optimizes home energy self-consumption and provides backup power during grid outages.
- **Commercial and Industrial (C&I) PV and ESS:** Support peak shaving, demand management, and participation in Virtual Power Plant (VPP) programs.
- **Distributed Energy Monitoring:** Provide centralized and visualized management for distributed PV sites.
- **Virtual Power Plant (VPP) Integration:** Support the integration of all renewable energy devices within the monitoring platform with VPP systems through APIs.
- **Utility-Scale Site O&M:** Provide professional monitoring and operation & maintenance services for large-scale utility PV plants.

2.3. Account Types and Role Permissions

The platform implements a two-tier access model: Account Type defines organizational identity, while Role defines operational permissions.

- Distributor and Installer Accounts: Enterprise accounts assigned to service providers. These accounts can create sub-accounts within their organization and assign roles: Common Manager, Operations Engineer, or Owner.
- Owner Accounts: End-user accounts dedicated to viewing and monitoring assigned site assets.

NOTICE!

- Operational permissions and accessible menus depend on your assigned system role.
- If a tab, button, or parameter described in this manual is not visible on your platform interface, your current role does not have permission to access that function.

2.4. Platfrom Access and Environment

2.4.1. Browser Requirements

To ensure optimal display quality and operational stability, access the platform using an environment that meets the specifications listed below:

Table 2-2 Client Environment Specifications

Item	Specification	Supported Specifications
Browser	Google Chrome 79+	Safari 10+ / Firefox 68+
Screen Resolution	1920 × 1080	1366 × 768

2.4.2. Platform Login URLs

User accounts and site data are physically partitioned across regional cloud servers. Access the designated regional portal based on your deployment location:

- **North America:** https://icloud.chintpowersystems.com
- **Europe:** https://eu.chintpower.com
- **Asia-Pacific:** https://icloud.chintpower.com

2.5. Platform Dashboard and UI Architecture

The MatriCloud Web portal provides a unified interface consisting of three primary areas:

- Top navigation bar

- Left Navigation Menu
- Main Workspace

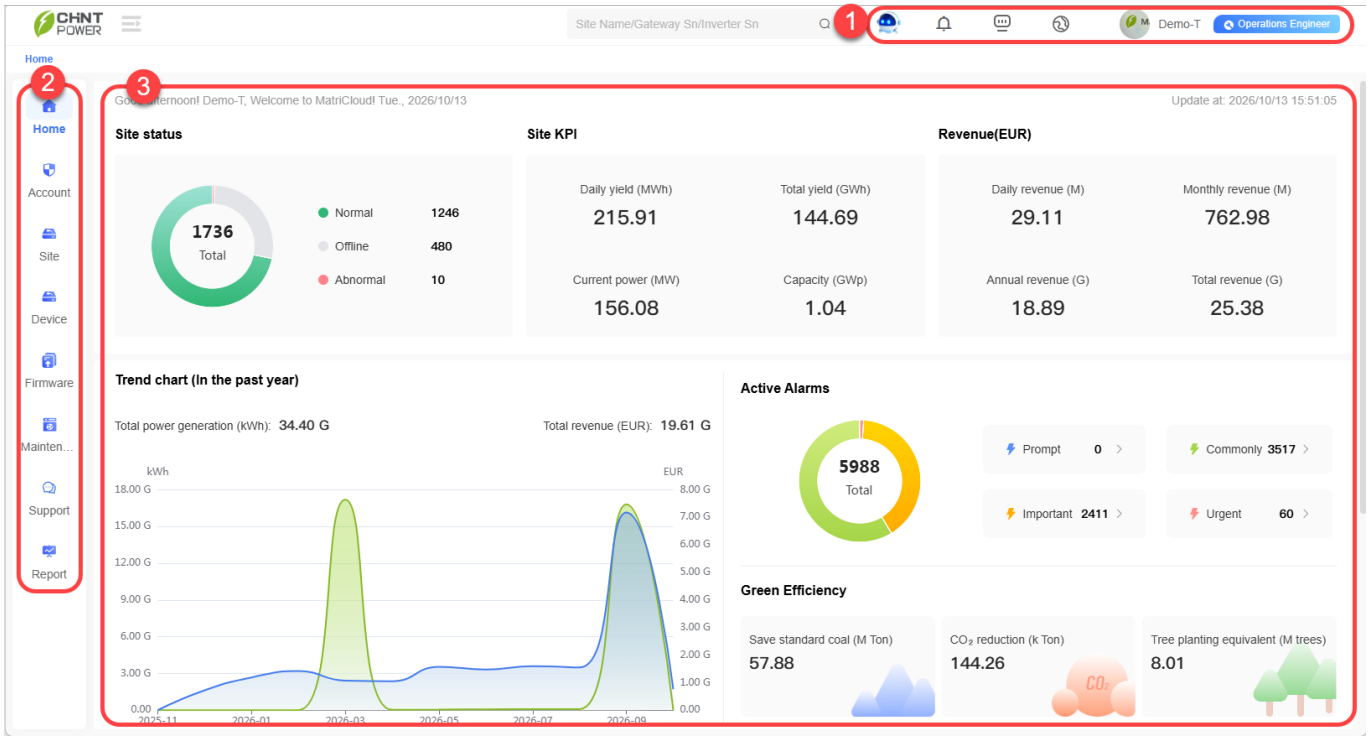


Figure 2-1 Web Portal UI Architecture

Table 2-3 Platform Dashboard and UI Architecture Overview

No.	Area	Description
1	Top Navigation Bar	Houses regional server indicators, language switching, current logged-in user profile, and the entry for AI Smart Answer.
2	Left Navigation Menu	Provides instant navigation to primary system modules: • Home: Central operational dashboard displaying site asset health, production, revenue, and environmental metrics (Chapter 5). • Account: Enterprise company structure, member accounts, and role assignment console (Chapter 6). • Site: Site center for plant creation, list filtering, and individual site monitoring (Chapter 7). • Device: Centralized inventory and parameter configuration for inverters, gateways, and meters (Chapter 8).

		• Firmware: Task center for creating and auditing remote firmware upgrades (Chapter 9). • Maintenance: Cross-site alarm records, electricity price configurations, demand management, and fault subscription plans (Chapter 10). • Report: Operation report generation and export tools (Chapter 11).
3	Main Workspace	The central area where data visualization cards, device trees, telemetry charts, and configuration dialogs are displayed.

3. Quick Start

MatriCloud Web supports diverse photovoltaic and energy storage architectures. Before creating sites or configuring equipment, familiarize yourself with the supported solutions, site types, and their corresponding platform connection methods.

3.1. Solution Overview

3.1.1. Residential PV / Residential Energy Storage Solutions

Suitable for residential rooftop photovoltaic generation and home energy storage applications.

- Supported Site Types: Residential PV, Residential Energy Storage (Residential ESS).
- Key features: Single-site monitoring, real-time 2D/3D energy flow visualization, and household self-consumption optimization.

3.1.2. Distributed PV / Utility PV Solutions

Suitable for commercial and industrial rooftop projects and large-scale utility solar projects.

- Supported Site Types: Distributed PV (C&I PV), Utility PV
- Key features: Multi-site centralized O&M, multi-inverter data aggregation, and grid-dispatch compliance.

3.1.3. C&I ESS / Utility ESS Solutions

Suitable for C&I ESS projects and large-scale ESS projects.

- Supported Site Types: C&I ESS, Utility ESS
- Key features: Deep telemetry monitoring for PCS, BMS, and auxiliary equipment, charge/discharge analysis, peak-valley arbitrage, and demand management.

3.2. Site Type Description

When creating a Site, select the appropriate Site type according to the actual project requirements. The Site type determines how the Site connects to the platform: PV and most storage-PCS Sites connect through a network card (Gateway), while C&I ESS and Utility ESS Sites are accessed through a Local Controller (LC). For details, see *3.3 Site Creation Methods* and *7.1.1 Create Site*.

Table 3-1 Site Type Descriptions

Site Type	Description
Residential PV	Solar power generation system installed on residential rooftops.
Residential ESS	Combined PV and battery storage system deployed in residential scenarios.
C&I PV	Solar power generation system installed on C&I facilities.
C&I ESS	Energy storage system deployed for C&I users to reduce costs via peak shaving and Time of Use (TOU) arbitrage.
Utility PV	Centralized, utility-scale PV site connected to the public grid and capable of participating in grid dispatch.
Utility ESS	Centralized, large-scale ESS site connected to the public grid and capable of participating in grid dispatch.

3.3. Site Creation Methods

MatriCloud web provides different site creation methods based on project types and device integration approaches.

When creating a site, the first step is to select the site type in the Site Type dialog. The selected option determines the hardware connection method used during the subsequent binding step.

NOTICE!

Solutions and features based on the Local Controller (LC) integration—applicable to C&I ESS and Utility ESS site types—are currently in the BETA phase and are available exclusively for designated pilot projects. The UI and functionalities for these features are subject to continuous optimization.

3.3.1. Standard and Standalone PCS Sites Created via Gateway

Select the first option in the Site Type dialog if your project falls into any of the following categories:

- Standard Sites
  - Residential PV
  - Residential ESS
  - C&I PV

  - Utility PV
- Standalone Sites
  - C&I ESS PCS
  - Ground-Mounted Energy Storage PCS

With this method, the site connects to MatriCloud by binding a gateway.

Note: For C&I ESS PCS and Ground-Mounted Energy Storage PCS, this method only reads PCS device data directly via the gateway; other devices within the site are not accessed.

For step-by-step instructions, see *7.1.1.1 Create a Site via Gateway (Standard and Standalone PCS).*

3.3.2. Integrated ESS Site Created via Local Controller (BETA)

Select the second option (C&I ESS, Utility ESS) in the Site Type dialog for integrated energy storage projects:

- C&I ESS
- Utility ESS

This category applies to standalone ESS, PV + ESS, and PV + ESS + Generator hybrid systems. With this method, a Local Controller (LC) is bound as the site's communication hub, enabling MatriCloud to acquire full-system telemetry from PCS, BMS, PV inverters, and electricity meters.

For detailed procedures, see *7.1.1.2 Create a Site via Local Controller (Integrated ESS)*.

4. Common Operations

4.1. Account Registration

The platform supports the following two methods for account creation:

- **Opened by a service provider (no registration required):** Contact your Distributor or Installer. The provider directly creates an account for you in the management backend, allowing you to log in immediately without self-registration.
- **Self-registration on the login page:** If you need to open an account independently, visit regional login URL, complete the online registration form, and submit your credentials.

4.1.1. Distributor / Installer Account Registration

Distributors / Installers can register an enterprise account independently.

Step:

1. Open the login page for your region and click **Sign Up Now**.
2. Select account type**:** Based on your actual identity, select an account type —**I am a Distributor**, **I am an Installer**, or **I am an Owner**.
3. Fill in the required fields according to Table 4-1:

Table 4-1 Distributor/Installer Registration Fields

Field	Instructions
Company Name	Enter the company name.
Region	Select the country or region where the company is located.
Registration Method	Complete based on your site region: • Asia-Pacific site: Supports mobile phone or email. Select your country code (e.g., +86) for mobile, or enter a valid email address. • Europe and North America: Defaults to and supports email registration only.
Password	Enter a password. The password must be 8–18 characters long and contain at least two of the following four character types: uppercase letters, lowercase letters, digits, and special characters.
Confirm Password	Re-enter the password to ensure it matches the entry in the Password field.

Code	Click **Send** to get the verification code. Enter the code received via SMS or email
Access Code	Enter the organization access code provided by your upper-level service provider.
Terms of Use and Privacy Policy	Read and agree to the Terms of Use and Privacy Policy.

4. Click **Confirm** to complete registration. Upon success, the page redirects to the login screen.

4.1.2. Owner Account Registration

Owners can register an account independently to view their plant assets.

Follow the steps below to register:

1. Open the login page for your region and click **Sign Up Now**.
2. Select the account type: I am an Owner.
3. Fill in the required fields according to Table 4-2:

Table 4-2 Owner Registration Fields

Field	Instructions
Username	Enter a username for your account.
Region	Select your country or region from the drop-down list
Account	• Asia-Pacific: Supports mobile phone or email registration. Select your country code (e.g., +86) for mobile, or enter a valid email address. • Europe and North America: Defaults to and supports email registration only.
Password	Enter a password. The password must be 8–18 characters long and contain at least two of the following four character types: uppercase letters, lowercase letters, digits, and special characters.
Confirm Password	Re-enter the password to ensure it matches the entry in the Password field.
Code	Click **Send** to get the verification code. Enter the code received via SMS or email

Access Code	Enter the organization access code provided by your upper-level service provider.
Terms of Use and Privacy Policy	Read and agree to the Terms of Use and Privacy Policy.

4. Click **Confirm** to complete registration. Upon success, the page redirects to the login screen.

4.2. Forgot Password

If you forget your password, retrieve or reset it using one of the following methods:

- **Contact your service provider:** Your upper level service provider (Distributor or Installer) resets your password. The system sends the temporary password to your registered email.
- **Online self-service reset:**. Reset your password independently on the login page via phone or email verification.

Follow the steps below to reset your password independently:

1. On the login page, click **Forgot Password**.
2. Enter your registered email address or mobile phone number .
3. Click **Send** to get verification code and enter the code received.
4. In the **New Password** field, enter a new password meeting the complexity requirements (8–18 characters, at least two character types).
5. In the **Confirm Password** field, re-enter the new password.
6. Click **Confirm**. Once verified, log in using your new credentials.

4.3. User Configuration (Personal Center)

The User Configuration page manages your personal credentials, contact bindings, display preferences, and account lifecycle.

NOTICE!

Settings configured in this section apply exclusively to your currently logged-in account. To manage subordinate employees or organizational users, see *Chapter 6 Account*.

To access the User Configuration page:

1. Click the profile avatar or username in the upper-right corner of the top navigation bar.
2. Select **User Configuration** from the drop-down menu.

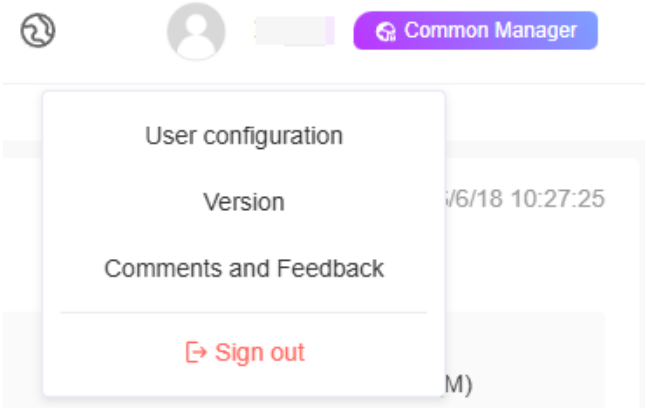


Figure 4-1 Accessing User Configuration

4.3.1. Update User Information

Follow the steps below to update your profile details:

1. In the left navigation bar of the user configuration page, click **User Information**.
2. Review or modify settings according to Table *4-3*:

Table 4-3 User Information Settings

Setting	Description
Profile Picture	Displays the current account avatar. Click the image to upload a new avatar. Supported forms: .png, .jpeg, and .jpg.
Username	Enter your preferred username.
Email	Displays the currently bound email address.Note: Read-only here; modify via the **Account Security** tab.
Mobile Phone Number	Displays the currently bound mobile phone number (Asia-Pacific only). Read-only here; modify via the **Account Security** tab.
Region	Select your country or region from the drop-down list
Role	Displays your current system permission role (e.g., Common Manager). Read-only.
Company Name	Displays the affiliated enterprise organization. Read-only.

3. Click **Save** to apply the changes.

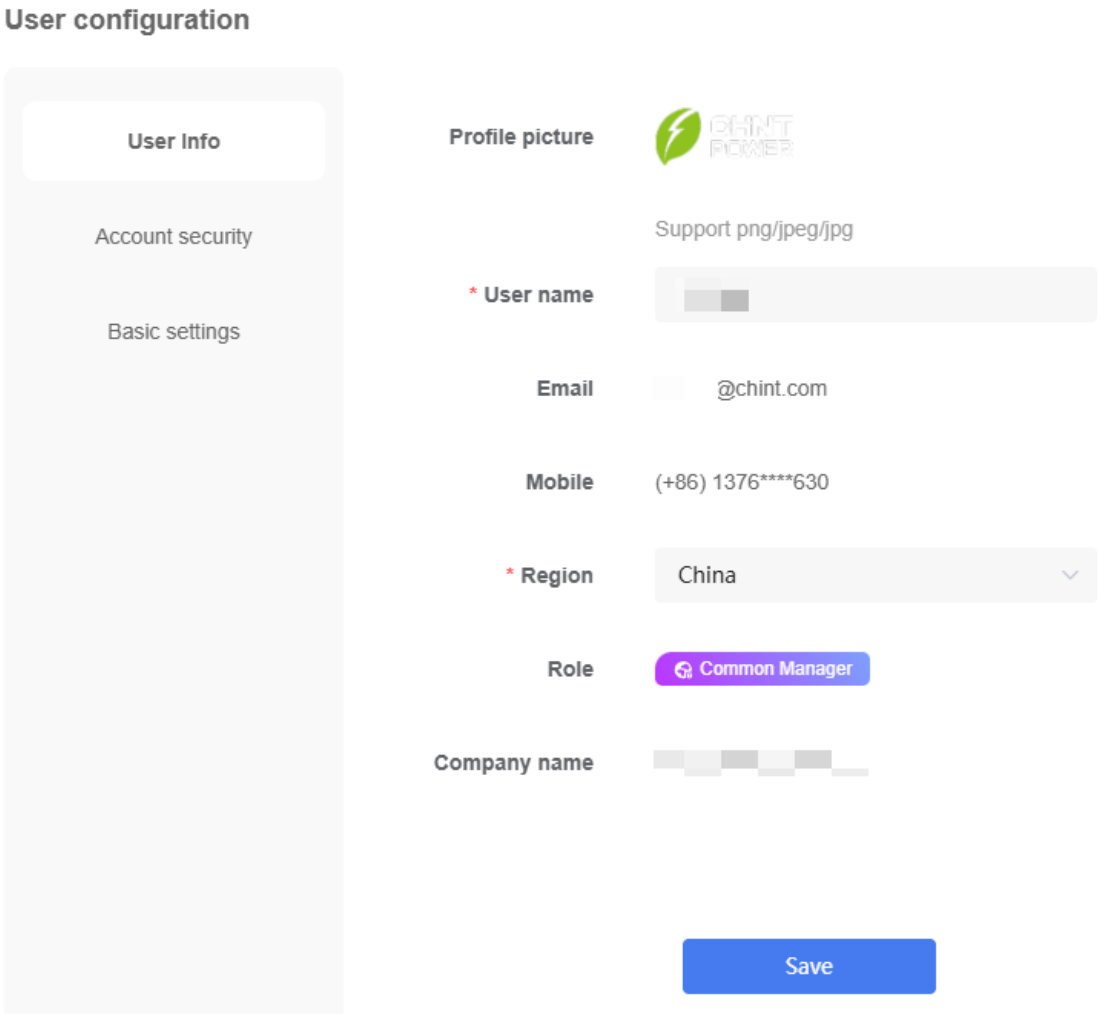


Figure 4-2 Personal Information

4.3.2. Account Security Management

In the left navigation bar, click **Account Security** to manage login credentials, mobile/email bindings, and account cancellation.

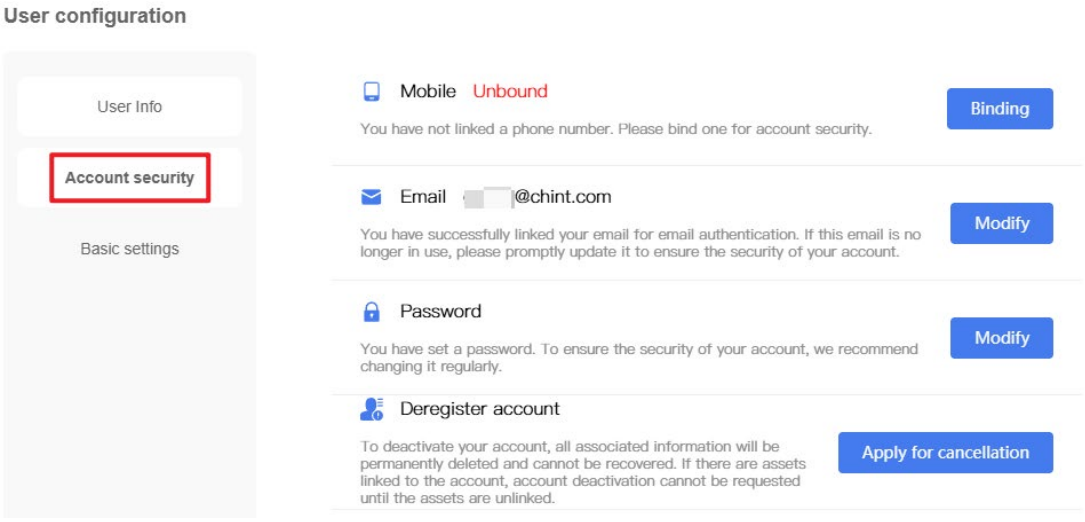


Figure 4-3 Account Security

4.3.2.1. Bind Mobile Phone Number (Asia-Pacific Only)

NOTICE!

This feature applies exclusively to accounts registered on the Asia-Pacific regional portal.

1. In the Mobile row, click **Binding** on the right.
2. Enter the mobile phone number.
3. Click **Send**, enter the verification code received.
4. Click **Confirm** to complete binding.

4.3.2.2. Modify Mobile Phone Number (Asia-Pacific Only)

1. In the Mobile row, click **Modify** on the right.
2. Click **Send** next to the current mobile number, enter the verification code received, and click **Verification**.

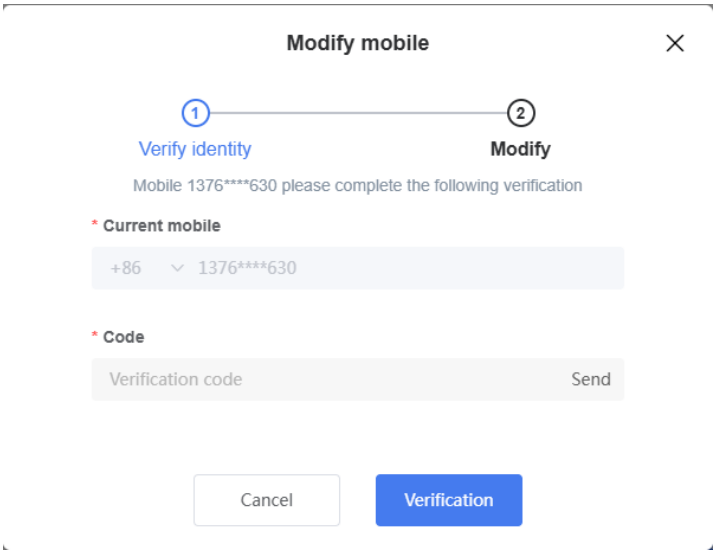


Figure 4-4 Identity Verification for Mobile Change

3. Enter the new mobile number, click **Send**, enter the verification code received at the new number, and click **Confirm**

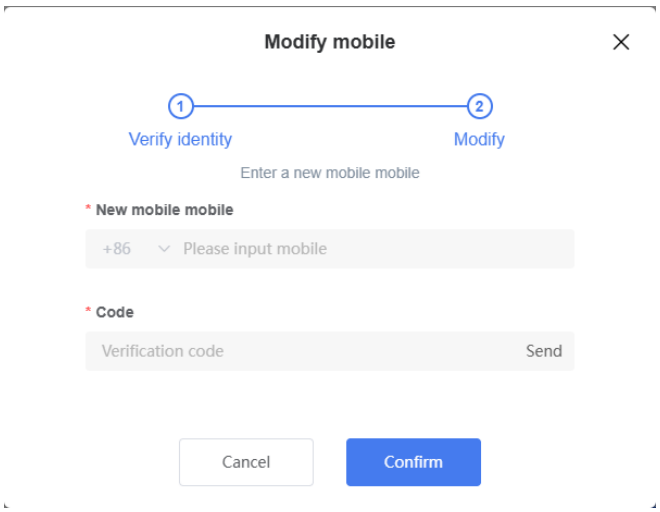


Figure 4-5 Bind New Mobile Number

4.3.2.3. Unbind Mobile Phone Number

Owner accounts cannot unbind their mobile phone number independently from this page. Contact your installer or distributor for assistance.

For common manager and operations engineer account, they can unbind their mobile phone number by themselves, see *6.2.2.1 Unbind Mobile Phone Number*.

4.3.2.4. Modify Email

1. In the Email row, click **Modify** on the right.
2. Click **Send** next to your current email, enter the verification code, and click **Verification**.

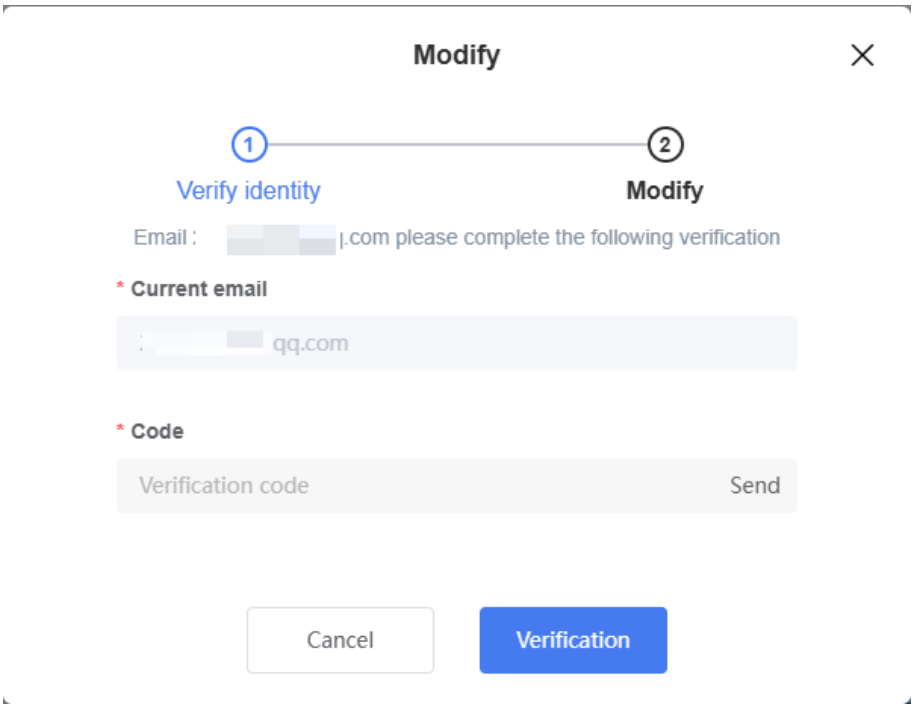


Figure 4-6 Identity Verification for Email Change

3. Enter your new email address, click **Send**, enter the verification code sent to the new email, and click **Confirm.**

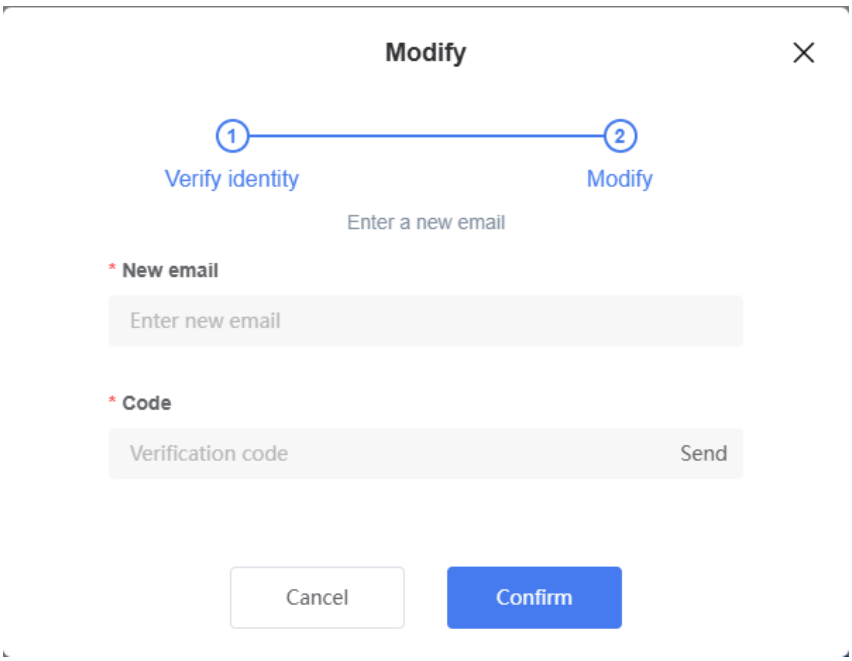


Figure 4-7 Bind New Email Address

4.3.2.5. Modify Password

1. In the password row, click **Modify** on the right.
2. Enter your current password in the Old Password field.
3. Enter your new password in the New Password field (8–18 characters, at least two character types)

4. Re-enter the password in the Repeat Password field.
5. Click **Confirm** to apply the password.

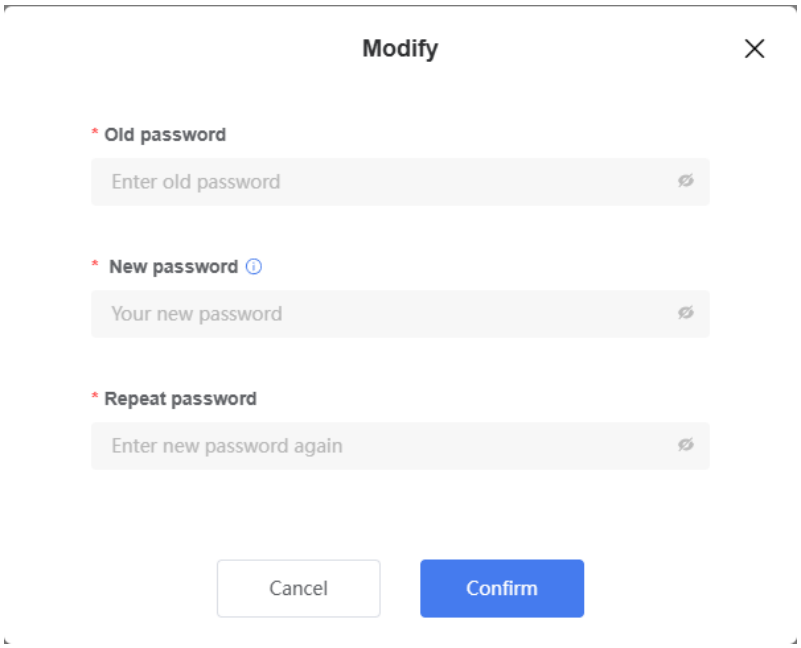


Figure 4-8 Modify Password Dialog

4.3.2.6. Cancel Account

WARNING!

Canceling an account permanently deletes all user profile data, historical operation logs, and security credentials. This action cannot be undone.

Prerequisite: An account cannot be canceled if it has active Site assets or device bindings. Unbind or transfer all site assets before submitting an account cancellation request.

1. In the Deregister account field, click **Apply for Cancellation** on the right.
2. Carefully read the Account Cancellation Notice.
3. Select the confirmation checkbox: "By applying for cancellation, you voluntarily waive all rights within the account and agree to withdraw.
4. Click **Confirm** to complete account cancellation.

4.3.3. Modify Basic Settings

Follow the steps below to configure your visual preferences and localized display settings:

1. In the left navigation bar, click **Basic Settings**.

2. Configure settings according to the table below:

Table 4-4 Basic Settings Options

Setting	Description and Instructions
Flow Visualization	Select 2D or 3D to switch the visual presentation style of the system energy flow diagram.
Currency Unit	Select your preferred localized currency unit (e.g., USD, CNY, EUR) (required). This currency applies to revenue metrics displayed on the Home dashboard and exported in reports.
Language	Select the display language for the platform interface. Supported options: Simplified Chinese (简体中文), English, German (Deutsch), Italian (Italiano), Ukrainian (українська), Turkish (Türkçe), Polish (Polski), and Brazilian Portuguese (Português - Brasil).

3. Click **Save** to apply the changes.

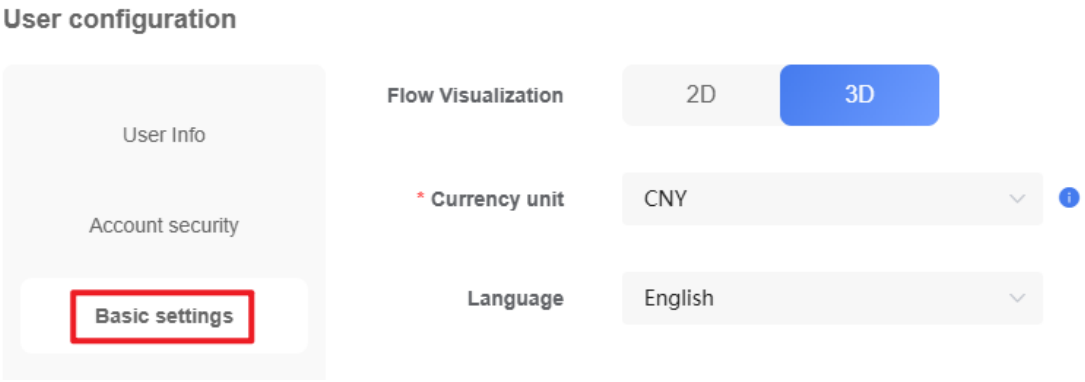


Figure 4-9 Basic Settings

5. Home

The Home page is the core data monitoring center of the system, providing macro-level data monitoring of overall Site asset health, production and operation, financial Revenue, maintenance risks, and environmental benefits. The dashboard consists of six core data modules:

After logging in, the system enters **Home** page by default. If you are on another page, click **Home** in the left navigation bar to switch. The Home page is divided into the following functional modules:

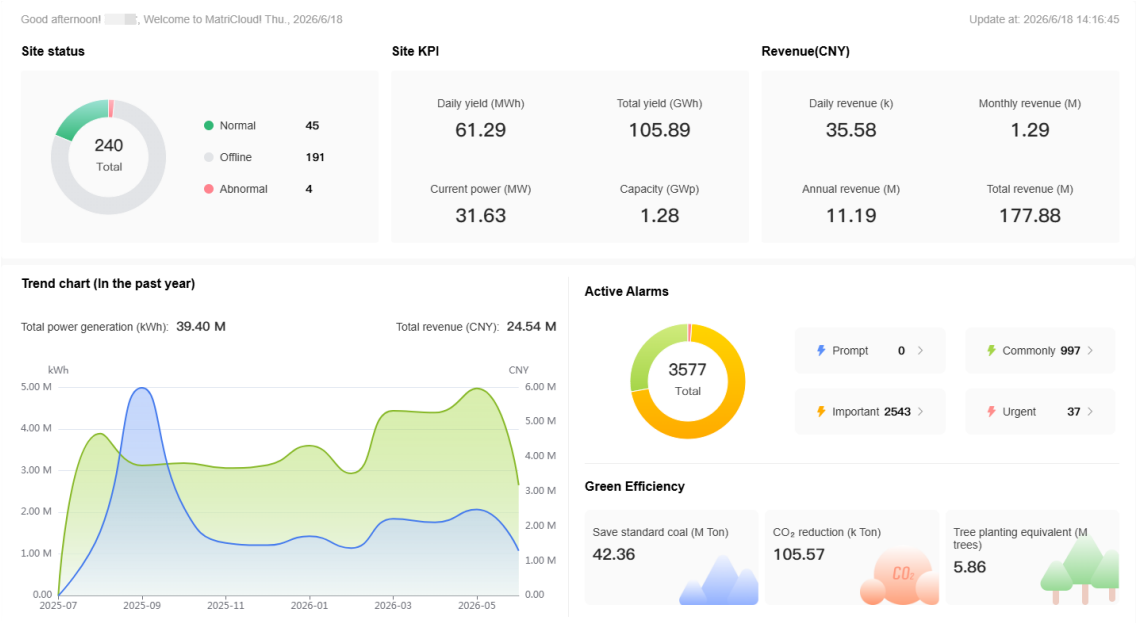


Figure 5-1 Home

Functional Module	Description
Site Status	Real-time statistics and display of the operational health status classification of all connected Sites under the currently logged-in account, reflecting overall asset health.Indicator descriptions: • Total Sites: The total number of Site assets managed by the current platform. • Normal: The number of Sites that are in normal grid-connected status without major power generation faults. • Offline: The number of Sites that have lost connection with the system due to data logger network disconnection, communication link failure, or overall power outage. • Abnormal: The number of Sites where equipment faults or system-level Alarms affecting power generation have been triggered and require maintenance intervention.
Power Generation Overview	Monitors the physical installed capacity of the Site fleet and real-time production and operation efficiency.

	• Daily Energy: The total Energy generated by all Sites cumulatively to date on the current calendar day. • Total Energy: The historical cumulative total Energy generated since the Site fleet was connected to the platform. • Current Total Power: The sum of real-time active power output from all grid-connected Sites at the current moment. • Total Installed Capacity: The physical sum of the nameplate peak power of all PV modules across all grid-connected Sites.
Revenue Overview	Displays the economic Revenue generated by Site assets over different time periods.Indicator descriptions: • Daily: The estimated economic Revenue converted from the daily Energy generation. • Monthly: The cumulative power generation Revenue within the current calendar month. • Yearly: The cumulative power generation Revenue within the current calendar year. • Cumulative: The total sum of all historical Revenue accumulated since the system began operation.
Trend Chart	Uses a dual-axis line chart to visually present the change trajectory and historical comparison of "Energy generation" and "financial Revenue" over the past 12 months.
Active Alarms	Summarizes and displays by category the unresolved equipment and system-level Alarms currently in the system, for guiding the maintenance team/personnel in risk response.Indicator descriptions: • Total Alarms: The total number of Alarm events in the current active state. • Prompt (blue): Minor status change notifications that typically do not affect equipment power generation; recorded for reference only. • Commonly (green): Routine non-core component anomalies; it is recommended to arrange investigation during routine inspections. • Important (yellow): Relatively serious equipment faults (e.g., string disconnection, partial power limitation) that should be dispatched for handling as soon as possible to prevent loss escalation. • Urgent (red): Serious faults (e.g., Inverter shutdown, main transformer trip) that cause partial or complete interruption of Site power generation; immediate repair workflow must be triggered.
Green Efficiency	Converts the cumulative Energy generation of the Site fleet into social and environmental benefit indicators based on standard conversion coefficients, for demonstrating carbon asset contributions.Indicator descriptions: • Saved Standard Coal: The equivalent standard coal consumption saved by cumulative power generation compared to traditional thermal power.

	• CO_2 Reduction: The total amount of carbon dioxide emissions reduced through green power generation. • Tree Planning Equivalent: The cumulative number of trees equivalent to the environmental benefits generated.

6. Account

This chapter primarily covers Company management and User management functions. It guides users with management permissions on how to establish an enterprise organizational structure, manage subordinate personnel accounts, and assign system roles.

- **Company:** A Company is an enterprise organization, referring to a Distributor or Installer business entity, responsible for managing its subordinate Site assets and affiliated personnel.
- **User:** Also referred to as a member, referring to subordinate employees, Operations Engineers, or associated Owners belonging to a Company. Their operation permissions are authorized by the Common Manager or Operations Engineer through assigning system roles.

NOTICE!

The "members/Users" described in this chapter refer to the enterprise subordinate personnel you manage, not your currently logged-in personal account. To modify your current login account information, go to *4.3 User Configuration (Personal Center).*

6.1. Company Management

6.1.1. Add Company

Steps:

1. Click **Add Company** to open the Add Company page.
2. Fill in the Company details according to the table below:

Setting	Instructions
Company Type	Select Distributor or Installer.
Parent Company	Select the upper level service provider (Distributor or Installer).
Company Name	Enter the company name.
Contact Information	Optional. Enter contact information.
Region	Select the geographic region where the company is located.
Description	Optional. Enter supplementary notes or remarks about the company.

3. Click **Confirm**. After successful creation, the newly added Company appears immediately in the list.

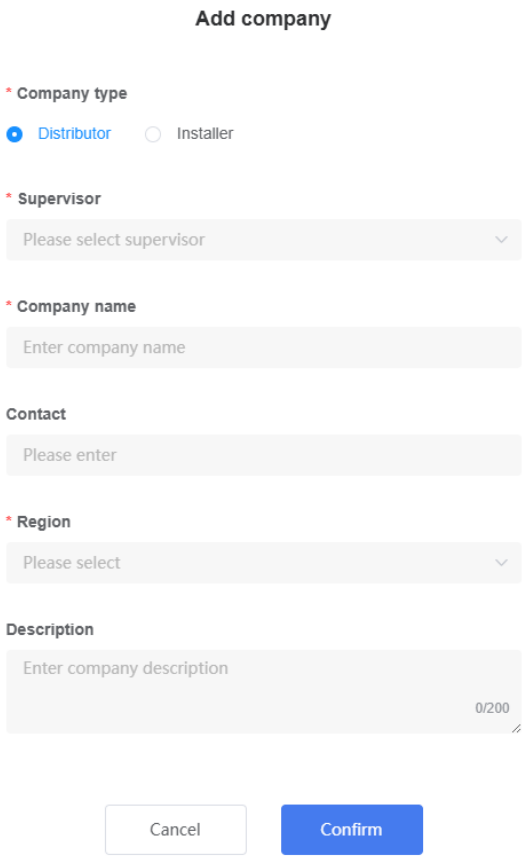


Figure 6-1 Add Company

6.1.2. Edit Company

Steps:

1. In the list, click the name of the Company you wish to modify.
2. Click the "Company Information" tab and update any of the following settings as needed:
   - Company Name
   - Contact Information
   - Region
   - Description
   - Address
   - Logo
- Authorization Code: Read-only. This authorization code is used by subordinate Installers/Distributors/Owners during registration.

3. Click **Save** to apply the changes.

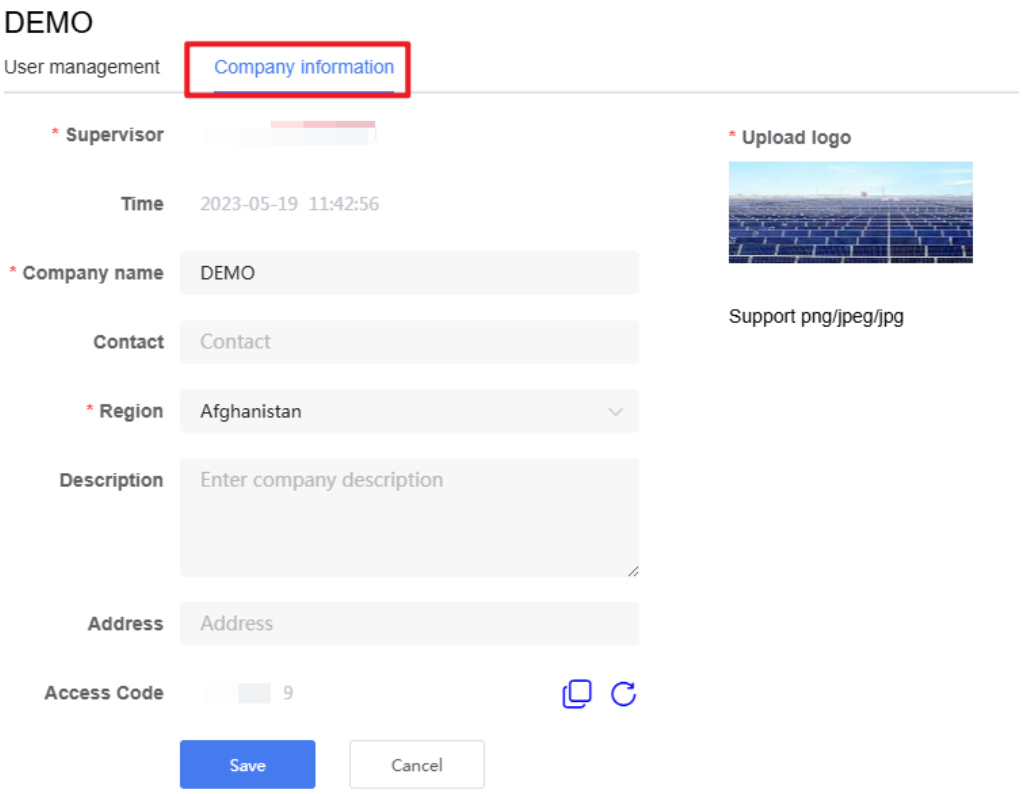


Figure 6-2 Edit Company Information

6.1.3. Delete Company

NOTICE!

Only the Common Manager has the permission to delete a Company.

Steps:

1. In the list, select the Company you wish to remove.
2. Click "Delete Company" to complete the deletion.

6.2. User Management

6.2.1. Add User

Steps:

1. In the list, click the name of the target Company.
2. Click the **Add User** button.

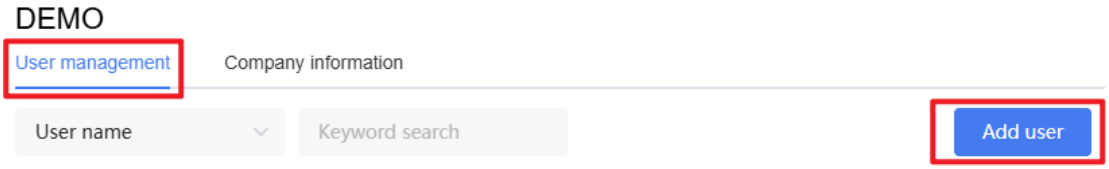


Figure 6-3 Add User

3. Fill in the form according to the table below:

Setting	Instructions
Username	Enter the system identification name for this subordinate user.
Region	Select the geographic region where the user is located.
Mobile Phone Number	Applicable to Asia-Pacific site only.
Email	Enter a valid email address.
Password Setup	Select the password creation method:Auto-generate: The system automatically generates a temporary password and sends it to the email address entered above.Custom: Manually set the login password for this user.
Parent Company	Select the corresponding upper level service provider (Distributor or Installer).
Description (Optional)	Enter relevant details or remarks about the user.

4. Click **Next**.

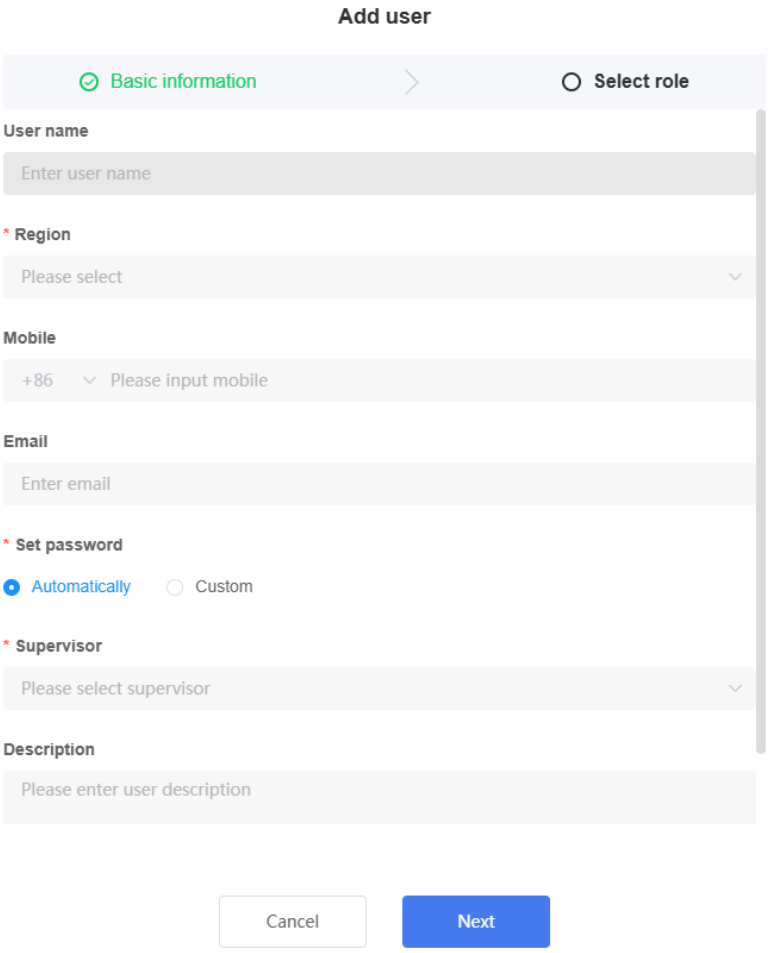


Figure 6-4 Add User

5. **Assign role:** Assign a system role to this user. The assignable role range depends on the permissions of your currently logged-in account:
   - If you are currently a Common Manager, you can assign: Common Manager, Operations Engineer, or Owner.
   - If you are currently an Operations Engineer, you can only assign: Operations Engineer or Owner.
6. After role assignment is complete, click **OK** to finish creation. The newly added user appears in the management list.

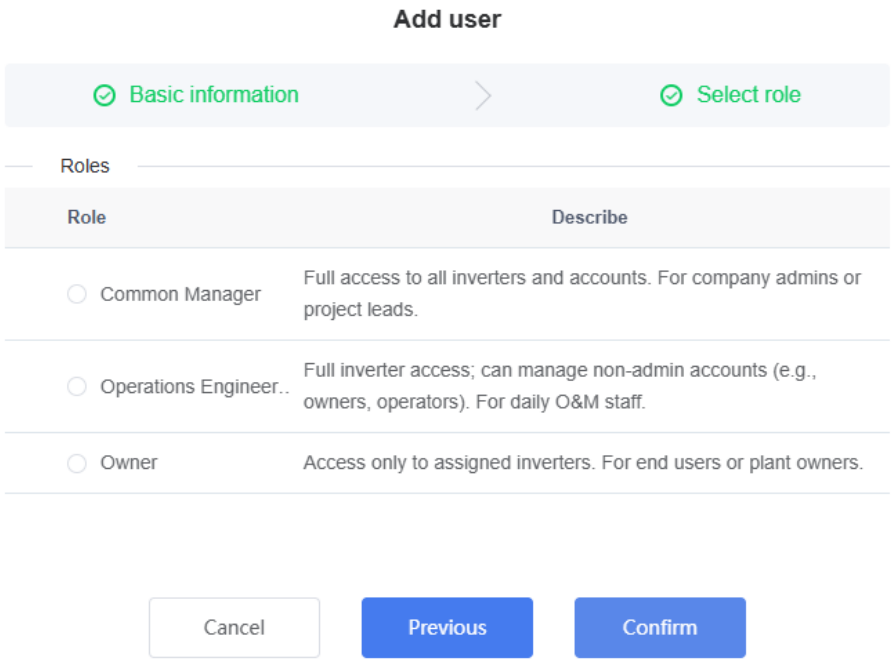


Figure 6-5 Assign Role

6.2.2. Edit User Information and Role

Steps:

1. Click the name of the target Company.
2. In the operation column, click the edit icon in the row of the corresponding user.

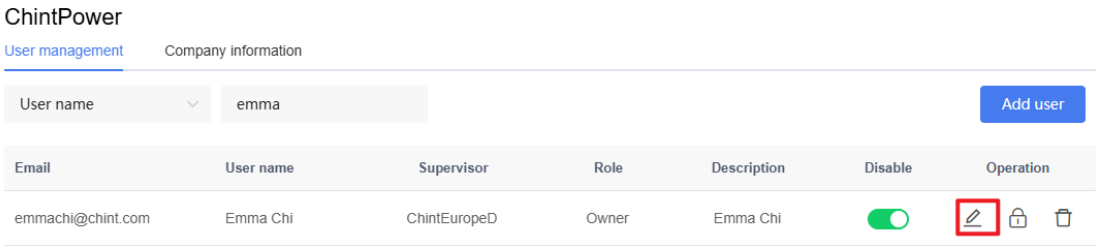


Figure 6-6 Click edit icon

3. Update the user's detailed information, then click "Save" to apply the changes:
   - Click **Basic Information**: Edit the username, region, email, parent company (Distributor or Installer), and description.
   - Click **Select Role**: Reassign a system role for this user.

6.2.2.1. Unbind Mobile Phone Number

1. Go to Account > User Management.
2. Locate the target user, click edit icon.

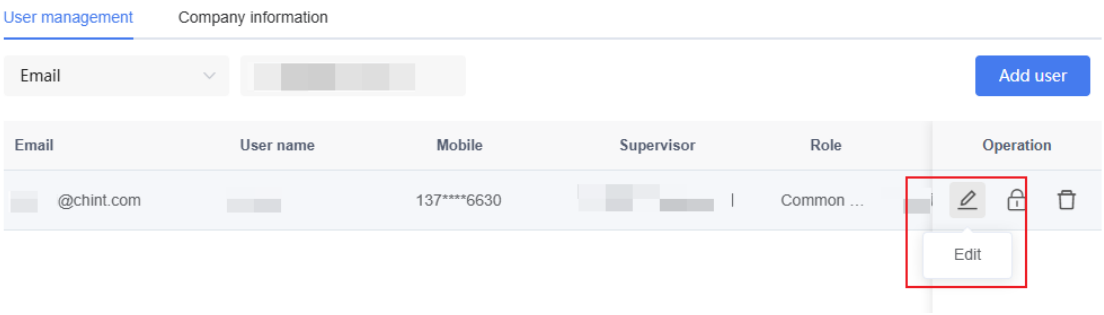


Figure 6-7 Click edit

3. Delete the mobile, then click **Save**.

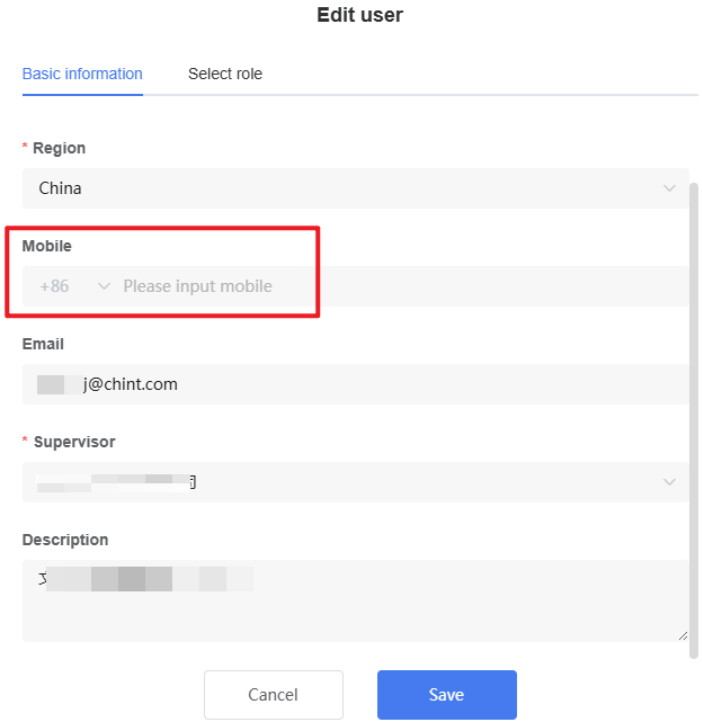


Figure 6-8 Unbind Mobile Phone Number

6.2.3. Reset Password

Steps:

1. Click the name of the target Company.
2. In the operation column, click the reset password icon in the row of the corresponding user.
3. Select one of the following methods to reset the password:
   - Automatically:Select this option and click **Confirm**. The system generates a new password and automatically sends it to the user's bound email.
   - Custom: Select this option, manually enter the new password and re-enter it for confirmation, then click **Confirm**.

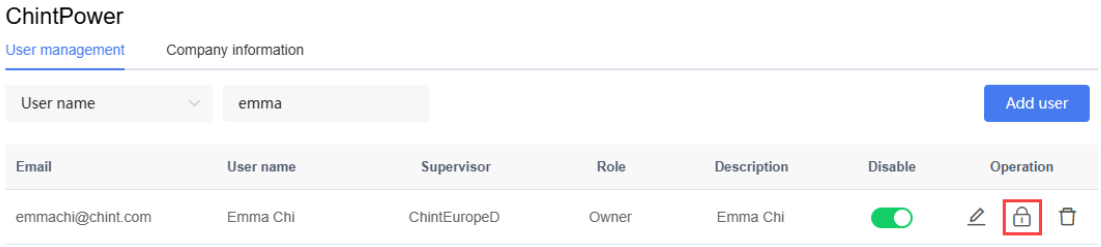


Figure 6-9 Reset User Password

6.2.4. Disable / Enable User

Steps:

1. Click the name of the target user.
2. In the operation column, click the Disable button in the row of the corresponding user to disable or enable the user.

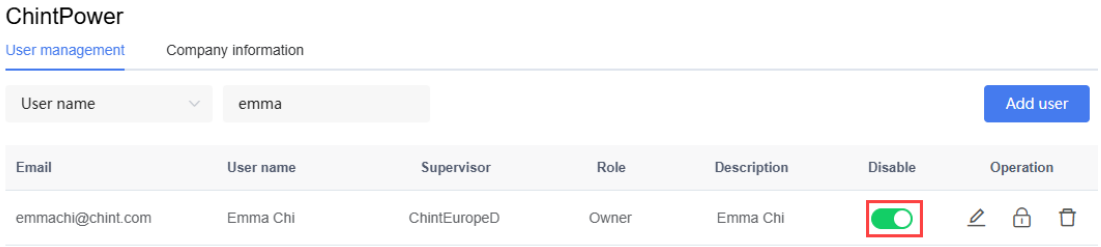


Figure 6-10 Disable / Enable User

6.2.5. Delete User

Steps:

1. Click the name of the target user.
2. In the operation column, click the delete icon in the row of the corresponding user.
3. Click **Confirm** to delete the user.

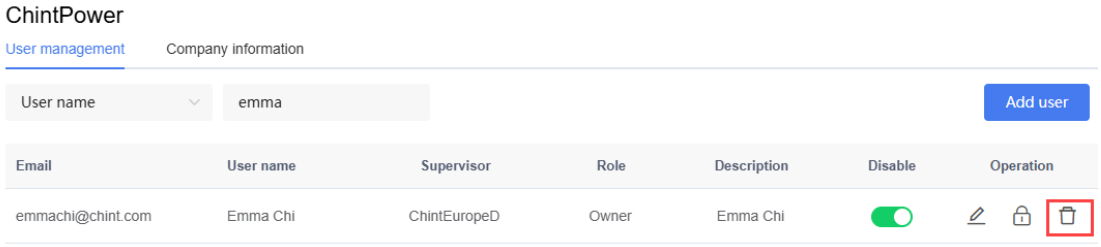


Figure 6-11 Delete User

7. Site

7.1. Site Center

The Site Center allows users to create, search, monitor, and distribute plant assets.

To access the Site Center:

In the left navigation bar, click Site. The system displays the site list and status counters.

7.1.1. Create Site

MatriCloud provides two distinct onboarding workflows based on system architecture and communication hardware:

- Standard and Standalone PCS Sites: Connects via a communication Gateway. Suitable for Residential PV, Residential ESS, C&I PV, Utility PV, and standalone PCS units.
- Integrated ESS (BETA): Connects via a Local Controller (LC). Suitable for C&I ESS and Utility ESS projects integrating multiple subsystems (PCS, BMS, meters).

Follow the steps below to initiate site creation:

1. On the Site Center page, click **+ Create Site** in the upper-right corner

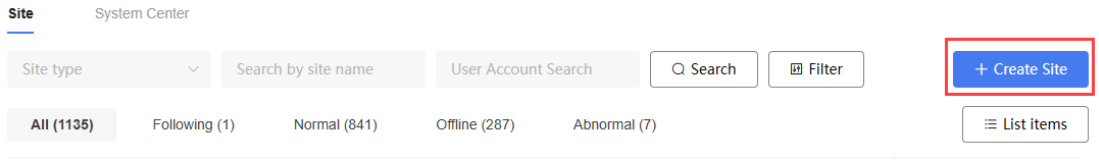


Figure 7-1 Create Site

2. In the Site Type dialog (Figure 7-2), select the target card:
   - Card 1: Residential PV, Residential ESS, PV Utility, C&I PV, C&I Energy Storage PCS, Ground-Mounted Energy Storage PCS.
   - Card 2: C&I ESS, ESS Utility (BETA).
3. Click **Confirm** to enter the corresponding creation wizard.

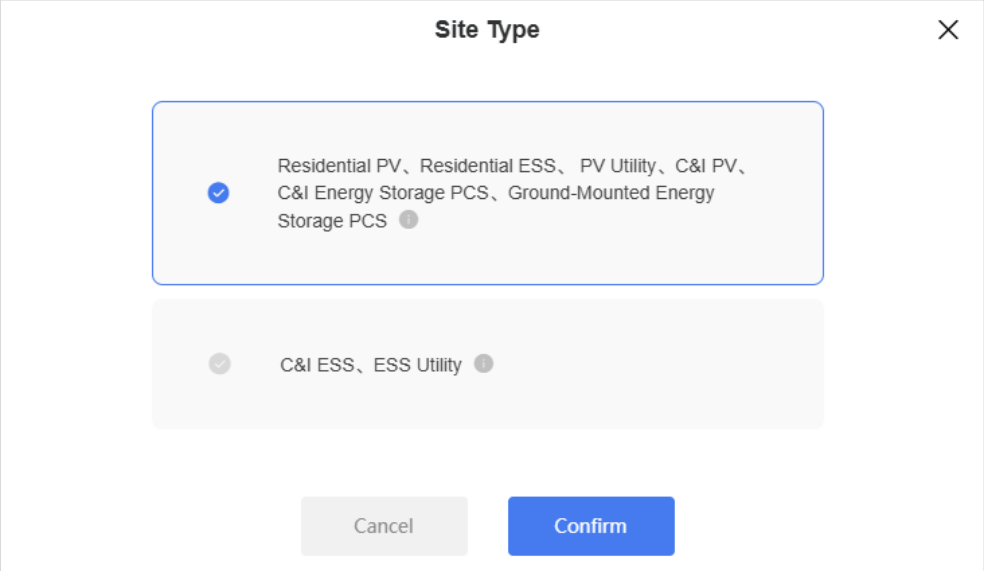


Figure 7-2 Site Type Selection Dialog

7.1.1.1. Create a Site via Gateway (Standard and Standalone PCS)

Follow the 3-step wizard to configure gateway binding, site parameters, and owner assignment:

Step 1. Gateway Information

1. In the Gateway SN field, enter the serial number of the gateway.
2. (Optional) Click **+ Add** to bind multiple gateways to the same site. To remove an incorrect entry, click **Remove**.
3. Click **Next.**

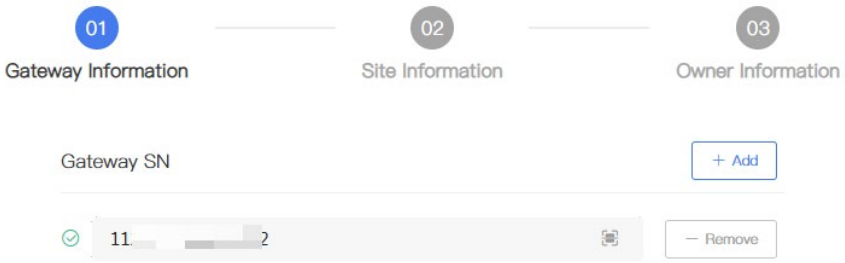


Figure 7-3 Enter Gateway SN

Step 2. Site Information

1. Configure site operating parameters according to Table 7-1.

On the site information page, fill in the basic operating parameters of the Site. After confirming that all entries are correct, click **Next**:

Field	Instructions
Site Name	Enter the Site name. It is recommended to use a unique, easily identifiable name.

Site Region	Select the region where the Site is located. After selecting the region, the system automatically matches the default time zone, currency unit, and benchmark electricity price.
Address	Enter the detailed address of the Site. It is recommended to enter the actual installation address.
Time Zone	Select the time zone where the Site is located. Automatically selected by the system after filling in the region; can be manually modified.
Site Type	Select the Site type based on the actual project type. Options include: Residential PV, Residential PV + Storage, Commercial & Industrial PV, Commercial & Industrial Storage, Utility-Scale PV, Utility-Scale Storage. For Site type descriptions, see Section *3.2 Site Type Description.*
On-Grid	Select the grid connection type based on the Site access method. It is recommended to select the corresponding grid connection type based on the selected Site type.
Currency Unit	Select the currency unit for Revenue statistics. Automatically filled by the system after filling in the region; can be manually modified.
Temperature Unit	Select the temperature display unit, typically ℃ or ℉.
Capacity	Enter the total installed capacity of the Site.
Tariff per kWh	Enter the local benchmark electricity price. Automatically filled by the system after filling in the region; can be manually modified.
Fuel per kWh	Enter the fuel consumption per unit of power generation. Applicable to diesel generator-related scenarios.
Details	Enter supplementary notes. Supports up to 600 characters.

Step 3. Owner Information

Assign ownership to the site using one of the three options:

Option A: New Account (Register and link a new owner)

1. Click **New Account.**
2. Enter the Email or Mobile (Asia-Pacific only).

3. Select the Operator and Region.
4. Select Password Setup: Automatically (system generates and emails a temporary password) or Custom (manually set password).
5. Click **Complete**.

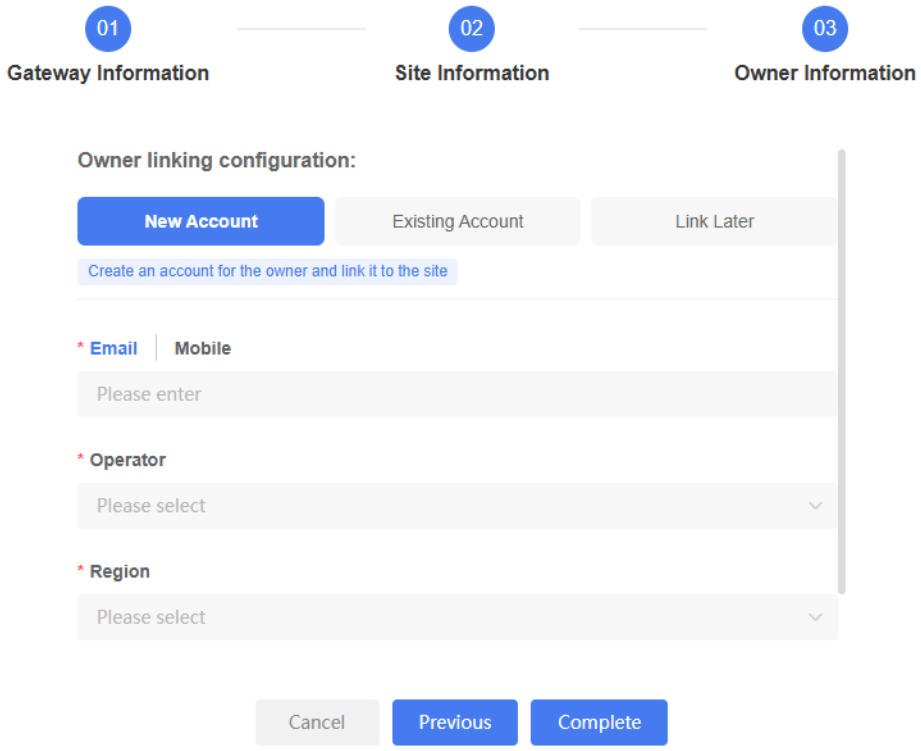


Figure 7-4 New Account

Option B: Existing Account (Link an existing registered owner)

If the user already has a registered account on the platform:

1. Click **Existing Account**.
2. Click **Distribution** to open the user list.

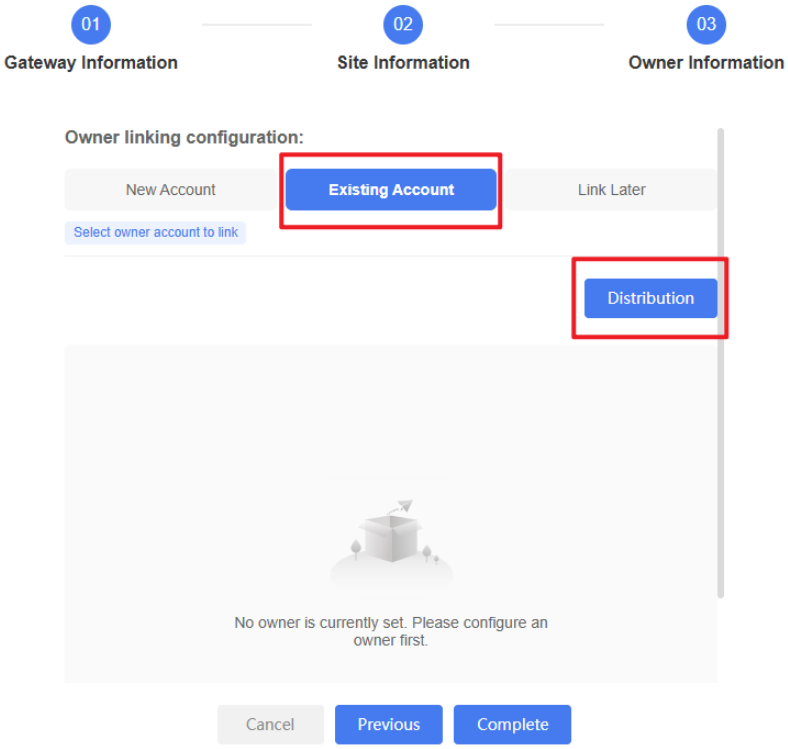


Figure 7-5 Existing Account-1

3. In the Distribution dialog box that appears, select the corresponding user.
4. Click **Confirm** to complete the binding.

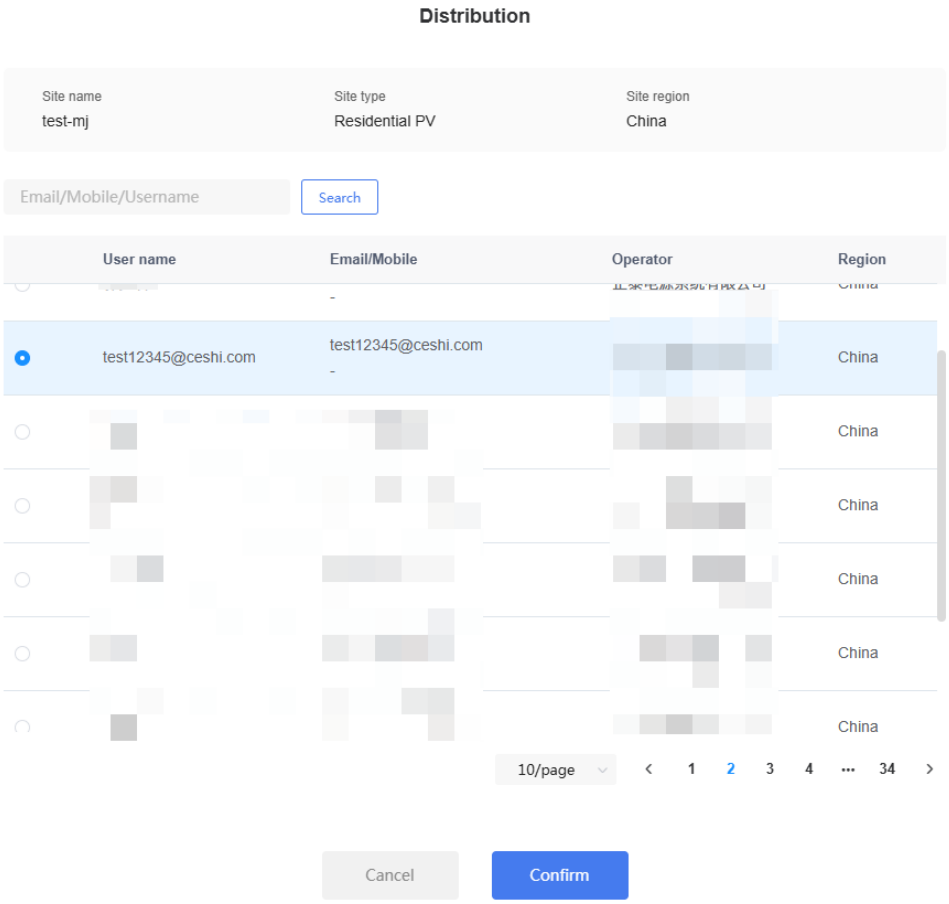


Figure 7-6 Existing Account-2

Option C: Link Later (Skip assignment during commissioning)

If the Site does not need to be transferred to an end user at this time:

1. Select **Link Later**.
2. Click **Complete**.The site is created under your organization and can be distributed later.

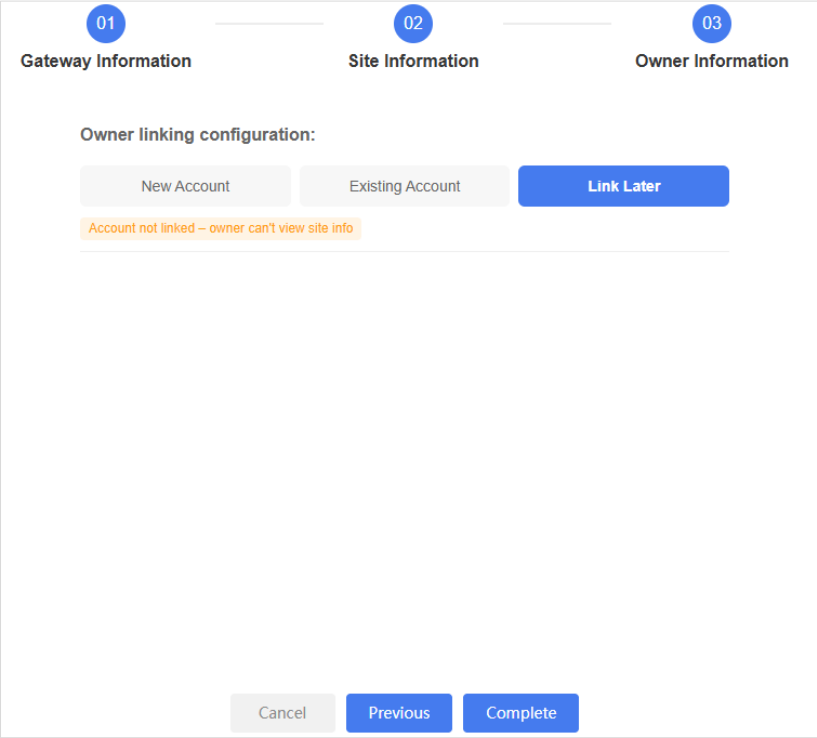


Figure 7-7 Owner Information-Link Later

7.1.1.2. Create a Site via Local Controller (Integrated ESS)

The Local Controller (LC) workflow applies to C&I ESS and Utility ESS systems and is currently in the BETA phase.

Step 1. Basic Information (LC and Substation Setup)

1. On the left side of the screen, complete the global Project Name, Site Name, Site Region, Timezone, Address, Site Type, and Units.

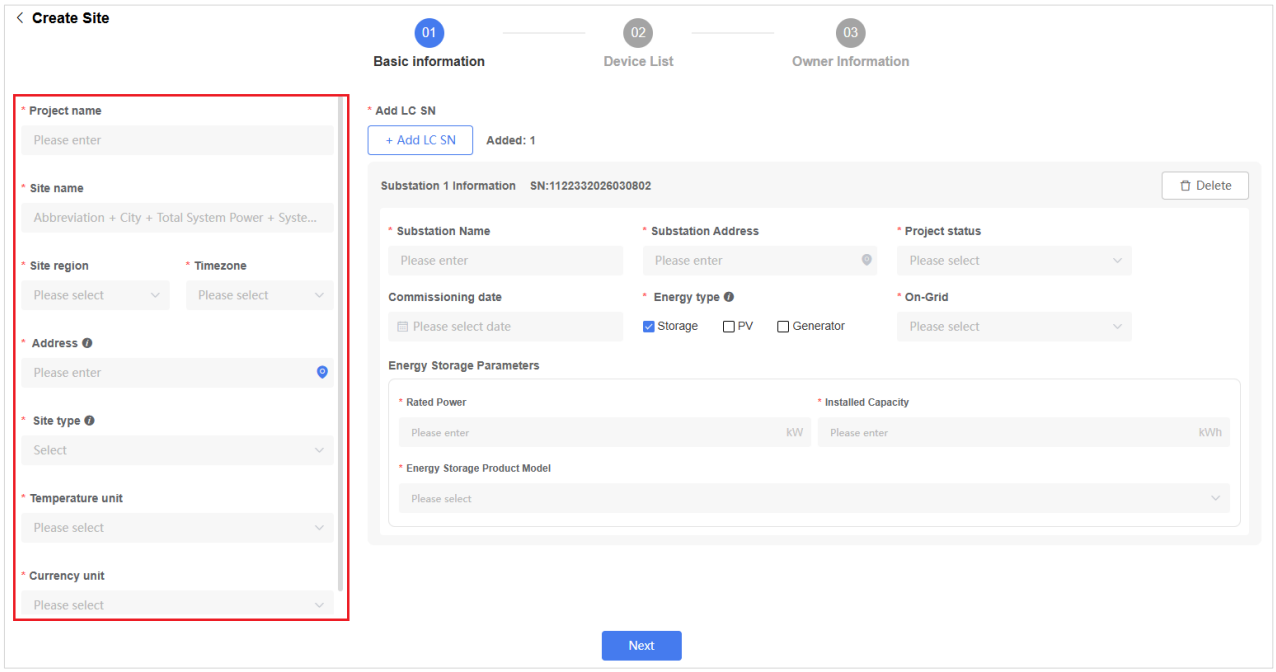


Figure 7-8 Fill in Basic Information (continued)

2. On the site creation page, click **+Add LC SN**.

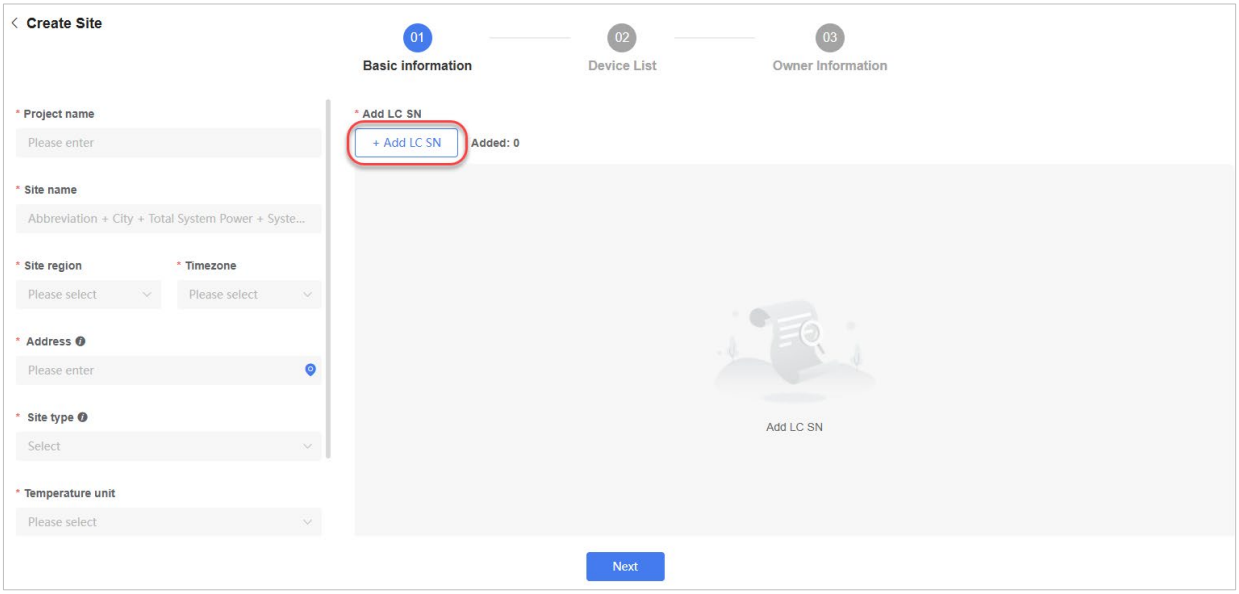


Figure 7-9 Add LC SN

3. Enter the serial number (SN) of the LC and click **Confirm**.

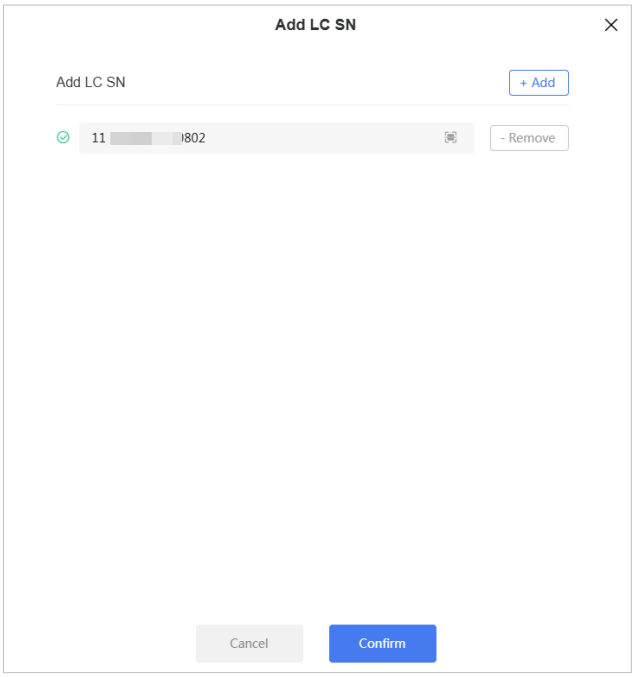


Figure 7-10 Input LC SN

4. Configure the Substation Information card:
   - Substation Name & Substation Address: Enter the name and physical location of the substation.
   - Project Status: Select the current construction/commissioning state.
   - Commissioning Date: Select the grid-connection commissioning date.
   - Energy Type: Select the participating power sources (Storage, PV, Generator).
   - Energy Storage Parameters: Enter Rated Power (kW), Installed Capacity (kWh), and select the Energy Storage Product Model.
5. Click **Next**.

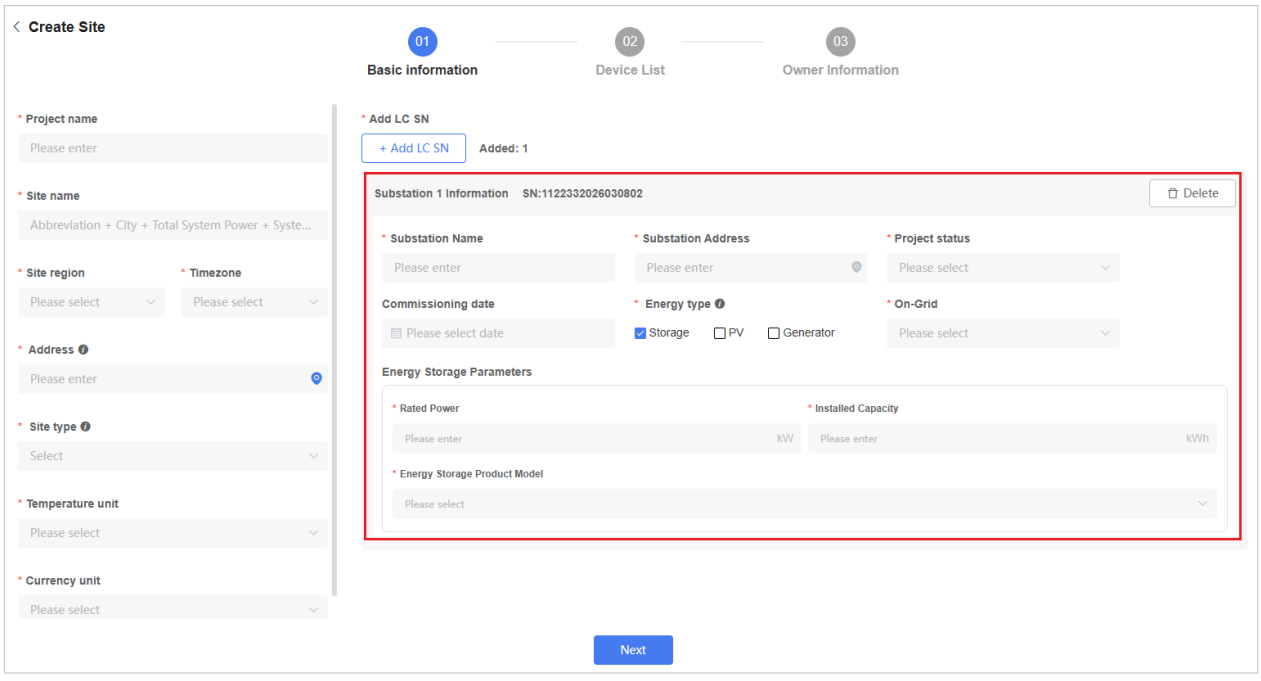


Figure 7-11 Fill in Substation Information

NOTICE!

To add more substations, click **+ Add LC SN** at the top.

Step 2. Check Device List

1. Review the **Device Tree** read automatically from the Local Controller.
2. Verify that all on-site connected devices are displayed.
3. Click **Next**.

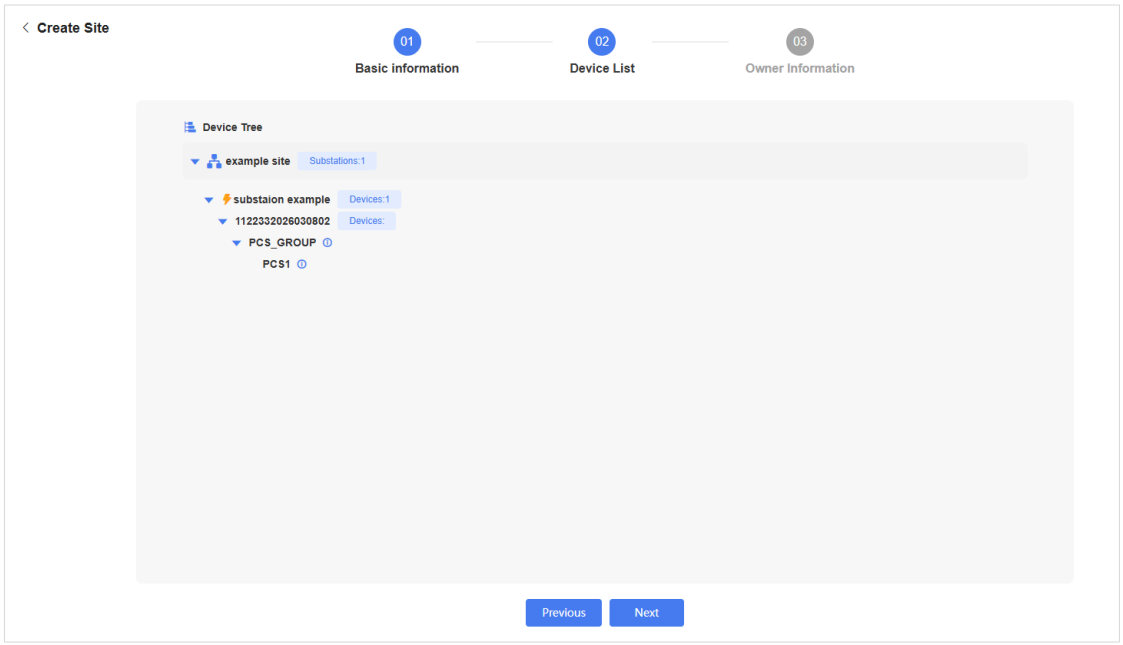


Figure 7-12 Check Device List

Step 3. Owner Information

Assign or defer ownership following *Step 3 Owner Information* in Section *7.1.1.1 Create a Site via Gateway (Standard and Standalone PCS)*. Click **Complete** to finish site setup.

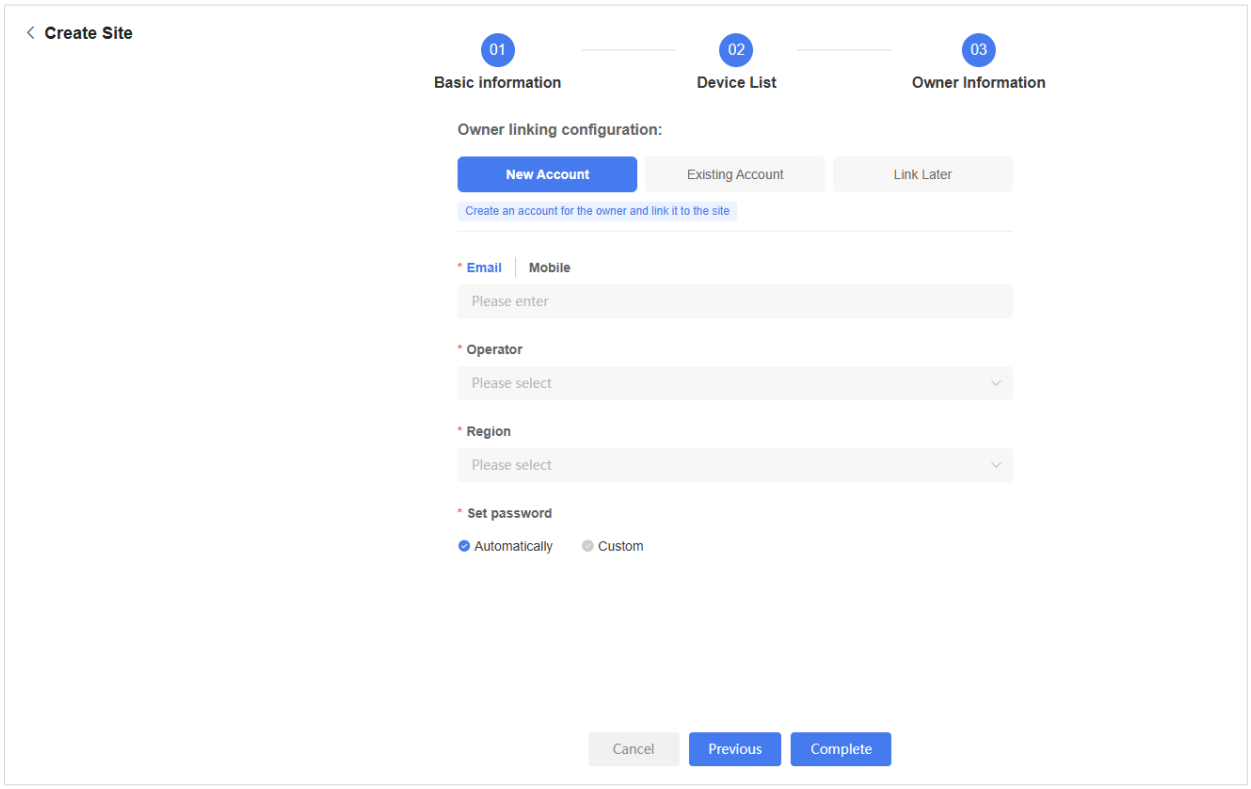


Figure 7-13 Owner Information

7.1.2. Follow Site

In the site list, click the Star icon in the Operation column. The site will be pinned to the top of the list and categorized under the Following tab.

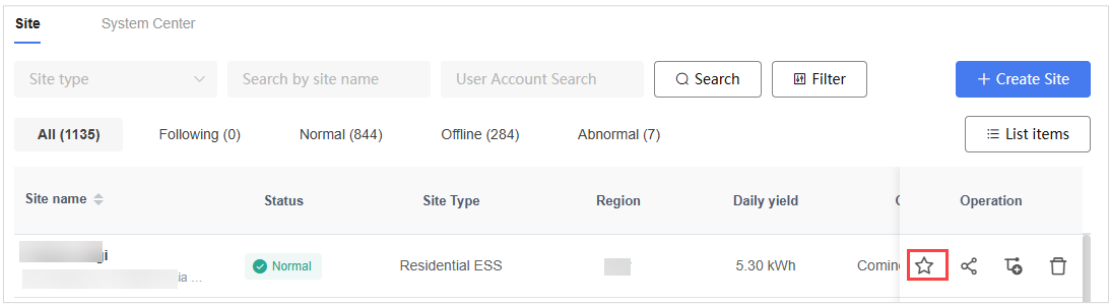


Figure 7-14 Follow Site

7.1.3. Share Site

Share view-only plant telemetry with third parties without requiring them to register an account:

Steps:

1. In the Site list, locate the target Site and click the Share icon in the operation column.

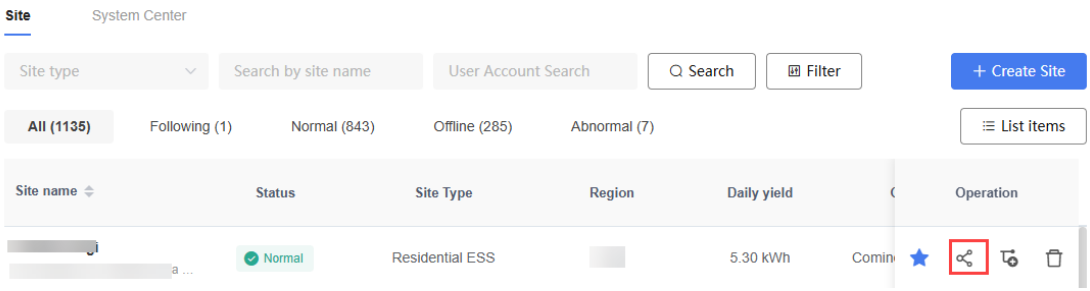


Figure 7-15 Share Site

2. Click **Add Share** in the pop-up window
3. Select the link validity period: 1 Day, 7 Days, 30 Days, or Permanent.
4. Click **Copy** icon and send the URL to the recipient.

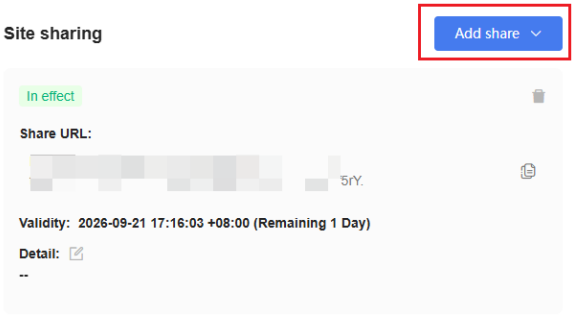


Figure 7-16 Share Site

7.1.4. Distribute Site

Assign or reassign a site to a specified Owner:

1. In the Site list, locate the target Site and click the **Distribution** icon in the operation column.

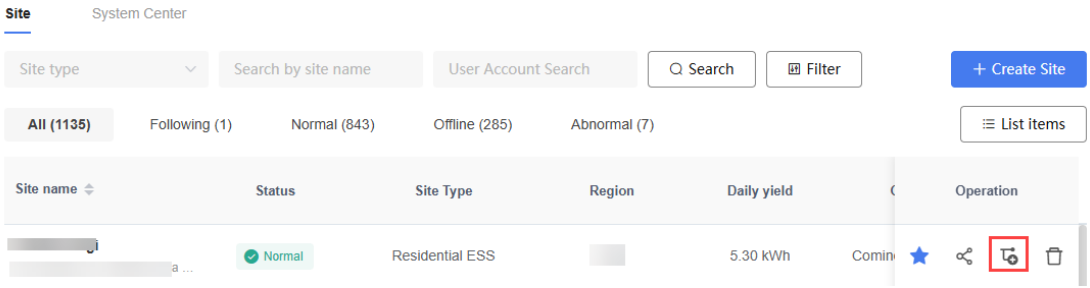


Figure 7-17 Click Distribution Button

2. Choose **New Account** or **Existing Account** to bind the target owner.
3. Click **Confirm** to complete assignment.

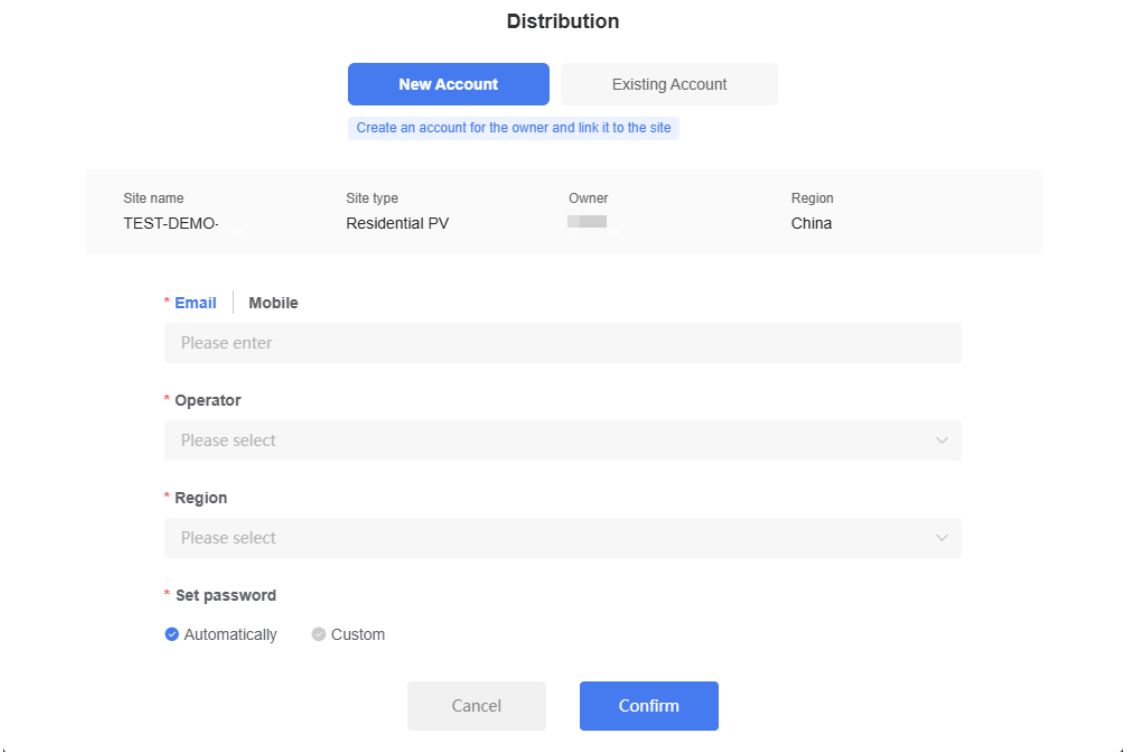


Figure 7-18 Distribute Site

7.1.5. Delete Site (Gateway-Connected Sites Only)

Delete a Site that is no longer needed.

NOTICE!

- Site deletion is supported only for sites created via Gateway.
- Deleting a site permanently removes all historical data and cannot be undone.
- If a gateway is currently bound to the site, you must unbind the gateway before deleting the site.

Steps:

1. Go to Site > Site Details > Device > Gateway.
2. Click the unbind icon in the Operation column of the gateway and confirm.

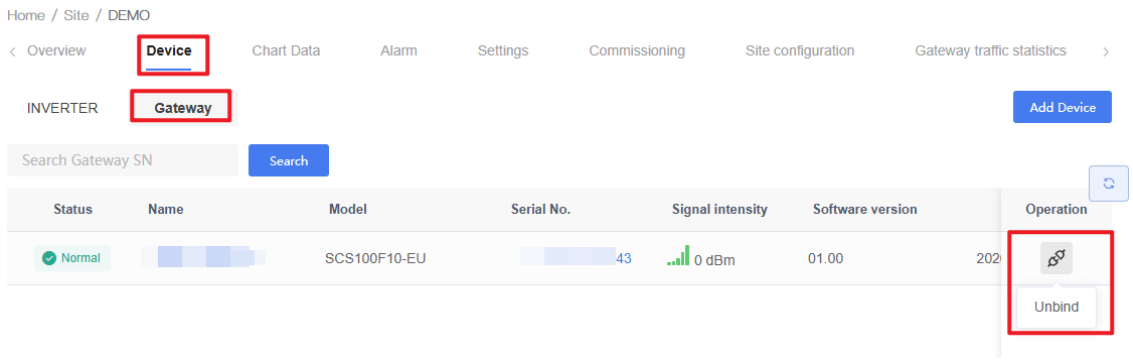


Figure 7-19 Click Unbind Icon

3. Return to the Site Center list.
4. Locate the target site, click the **Delete** icon in the operation column.

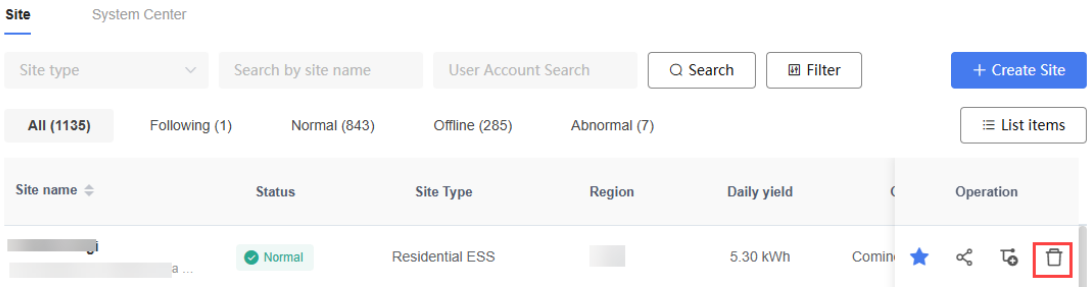


Figure 7-20 Delete Site

7.2. Site Details

Click any Site Name in the site list to open the Site Details page.

The Site Details page provides operational insights and telemetry for a site, including real-time status, device lists, energy production/storage data, alarms, and configuration settings.

Steps:

1. In the left navigation bar, select Site to open the site list.
2. Locate the target site and click its Site Name.
3. The system opens the site details page. By default, the site overview tab is displayed.

The tabs and data presented on the Site Details page vary depending on the site type:

- Standard & Standalone PCS Sites: Focuses on individual inverter/PCS metrics, grid feed-in data, and standard yield statistics. For a detailed description of tabs and parameters, see 7.2.1 Site Details for Standard & Standalone PCS Sites.

- Integrated Energy Storage Systems: Features full-system telemetry, including energy flow topology, BMS cluster status, dispatch control strategies, and auxiliary subsystems. For a detailed description of tabs and parameters, see Section *7.2.2 Site Details for Integrated ESS*.

7.2.1. Site Details for Standard and Standalone PCS

NOTICE!

The tabs actually displayed may vary depending on the Site type.

Sites connected via gateway display the following operational tabs:

- Overview: Real-time 2D/3D energy flow, live power, daily/total yield, and environmental contributions
- Device: Inventory of connected Inverters, Gateways, and Electricity Meters.
- Chart Data: Multi-curve historical telemetry comparison.
- Alarm: Active and recovered device fault records.
- Settings: Remote parameter configuration for bound devices.
- Commissioning: Generation and export of site commissioning inspection reports.
- Site Configuration: Modification of site name, photo, tariff rates, and installed capacity.
- Gateway traffic Statistics: Communication quality analysis, packet loss rates, and heatmaps.
- Electricity Price Configuration: Setup of TOU, weekday/weekend, and fixed price schemes.

7.2.1.1. Site Overview

The **Overview** tab provides a summary of Site status, energy flow, power data, power generation statistics, and environmental benefits.

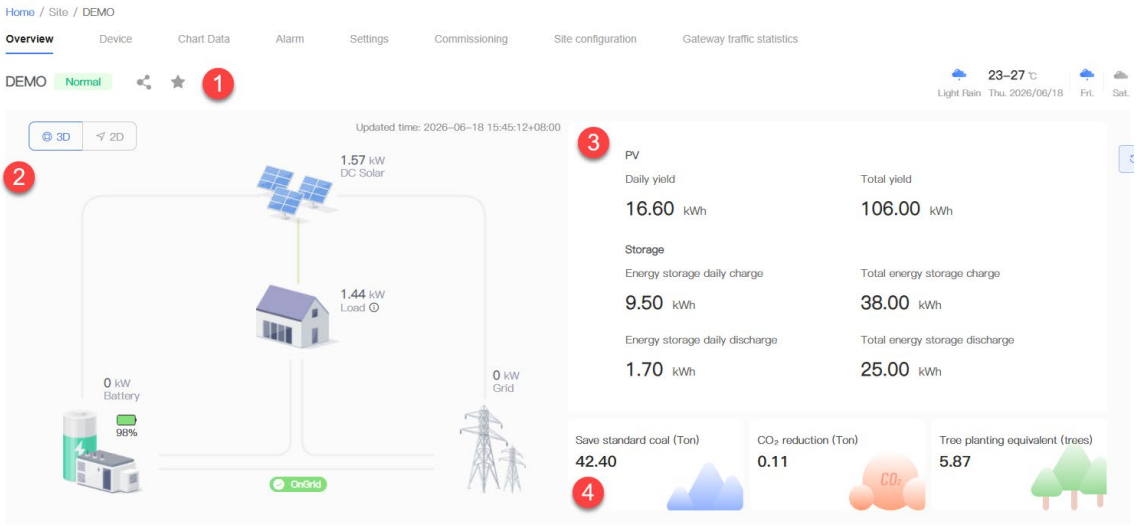


Figure 7-21 Site Overview

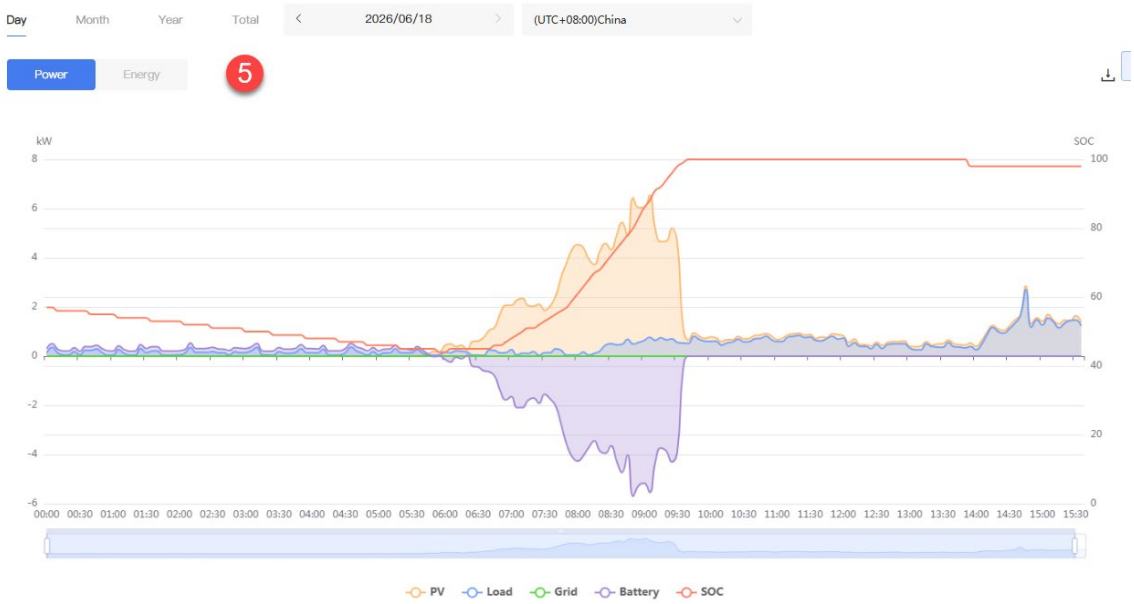


Figure 7-22 Site Overview

No.	Name	Description
1	Site Information	Displays the Site name, operating status, weather information, and the latest data update time.
2	Energy Flow Diagram	Displays the real-time energy flow direction and power data of the Site. The energy flow diagram displays different topological structures based on the Site type. Click 3D or 2D to switch the display mode.

3	Power Generation Overview	Displays PV power generation and energy storage charge/discharge statistics, including daily and cumulative values.
4	Energy Saving and Emission Reduction	Displays environmental benefit indicators such as standard coal saved, CO_2 emission reduction, and equivalent trees planted.
5	Trend Analysis	Displays the power and Energy change trends within the selected time range. Users can switch between Day, Week, Month, Year, and Cumulative views; select a date; switch the data display time zone; switch between the power chart and energy chart; and export chart data.

7.2.1.2. Device

The Device tab displays all Devices associated with the Site, including Inverters, Gateways, and Electricity Meters. Users can search for Devices by Device type. Click the Device name, Device SN, or Gateway serial number to enter the corresponding Device Details page. For Device details and Device operations, see *8 Device.*

The Device page includes the following Device categories:

- Inverter
- Gateway
- Electricity Meter

7.2.1.2.1. Add Device

Use this function to add a Gateway and its associated Devices to the current Site.

Steps:

1. In the **Device** tab, click **Add Device**.

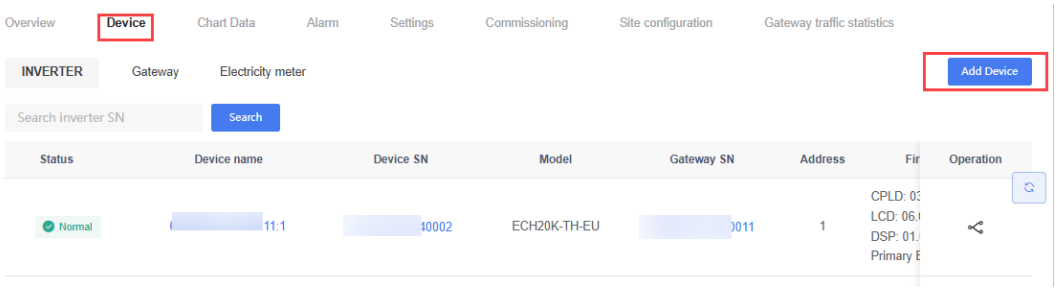


Figure 7-23 Add Device

2. Enter the Gateway serial number in the Gateway SN input field.

3. Click **Confirm**.
4. The Gateway and its associated Devices are added to the current Site.

7.2.1.2.2. AC Coupling

Use this function to establish an AC coupling relationship between an energy storage Inverter and one or more Inverters.

Steps:

1. Click the **Inverter** tab.
2. In the **Operation** column, click the **AC Coupling** icon.

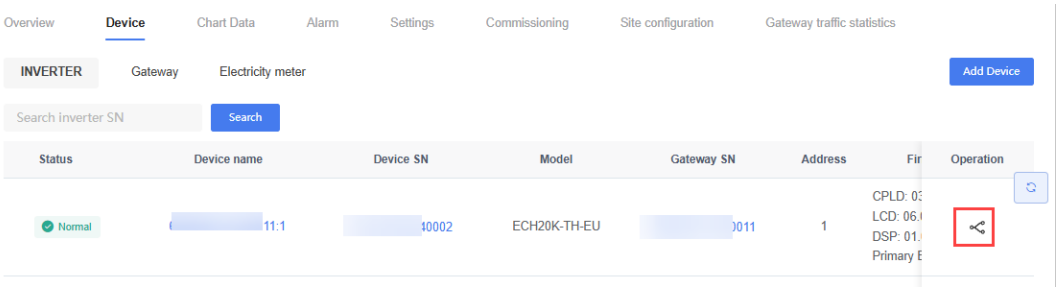


Figure 7-24 AC Coupling Entry

3. On the **AC Coupling** page, click **Select the Coupling Device**.
4. In the Device list, select one or more PV Inverters, then click **Confirm**.

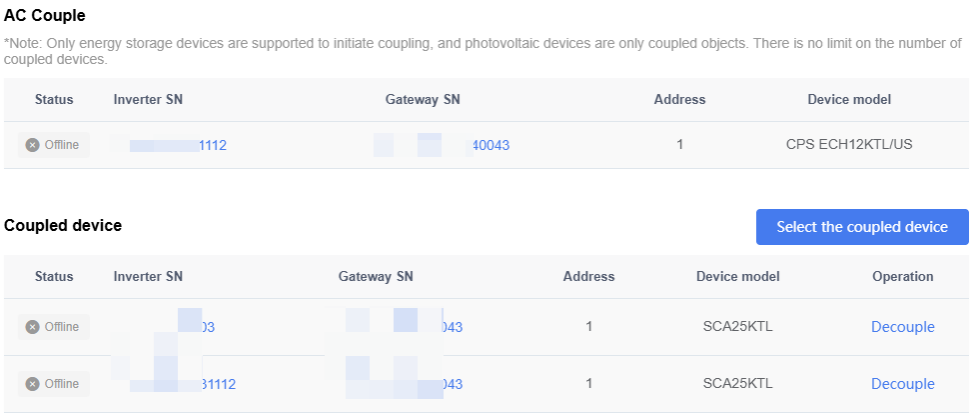


Figure 7-25 Select the coupled device

5. The selected Devices appear in the **Coupled Devices** area, indicating that the AC coupling relationship has been successfully established.

NOTICE!

- Only energy storage Inverters support initiating AC coupling.
- PV Inverters can only serve as coupled Devices.

- There is no limit on the number of coupled Devices.
- After establishing AC coupling, the coupled Devices display the AC Coupling icon in the Device list.

7.2.1.2.3. Remove AC Coupling

The AC coupling relationship can be removed through either of the following methods.

Method 1: Remove via Device list

1. In the Device list, locate the Device with the AC Coupling icon.
2. In the **Operation** column, click the **Remove Coupling** icon.

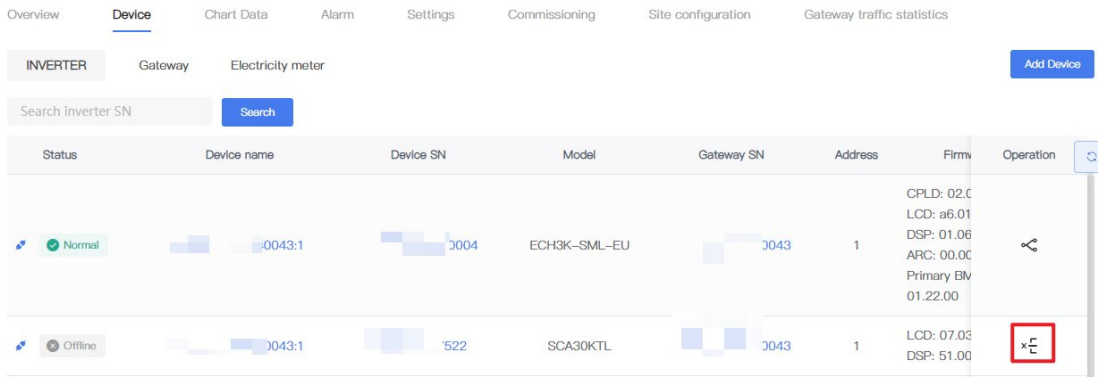


Figure 7-26 Remove AC Coupling - Method 1

Method 2: Remove via AC Coupling page

1. Click the **AC Coupling** icon of the target Device.
2. In the **Coupled Devices** area, locate the target Device and click **Decouple**.
3. After removing the coupling, the Device is removed from the "Coupled Devices" list, and the AC Coupling icon in the Device list disappears.

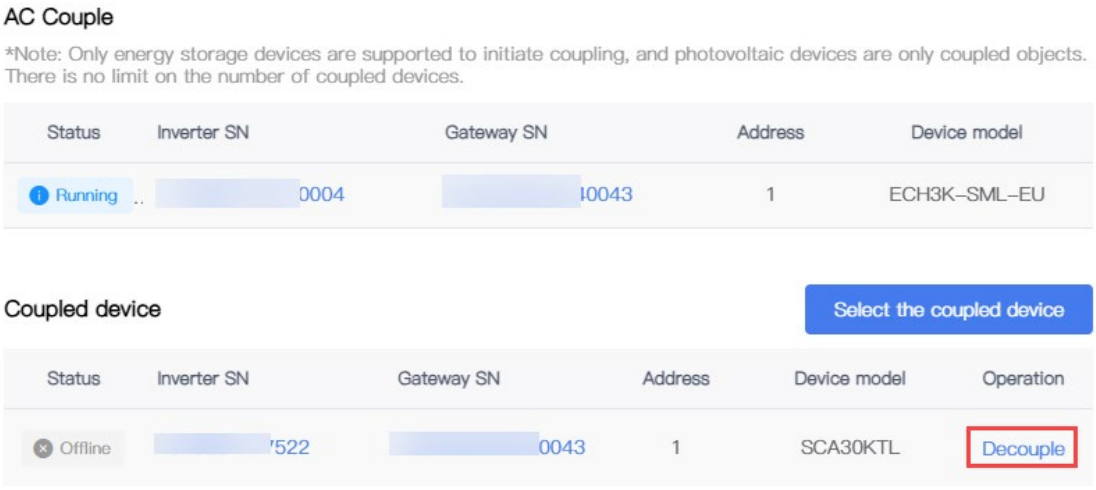


Figure 7-27 Remove AC Coupling - Method 2

7.2.1.3. Chart Data

The **Chart Data** tab is used to view the historical operating data and trend charts of Site Devices.

Steps:

1. Select the model.
2. Select the Device (up to 5 Devices at a time).
3. Click **Filter Measurement Points** and select one or more measurement points (up to 20 measurement points at a time).
4. Select the chart type.
5. Select a statistics period by clicking a quick period button ("Day", "3Day", or "Week"), or define a custom time range by entering a "Start date" and an "End date".
6. Select the data display time zone.
7. View the trend data in the chart area.

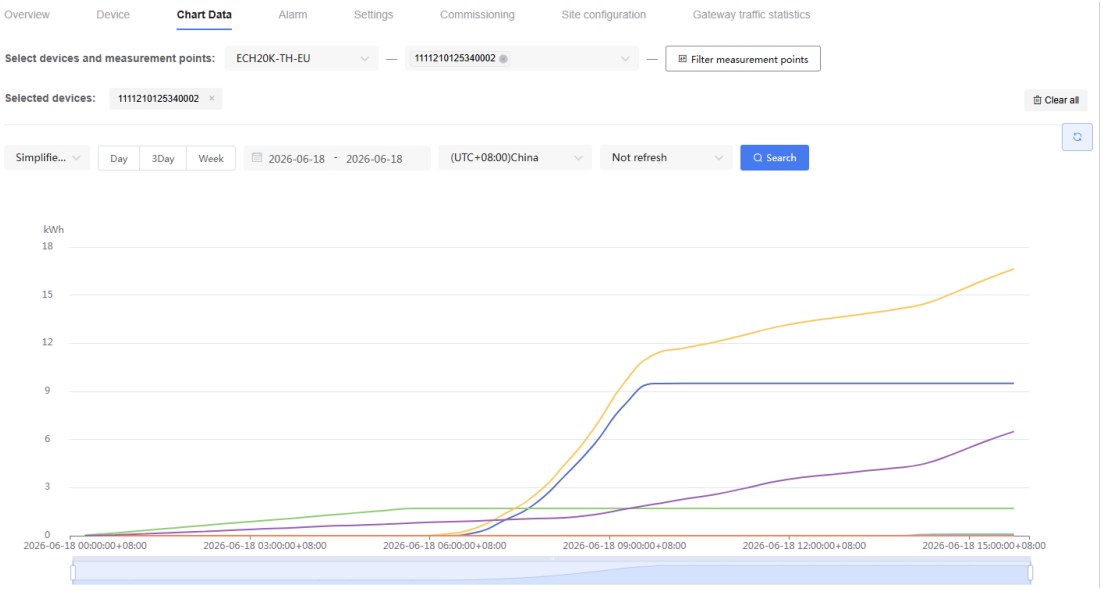


Figure 7-28 Chart Data

7.2.1.4. Alarm

The **Alarm** tab displays Alarm events generated by Site Devices, including Alarm type, Alarm content, Device information, occurrence time, and Alarm status.

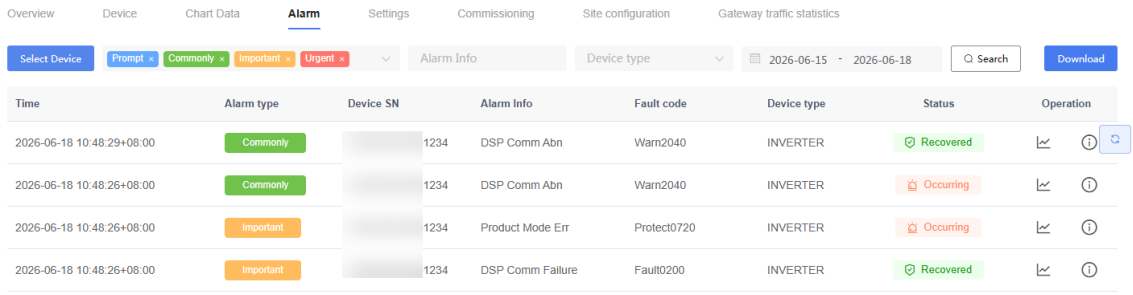


Figure 7-29 Alarm

7.2.1.4.1. Search Alarm Events

Steps:

1. Click the **Alarm** tab.
2. Use one or more of the following criteria to filter Alarm events:
   - Select Device: Select a Device.
   - Alarm Type: Select the Alarm type.
   - Alarm Content: Enter a keyword to search for specific Alarm content.
   - Device Type: Select the Device type.
   - Time Range: Select the start date and end date.
   - For descriptions of Alarm types and Alarm statuses, see Section 7.2.1.4.2 Alarm Types and Alarm Statuses.
3. Click **Search**.
4. Alarm events meeting the criteria appear in the Alarm list.
5. Click **Download** to export Alarm records.

7.2.1.4.2. Alarm Types and Alarm Statuses

Table 7-1 Alarm Type Descriptions

Alarm Type	Description
Urgent	The Device has stopped operating and requires immediate attention.
Important	The Device's operating efficiency is affected and requires timely attention.
Commonly	Does not affect Device operation; can be handled as needed.
Prompt	Informational messages.

Table 7-2 Alarm Status Descriptions

Alarm Status	Description
Recovered	The Alarm has been cleared.
Active	The Alarm is still ongoing.

7.2.1.4.3. Alarm Operations

In the **Operation** column, you can perform the following operations:



Figure 7-30 View Fault Curve

- **Fault Curve:** View the fault curve related to the Alarm.



Figure 7-31 Fault Curve

- **Alarm Details:** View detailed Alarm information.

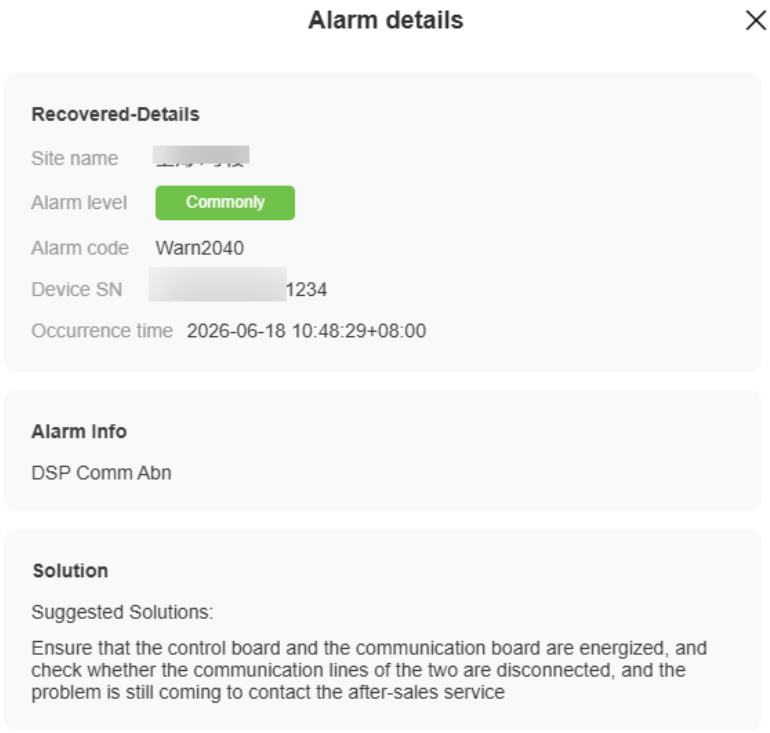


Figure 7-32 Alarm Details

7.2.1.5. Settings

The "Settings" tab is used to remotely view and modify Device parameters.

NOTICE!

- The parameters and parameter groups supported may vary depending on the model.
- Only parameters that support writing can be modified.
- After modification, parameters are directly delivered to the Device. Please operate with caution.
- It is recommended that only personnel with relevant permissions and expertise perform parameter configuration.

Steps:

1. Click the **Settings** tab.
2. Select a Device from the Device list.
3. In the parameter group list, select the parameter group you wish to view, then locate the parameter you wish to view or modify on the right side of the page. (To find a specific parameter, you can also enter a keyword in the search box and click **Search**.)

4. To restore the default display conditions, click **Reset**.
5. To view only valid parameters, enable the **Valid Only** toggle.
6. To refresh the page data, click **Refresh.**

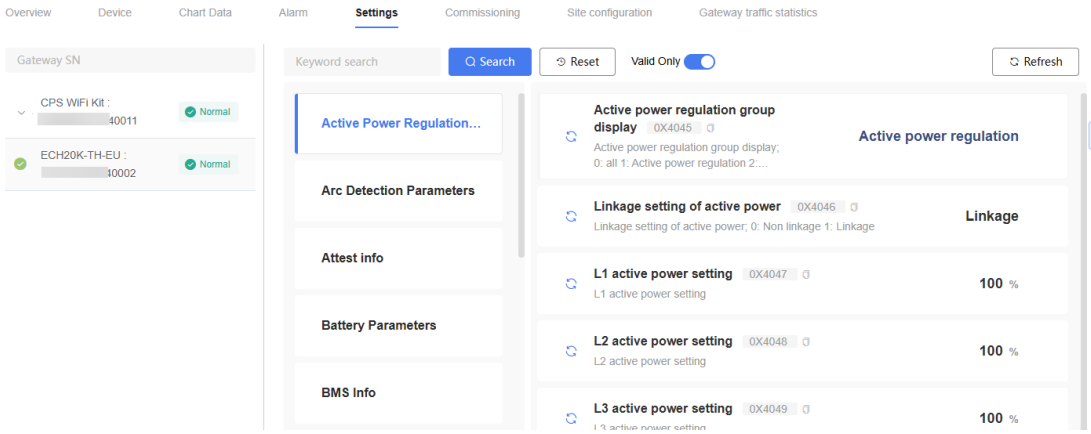


Figure 7-33 Remote Setting

7.2.1.6. Commissioning

The **Commissioning** tab is used to generate, download, update, and manage commissioning reports.

7.2.1.6.1. Create Commissioning Report

1. Click the **Commissioning** tab.
2. Click **Create**.

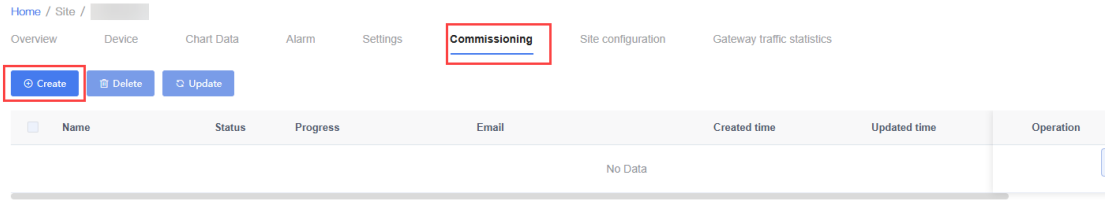


Figure 7-34 Create Commissioning Report

3. Enter the report name, fill in the email address (optional), select the Gateway, then click **Confirm**.
4. The system creates a commissioning report generation task.

7.2.1.6.2. Report Operations

After the commissioning report is generated, you can perform the following operations:

- **Send Email:** Send the report to the specified email address.
- **Download:** Download the commissioning report in PDF format.
- **Update:** Regenerate the report.
- **Delete:** Delete the report.

Batch update and batch delete of reports are supported.

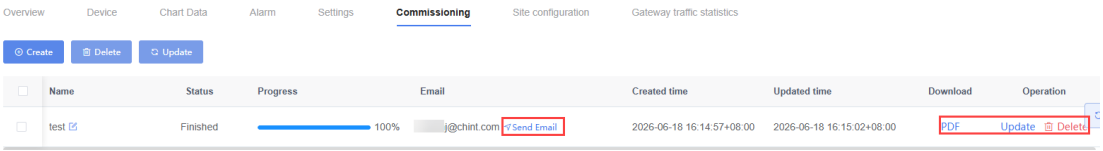


Figure 7-35 Report Operations

7.2.1.7. Site Configuration

The **Site Configuration** tab is used to maintain basic Site information, including the Site image, region information, Site type, grid connection method, and Revenue calculation-related parameters.

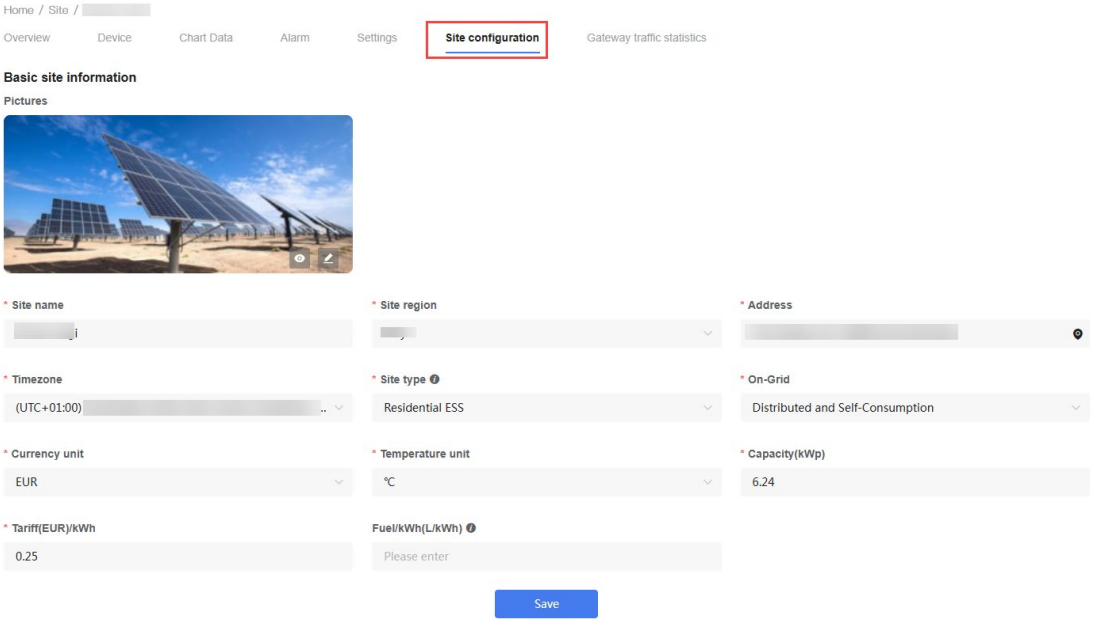


Figure 7-36 Site Configuration

Steps:

1. In the Site list, click the target Site name to enter the Site Details page.
2. Switch to the **Site Configuration** tab.
3. Modify the relevant configuration parameters as needed.
4. Click **Save** to apply the changes.

Setting Descriptions:

Setting	Description
Site Image	Upload or replace the Site photo for Site display. Supports common image formats such as JPG, JPEG, and PNG.
Site Region	Select the country or region where the Site is located.
Site Address	Enter the actual installation address of the Site.

Site Type	Select the Site type, such as Residential PV, Residential PV + Storage, or Commercial & Industrial Storage.
On-Grid	Select the corresponding grid connection method for the Site.
Currency unit	Select the billing category to which the Site belongs.
Temperature Unit	Set the temperature display unit (℃ or ℉).
Capacity	Enter the total installed capacity of the Site.
Tariff per kWh	Enter the local electricity price for Revenue calculation.
Fuel per kWh	Applicable to diesel generator-related scenarios, used for energy saving and emission reduction statistical calculations.

NOTICE!

- Modified configurations immediately affect Site display information and some statistical data calculation results.
- It is recommended to regularly maintain the Site image and basic information to ensure Site information accuracy.
- After modifying parameters such as electricity price and installed capacity, relevant Revenue statistical results may change.

7.2.1.8. Gateway Traffic Statistics

The **Gateway Traffic Statistics** tab is used to view the communication quality and data transmission/reception between Gateways and Devices, helping maintenance personnel analyze communication stability, identify abnormal Devices, and locate potential network issues.

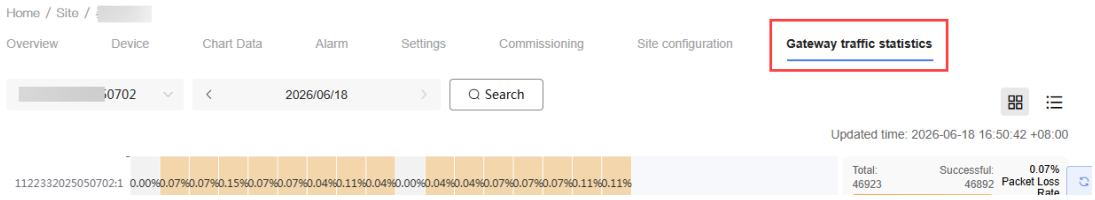


Figure 7-37 Gateway Traffic Statistics

7.2.1.8.1. View Gateway Statistics

1. In the Site list, click the target Site name to enter the Site Details page.
2. Switch to the **Gateway Traffic Statistics** tab.
3. At the top of the page, select the Gateway you wish to view.
4. Select the statistics date.
5. Click **Search** to view the communication statistics results for the corresponding date.

7.2.1.8.2. Heatmap View

The heatmap view uses color intensity to display the communication quality of each Device across different time periods.

The right side of the page displays Device communication statistics information, including:

- Total transmission/reception count
- Successful transmission/reception count
- Packet loss rate

Maintenance personnel can use the heatmap to quickly identify Devices with poor communication quality or abnormal time periods.

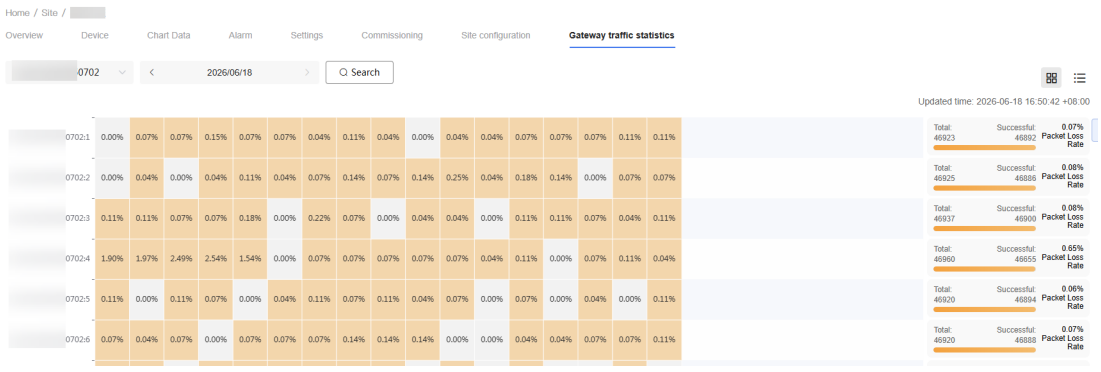
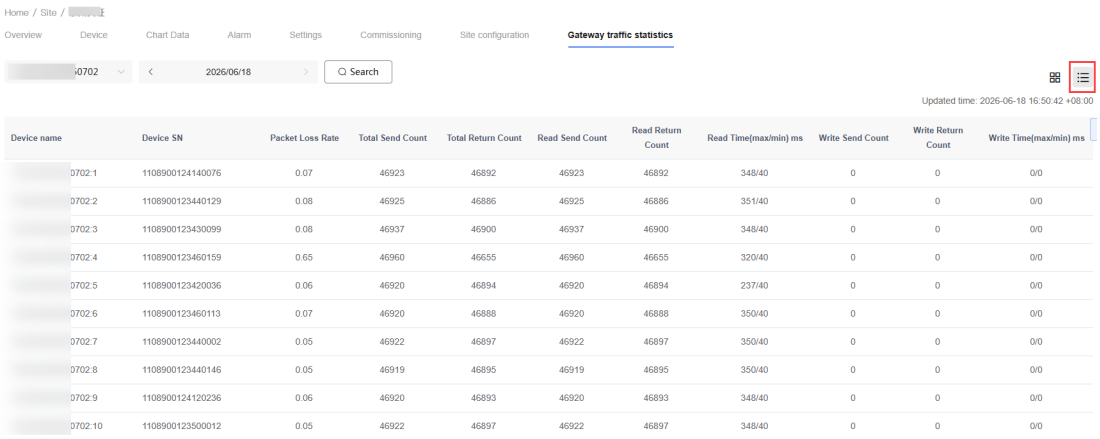


Figure 7-38 Gateway Statistics Heatmap View

7.2.1.8.3. List View

Click the list view icon in the upper-right corner of the page to switch to list mode to view detailed statistics.



Device name	Device SN	Packet Loss Rate	Total Send Count	Total Return Count	Read Send Count	Read Return Count	Read Time(max/min) ms	Write Send Count	Write Return Count	Write Time(max/min) ms
0702:1	1108900124140076	0.07	46923	46892	46923	46892	348/40	0	0	0/0
0702:2	1108900123440129	0.08	46925	46886	46925	46886	351/40	0	0	0/0
0702:3	1108900123430099	0.08	46937	46900	46937	46900	348/40	0	0	0/0
0702:4	1108900123460159	0.65	46960	46655	46960	46655	320/40	0	0	0/0
0702:5	1108900123420036	0.06	46920	46894	46920	46894	237/40	0	0	0/0
0702:6	1108900123460113	0.07	46920	46888	46920	46888	350/40	0	0	0/0
0702:7	1108900123440002	0.05	46922	46897	46922	46897	350/40	0	0	0/0
0702:8	1108900123440146	0.05	46919	46895	46919	46895	350/40	0	0	0/0
0702:9	1108900124120236	0.06	46920	46893	46920	46893	348/40	0	0	0/0
0702:10	1108900123500012	0.05	46922	46897	46922	46897	348/40	0	0	0/0

Figure 7-39 Gateway Statistics List View

7.2.1.9. Electricity Price Configuration

The **Electricity Price Configuration** tab is used to manage the electricity price schemes of the Site. It shows the currently effective scheme and its 24-hour price trend, and provides a list of all schemes with their status and effective scope. Use **New configuration scheme** to create a new scheme, and use the list operations to edit or delete schemes.

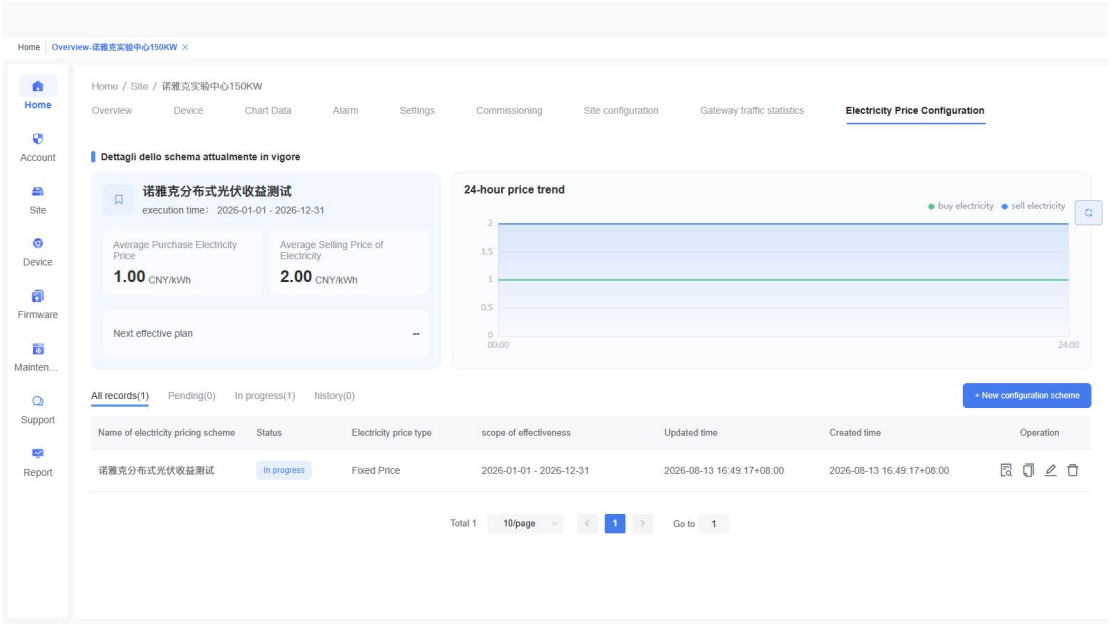


Figure 7-40 Electricity Price Configuration

7.2.1.9.1. Create New Configuration scheme

Steps:

1. On the **Electricity Price Configuration** tab of the Site Details page, click **+ New configuration scheme.**

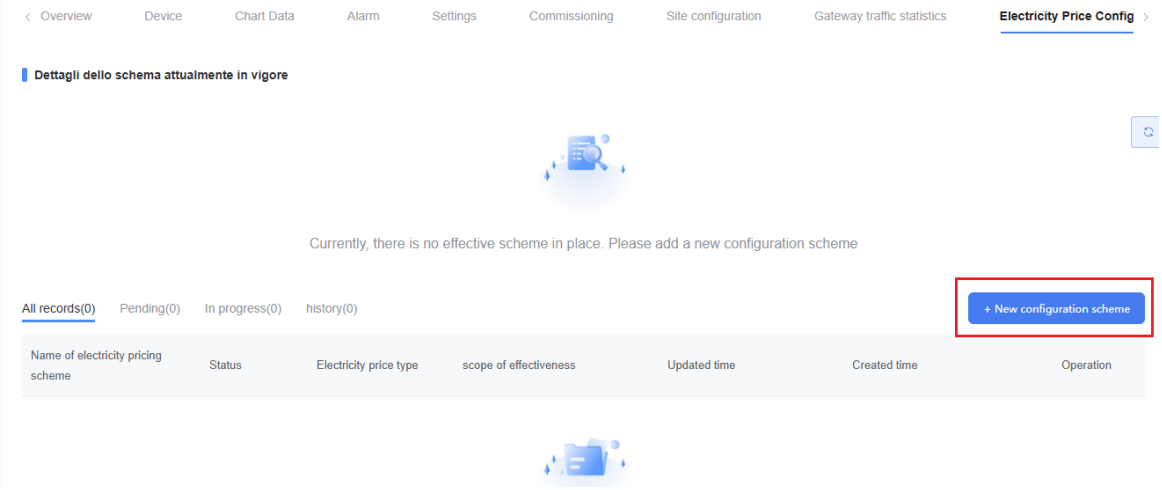


Figure 7-41 New Configuration scheme

2. In the scheme editor, enter a name in **Name of electricity pricing scheme**.

3. Set the effective period: in **Effective Date**, select the start time and the end time. The scheme is applied automatically during this period.
4. In **Select Time Zone**, select the time zone of the Site.
5. Configure the power purchase tariff: under the power-purchase section, select the electricity pricing type in Select electricity pricing type:
   - Fixed Price: one price applies for all 24 hours
   - Time-of-Use: peak, normal, and off-peak rates for 24 hours
   - Time-of-use electricity pricing (weekdays + weekends): different rates for weekdays, weekends, or seasons.
6. Then enter the prices:
   - For Fixed Price, enter the single price in Price
   - For the Time-of-Use types, enter the price of each time period in the 24-hour electricity price distribution table.
7. Configure the selling price of electricity in the same way in the selling-price section.
8. To reuse existing prices, click "*Quoting the electricity selling price*" to copy the selling prices into the power-purchase section, or click "*Reference the electricity purchasing price*" to copy the purchasing prices into the selling-price section.
9. After the configuration is complete, click **Save**. The new scheme is added to the scheme list of the tab and is applied from the effective start date.

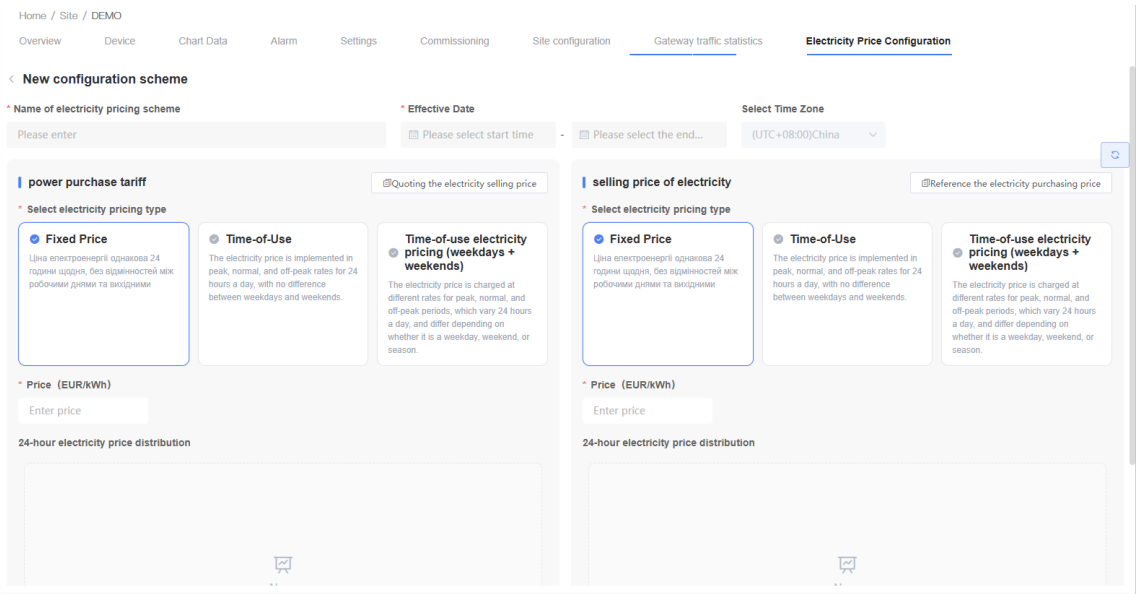


Figure 7-42 Create New Configuration scheme

7.2.2. Site Details for Integrated ESS

Integrated storage sites managed via Local Controller display the following operational tabs:

C&I ESS and Utility ESS Sites are accessed through a Local Controller (LC). The page contains the following tabs:

- Real-Time Monitoring: Overall site operating state, SOC, battery power, and high-voltage grid metrics.
- Device Overview: Navigable hierarchical Device Tree (Substation > PCS Group/ BMS Clusters / Meters). Click **More Information** on any device to access its individual Details, Chart Data, Alarms, Settings, and Fault Recording waveforms.
- Chart Data
- Primary Wiring Diagram: Automatically generated single-line diagram (SLD) showing physical electrical topologies and switchgear states.
- Alarm management
- Site configuration
- Electricity Price Configuration
    - The Site configuration and Electricity Price Configuration tabs are shared with Gateway-accessed Sites; their descriptions are given in *7.2.1.9 Electricity Price Configuration*.
- Operation Log: Full audit trail recording operator name, operation page, modified module, and precise timestamps.

7.2.2.1. Real-Time Monitoring

The **Real-Time Monitoring** tab is the first tab of the Site Details page of energy storage Sites. It provides a real-time overview of the Site, including the operating state, power and energy flows, and the status of the energy storage system.



Figure 7-43 Real-Time Monitoring

7.2.2.2. Device Overview

The **Device Overview** tab is the central telemetry and asset management console for integrated ESS site connected via a Local Controller (LC).

The Device Overview tab displays the hierarchical device tree of an integrated ESS site on the left and the real-time operational data of the selected node on the right.

Users can monitor the operating status of substations, local controllers, PV inverters, PCS units, BMS clusters, and public auxiliary equipment, or open the **More Information** drawer to perform detailed diagnostic operations.

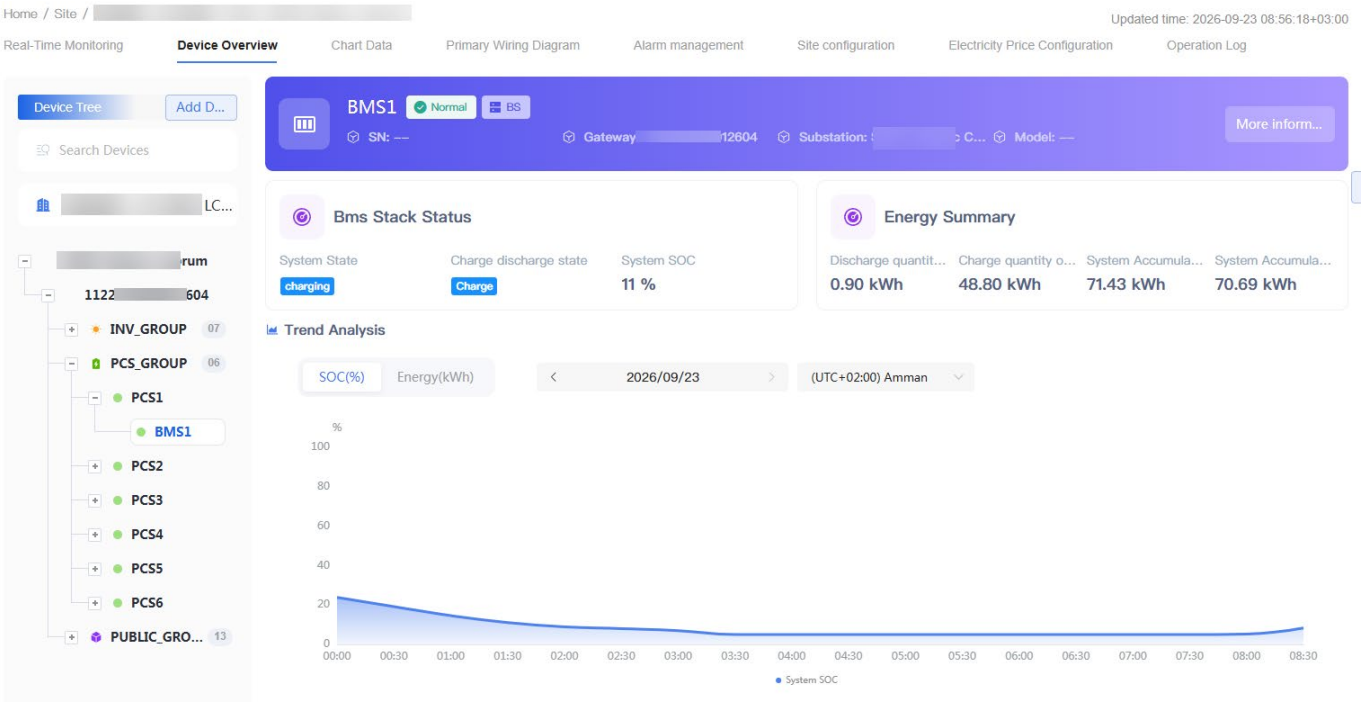


Figure 7-44 Device Overview

7.2.2.2.1. Device Tree Hierachy

The Device Tree is a navigation panel located on the left side of the screen. It organizes all site devices into a five-level hierarchical structure. Selecting any node in the tree loads its corresponding data on the right-side panel.

Interface Operations

- Search Devices: Enter a device name or keyword into the *Search Devices* bar at the top of the panel to locate a specific node.
- Add Device: Click the **Add Device** button in the top-right corner to register a new device.
- Expand/Collapse Nodes: Click the **+** icon to expand a group and view its sub-devices. Click the **-** icon to collapse it.
- Select Nodes: Click any node to view its data on the right panel.
- Status Badges: A gray numeric badge (e.g., *0*, *06*, *13*) next to a group name indicates the total number of connected units within that group.

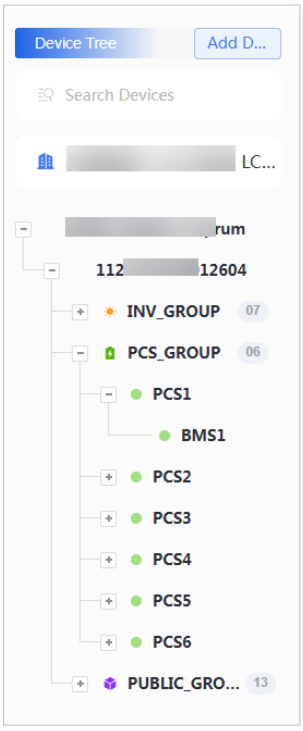


Figure 7-45 Device Tree

Hierarchy Levels

The device tree consists of five hierarchical levels. Selecting any node in the tree loads its corresponding data on the right-side panel.

```
Level 1: Substation
└── Level 2: Local Controller (LC SN)
    ├── Level 3: INV_GROUP (PV Inverters)
    │   └── Level 4: INV1 ~ INVn (PV Inverter Units)
    ├── Level 3: PCS_GROUP (Storage PCS)
    │   └── Level 4: PCS1 ~ PCSn (Individual PCS Units)
    │       └── Level 5: BMS1 ~ BMSn (Battery Clusters / Stacks)
    └── Level 3: PUBLIC_GROUP (Auxiliary Equipment)
        └── Level 4: Auxiliary Devices (TRA, TH, IPD, METER, Liquid cooling machine)
```

- **Substation**

The root node representing the entire site. Displays site-level overview, revenue summary, and energy statistics.

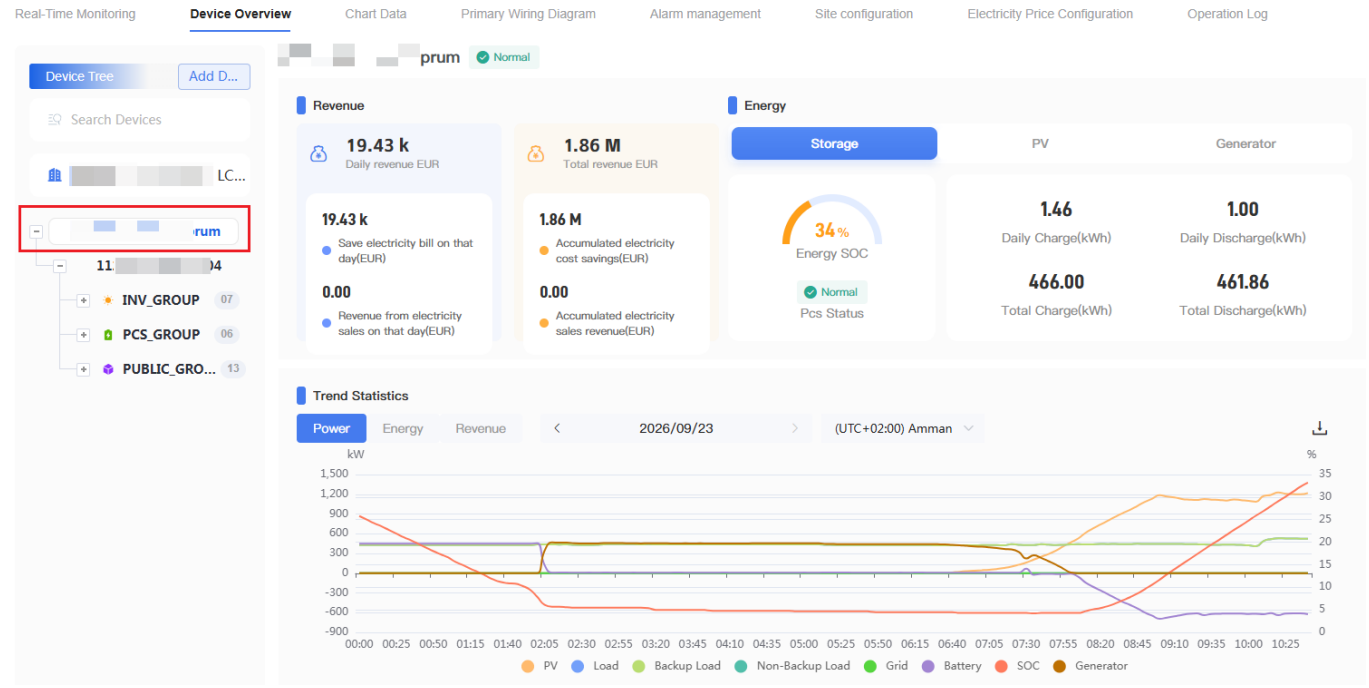


Figure 7-46 Substation Overview

- **Local Controller**

The main control node for the site. Displays hardware status, resource usage, and provides access to remote control entry.

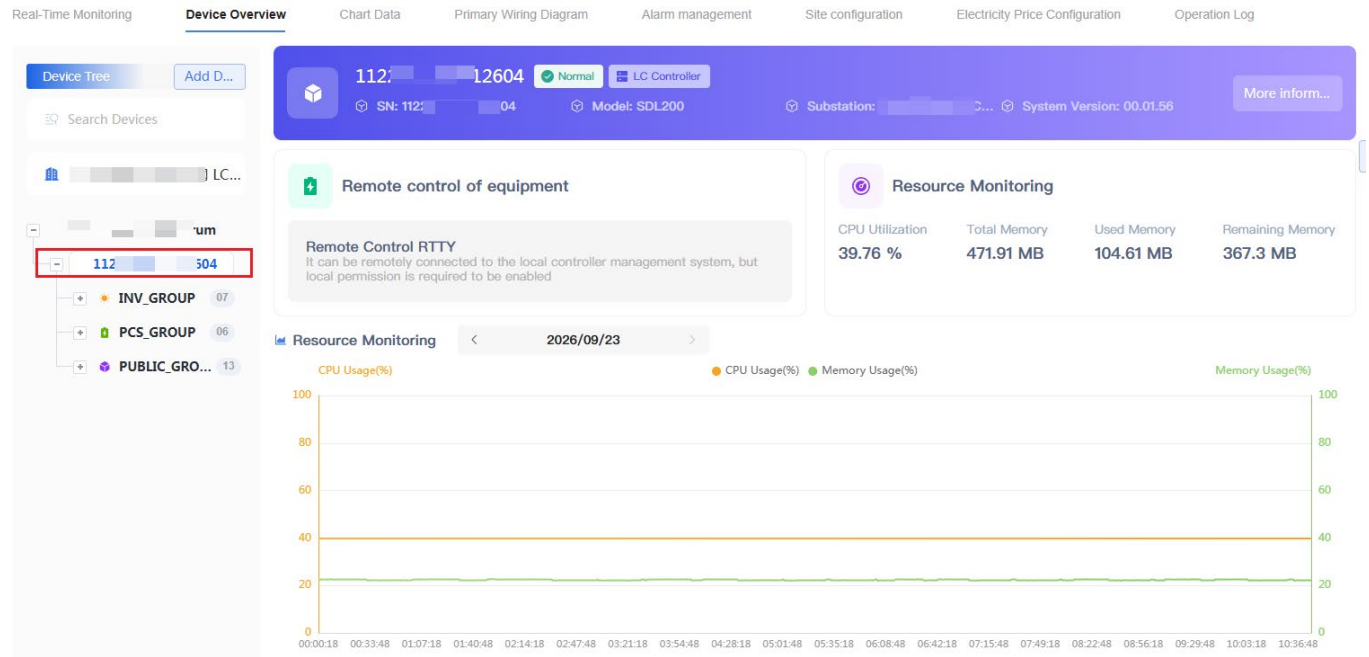


Figure 7-47 Local Controller Overview

- **INV_GROUP**

Contains PV Inverters. (e.g., INV1) Displays Inverter status, active/reactive power, power factor, daily/total yield, and power trend curves.

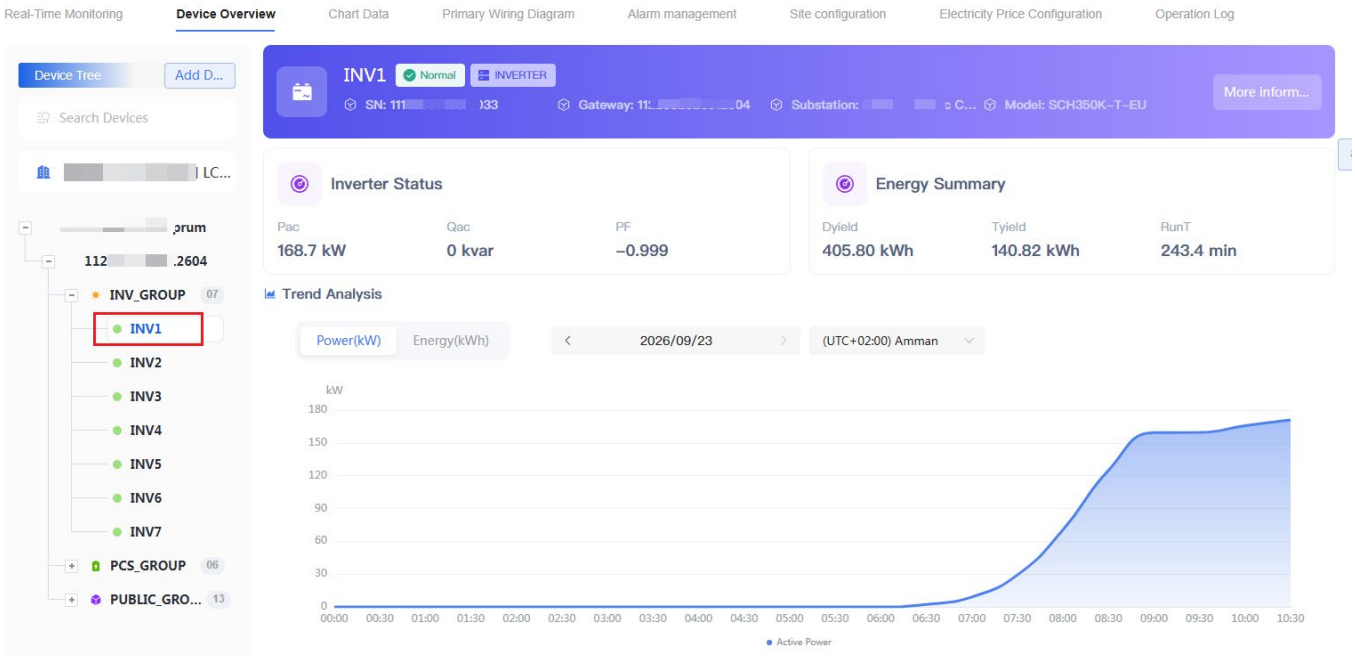


Figure 7-48 Inverter Overview

- **PCS_GROUP**

Contains PCS Units (e.g., PCS1-PCS6) and the its subordinate BMS battery clusters (e.g., BMS1).

- PCS1 ~ PCSn: expanding PCS_GROUP reveals individual units such as PCS1, PCS2, ect. Display PCS status, battery stack SOC, charge/discharge state, grid-connection status, active power, daily/total energy, and trend curves.

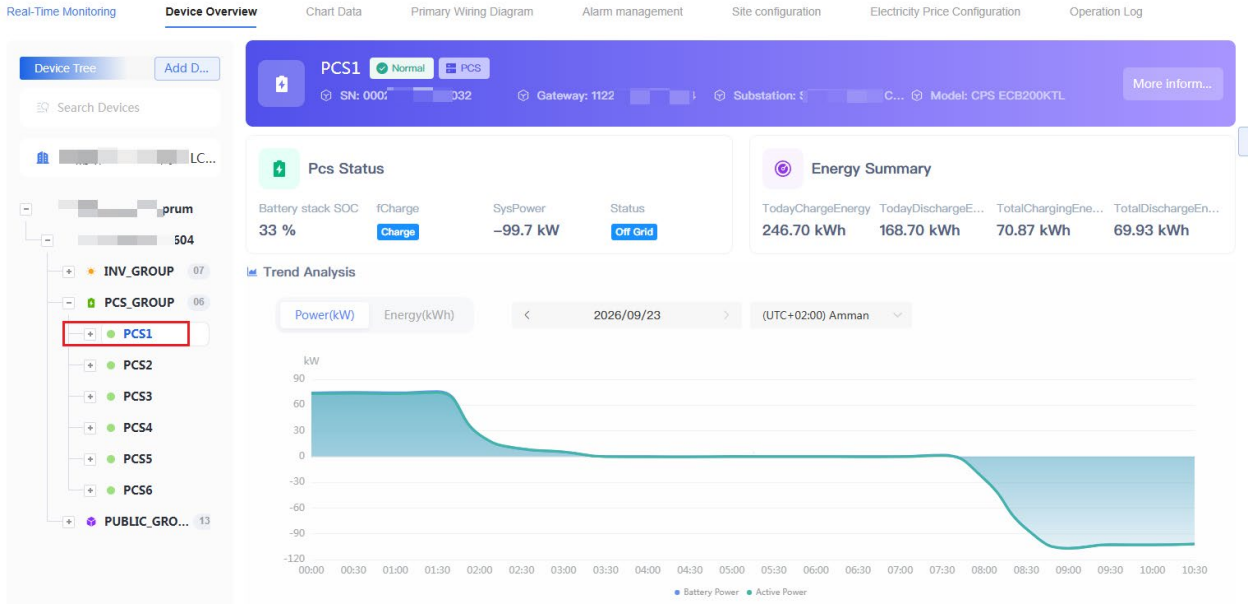


Figure 7-49 PCS Overview

- BMS: Subordinate components connected to a specific device. For example, expanding an individual PCS node (PCS1) reveals its subordinate BMS battery clusters (BMS1). Displays Battery stack status, charge/discharge state, stack SOC, daily/cumulative energy, and SOC trend curves.

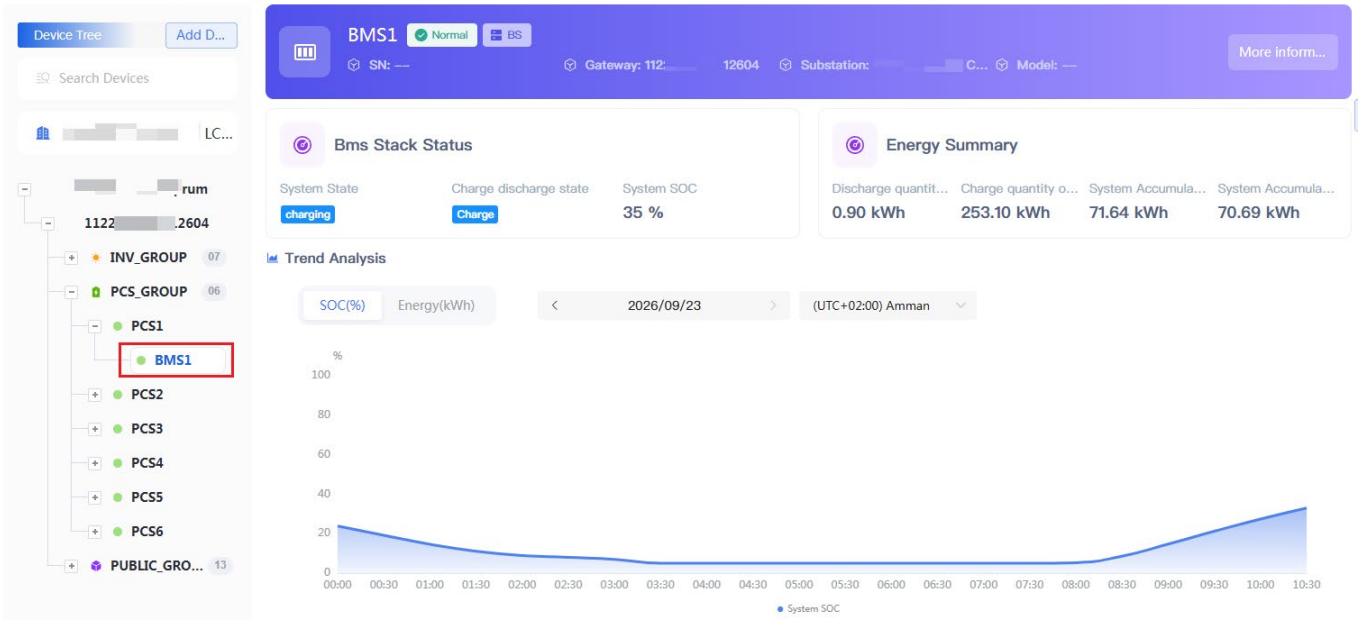


Figure 7-50 BMS Overview

- **PUBLIC_GROUP**

Contains public auxiliary equipment. Expanding PUBLIC_GROUP reveals specific auxiliary equipment, including:

- TRA: Transformers
- TH: Thermostats
- IPD: Integrated Protection Devices
- METER: Electricity Meters
- Liquid cooling machine: Liquid Chillers

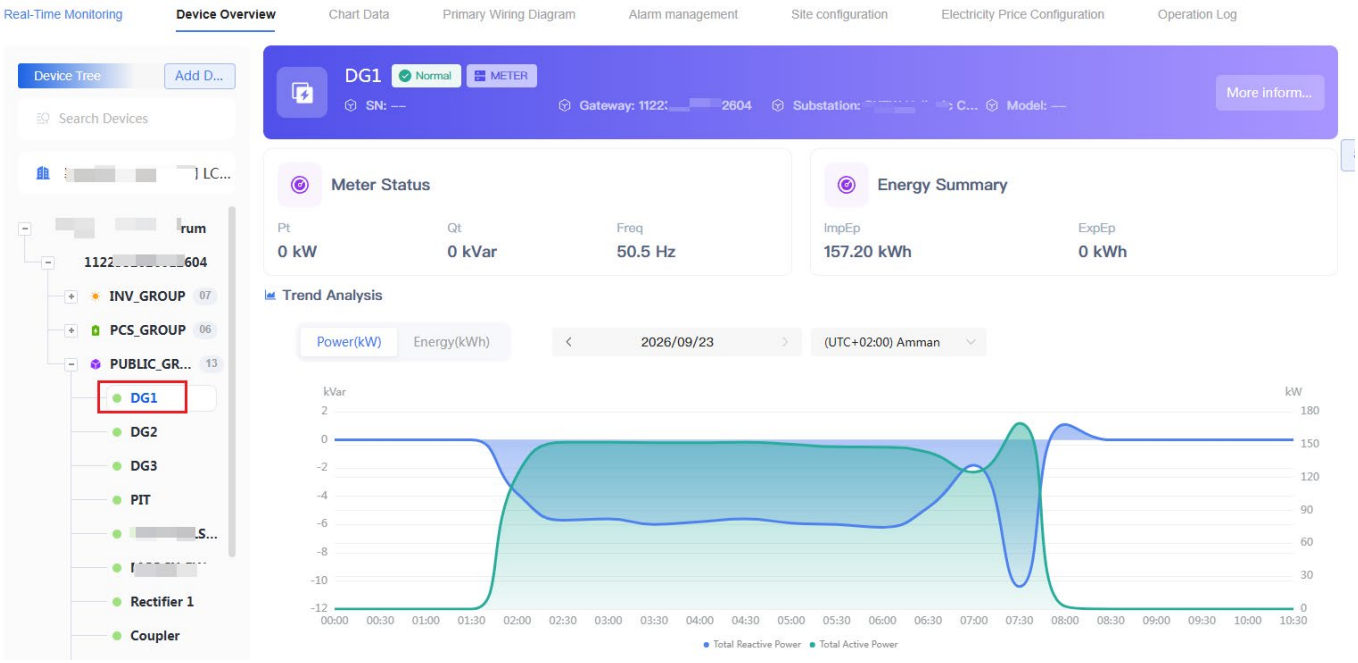


Figure 7-51 Public Auxiliary Equipment Overview

7.2.2.2.2. More Information

After you select a Device in the Device Overview tab, click **More information** in the upper-right corner of the device header opens a slide-out drawer with advanced diagnostic and configuration tools..

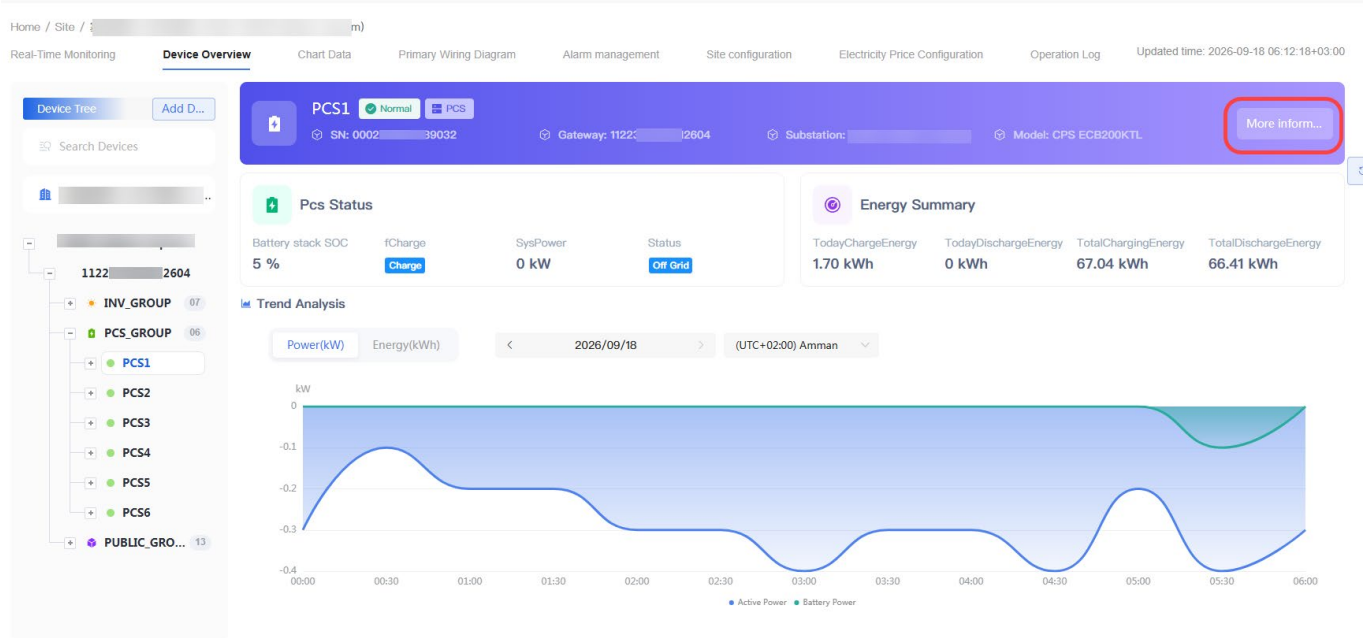


Figure 7-52 More information

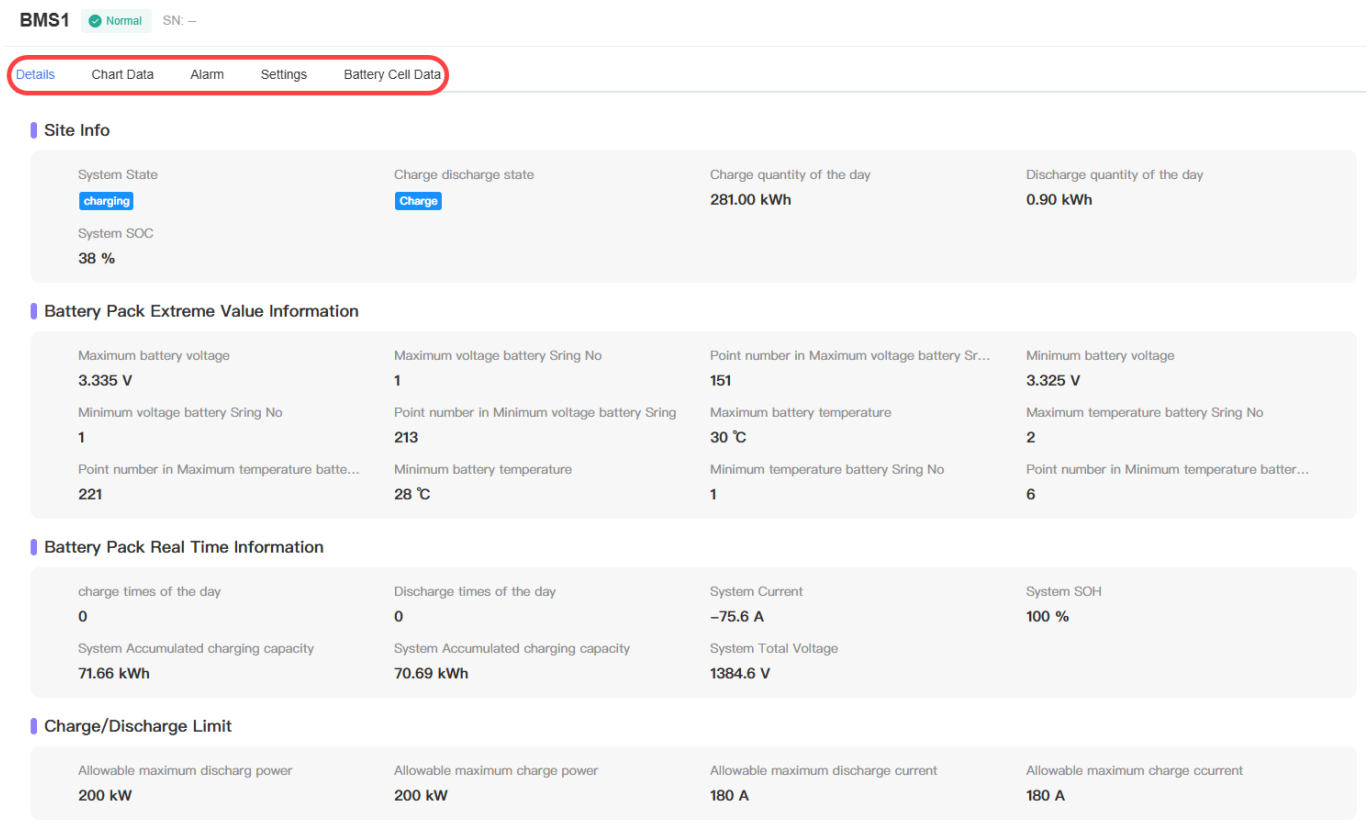


Figure 7-53 More Information Drawer

The tabs available in the drawer vary depending on the device type:

Table 7-3 More Information Drawer Feature Matrix

Device Type	Details	Chart Data	Alarm	Settings	Fault Recording	Battery Cell Data
Local Controller (LC)	✓	✓	✓	✓	—	—
PV Inverter (INV)	✓	✓	✓	✓	✓	—
PCS	✓	✓	✓	✓	✓	—
BMS	✓	✓	✓	✓	—	✓
Public Auxiliary Devices (TRA, TH, IPD, METER, Liquid cooling)	✓	✓	✓	✓	—	—

Details

The Details tab displays the real-time operating data of the selected Device. The data items displayed depend on the Device type and the Device model.

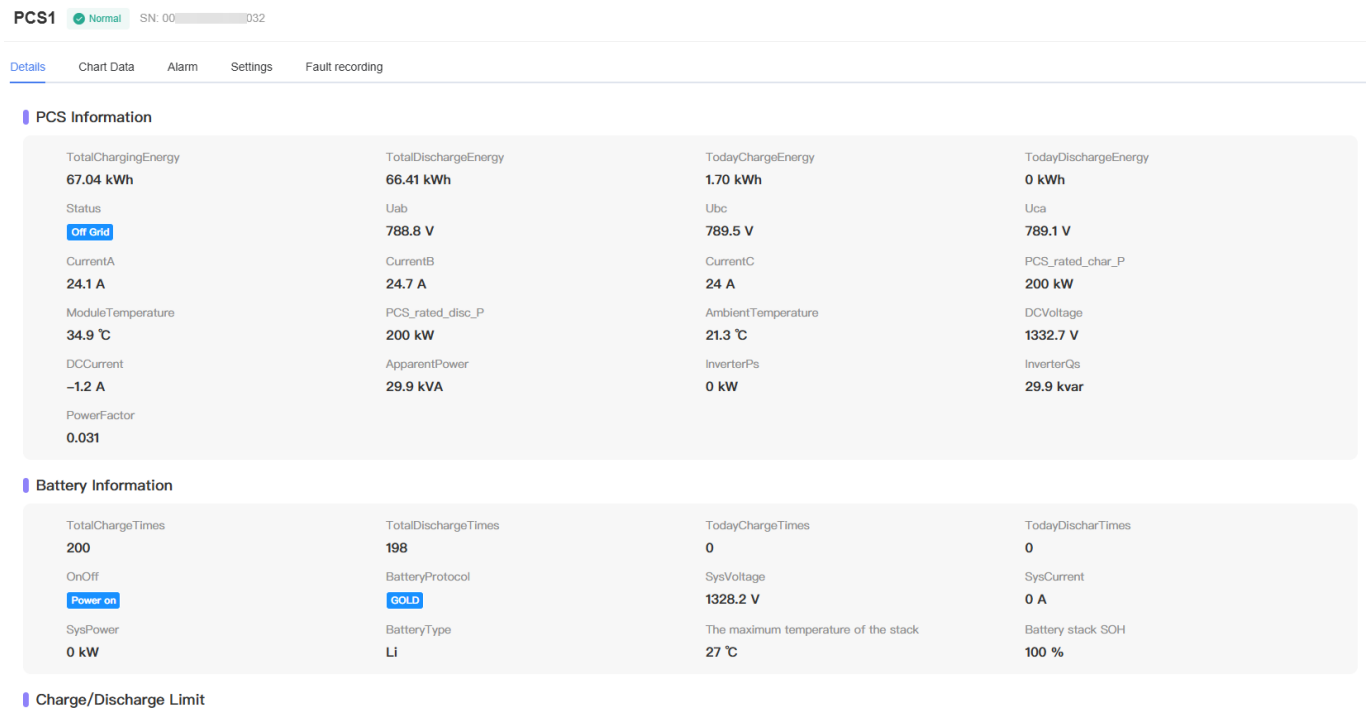


Figure 7-54 More information - Details

Chart Data

The Chart Data tab displays the historical operating curves of the selected Device.

Steps:

1. Time Range: Select a period (Day, 3Day, Week) or customize Start/End Date.
2. Settings: Choose the Time Zone and Refresh Interval.
3. Search: Click **Search** to load the chart. Use the icons on the right side of the chart to switch the chart type, view the data as a list, or download the data

Advanced Filtering & Tools:

- Filter Measurement Points: Click **Filter measurement points** to select the measurement points to be displayed.
- Quick Tools (icons on the right side of the chart):
  - Switch the chart type
  - View the data as a list
  - Download the data

The Y-axes are adjusted automatically according to the selected measurement points. If the Device has a large number of measurement points, the charts are displayed on multiple pages; switch between the pages below the chart.



Figure 7-55 More information - Chart Data

Alarm

The Alarm tab displays the Alarm events of the selected Device. Set the filter criteria at the top of the page, and then click Search:

- Alarm type: select the Alarm type.
- Alarm Info: enter a keyword contained in the Alarm information.
- Time range: select the start date and the end date.
- Time zone: select the time zone in which the Alarm time is displayed.

The Alarm list displays the Alarm type, time, fault code, Alarm information, status, and operation. Click Download to export the Alarm records.

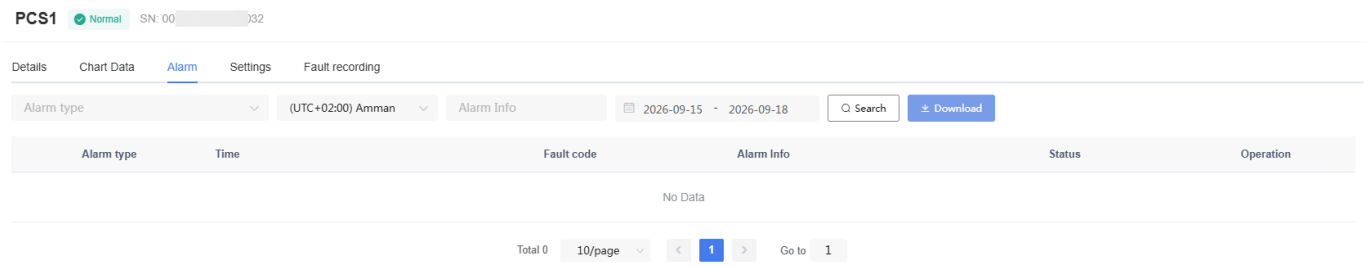


Figure 7-56 More information - Alarm

Settings

The Settings tab is used to remotely view and modify the parameters of the selected Device. Select a parameter group in the list on the left side of the page, and then locate the parameter on the right side of the page.

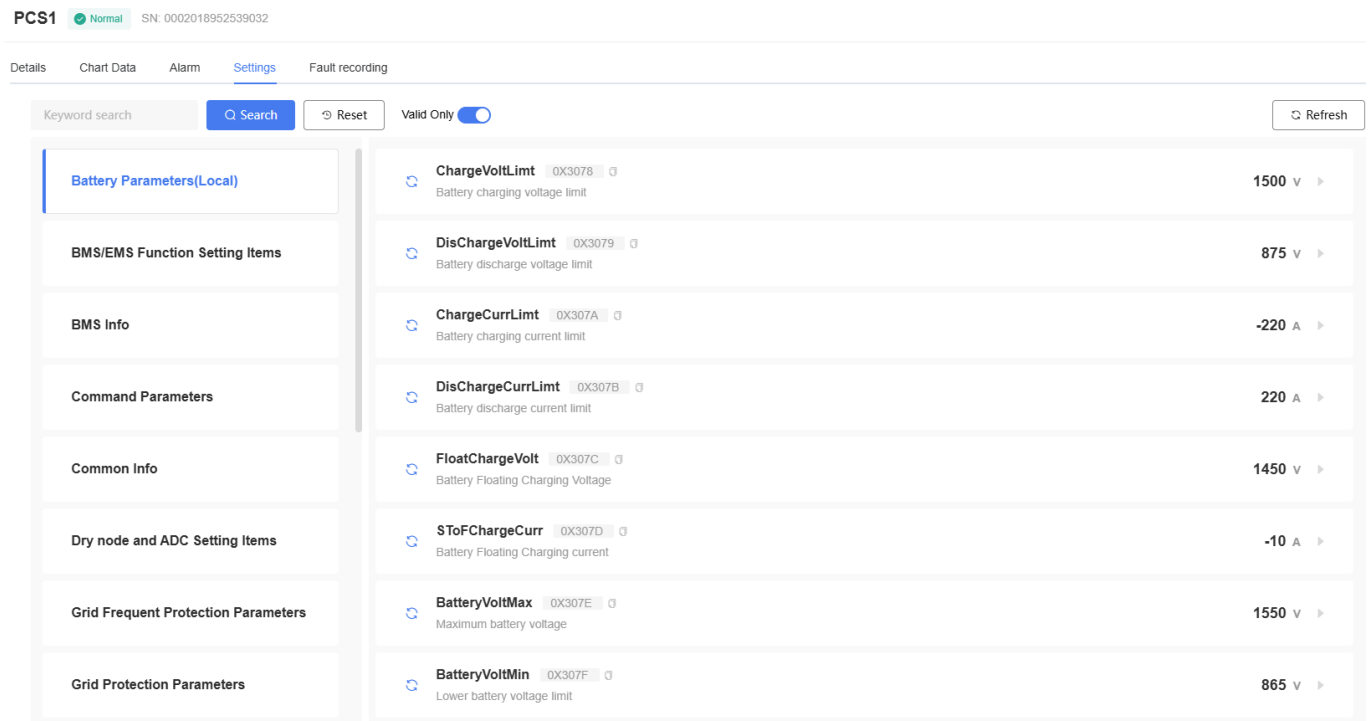


Figure 7-57 More information - Settings

Fault Recording

The Fault Recording tab is used to record and read the fault waveform data of the selected Device. The tab contains the Device record and Cloud record sub-tabs. The Device record tab provides the following operations:

- Primary DSP recording: manually trigger a recording of the primary DSP.
- Recording from DSP: manually trigger a recording from the DSP.
- Main DSP setting and Set from channel: configure the recording channels and the automatic trigger conditions.

The Device record list displays the Date, Status, Data index, and Operation of each recording. Click Read to obtain the recording data of a record, and click **Refresh** to update the list. The fault recording function is available only for the Devices that support it.

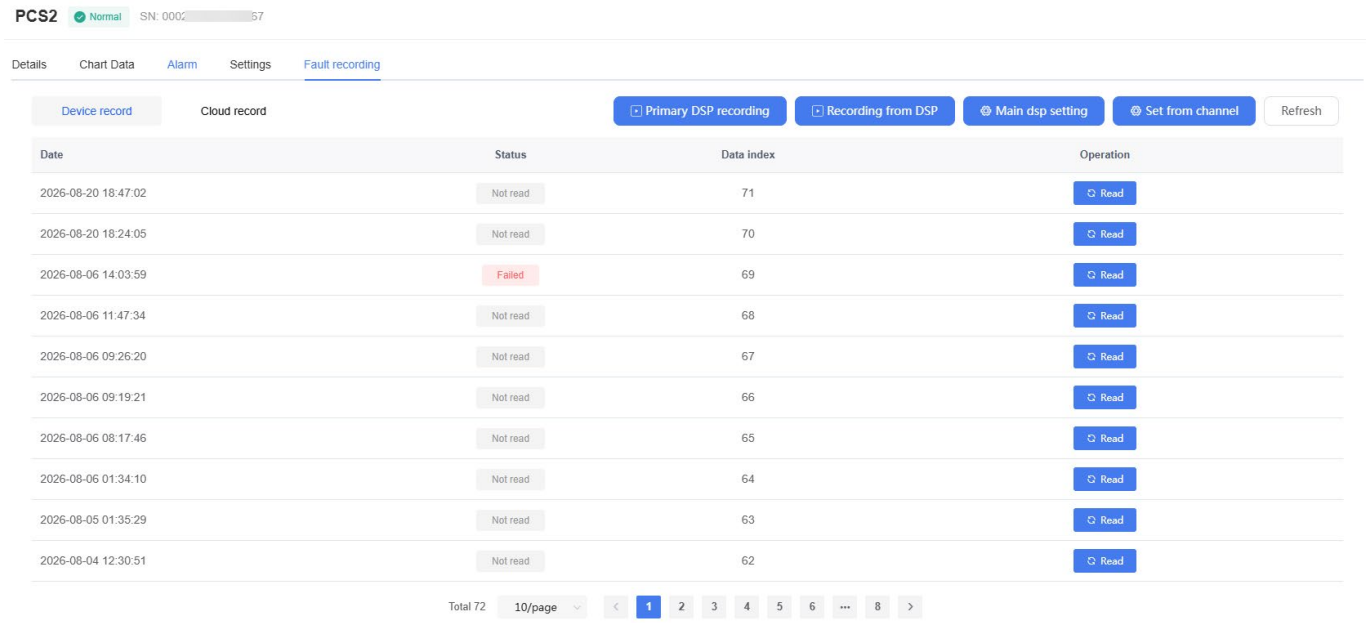


Figure 7-58 More information - Fault Recording

Battery Cell Data

The Battery Cell Data tab displays the real-time cell data of the selected BMS Device and helps evaluate the consistency of the battery cells. The tab is available only for the Battery Management System (BMS) Devices of an Integrated ESS Site.

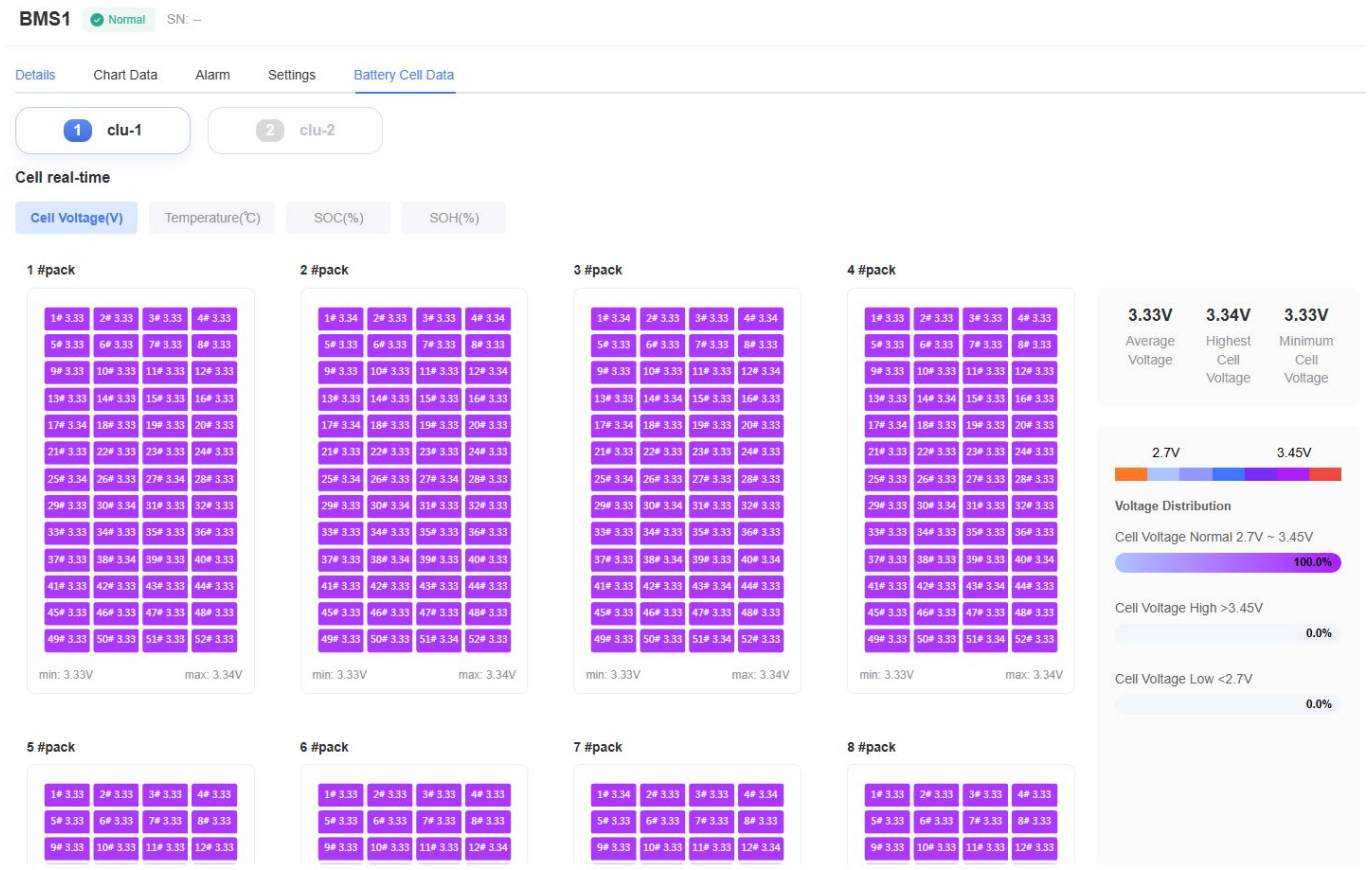


Figure 7-59 More information - Battery Cell Data

7.2.2.3. Chart Data

The **Chart Data** tab is used to view the historical operating data and trend charts of the Devices of the energy storage Site. Its functions are the same as those of the **Chart Data** tab of the Standard and Standalone PCS Sites layout described in *7.2.1.3 Chart Data*. For an energy storage Site, the selectable Devices are the energy-storage Devices read through the Local Controller, including PCS, BMS, PV Inverters, and Electricity Meters under each Substation.

Steps:

1. Select the Device model to be viewed.
2. Select the Device: in the Device tree, expand the target Substation and select one or more Devices (up to 5 Devices at a time).
3. Click **Filter Measurement Points** and select one or more measurement points to be viewed (up to 20 measurement points at a time).
4. Select the chart type.
5. Select a statistics period by clicking a quick period button ("Day", "3Day", or "Week"), or define a custom time range by entering a "Start date" and an "End date".
6. Select the data display time zone.
7. View the trend data in the chart area.

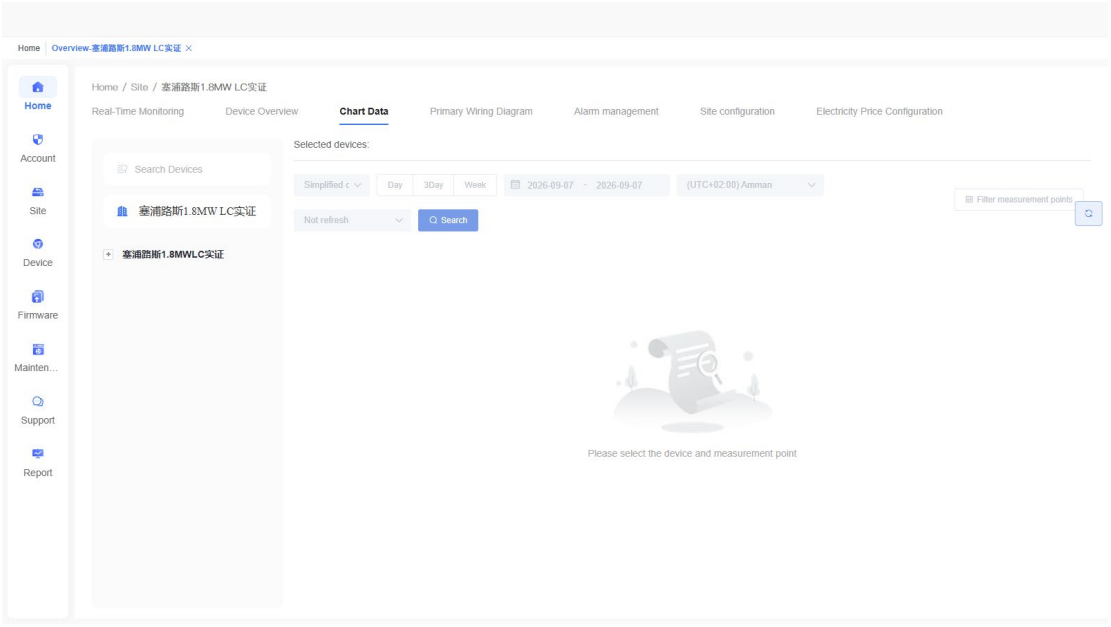


Figure 7-60 Chart Data

7.2.2.4. Primary Wiring Diagram

The Primary Wiring Diagram tab displays the single-line diagram of the energy storage Site. The diagram is updated automatically and shows the connection relationships between the Site devices.

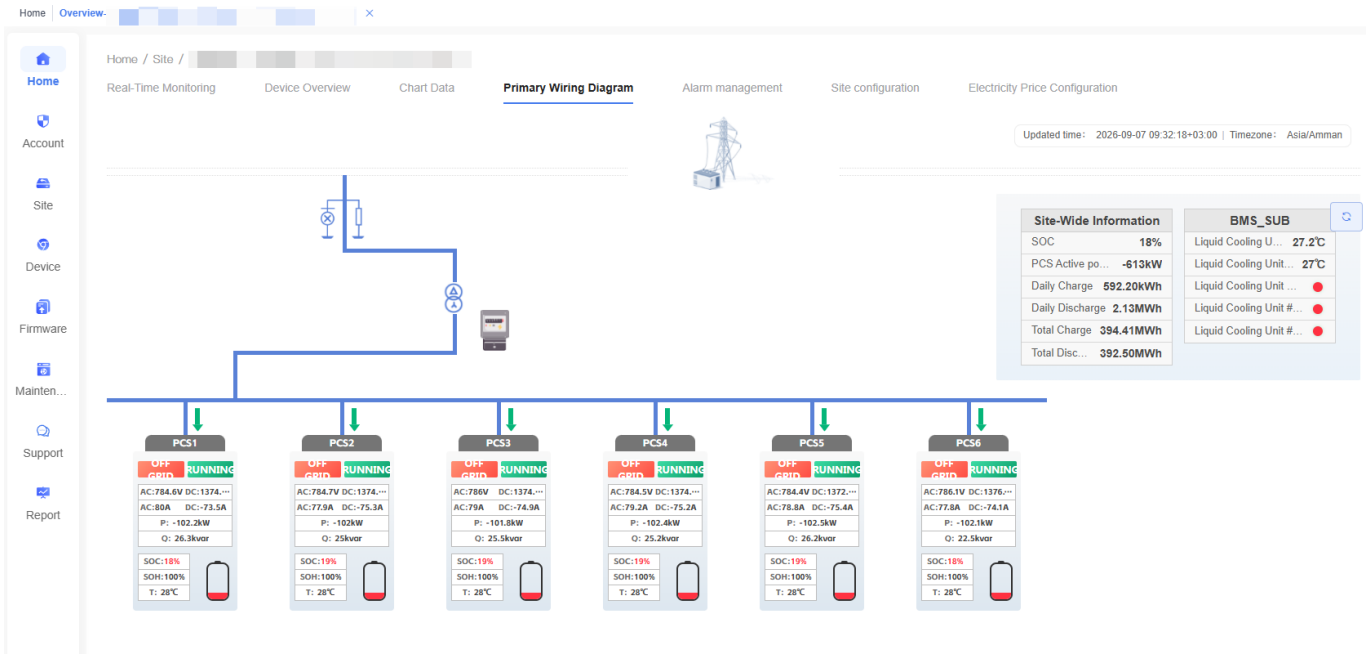
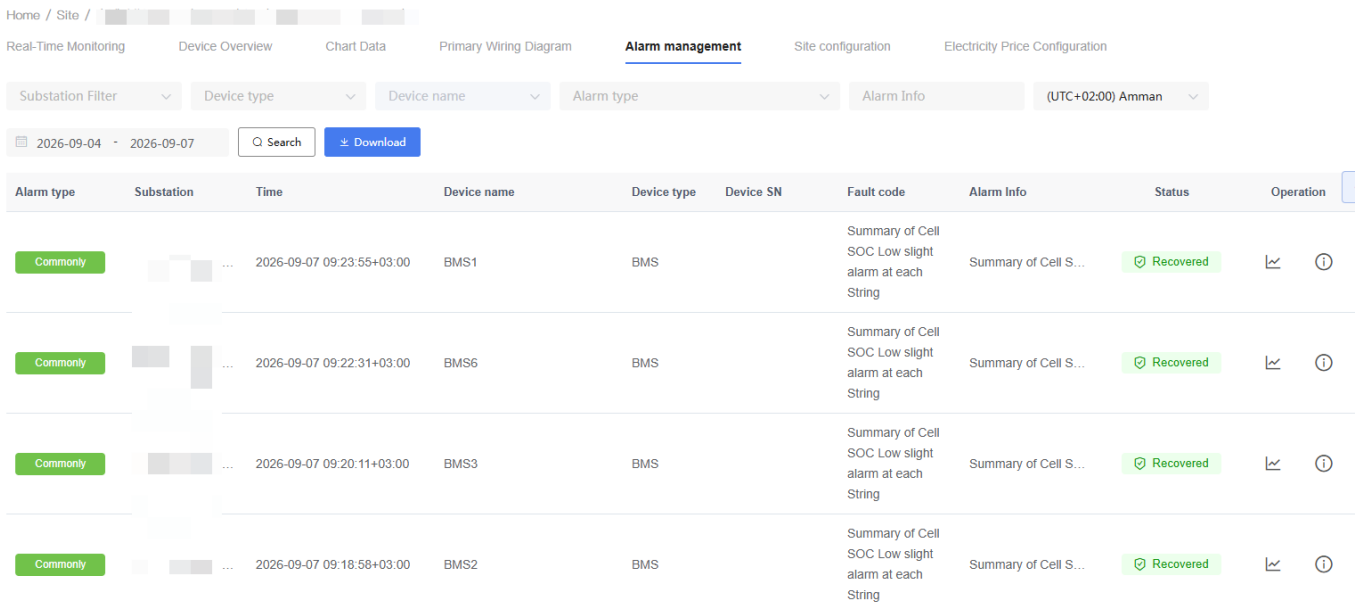


Figure 7-61 Primary Wiring Diagram

7.2.2.5. Alarm Management

The **Alarm Management** tab shows the Alarm events of the Site, and the search and operation functions are the same as those of the **Alarm** tab described in *7.2.1.4 Alarm*.



7.2.2.6. Site Configuration

The Site Configuration tab is used to maintain the basic information of the energy storage Site and to configure the Substations of the Site. This tab additionally provides the Project name, the Substation Information section, and the Energy Storage Parameters. The tab contains the following sections:

- Basic site information: maintain the site picture, Project name, Site name, Site region, Timezone, Address, Site type, Temperature unit, and Currency unit.
- Owner Information: displays the Name, Email, and Mobile of the Site owner. Click the edit icon to modify the owner information.
- Other Information: displays the Operator, Contact, and Created time of the Site. This information is read-only.
- Substation Information: each Substation of the Site is displayed in a separate card, which shows the Substation SN and provides the following configuration items:
  - Substation Name and Substation Address.
  - Project status and Commissioning date.
  - Energy type: select Storage, PV, and/or Generator according to the equipment actually installed in the Substation.
  - On-Grid: select the grid connection method of the Substation.
  - Energy Storage Parameters: enter the Rated Power (kW) and the Installed Capacity (kWh), and select the Energy Storage Product Model.

After modifying the configuration, click Save to apply the changes.

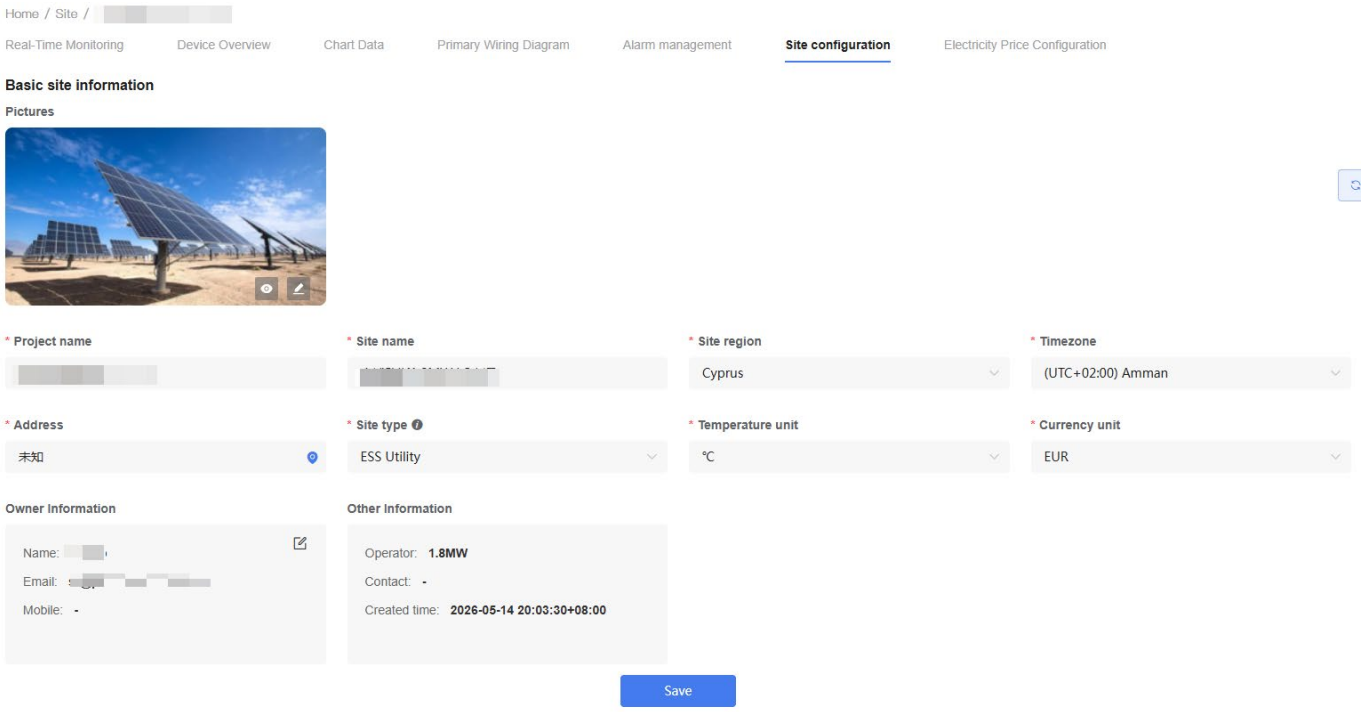


Figure 7-62 Site Configuration - Basic Information

To remove a Substation, click Delete in the upper-right corner of the corresponding Substation card. Note that the grid connection method and the capacity parameters are configured for each Substation rather than for the whole Site.

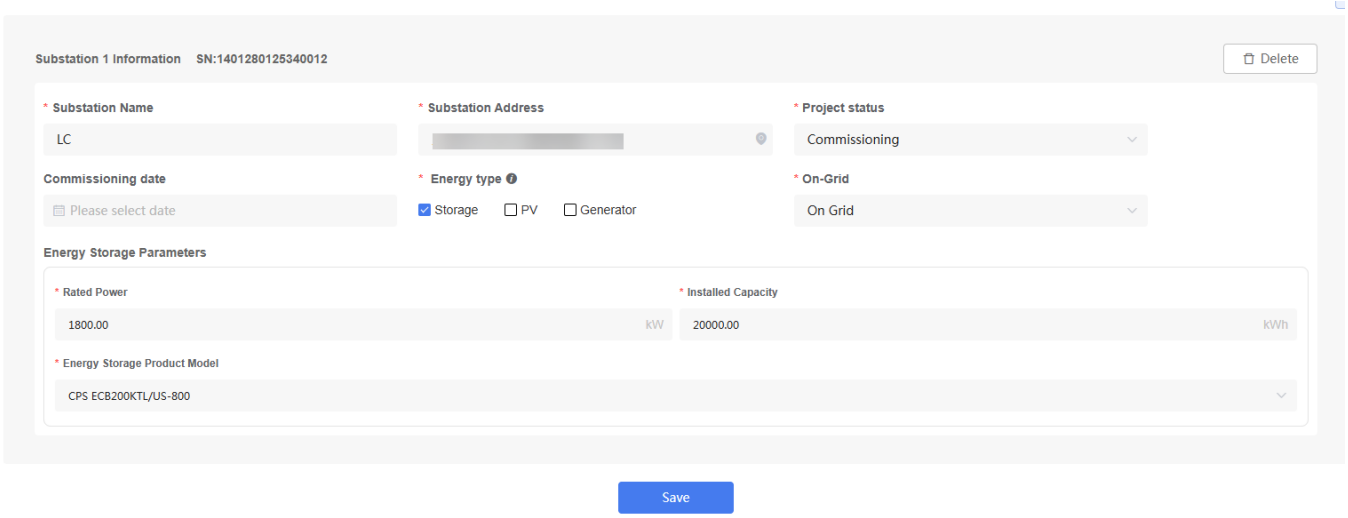
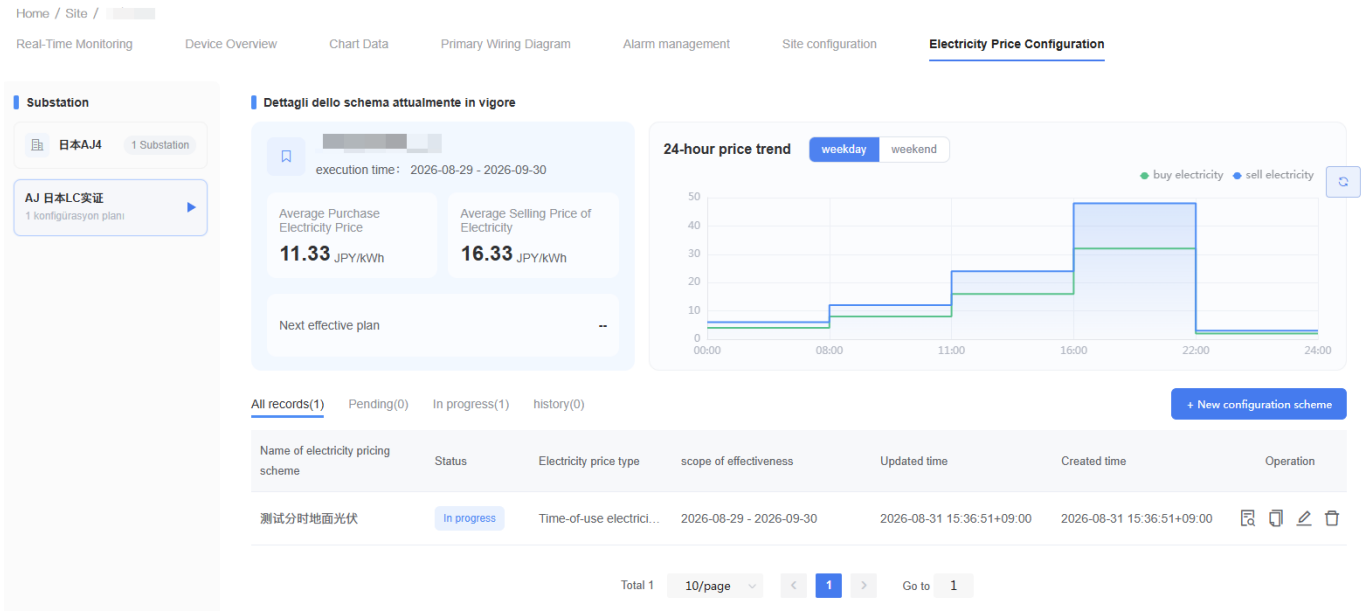


Figure 7-63 Site Configuration - Substation Information

7.2.2.7. Electricity Price Configuration

The **Electricity Price Configuration** tab is used to manage the electricity price schemes of the energy storage Site, and its functions and operations are the same as those of the "Electricity Price Configuration" tab described in *7.2.1.9 Electricity Price Configuration*.



7.2.2.8. Operation Log

The **Operation Log** tab records the operations that are performed on the Site and its Devices, so that the operations can be traced. The log list displays the Number, Site name, Substation Name, Operation Page, Operation Module, Operator, Operation time, and Operation of each record.

Steps:

1. Set the filter criteria as required:

- Substation Filter: select the Substation to be queried.
- Operation Page: select the page on which the operation was performed.
- Operation Module: select the operation module.
- Operator: select the operator. By default, the operations of all users are displayed.
- Time zone: select the time zone in which the operation time is displayed.
- Date range: select the start date and the end date.

2. Click **Search** to view the operation records that match the criteria.
3. Click the refresh icon in the upper-right corner of the list to refresh the records.

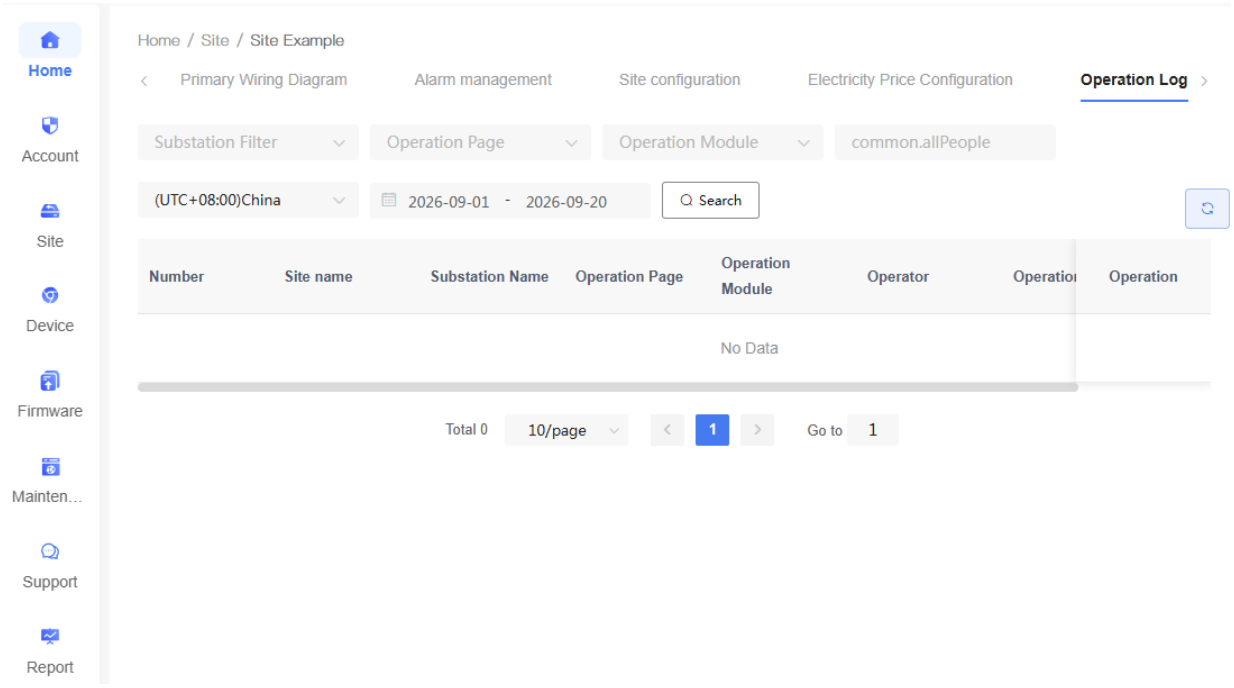


Figure 7-64 Operation Log

7.3. System Center

System Center is used to view the operating status and basic information of energy storage systems.

The System Center list displays information including status, Site name, Site type, Site location, installed capacity, SOC, creation time, and update time.

You can filter by status or enter a Site name to search.

Click the Site name to enter the corresponding EMS system for monitoring and management.

NOTICE!

System Center only displays commercial and industrial energy storage and utility-scale energy storage systems that are connected to the EMS system. The actual range of viewable systems depends on the current account permissions.

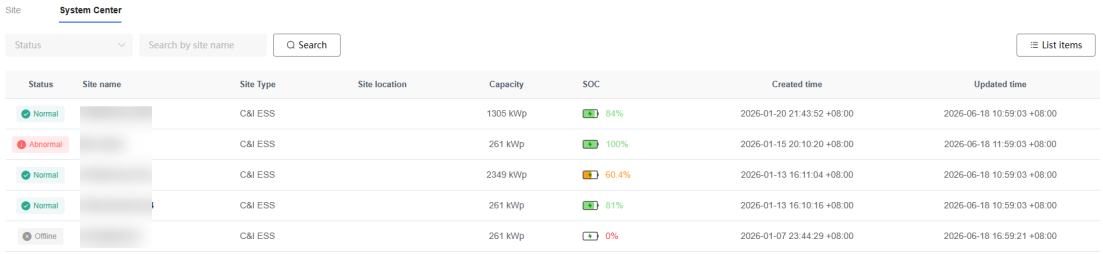


Figure 7-65 System Center

8. Device

The Device module provides centralized monitoring, deep parameter configuration, firmware maintenance, and diagnosis for all equipment across your sites.

To access the Device page: Click **Device** in the left navigation bar. The **Device** page includes the following Device categories:

- Inverter
- Gateway
- Electricity Meter

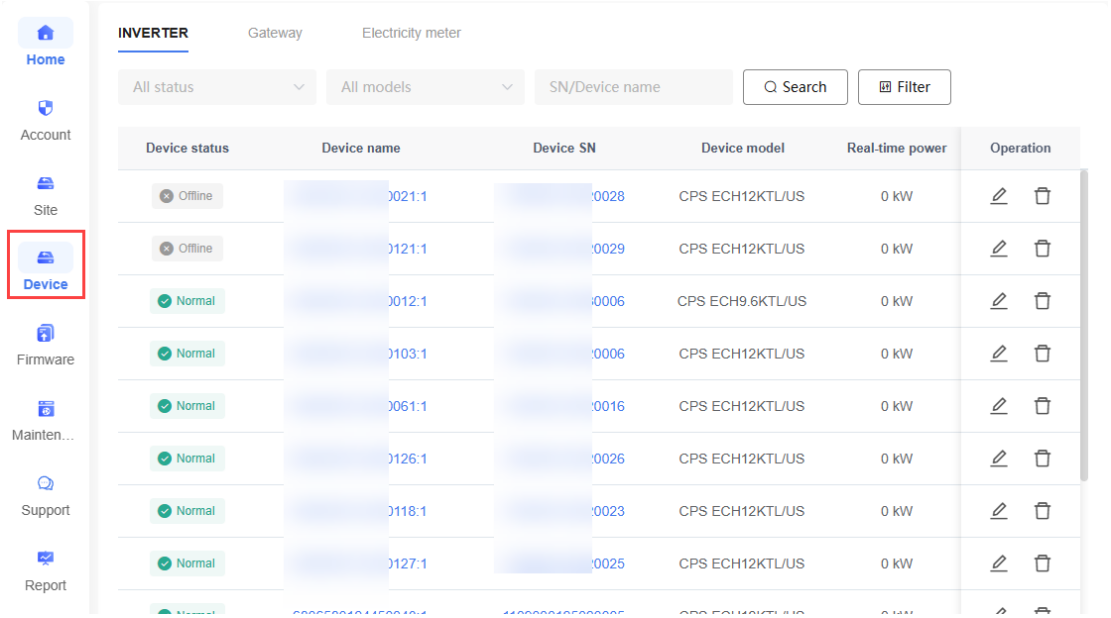


Figure 8-1 Device

8.1. Inverter

The Inverter centrally monitors and manages inverters connected to the platform. Users can monitor real-time operating metrics, analyze historical power curves, inspect active alarms, and remotely configure operational parameters or firmware.

8.1.1. Inverter List

The Inverter list displays real-time operational status and hardware parameters for all accessible inverters across your sites:

- Displayed Columns: Status, Device Name, Device SN, Model, Real-time power, Operation, and so on.

- Search: Enter an inverter serial number in the Search inverter SN box and click Search to locate a specific unit.
- Refresh: Click the Refresh icon in the upper-right corner of the table to reload the latest telemetry data from the server.
- Access Device Details: Click the Device Name or Device SN link in any row to open the detailed monitoring interface.

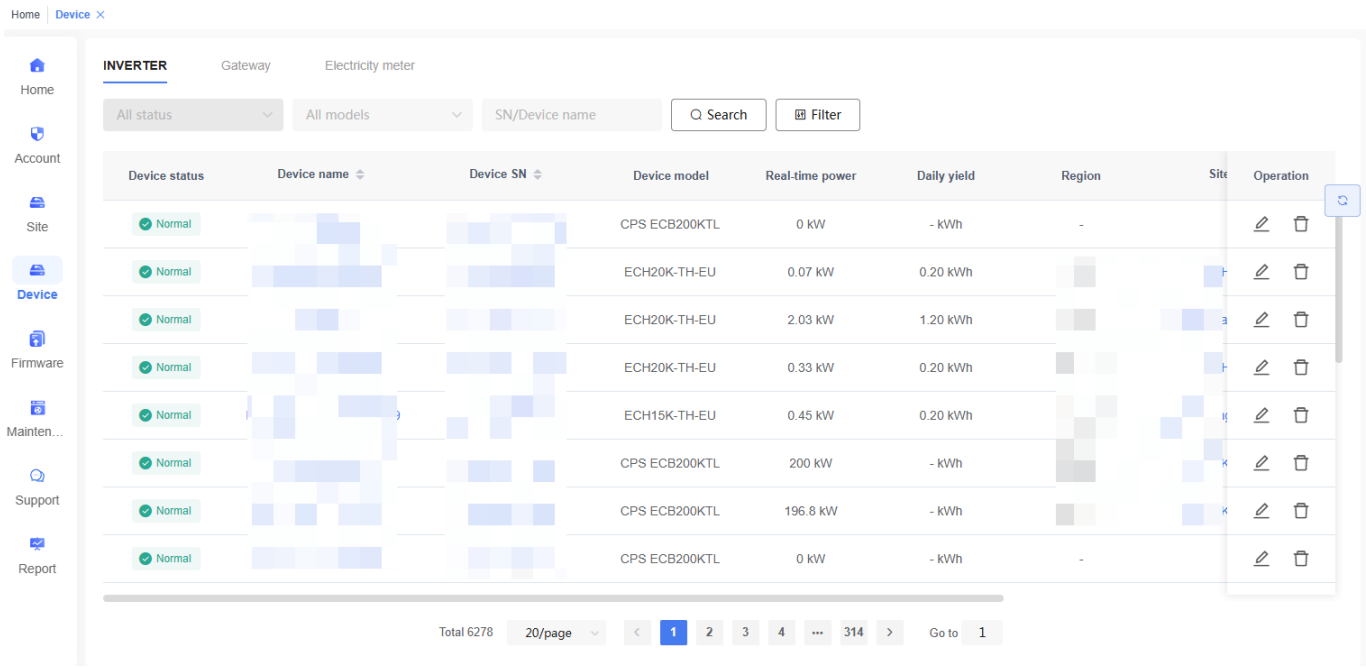


Figure 8-2 Inverter List Page

8.1.2. Device Details Overview

The Inverter Details screen displays real-time telemetry, historical trends, operational logs, and remote maintenance tools.

The visible functional tabs vary based on the inverter type and regional grid configuration:

Table 8-1 Inverter Details Functional Tabs

Tab	Description	Applicable Scenarios
Overview	Displays basic Device information, operating status, and real-time data.	Residential PV / Residential ESS / C&I PV / PV Utility
Chart Data	Displays Device historical operating curves and statistical data.	Residential PV / Residential ESS / C&I PV / PV Utility
Energy	Displays Energy generation-related statistical information.	Residential PV / Residential ESS / C&I PV / PV Utility

Alarm	Displays Device event and Alarm records.	Residential PV / Residential ESS / C&I PV / PV Utility
Data	Displays operating data uploaded by the Device.	Residential PV / Residential ESS / C&I PV / PV Utility
Remote Settings	Remotely reads and writes operating parameters (e.g., active power regulation, protection parameters)..	Residential PV / Residential ESS / C&I PV / PV Utility
Upgrade	Executes Firmware Upgrade and view Upgrade history.	Residential PV / Residential ESS / C&I PV / PV Utility
AutoTest	Executes automatic tests compliant with Italian regulatory requirements, and support viewing test results and test reports.	Available only for Devices configured with Italian grid code.
Mode	Configures Device operating modes and related operating parameters.	Residential ESS
Dry Contact	Configures Dry Contact control strategies for smart loads or generators.	Only supports Residential ESS Devices in Asia-Pacific and Europe regions.
Quick Settings	Centralizes high-frequency parameters (Grid standard, power limits) for rapid commissioning.	Only supports Residential ESS Devices in Asia-Pacific and Europe regions.

8.1.3. Overview

The **Overview** tab is used to view the current operating status, power generation information, and real-time operating data of the Inverter.

8.1.3.1. PV Inverter Overview

This page contains the following information:

- **Key Device Operating Information:** Operating status, daily Energy generation, real-time power, total Energy generation
- **Device Information**, displaying basic Inverter information: Device name, Site name, Device SN, Device model, Gateway SN, Firmware version, creation time, grid code type

- **Real-Time Information**: displaying current Device operating data, including but not limited to: daily operating time, efficiency, power factor, active power, reactive power, grid frequency, phase A/B/C voltage, phase A/B/C current
- **MPPT Information**, real-time operating data of MPPT channels. The actual number of MPPT channels and data items displayed may vary depending on the Inverter model.

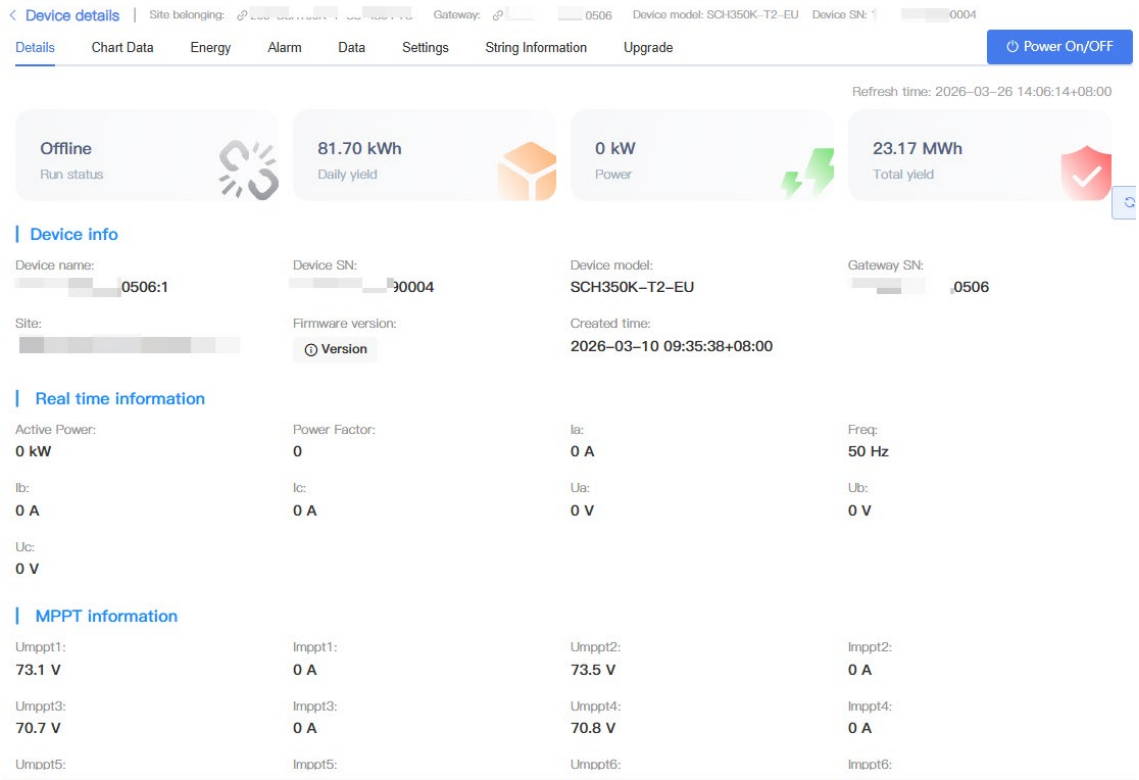


Figure 8-3 PV Inverter Overview Page

8.1.3.2. Residential Storage Inverter Overview

This page contains the following information:

- **Key Device Operating Information:** Operating status, current operating mode, daily PV Energy generation, SOC
- **Device Information**, displaying basic Inverter information: Device name, Site name, Device SN, Device model, Gateway SN, Firmware version, creation time, grid code type.
- **Inverter Information:** Voltage, current, and active power of the Inverter
- **Grid Information:** Grid voltage, current, energy purchased, and energy sold
- **Load Information:** Load consumption, non-backup load active power
- **Battery Information:** Battery status, charge/discharge status, etc.
- **String Group Information:** Voltage, current, and power of each string

- **PV on the AC side and Generator:** Daily and total AC-solar yield, daily and total generator yield.

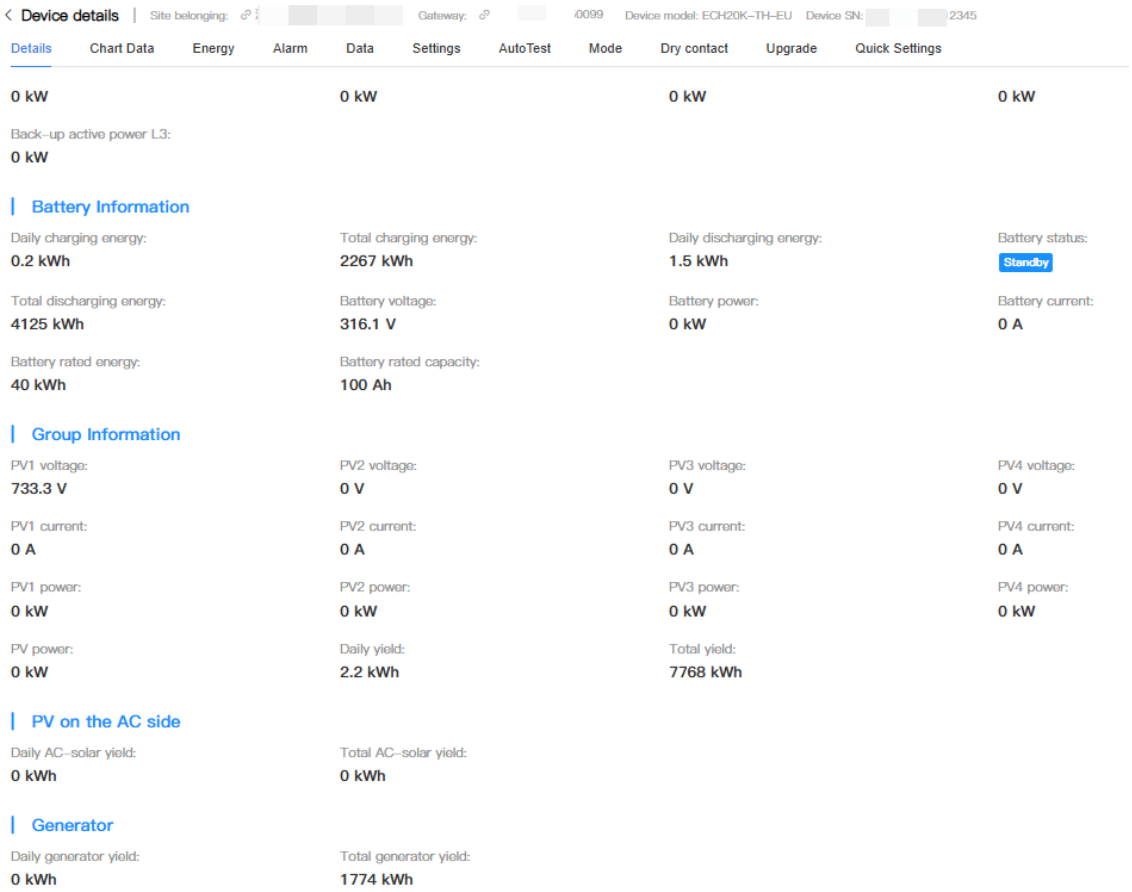


Figure 8-4 Residential Storage Inverter Overview Page

8.1.4. Chart Data

The **Chart Data** tab is used to view the change trends of Inverter historical operating data. Users can analyze Device operating status, power generation conditions, and grid parameters by selecting different data items and time ranges.

Steps:

1. Enter the target Inverter Details page.
2. Click the "Chart Data" tab.
3. Select the statistics period: click a quick period button ("Day", "3Day", or "Week"), or enter a custom time range by setting the "Start date" and "End date".
4. Select the data display time zone.
5. Select the measurement points.
6. The system automatically generates a data trend chart for the corresponding time range.

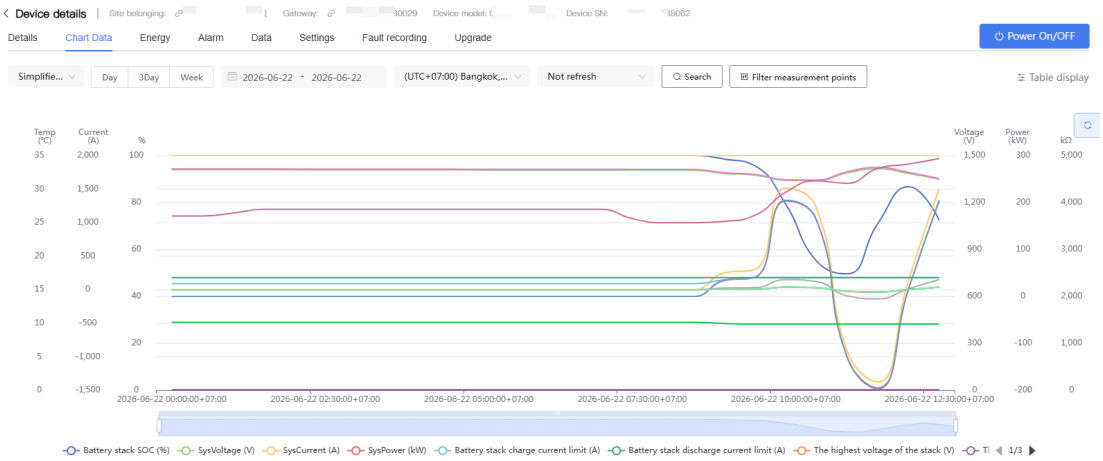


Figure 8-5 Inverter - Chart Data

NOTICE!

- The data types supported may vary depending on the model.
- The actual data items available for viewing depend on the Device model.

8.1.5. Energy

The "Energy" tab is used to view the energy flow direction and power generation statistics of the Inverter.

Steps:

1. Enter the target Inverter Details page.
2. Click the "Energy" tab.
3. Select the statistics period: click a quick period button ("Day", "3Day", or "Week"), or enter a custom time range by setting the "Start date" and "End date".
4. Select the data display time zone.
5. View the energy statistics results and energy flow charts.
6. To export data, click "Download" to download the current statistics.

NOTICE!

The energy flow items displayed may vary depending on the model:

- For energy storage Inverters, the chart typically includes PV, load, grid import, grid export, battery charge, and battery discharge data.

- For PV Inverters, the chart typically includes PV, load, and grid export data.

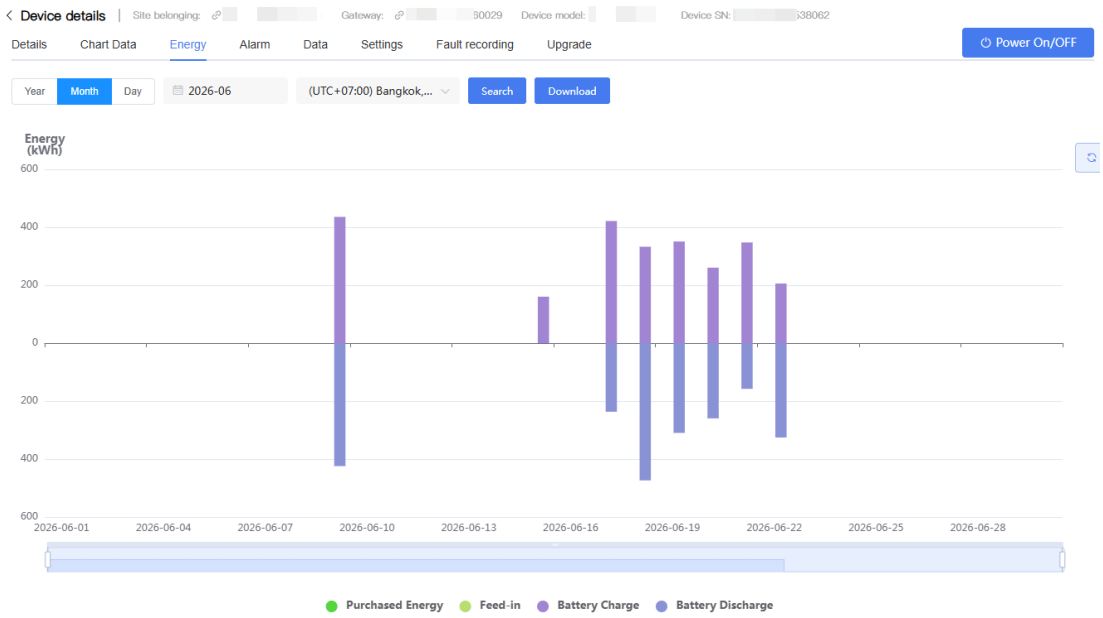


Figure 8-6 Inverter - Energy

8.1.6. Alarm

The "Alarm" tab is used to view event records and Alarm information generated by the Inverter, helping users understand Device operating status and fault conditions.

1. Enter the target Inverter Details page.
2. Click the "Alarm" tab.
3. Select the target alarm type (such as "Current Alarm" or "Historical Alarm") based on your needs, and set the corresponding filter criteria:
   - For Current Alarms: Filter by Alarm type, Alarm Info, or Device type.
   - For Historical Alarms: Filter by Alarm type, Alarm Info, Device type, or Time range.
4. Click "Search" to view event or Alarm records that match the criteria.

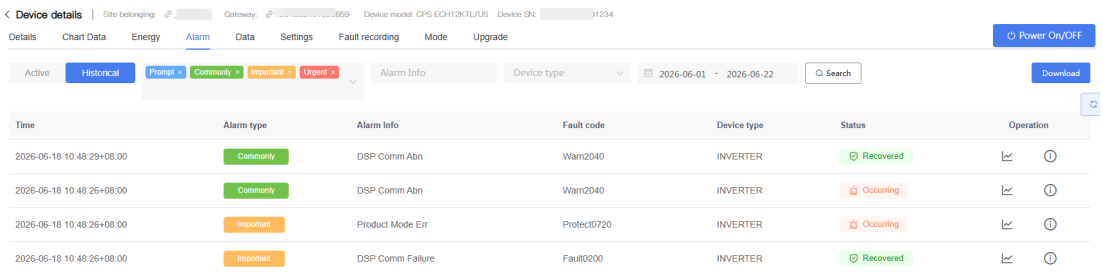


Figure 8-7 Device -> Alarm

5. To view the fault curve, click "Fault Curve" for the corresponding record.



Figure 8-8 Fault Curve

6. To view detailed information, click "View Details" for the corresponding record.

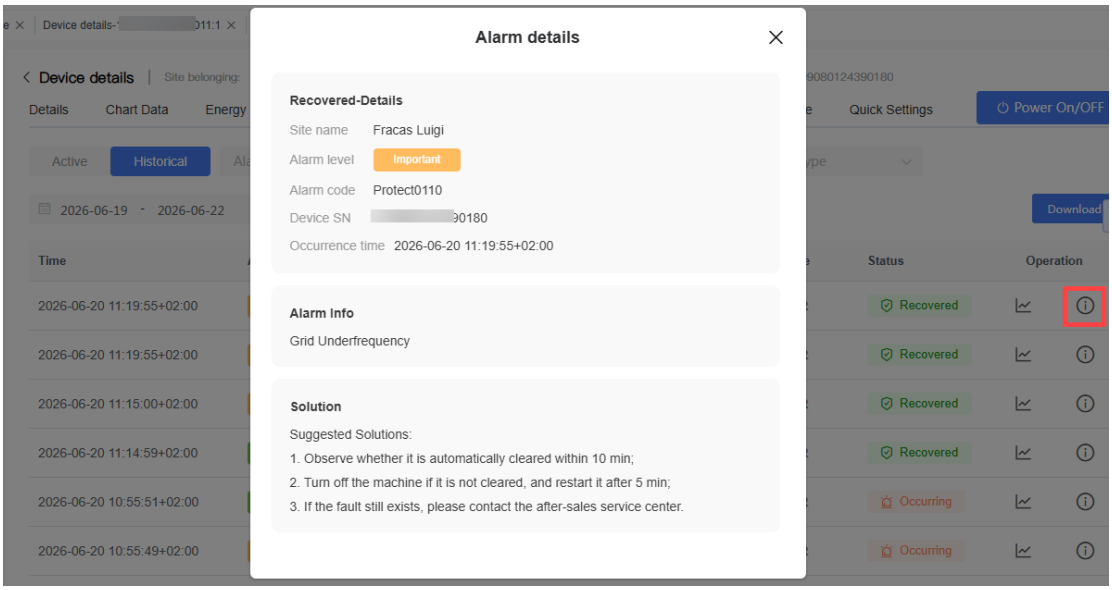


Figure 8-9 View Details

7. To export records, click "Download" in the upper-right corner of the Alarm list.

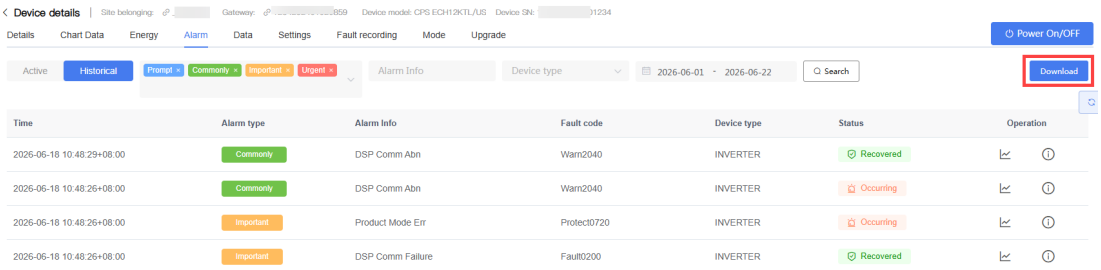


Figure 8-10 Download Alarm

8.1.7. Data

The "Data" tab is used to view historical operating data on the Inverter.

Steps:

1. Enter the target Inverter Details page.
2. Click the **Data** tab.
3. Select the time range: click a quick period button ("Day", "3Day", or "Week"), or enter a custom time range by setting the "Start date" and "End date".
4. Click **Search** to view historical data.
5. To export data, click "Download".

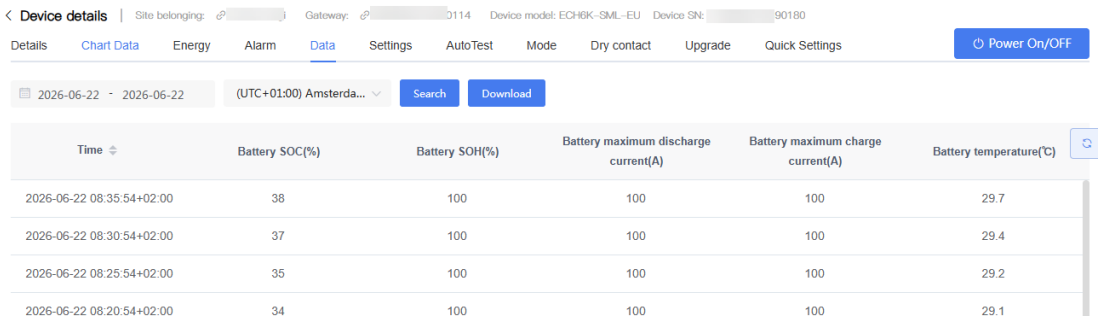


Figure 8-11 Inverter -> Data

NOTICE!

The data list displays the operating data uploaded by the Inverter within the corresponding time period.The exportable data content depends on the Device model and the selected time range.

8.1.8. Settings

The **Settings** tab is used to view and configure Inverter operating parameters. Users can remotely read Device parameters and modify parameters that support writing.

Steps:

1. Enter the target Inverter Details page.
2. Click the **Settings** tab.
3. In the parameter group list on the left, select the parameter group you wish to view, then locate the parameter you wish to view or modify on the right side of the page. (To find a specific parameter, you can also enter a keyword in the search box and click **Search**.)
4. To restore the default display conditions, click **Reset**.
5. To view only valid parameters, enable the "Valid Only" toggle.
6. To refresh the page data, click **Refresh**.

NOTICE!

- The parameters and parameter groups supported may vary depending on the model.
- Only parameters that support writing can be modified.
- After modification, parameters are directly delivered to the Device. Please operate with caution.
- It is recommended that only personnel with relevant permissions and expertise perform parameter configuration.

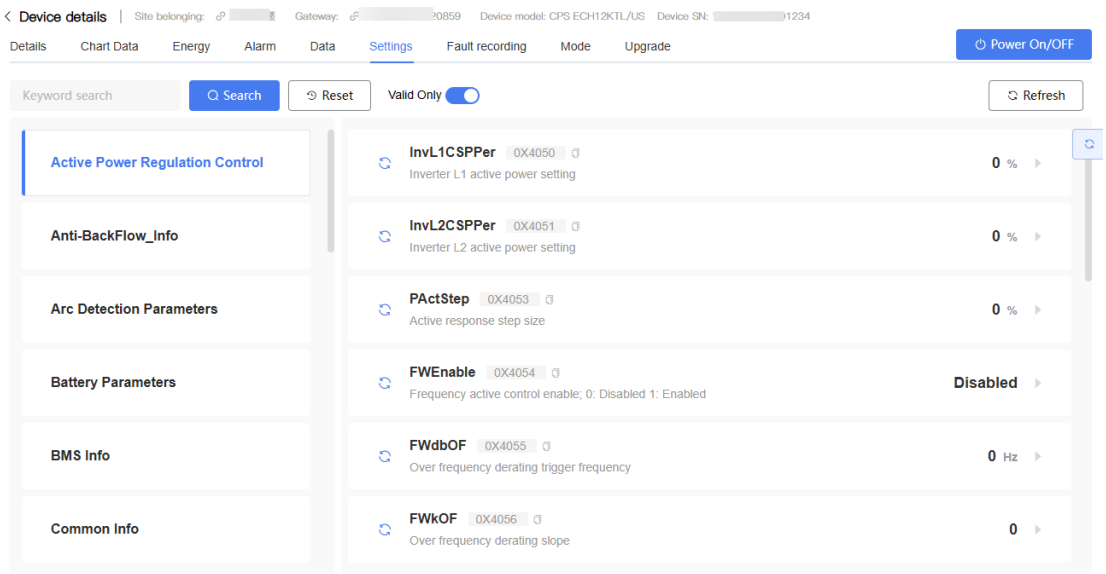


Figure 8-12 Inverter > Settings

8.1.9. Upgrade

The **Upgrade** tab is used to perform Firmware Upgrade on the Inverter and view the Device's Upgrade history.

8.1.9.1. Perform Firmware Upgrade

Steps:

1. Enter the target Inverter Details page.
2. Click the **Upgrade** tab.
3. Click the **Upgrade** button.

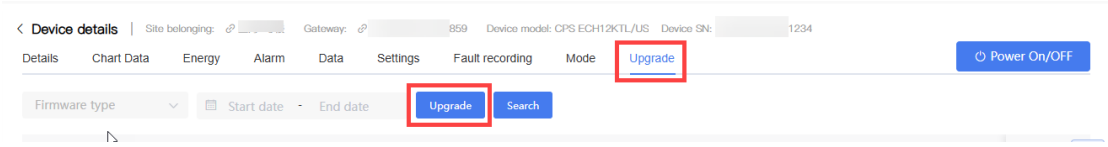


Figure 8-13 Perform Firmware Upgrade

4. In the Upgrade window that appears, select the Firmware type to be upgraded, such as LCD, DSP, ARC Board, BMS Master, BMS Slave.
5. Select the target Firmware version.
6. Choose the upgrade method as needed:
   - Yes: Schedule the upgrade task. If selecting scheduled upgrade, set the scheduled time.
   - No: Execute the upgrade task immediately.
7. Click **Confirm** to create the upgrade task.

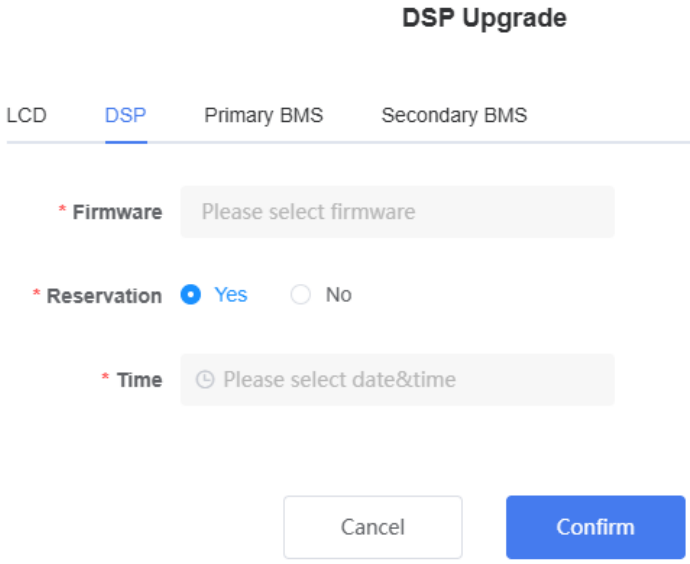


Figure 8-14 Fill in Upgrade Information

8. After successful creation, you can view the upgrade status and progress in the upgrade record list.

8.1.9.2. View Upgrade Records

The upgrade record list displays the historical upgrade tasks for the current Device.

1. Users can set filter criteria as needed:
   - Firmware type
   - Time range
2. Click **Search** to view upgrade records meeting the criteria.

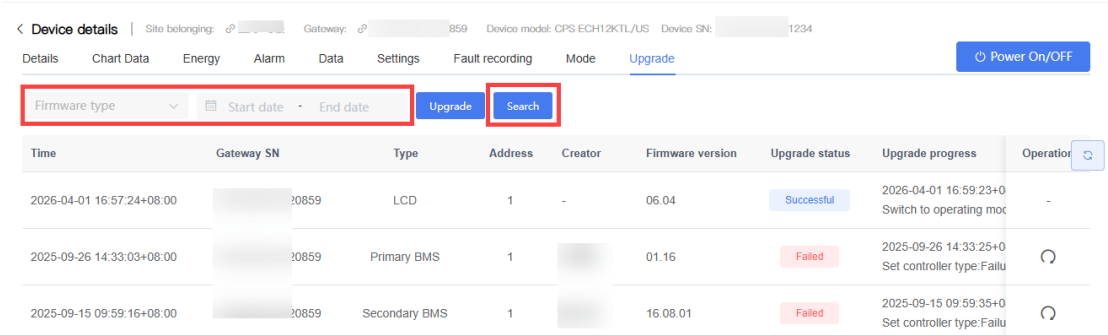


Figure 8-15 View Upgrade Records

8.1.10. AutoTest (Applicable to Italian Grid Code)

The AutoTest function is used to perform automatic tests required by Italian grid connection regulations. This function is displayed only when the Inverter grid code is set to Italian grid code.

Steps:

1. Enter the target Inverter Details page.
2. Click the **AutoTest** tab.
3. Read the test conditions.
4. After confirming that the test requirements are met, select "*I have read and agree to the test conditions*".
5. Click **Start** to begin the automatic test.
6. During the test, you can click **Refresh** to view the latest test status and progress.

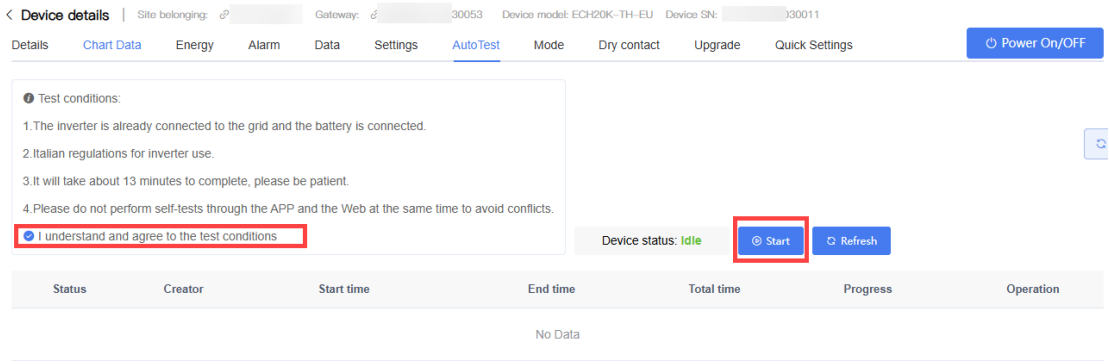


Figure 8-16 Create AutoTest Task

7. After the test is complete, you can view the test results in the test record list.
   - Click **Check** to view test details.
   - Click **Download** to download the test report.

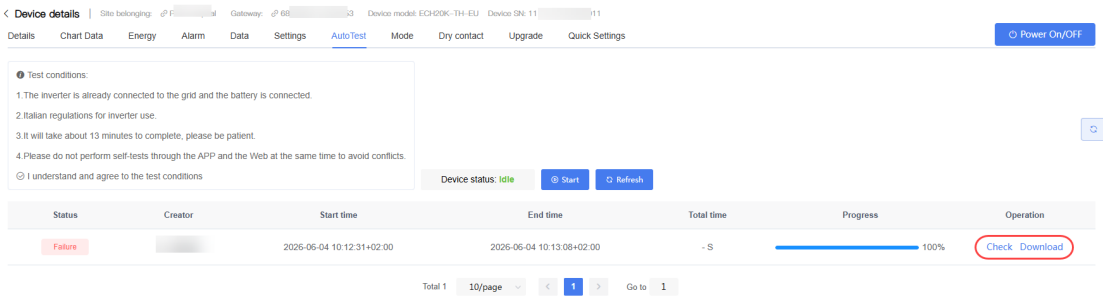


Figure 8-17 Check or Download AutoTest Report

NOTICE!

- The AutoTest function is only applicable to Inverters using the Italian grid code.
- When the Inverter is configured with other grid codes, this function is not displayed.
- Test items and the execution process may vary depending on the Device model and regulatory requirements.
- Please perform relevant tests in accordance with local regulatory requirements.

8.1.11. Mode (Applicable to Residential ESS Only)

The **Mode** tab is used to configure the operating mode of residential storage Inverters. Different modes determine the energy management strategy among PV, battery, grid, and load.

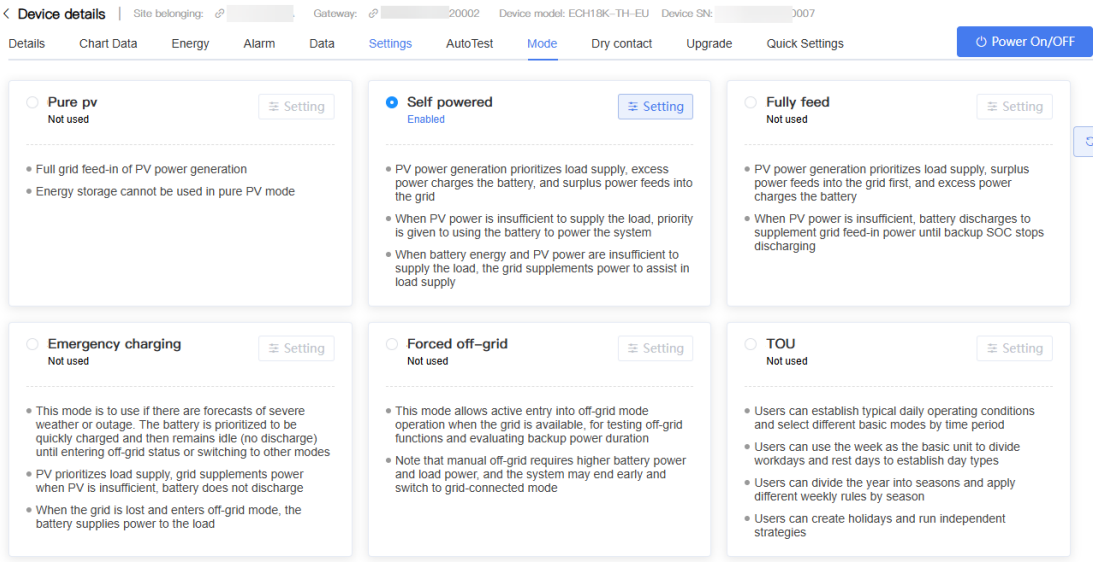


Figure 8-18 Mode Configuration Page

The Mode page includes the following operating modes:

Mode	Description
Pure PV	Uses the storage Inverter as a standard PV Inverter, reducing battery participation.
Self Powered	Prioritizes using PV power generation to meet load demand, increasing the self-consumption rate.
Fully Feed	Prioritizes delivering PV power generation to the grid to achieve more feed-in Revenue.
Emergency Charging	Prioritizes charging the battery to prepare for power outages or off-grid operation.
Forced Off-Grid	Prioritizes operating in off-grid mode when operating conditions are met, reducing dependence on the grid.
TOU (Time of Use)	Automatically switches operating strategies based on a set time plan to adapt to different electricity price periods.

To configure the operating mode:

1. Enter the target Inverter Details page.
2. Click the **Mode** tab.
3. Select the operating mode to be enabled and click **Confirm**.

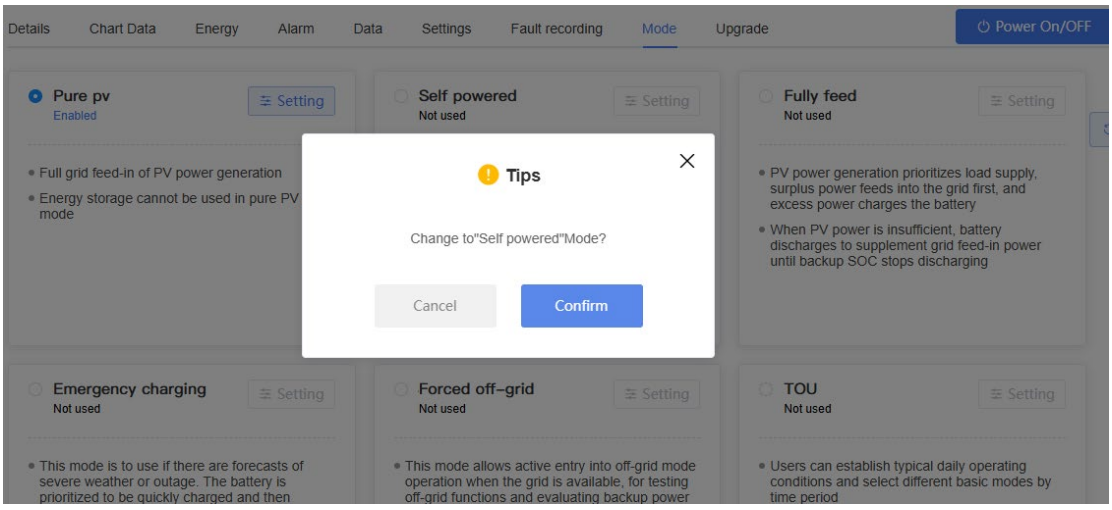


Figure 8-19 Switch Mode

4. Click **Settings** in the corresponding mode card.
5. Configure the relevant parameters according to actual requirements.
6. Click **Confirm** to apply the settings.

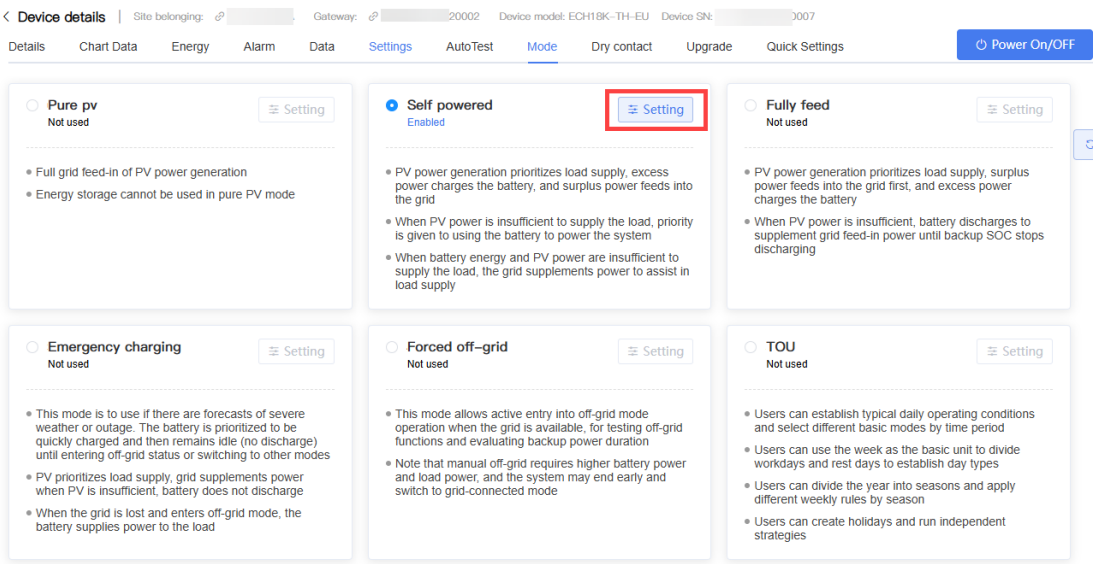


Figure 8-20 Enter Mode Setting Page

8.1.11.1. Configuration Items

Common configuration items for Pure PV, Self-Powered, Full Feed, Emergency Charging, and Forced Off-Grid modes include:

Setting	Description
Grid power limit function	Used to control whether the system is allowed to feed power into the grid: • Disabled: Restricts the system from discharging to the grid. When selected, the "Feed grid power limit" must be configured to limit the power fed back to the grid. • Enabled: Allows the system to discharge to the grid (feed-in).
From gird charging function	Sets whether the grid is allowed to charge the battery. When enabled, you can configure: • From grid charging power limit • From grid charging start time* From grid charging end time
Maximum Charging SOC	Sets the maximum SOC allowed for battery charging.
Battery Backup SOC	Sets the SOC reserved by the battery for backup power.
Battery Minimum Discharge SOC	Sets the minimum SOC allowed for battery discharging.
Peak Shaving Function (Self-Powered)	Used to limit the power drawn from the grid during peak hours to reduce peak electricity consumption. This function is only applicable to Self-Consumption mode. For detailed configuration, see Peak Shaving Function. *8.1.11.2 Peak Shaving Function (Self-Powered* Mode).

8.1.11.2. Peak Shaving Function (Self-Powered Mode)

The self powered mode supports configuring the peak shaving function. After enabling peak shaving, the system can automatically execute charge/discharge strategies within the set time periods to reduce peak electricity consumption.

Steps:

1. Enable the Peak Shaving function
2. On the Mode Settings page, after enabling the peak shaving function, click **Setup**.

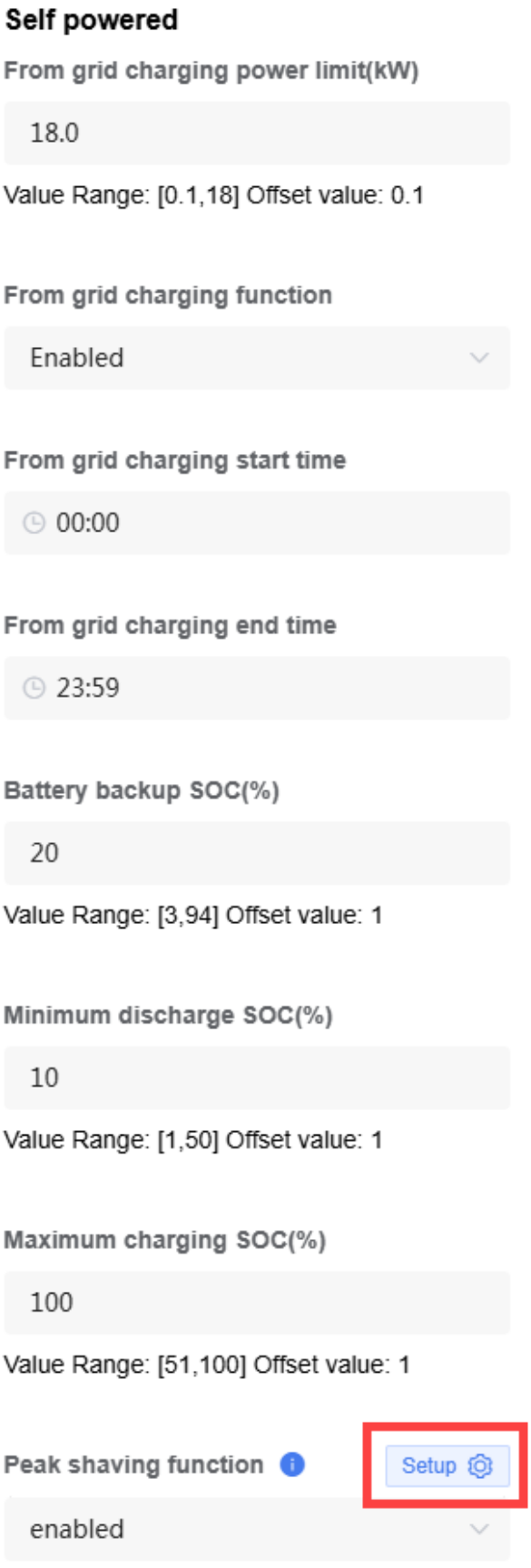


Figure 8-21 Setup Peak Shaving Function

3. Set the peak shaving start time and end time.
4. Set the peak shaving SOC and key power.
5. To add multiple peak shaving time periods, click **Add**.
6. Click **Save** to apply the settings.

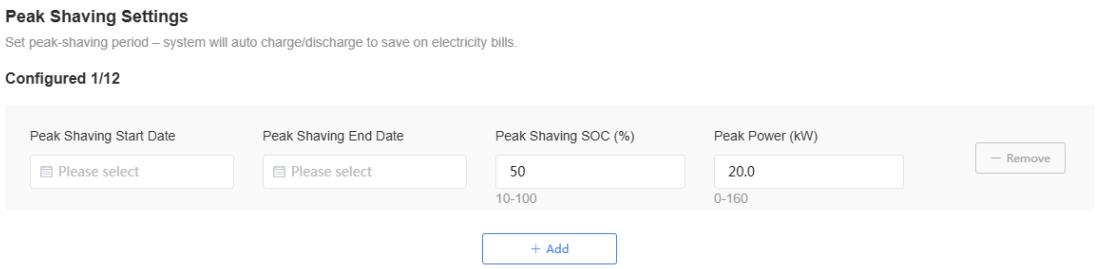


Figure 8-22 Peak Shaving Settings

8.1.11.3. Configure TOU

The TOU mode is used to automatically switch operating strategies based on different time periods.

Steps:

1. On the Mode page, select **TOU**.
2. Click **Setting**.

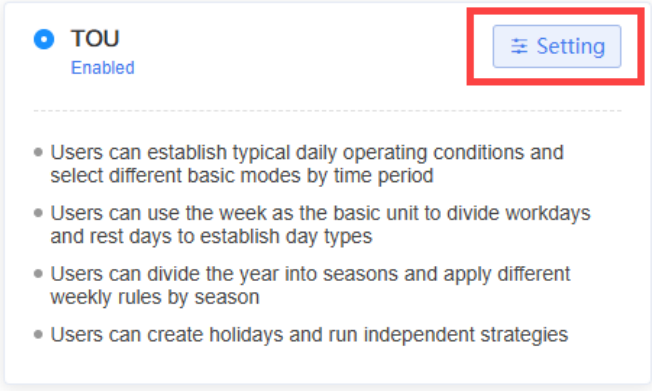


Figure 8-23 TOU Settings

3. Click **Configuration**.

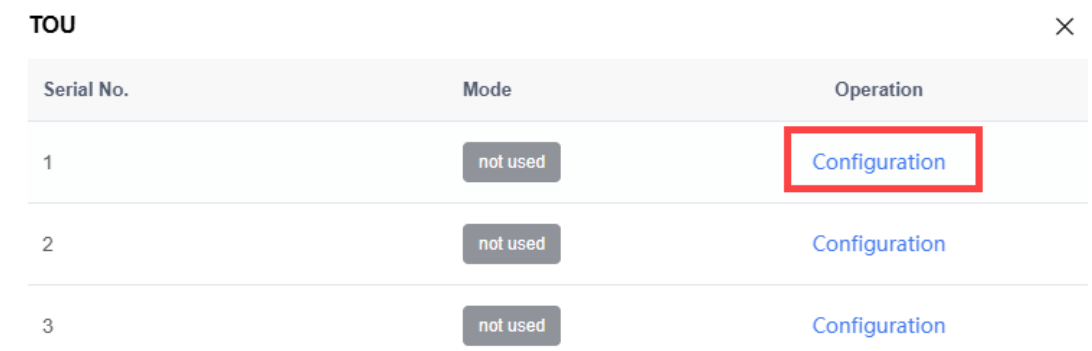


Figure 8-24 TOU -> Click Configure

4. Select the type: Default, Custom Month, or Custom Date.
5. Set the time periods in the Mode Period Settings area.
6. Select the corresponding operating mode for each time period. You can add up to 6 time periods.
7. Click **Enable/Save** to apply the settings.

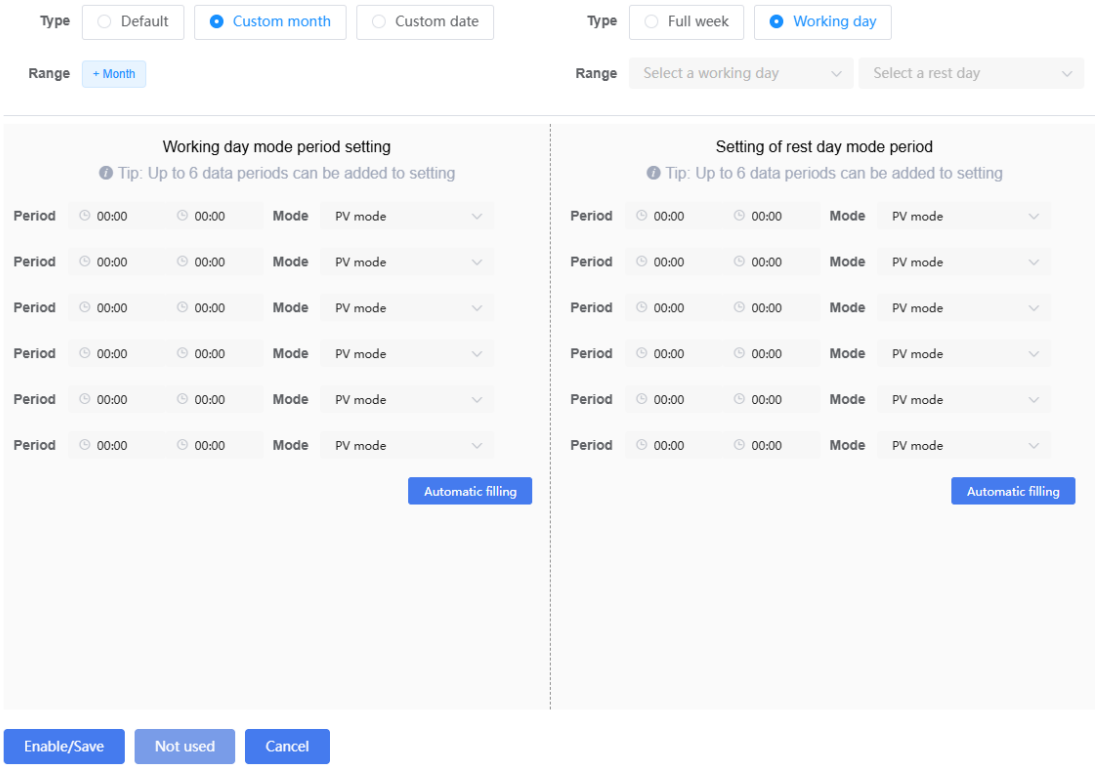


Figure 8-25 Configure TOU Time

8.1.12. Dry Contact

The **Dry Contact** tab is used to configure the Dry Contact control function of the Inverter. Through Dry Contact, the Inverter can control the start/stop of external Devices (such as smart loads or generators) based on set conditions.

The Dry Contact page includes two control objects:

Control Object	Description
Smart Load	Used to control the start/stop of a smart load. If enabled, you can set: • Manual control • Battery energy control • Time control • Residual optical power control
Generator	Used to control the start/stop of a generator. If enabled, you can set: • Manual control • Battery energy control

Steps:

1. Enter the target Inverter Details page.
2. Click the **Dry Contact** tab.
3. On the left, select the control object:
   - Smart Load
   - Generator
4. Select the control mode to be enabled.
5. If the selected mode requires parameter configuration, click "Settings".
6. Fill in the parameters according to actual requirements and save.

NOTICE!

- The control methods supported may vary depending on the Device model and Firmware version.
- Only one control mode can be enabled at a time for the same control object.
- The Dry Contact function affects the start/stop of external Devices. Please configure carefully based on on-site wiring and Device requirements.

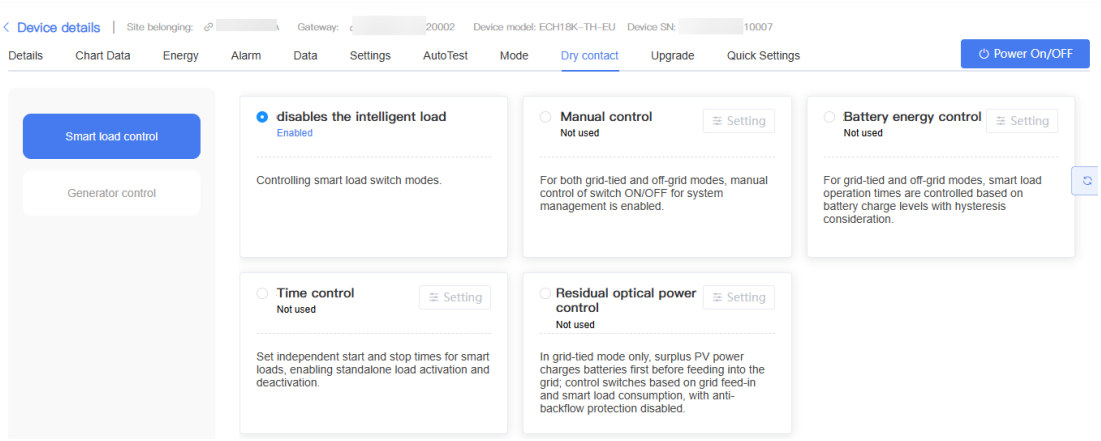


Figure 8-26 Dry Contact

8.1.13. Quick Settings

The **Quick Settings** tab is used to centrally configure commonly used operating parameters of residential ESS, allowing users to quickly complete basic Device setup.

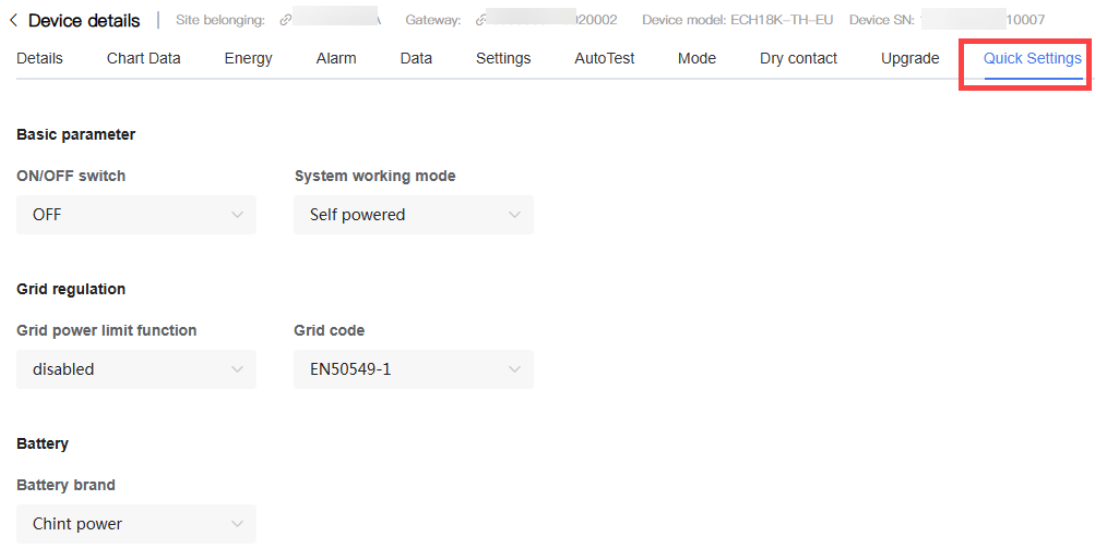


Figure 8-27 Quick Settings Page

Steps:

1. Enter the target Inverter Details page.
2. Click the **Quick Settings** tab.
3. Modify the relevant parameters as needed.
4. Click **Confirm** to save the settings.

NOTICE!

- The Quick Settings page only displays some commonly used parameters.
- The actual parameters displayed may vary depending on the Device model and Firmware version.
- Modifying parameters may affect the Device operating strategy. Please configure carefully based on on-site requirements.
- To configure more advanced parameters, use the Remote Settings function.

8.2. Gateway

On the Device page, click the **Gateway** tab to view Gateway Devices connected to the platform.

8.2.1. Gateway List

The Gateway list displays information including Device status, Device name, Device serial number (SN), Device model, signal strength, affiliated Site, Firmware version, and update time.

Users can perform the following operations:

- Search or filter Gateways by Site, Gateway model or SN, Device status, model, or region.
- View Gateway operating status and signal strength, and view the affiliated Site and Firmware version information of the Gateway.
- Enter the Gateway Details page to view detailed Device information.
- Rename a Gateway.
- Assign a Gateway to a Site.
- Sort the Gateway list: Click the header of a sortable column to sort the list in ascending or descending order. The Gateway list can be sorted by Device name, Device SN, Site, Firmware version, and Updated time.
- Refresh the Gateway list: Click the refresh icon in the upper-right corner of the list to load the latest data.

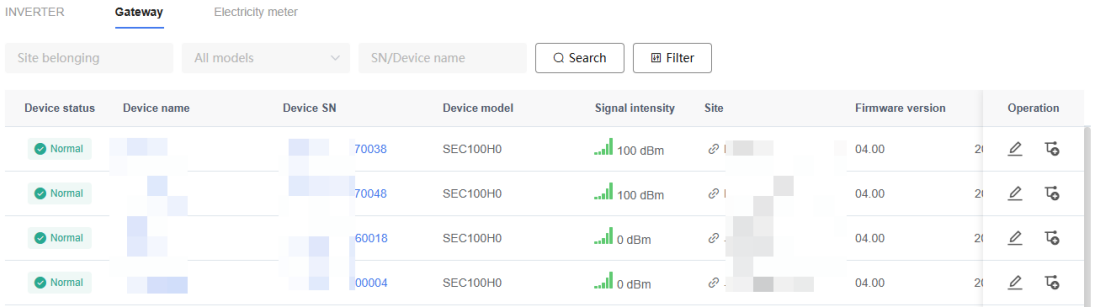


Figure 8-28 Gateway List

NOTICE!

- Signal strength is used to reflect the current network connection quality of the Gateway.
- The information displayed may vary depending on the Gateway model.
- Only users with the corresponding permissions can perform Firmware Upgrade operations.

8.2.1.1. Rename Gateway

Steps:

1. Locate the target Gateway in the Gateway list.
2. Click the **Edit** icon in the operation column.

3. Enter the new Gateway name.
4. Click **Confirm** to save the change.

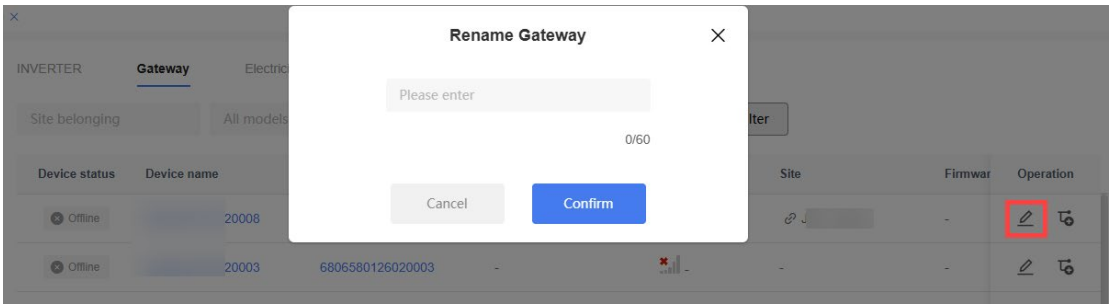


Figure 8-29 Rename Gateway

8.2.1.2. Assign Gateway

Steps:

1. Locate the target Gateway in the Gateway list.
2. Click the **Assign** icon in the operation column.
3. Select the target Site.
4. Click **Confirm** to complete the assignment.

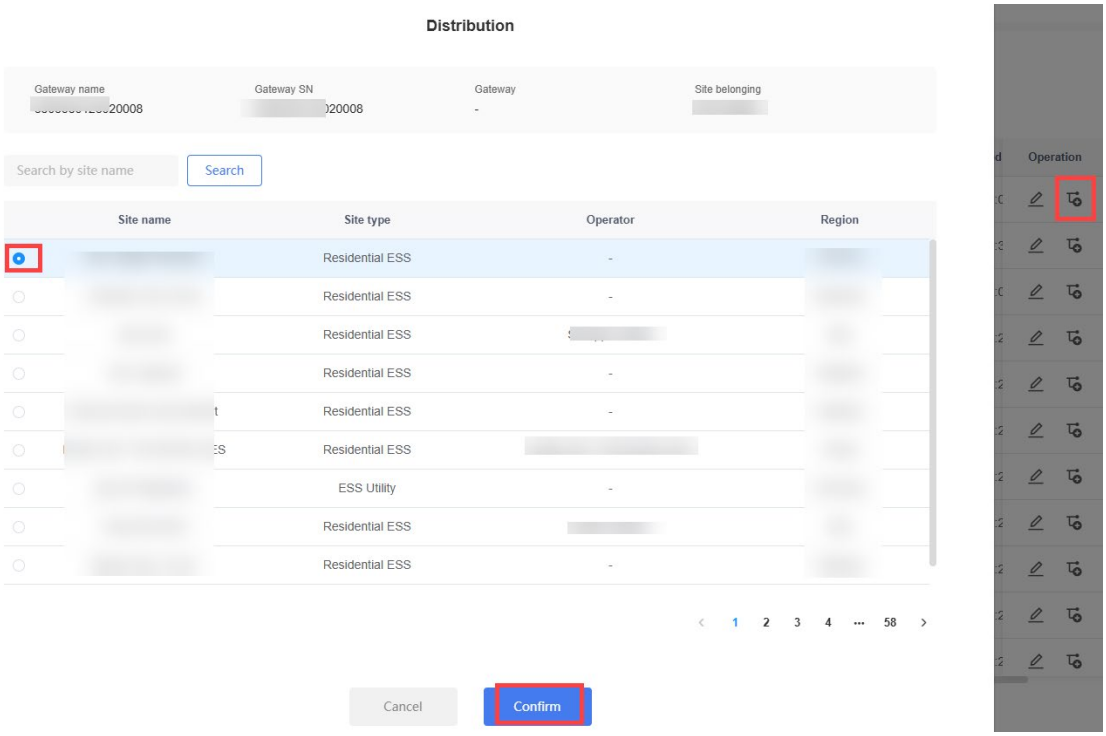


Figure 8-30 Assign Gateway

NOTICE!

- The Gateway name is used for platform display only and does not affect Device communication.
- A Gateway can only be associated with one Site.
- After assignment is complete, the data collected by the Gateway belongs to the corresponding Site.
- The information displayed may vary depending on the Gateway model.

8.2.1.3. Unbind Gateway

Steps:

1. Enter the target Site Details page.
2. Click the **Device** tab.
3. Select **Gateway**.
4. Locate the Gateway to be unbound.
5. Click the **Unbind** icon in the operation column.
6. Confirm the unbinding operation.

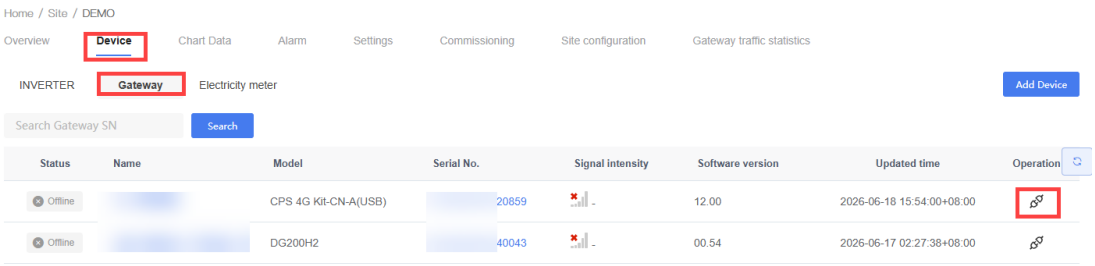


Figure 8-31 Unbind Gateway

NOTICE!

- The Site Details page can be accessed from the Site list or by clicking the Site link in the Gateway list.
- After unbinding, the Gateway is no longer associated with the current Site.

- After unbinding, the Gateway and all Devices under it are removed from the Site.
- The unbinding operation does not delete the Gateway Device itself.
- An unbound Gateway can be reassigned to another Site.

8.2.2. Overview

The **Overview** tab is used to view basic Gateway information, operating status, network connection status, and connected Device information. On this page, users can view information including Device information, communication status, Firmware version, and the list of connected Devices.

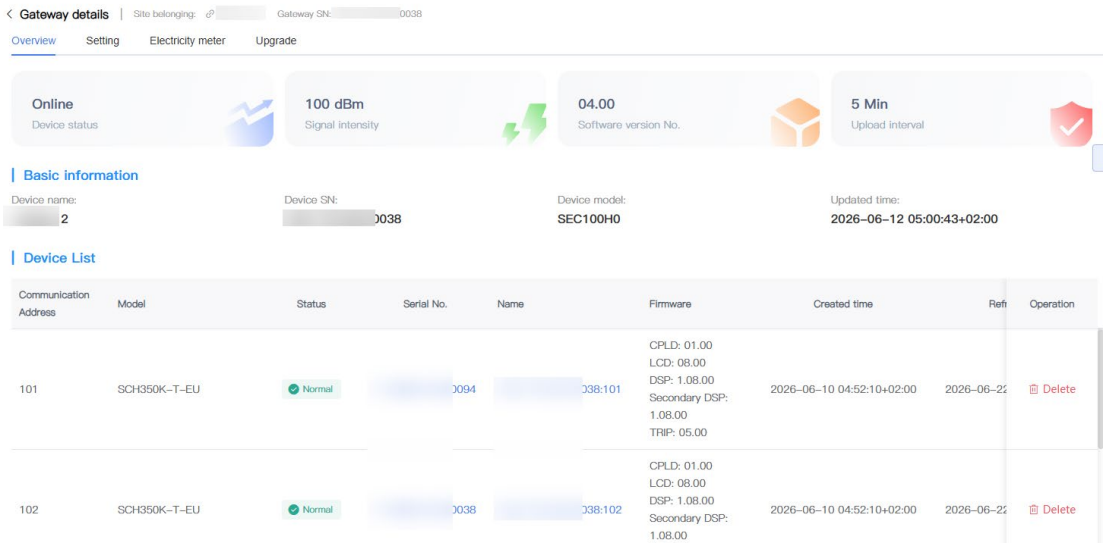


Figure 8-32 Overview

Overview

NOTICE!

- The information displayed may vary depending on the Gateway model.
- The connected Device list displays the Devices currently communicating with the Gateway.

8.2.3. Settings

The **Settings** tab is used to configure Gateway communication, data upload, Anti-Reflux, and Device management-related parameters.

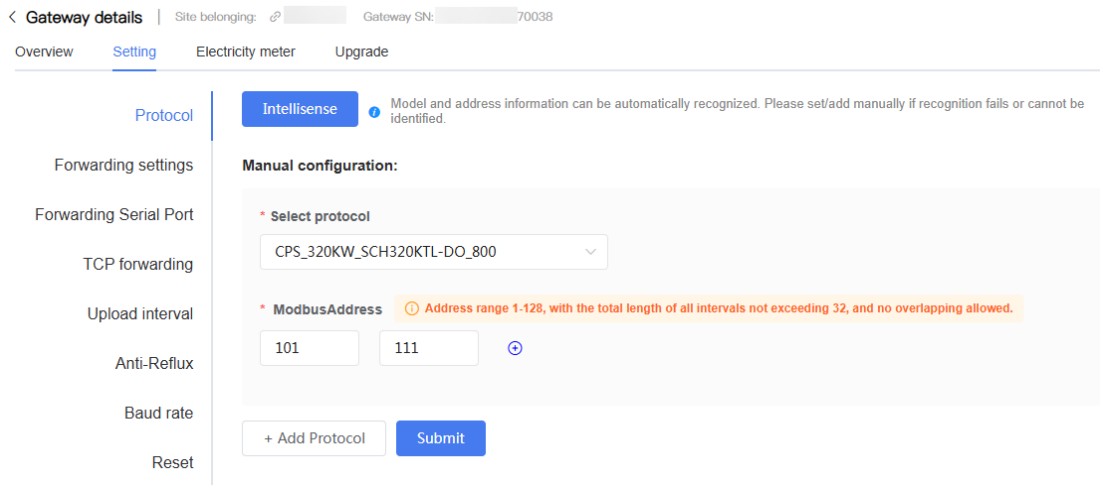


Figure 8-33 Gateway Setting

The Settings page includes the following functions:

Setting	Description
Protocol Delivery	Configure Device communication protocol and Modbus address range.
Forwarding Settings	Configure the Gateway data forwarding method.
Forwarding Serial Port	Configure serial port communication parameters.
TCP Forwarding	Configure TCP communication parameters.
Upload Interval	Configure the time interval for the Gateway to upload data to the platform.
Anti-Reflux	Configure Anti-Reflux-related parameters. This setting is displayed only for multi-Device Anti-Reflux Gateways with Electricity Meter functionality. After configuration, you can view Electricity Meter historical data in the 8.2.4 Electricity Meter tab.
Baud Rate	Configure the communication port baud rate.
Reset	Remotely restart the Gateway Device.

NOTICE!

- The configuration items supported may vary depending on the Gateway model.
- Some configuration changes require a Gateway restart to take effect.
- For parameter descriptions, configuration principles, and recommended setting values, refer to the product documentation for the corresponding Device.

- Before modifying communication-related parameters, confirm that the on-site Device communication configuration is consistent with the Gateway settings.

8.2.4. Electricity Meter

The **Electricity Meter** tab is used to view Electricity Meter historical data collected by the Gateway.

This tab is only applicable to multi-Device Anti-Reflux Gateways with Electricity Meter functionality. For Gateway models that do not support Electricity Meter connection, the system does not display the **Electricity Meter** tab.

For Anti-Reflux-related parameter configuration, see *8.2.3 Settings*.

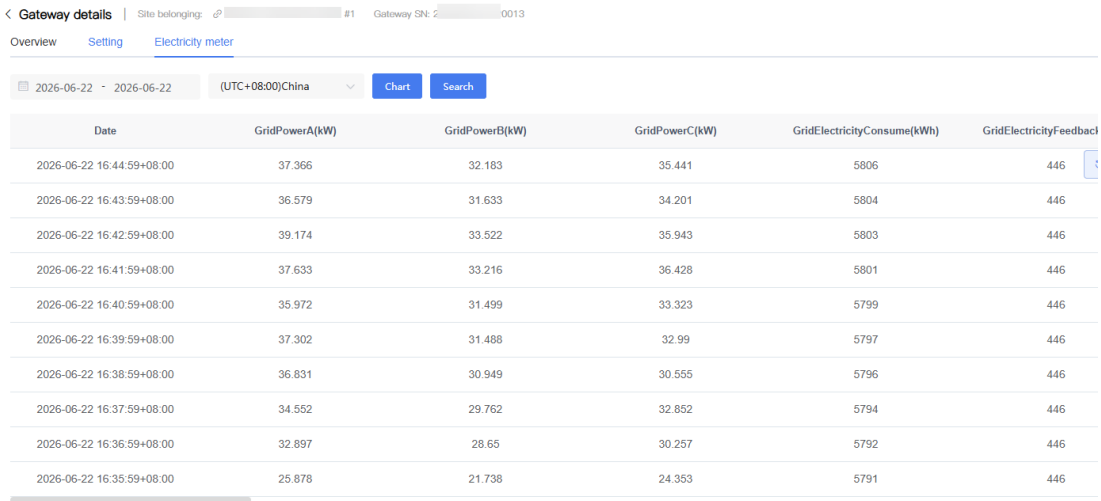


Figure 8-34 Electricity Meter Data

Users can perform the following operations:

- Filter historical data by time range.
- Select a time zone to view data.
- View the Electricity Meter historical data list.
- View data change trends through charts.

After clicking **Chart**, you can view Electricity Meter historical data in chart form, supporting viewing data change trends by Day, 3 Days, or Week dimensions.

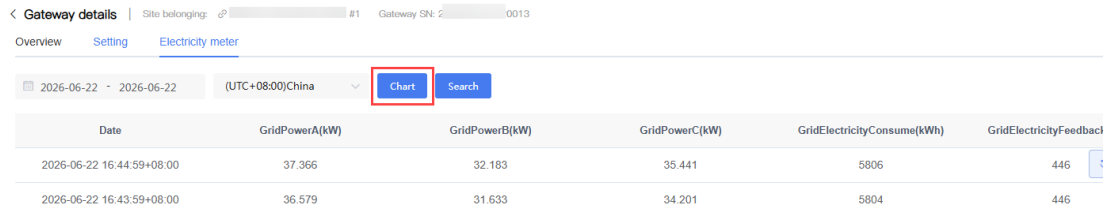


Figure 8-35 View Electricity Meter Chart Data

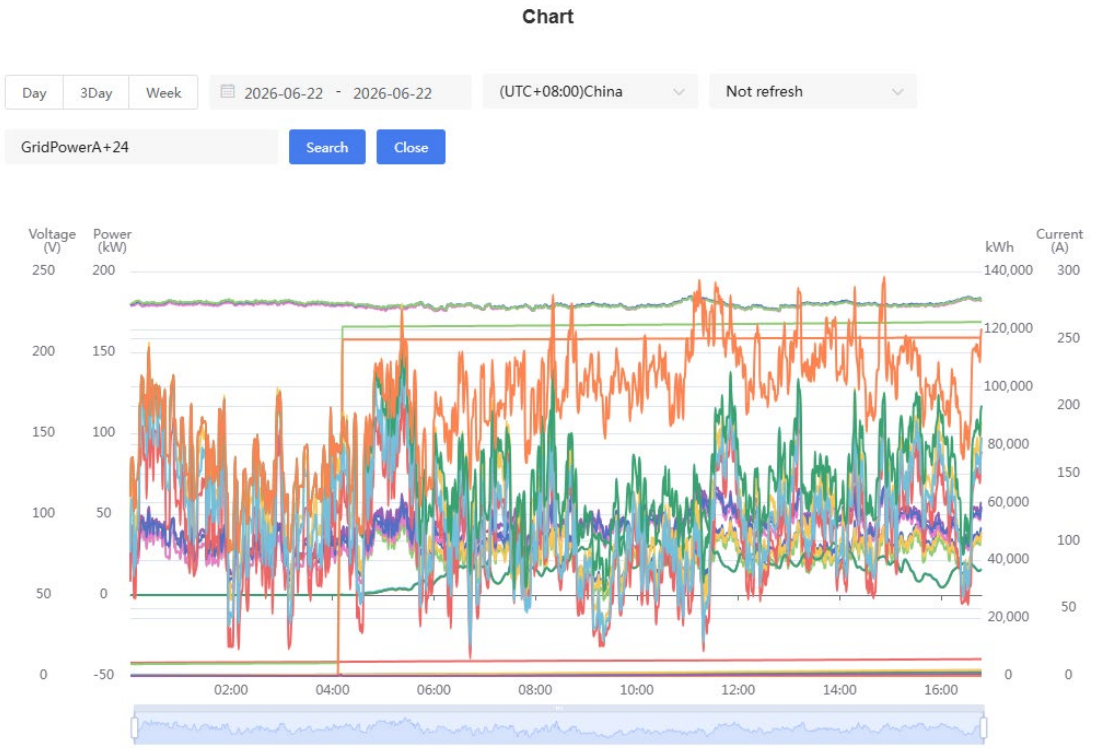


Figure 8-36 View Electricity Meter Chart Data

NOTICE!

- Electricity Meter data originates from Electricity Meter Devices connected to the Gateway.
- The data content displayed may vary depending on the Gateway model and Electricity Meter model.
- Data update time and sampling interval are based on the actual data reported by the Device.

8.2.5. Upgrade

The **Upgrade** tab is used to create Gateway Firmware Upgrade tasks and view Upgrade records and results.

8.2.5.1. Create Gateway Upgrade Task

Steps:

1. Enter the Gateway Details page.
2. Click the **Upgrade** tab.
3. Click the **Upgrade** button.

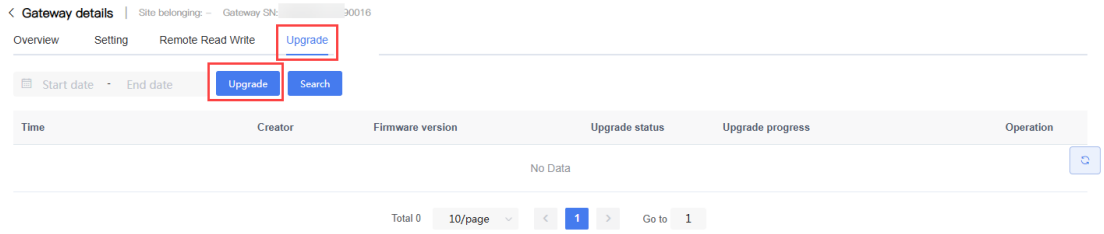


Figure 8-37 Create Gateway Upgrade Task

4. In the Upgrade window that appears, select the target Firmware version.
5. Choose the upgrade method as needed:
   - No: Execute the upgrade task immediately.
   - Yes: Schedule the upgrade task.
6. If selecting scheduled upgrade, set the scheduled time.
7. Click **Confirm** to create the upgrade task.

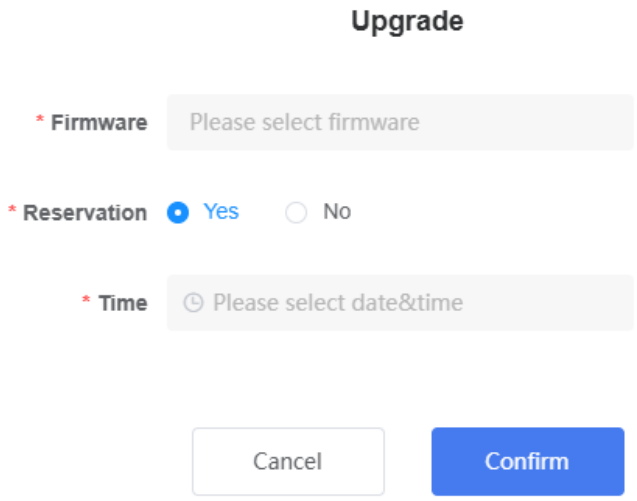


Figure 8-38 Upgrade Firmware

8.2.5.2. View Gateway Upgrade Records

After the upgrade task is created, you can view the following in the upgrade record list:

- Creation time
- Creator
- Firmware version
- Upgrade status
- Upgrade progress and execution result

8.2.6. Remote Read/Write (Common Manager Function Only)

Remote Read/Write is used to remotely read Device registers, write parameters, send pass-through commands, and obtain Fault Recording data through the Gateway.

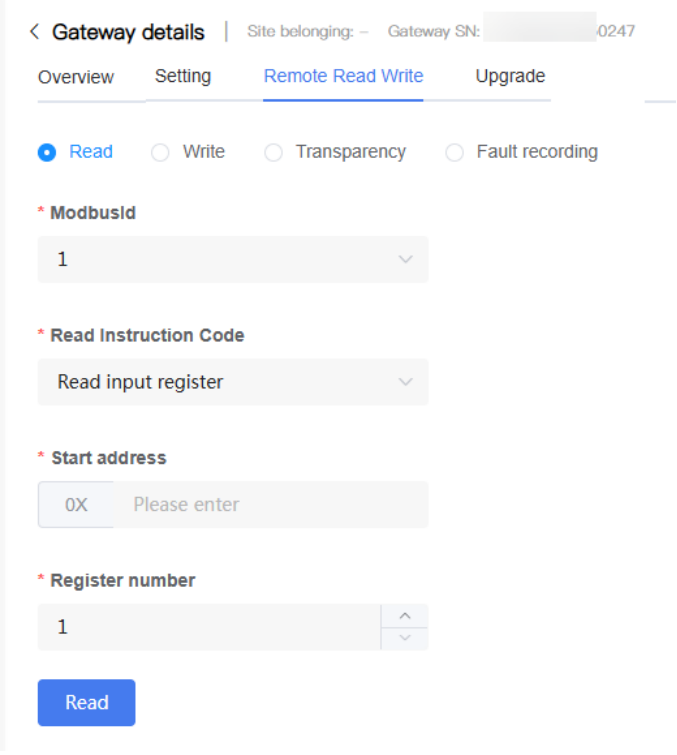


Figure 8-39 Remote Read/Write

The following operations are supported:

Function	Description
Read	Read Device data based on the specified Modbus ID, function code, and register address.
Write	Write data to a specified register to modify Device parameters or execute control commands.

Transparency	Send custom Modbus commands and view the Device response. Supports saving frequently used commands for reuse.
Fault Recording	Obtain Device Fault Recording data based on the recording index, and support downloading recording files for analysis.

NOTICE!

- The Remote Read/Write function is typically only available to users with the corresponding permissions.
- For register addresses, function codes, and parameter descriptions, refer to the product documentation for the corresponding Device.
- Incorrect write operations may cause abnormal Device operation. Please operate with caution.
- The Fault Recording function is only applicable to Devices that support the recording function.

8.3. Electricity Meter

On the Device page, click the **Electricity Meter** tab to view Electricity Meter Devices connected to the platform.

The Electricity Meter list displays information including Device status, Device name, Device serial number (SN), Device model, affiliated Site, Electricity Meter power, grid export Energy, grid import Energy, and update time. The Electricity Meter list can be refreshed manually by clicking the refresh icon in the upper-right corner of the list.

The Electricity Meter list also supports custom sorting. Click the header of a sortable column to sort the list in ascending or descending order; the Meter list can be sorted by Device name, SN, Site, and Refresh time.

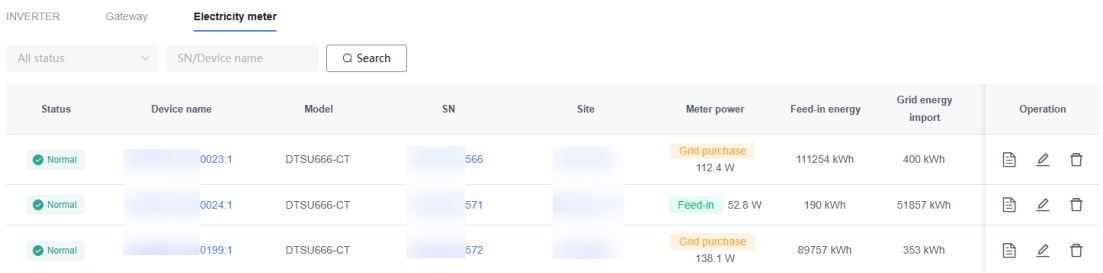


Figure 8-40 Electricity Meter List

8.3.1. Overview

The **Overview** tab is used to view basic Electricity Meter information, operating status, and real-time measurement data.

On this page, users can view Electricity Meter Device information, operating status, and real-time operating data such as voltage, current, power, and power factor.

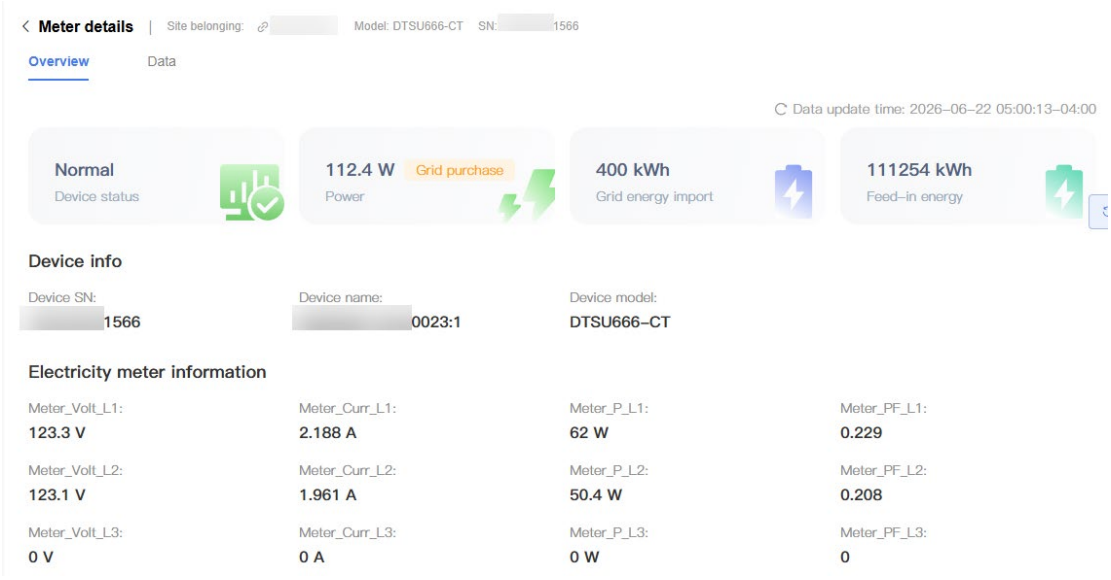


Figure 8-41 Electricity Meter Overview

NOTICE!

- The information displayed may vary depending on the Electricity Meter model.
- The data displayed on the page is the most recent data reported by the Electricity Meter.

8.3.2. Data

The **Data** tab is used to view Electricity Meter historical operating data and trend charts:

- Historical data can be filtered by time range (using the quick period buttons "Day", "3Day", and "Week", or a custom start/end date range), data interval, and time zone
- Data change trends can be viewed in table or chart form
- Data can be downloaded



Figure 8-42 Electricity Meter Data

NOTICE!

Data update time and sampling interval are based on the actual data reported by the Device.

9. Firmware

9.1. Firmware Upgrade

Firmware Upgrade is used to create and manage Device Firmware Upgrade tasks, supporting remote upgrades for Inverters, Gateways, and DI/DO Board(Communication Box).

Users can perform the following operations:

- View upgrade task status and execution results.
- Filter upgrade tasks by Device type, model, Firmware type, and version.
- View upgrade details.
- Delete upgrade tasks.
- Create new upgrade tasks.

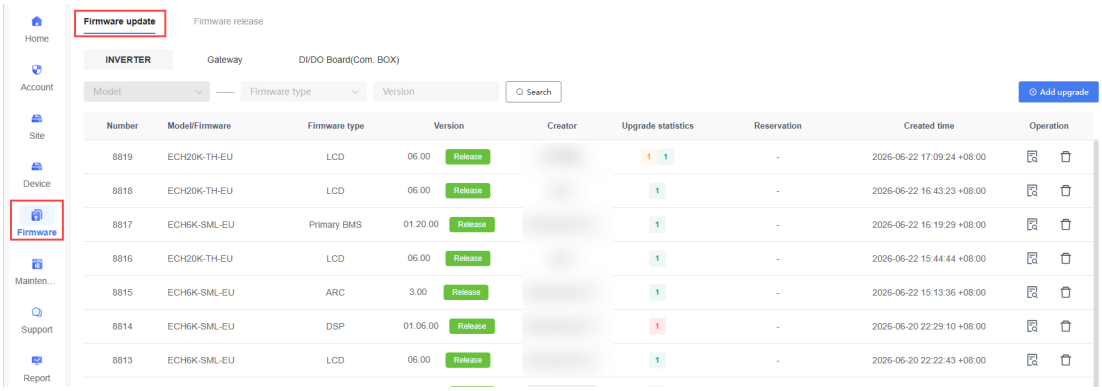


Figure 9-1 Firmware Upgrade

9.1.1. Create Upgrade Task

1. Click the **Add upgrade** button to create a new upgrade task.

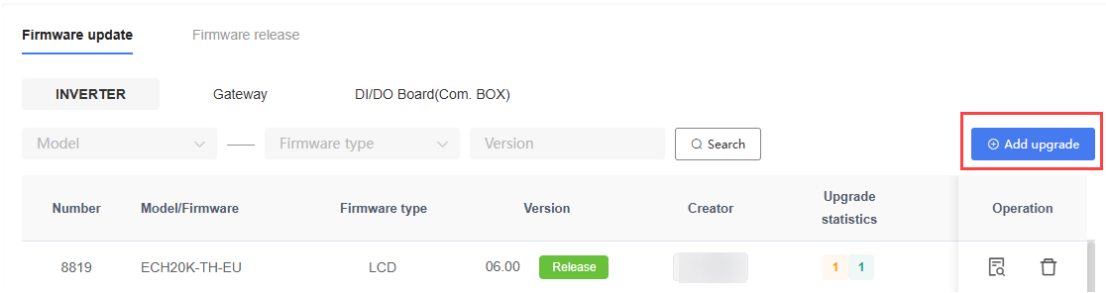


Figure 9-2 Create Firmware Upgrade Task

2. When creating an upgrade task, you need to configure the following:

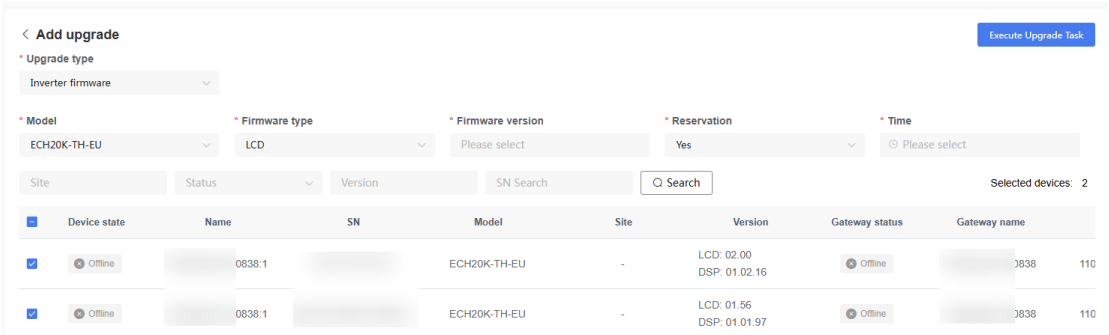


Figure 9-3 Create Firmware Upgrade Task

Setting	Description
Upgrade Type	Select the Device type to be upgraded.
Model	Select the target Device model.
Firmware Type	Select the Firmware type to be upgraded.
Firmware Version	Select the target Firmware version.
Reservation	Select immediate upgrade or scheduled upgrade.
Time	When selecting scheduled upgrade, set the execution time.
Upgrade Devices	Select the Devices to be upgraded.

After configuration is complete, click **Execute Upgrade Task**. The system creates the upgrade task and delivers it to the selected Devices.

NOTICE!

- The actually available Firmware types and Firmware versions depend on the Device model.
- It is recommended to perform upgrade operations when Device communication is normal.
- Keep the Device online during the upgrade process.
- Some Devices may automatically restart after the upgrade is complete.
- You can filter Devices for upgrade by Site, status, version, or SN.
- If the upgrade fails, check the Device online status, network connection, and Firmware version compatibility.

9.1.2. View Upgrade Details

Click **Details** in the upgrade task list to view the execution status of the upgrade task.

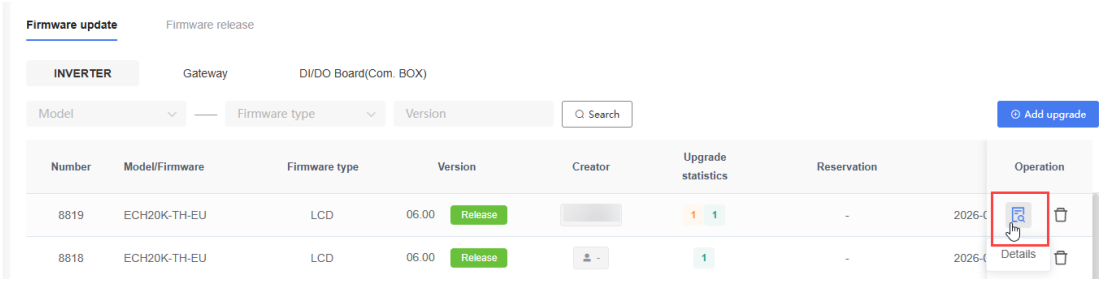


Figure 9-4 Upgrade Details

On the Upgrade Details page, users can view the upgrade Device list, upgrade status, upgrade progress, and upgrade results.

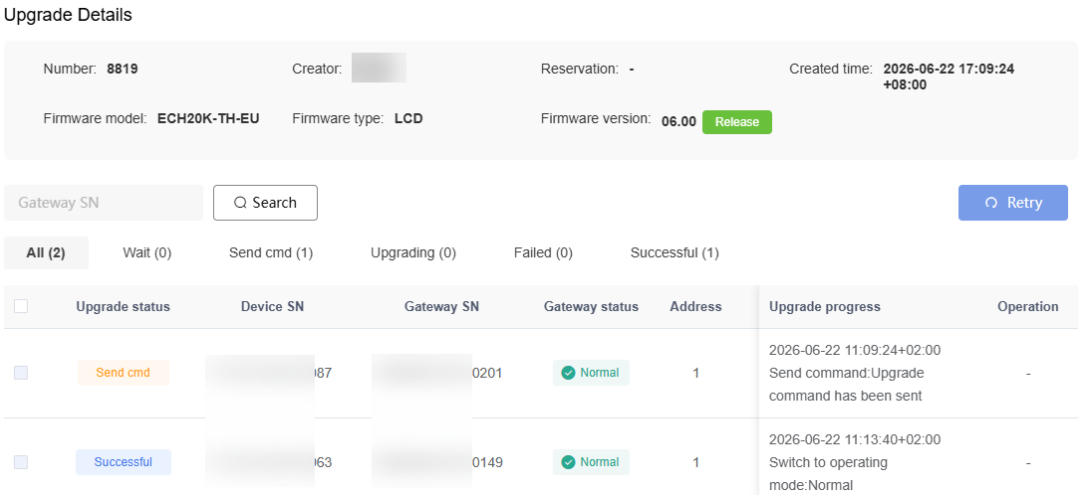


Figure 9-5 Upgrade Details Page

9.2. Firmware Release

Firmware Release is used to view the Firmware versions published on the platform and download the corresponding Firmware files.

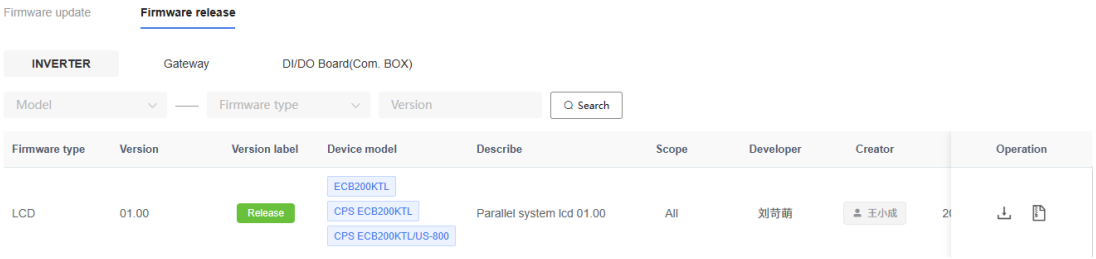


Figure 9-6 Firmware Release

Users can view published Firmware by Device type:

- Inverter
- Gateway

- DI/DO Board (Communication Box)

Filtering and searching by model, Firmware type, and version are supported.

In the Firmware list, users can view information including Firmware version, version label, applicable model, version description, release scope, and release time.

Click the download icon in the operation column to download the corresponding Firmware file.

NOTICE!

- Different Device types support different Firmware versions.
- Firmware versions and applicable models are based on the actual content published on the platform.
- It is recommended to select the corresponding Firmware version for upgrade based on the Device model.
- Before downloading Firmware, confirm that the Firmware version is compatible with the target Device.

10. Maintenance

10.1. Alarm Management

The **Alarm Management** is used to view and manage Alarm information generated by the system.

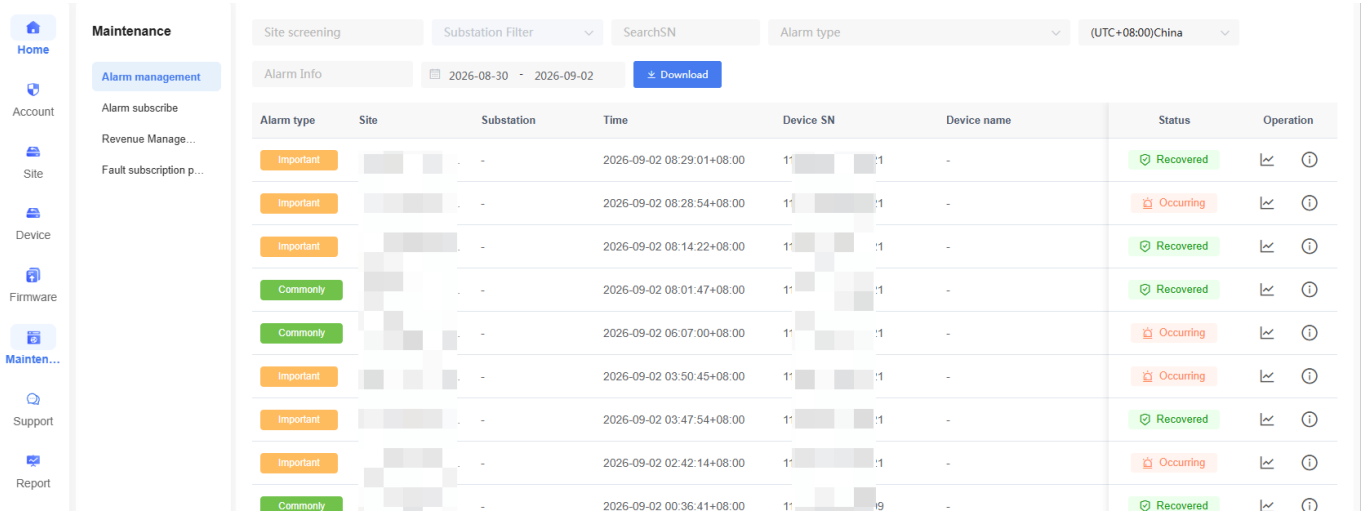


Figure 10-1 Maintenance > Alarm Management

Users can filter Alarm records by Site, sub-Site, Device SN, Alarm type, Alarm content, and time range.

The following operations are supported:

Operation	Description
View Fault Curve (i.e. Alarm Trend)	Click the trend icon to view the operating curve during the Alarm occurrence period.
View Alarm Details	Click the details icon to view Alarm information, Device information, and handling suggestions.
Export Data	Export Alarm records that match the filter criteria.

The Alarm Trend page is used to view historical operating data during the Alarm occurrence period, assisting in fault cause analysis.



Figure 10-2 Alarm Trend

The Alarm Details page displays the Alarm level, Alarm code, Device information, occurrence time, Alarm content, and suggested handling plan.

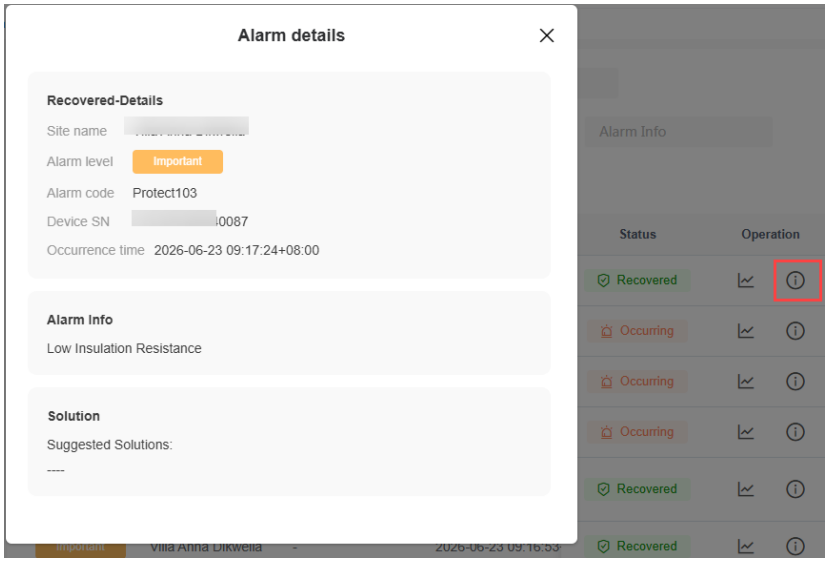


Figure 10-3 Alarm Details

NOTICE!

- The Alarm types supported may vary depending on the Device.
- Alarm statuses include "Active" and "Recovered".
- It is recommended to conduct fault analysis by combining the Alarm trend and handling suggestions.

10.2. Revenue Management

Revenue Management centralizes the revenue-related data of Sites and Devices, including electricity price scheme management, Demand, energy statistics, and revenue statistics.

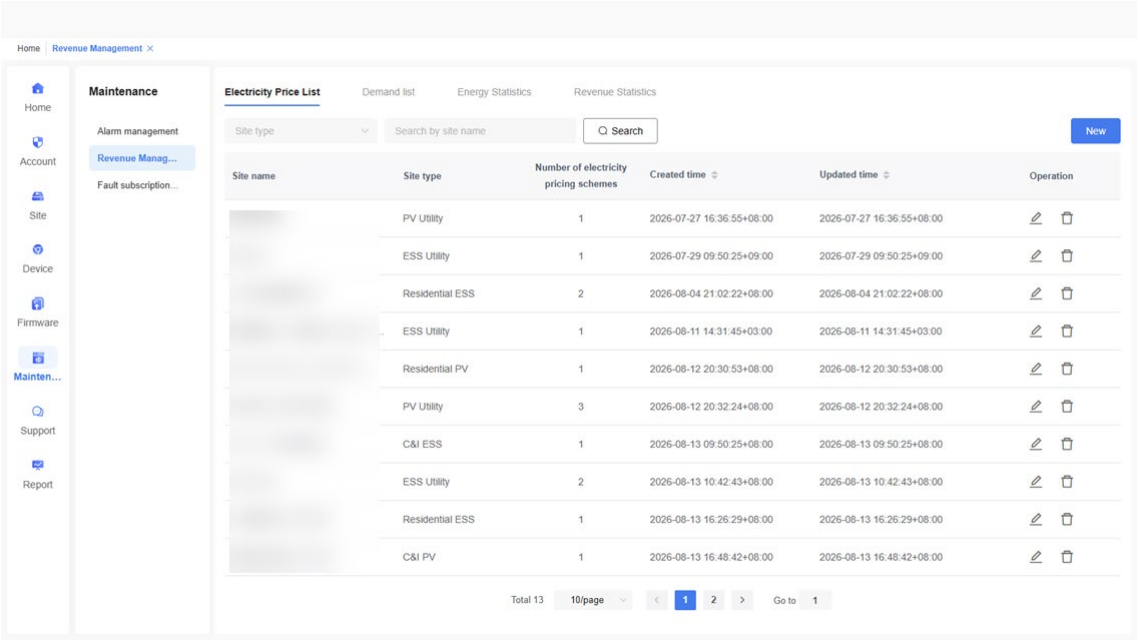


Figure 10-4 Revenue Management

To access the Revenue Management page: In the left navigation bar, click **Maintenance** and select **Revenue Management**. The page is organized into the following tabs:

- Electricity Price List: Lists the Sites and their electricity price schemes, showing the Site name, Site type, number of electricity price schemes, and the Created/Updated time of each Site. Use **New** to create an electricity price scheme for a Site, and use the Operation column to edit or delete the schemes.
- Demand List: Displays the Demand targets and actual demand of each Substation, including the appraisal cycle, assessment period, Demand setpoint, and actual demand. Use **Add Demand Target** to set Demand targets, **Historical Demand** to view historical Demand records, and "Export" to export the list.
- Energy Statistics: Select a Site to view its energy statistics. Results can be filtered by Site type, Site name/Substation, statistics granularity (Day / Month / Year / Total), date, and time zone.
- Revenue Statistics: Select a Site to view its revenue statistics. Results can be filtered by Site type, Site name/Substation, statistics granularity (Day / Month / Year / Total), date, and time zone.

10.2.1. Create an Electricity Price Scheme

1. Switch to the **Electricity Price List** tab and click **New**.
2. In the **Select Site** dialog that appears, select the Site type and then the target Site.

3. Click **Confirm**, then set the scheme name and configure the electricity prices of the scheme.
4. Save the scheme. The new scheme is added to the list of the Site.

10.2.2. Demand Data

In the "Demand List" tab, you can view and manage the Demand targets and actual Demand of each Substation, including the appraisal cycle, assessment period, Demand setpoint, actual demand, actual load demand, and the related electricity prices.

To view the Demand data:

1. Switch to the **Demand List** tab.
2. Optional: search by Site name or Substation name, select the date range and the data display time zone, then click **Search**.
3. The Demand list displays the appraisal cycle, assessment period, Demand setpoint, actual demand, and related data of each Substation.

To add a Demand target:

1. Click **Add Demand Target**.
2. In the Demand target setting dialog, select the Site and the Substation.
3. Set the appraisal cycle, the Demand setpoint (kW), the base electricity price, and the excess demand price.
4. Select the date and click **Save** to create the Demand target.

Click **Historical Demand** to view the historical Demand records, or click "Export" to export the Demand list.

10.2.3. Energy Statistics

In the **Energy Statistics** tab, select a Site to view its energy statistics by statistics granularity.

To view the energy statistics:

1. Switch to the **Energy Statistics** tab.
2. Select the Site type and then the target Site (search by Site name); select the Substation if needed.
3. Select the statistics granularity (Day / Month / Year / Total), the date, and the data display time zone.
4. The system displays the energy statistics of the selected Site. Click **Refresh** to update the data or **Export** to export it.

10.2.4. Revenue Statistics

In the **Revenue Statistics** tab, select a Site to view its revenue statistics by statistics granularity.

To view the revenue statistics:

1. Switch to the **Revenue Statistics** tab.
2. Select the Site type and then the target Site (search by Site name); select the Substation if needed.
3. Select the statistics granularity (Day / Month / Year / Total), the date, and the data display time zone.
4. The system displays the revenue statistics of the selected Site. Click "Refresh" to update the data or **Export** to export it.

NOTICE!

- Filtering Revenue data by time range is supported.
- The content displayed in the chart may vary depending on the Device type and data source.
- Actual Revenue data is based on the platform's statistical results.

10.3. Fault Subscription Plan

The **Fault Subscription Plan** function enables you to subscribe to notifications when critical faults occur on Devices. When an emergency fault matching a subscription plan occurs, the system notifies the subscribed recipients in real time or in a summary, via In-site message or E-mail, so that you can intervene promptly and protect system revenue.

To access the Fault Subscription page: In the left navigation bar, click **Maintenance** and select **Fault subscription plan**.

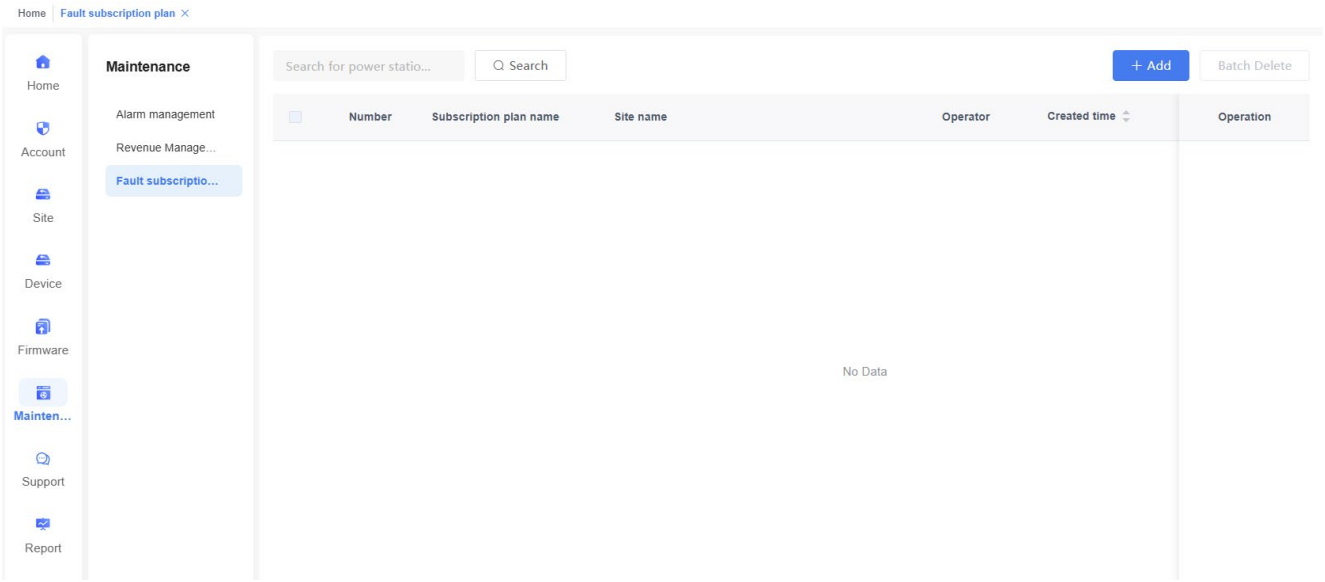


Figure 10-5 Fault Subscription

The Fault Subscription page lists all subscription plans and displays the Number, Subscription plan name, Site name, Operator, Created time, Modification time, and Operation of each plan. The following operations are supported:

- Search: Enter a Site name or plan name keyword in the search box, then click **Search**
- Add: Click **Add** to create a new subscription plan.
- Batch Delete: Select the checkboxes of multiple plans and click "Batch Delete" to delete them at once.

To add a subscription plan:

1. Click **Add**.
2. Select the Subscription type:
   - Emergency malfunction: the plan is triggered when an emergency fault occurs
   - Device is offline: the plan is triggered when a Device goes offline.
3. Enter the plan name.
4. Click Select Site and select the Sites to be monitored. Power stations can be selected in full, multiple, or single choices.
5. Click Select Device and select the Devices to be monitored. Multiple-choice and single-choice devices are supported.
6. In the "*Trigger the plan when the following alarms occur*" area, select the alarms that trigger the plan. The available alarms are generated according to the selected Devices.
7. Set the Type of notification:
   - Summary Notice: enable the switch to receive summary notifications, then set the "Time interval" (every day, every 12 hours, every 6 hours, every 3 hours, every hour, every half hour, every 15 minutes, or every 5 minutes) and the summary time (0~24 Hour);
   - Real-time notification: enable the switch to receive real-time notifications when the subscribed fault occurs.
8. Set the reminder target: click **Select existing personnel** to select recipients from the personnel list and choose the push method ("E-mail" and/or "In-site message") for each recipient; you can also add a reminder target manually by entering the contact person name, E-mail, reminder method, and language.
9. Click **Confirm** to create the subscription plan. The new plan appears in the Fault Subscription list.

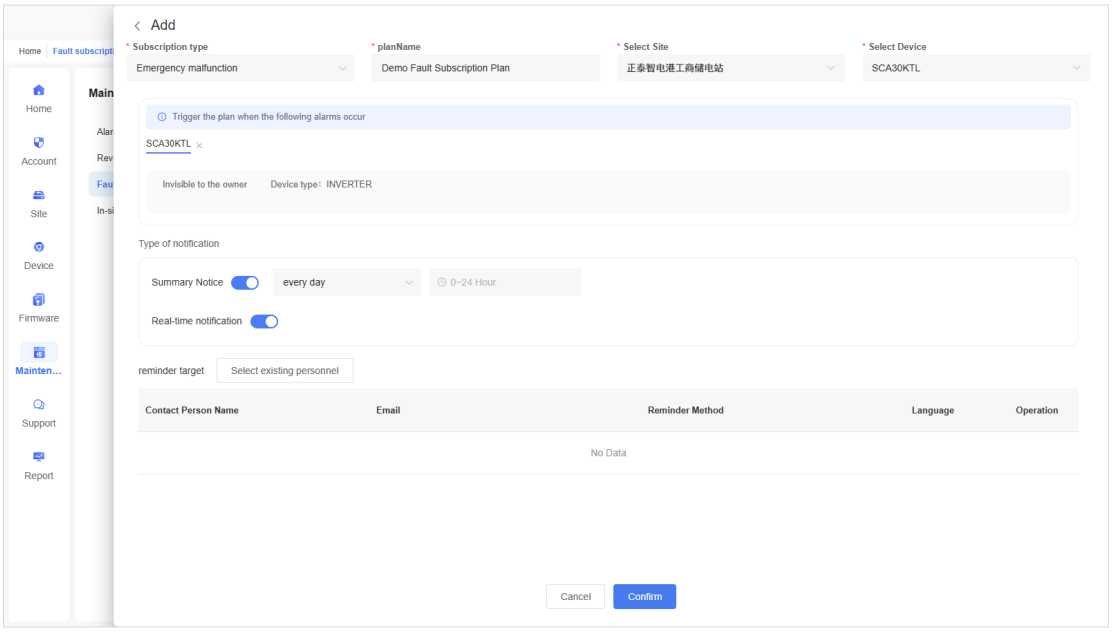


Figure 10-6 Alarm Conditions and Notification Settings

For an existing subscription plan, you can click the details icon in the Operation column to view the plan details, click the edit icon to modify the plan, or click the delete icon and confirm to remove the plan.

10.4. Alarm Subscribe (Applicable to North America Only)

NOTICE!

Alarm subscribe is a legacy feature available only on North America. It offers similar functionality to the newer *Fault Subscription Plan* (see *10.3*), which is supported across all regions. In North America, both options are displayed together.

The "Alarm subscribe" function enables you to subscribe to the alarms of Devices. For the selected Device models at the selected Sites, the system sends alarm notifications to the configured E-mail at the set notification timing (for example, every 1 hour or every 3 hours).

To access the Alarm subscribe page: In the left navigation bar, click **Maintenance** and select **Alarm subscribe**.

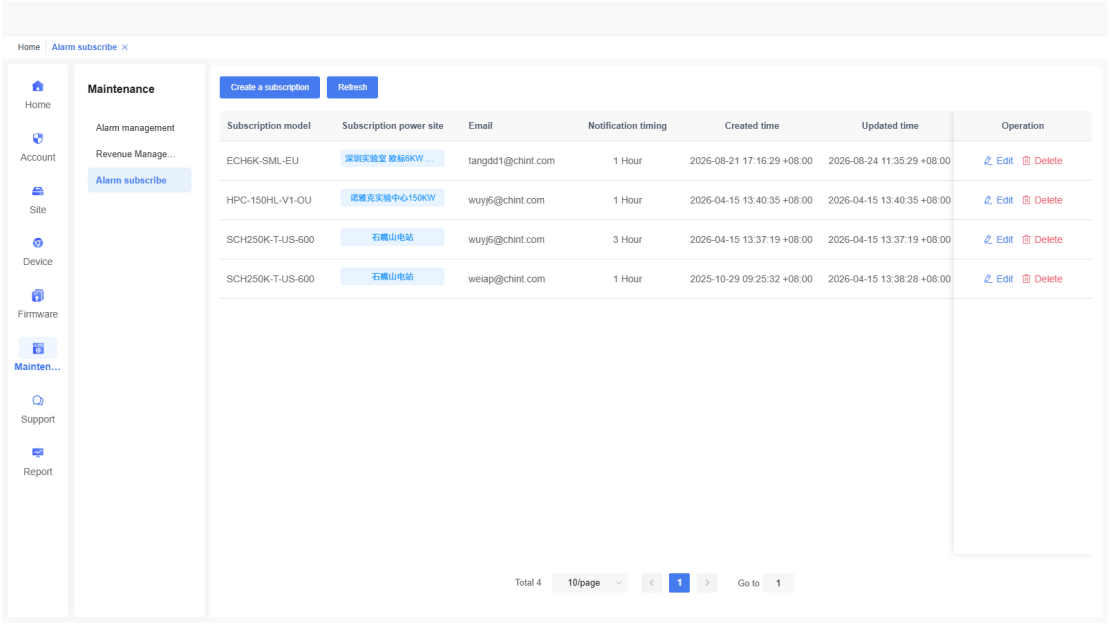


Figure 10-7 Alarm subscribe

The Alarm subscribe page lists all subscription records and displays the Subscription model, Subscription power site, Email, Notification timing, Created time, Updated time, and Operation of each subscription. Users can search records, refresh the list with the **Refresh** button, and manage subscriptions with **Edit** and **Delete** in the Operation column.

To create an alarm subscription:

1. Click **Create a subscription**.
2. Select the Device Model to be subscribed.
3. Select up to 5 Sites (power stations) to be subscribed.
4. Click **Next**, then enter the subscription information: set the notification Email and the Notification timing (in hours), and select the alarm types or alarm codes to be notified.
5. Click **Confirm** to create the subscription. The new subscription appears in the Alarm subscribe list.

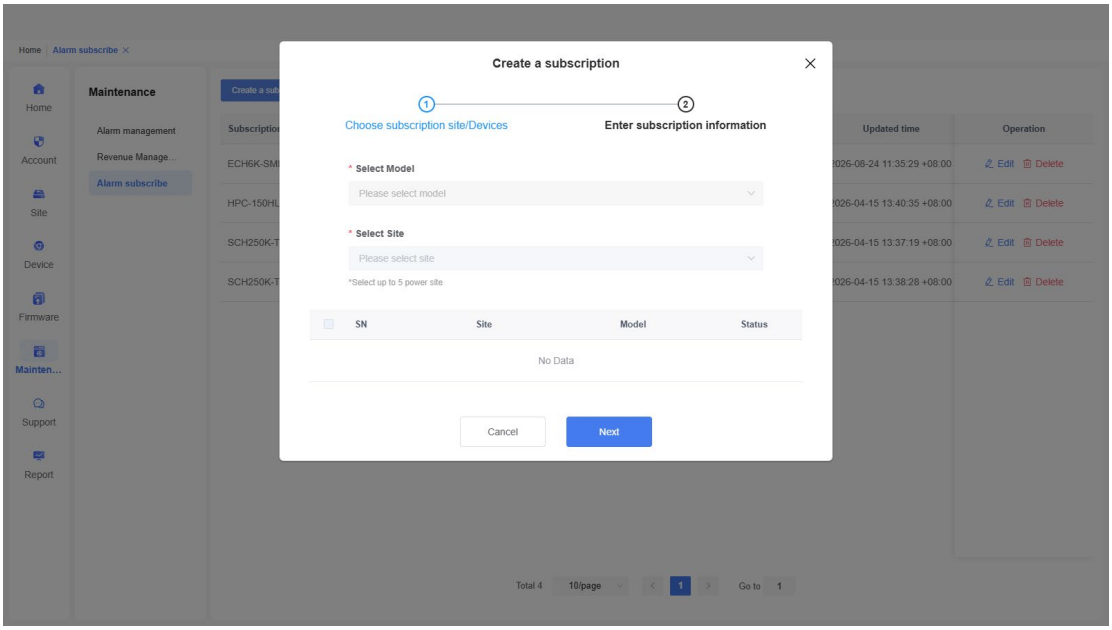


Figure 10-8 Create an Alarm Subscription

To modify an existing subscription, click **Edit** in the Operation column; to remove a subscription, click **Delete** and confirm the deletion.

11. Report

The **Report** is used to generate and export Site and Device operation reports.

11.1. Generate Operation Reports

11.1.1. Generate Site Report

The Site Report is used to compile the operating status and performance data of a Site within a specified time range.

After the Site Report is generated, you can download PDF and Excel files.

Steps:

1. Click **New**.

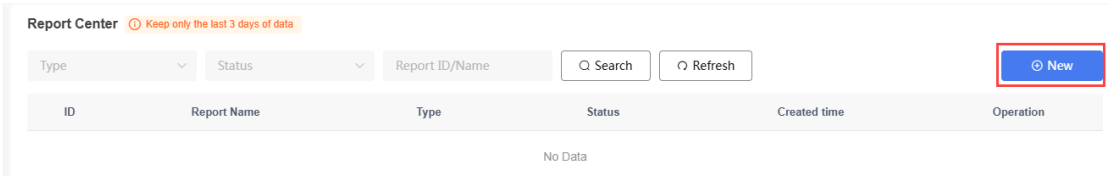


Figure 11-1 Create Site Report

2. Select **Site Report**.
3. Enter the report name.

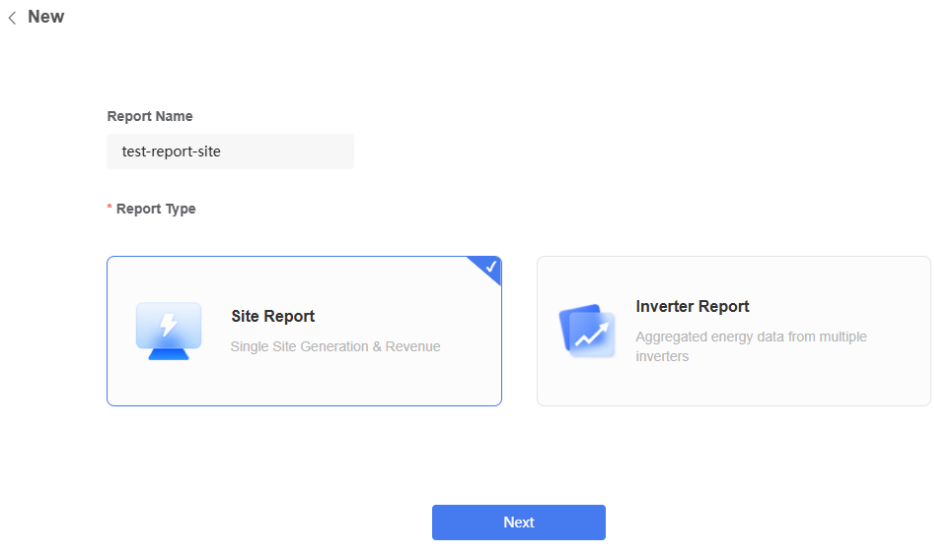


Figure 11-2 Select Site Report

4. Select the Site.
5. Select the statistics period and time zone.
6. Click **Export**.

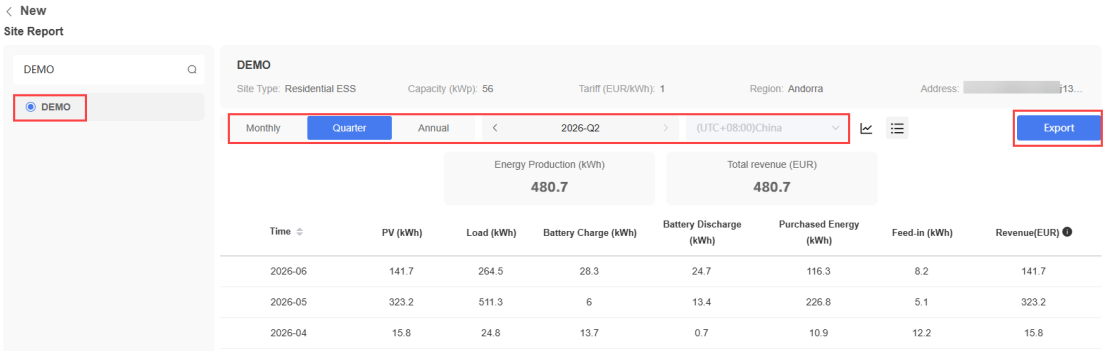


Figure 11-3 Configure Report Content

11.1.2. Generate Inverter Report

The Inverter Report is used to compile the operating status and performance data of Inverters within a specified time range. The Inverter Report can aggregate Energy data from multiple Inverters to generate a report. After the Inverter Report is generated, you can download an Excel file.

1. Click **New**.

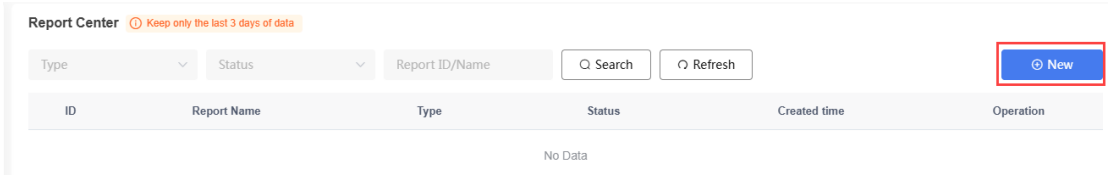


Figure 11-4 Create Inverter Report

2. Select **Inverter Report**.

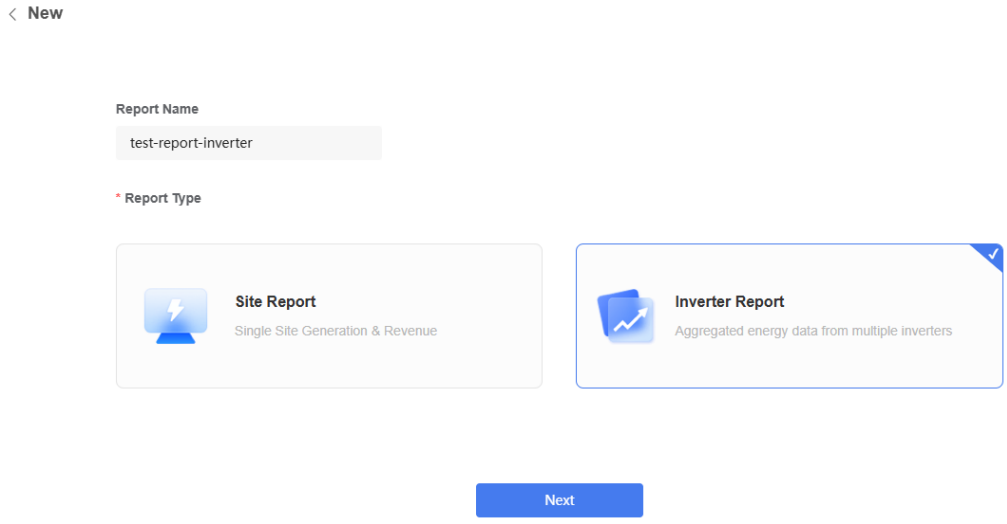


Figure 11-5 Create Inverter Report

3. Enter the report name.
4. Select the Site.
5. Select the Inverters.

6. Select the statistics period and time zone.
7. Click **Export**.
8. The system creates a report generation task.

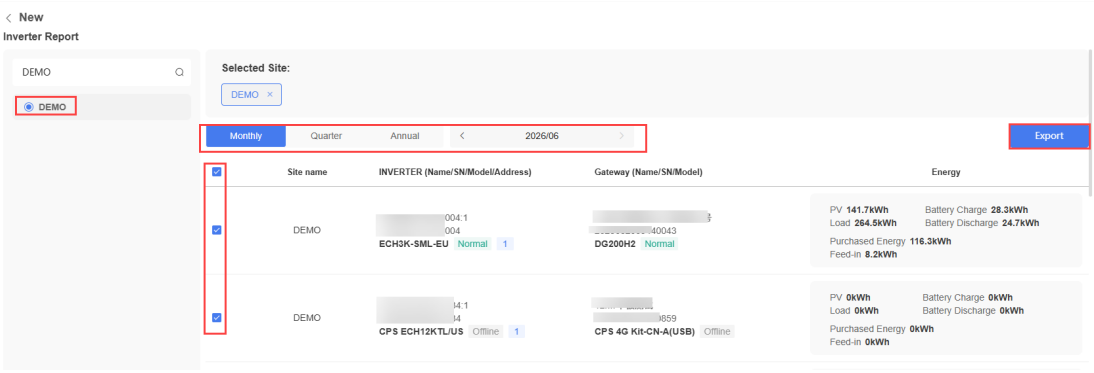


Figure 11-6 Configure Report Content

11.2. Report Management

11.2.1. Download Report

When the report status changes to **Completed**, you can perform the following operations:

- Site Report supports downloading PDF and Excel files.
- Inverter Report supports downloading Excel files.

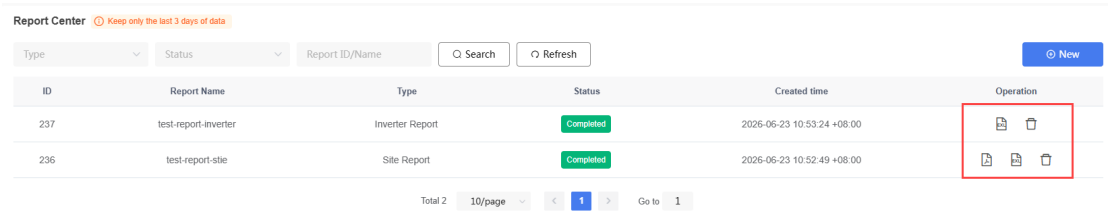


Figure 11-7 Download Report

11.2.2. Delete Report

Click the delete icon to delete a report.

The report cannot be recovered after deletion.

12. AI Smart Answer

AI Smart Answer is an intelligent question-and-answer assistant built into MatriCloud WEB. It helps you solve problems that you may encounter during the installation, usage, commissioning, and after-sales service of CHINT products, for example by interpreting an error code, providing the operation method of a Device, answering frequently asked questions, and introducing product models and specifications.

12.1. Accessing AI Smart Answer

The AI Smart Answer page is opened from the top bar of the platform. Move the pointer over the AI Smart Answer icon on the right side of the top bar; the function name is displayed in a tooltip. Then click the icon to open the page.



Figure 12-1 AI Smart Answer Icon

12.2. Asking a Question

The page consists of a conversation panel on the left and a Q&A area on the right. The conversation panel provides the "New conversation" button, the "Search history" box, and the conversation history. In the Q&A area, you can ask the assistant questions and view its answers.

When a new conversation starts, the assistant shows a welcome message and describes the services it can provide, such as troubleshooting, answers to frequently asked questions, product user guide lookup, and product information inquiry. The welcome page of a new conversation is shown in Figure below.

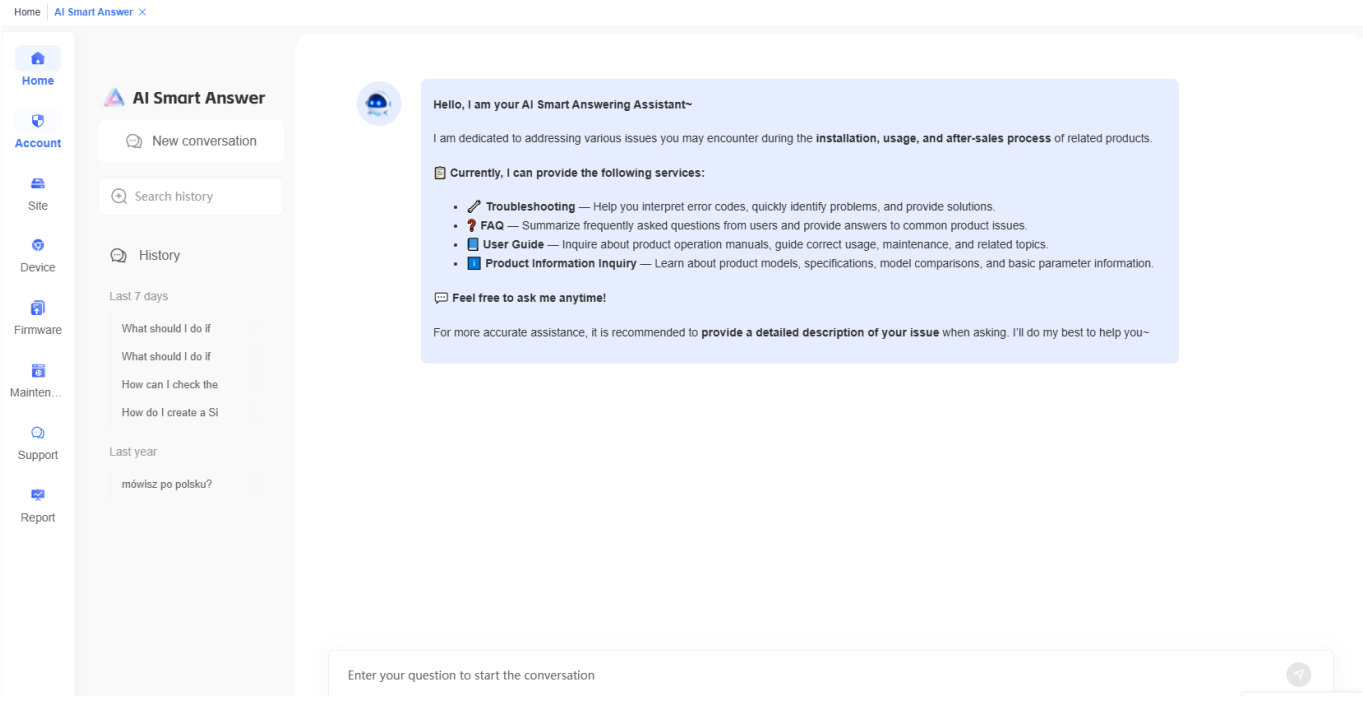


Figure 12-2 AI Smart Answer welcome page

Type your question in the input box at the bottom of the Q&A area and press Enter, or click the send button, to submit it. When the input box is empty, the prompt "Enter your question to start the conversation" is displayed. It is recommended to describe your problem in detail so that the assistant can provide a more accurate answer.

The assistant generates the answer in text form. After an answer is generated, move the pointer over the answer and rate it with the like or dislike feedback icon. Suggested follow-up questions are provided below the answer; click a suggested question to continue the conversation. An example of asking a question and viewing the answer is shown in Figure 12-2.

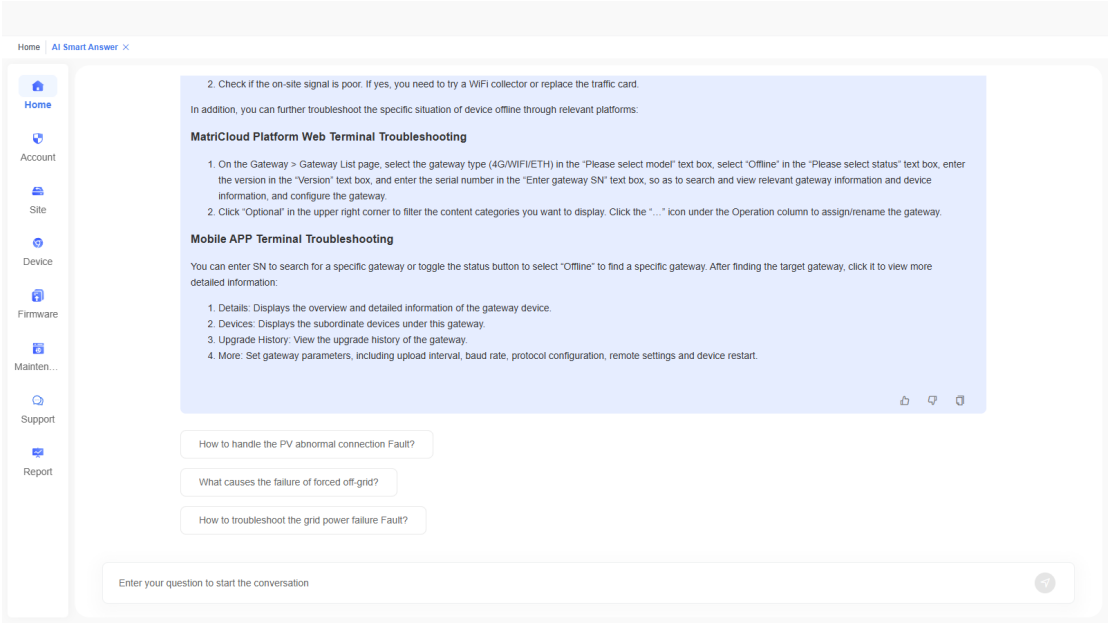


Figure 12-3 Asking a question and viewing the answer

12.3. Managing Conversation History

Conversations are saved automatically and listed in the conversation panel on the left side of the page, grouped by time, for example "Today", "Last 6 months", and "Last year". Click a conversation to continue asking questions in it.

Click **New conversation** to start a new conversation. To locate a previous conversation, enter a keyword in the "Search history" box.

Move the pointer over a conversation and click the **More** button to manage it. Select **Rename** to modify the conversation name in the dialog box (up to 20 characters) and click **Confirm**. Select **Delete** and click **Confirm** to delete the conversation; deleted conversation records cannot be recovered.

13. Terminology and Abbreviations

The following table lists and defines the key terms and abbreviations used in this manual.

13.1. Platform and Roles

Term	Full Term	Description
MatriCloud	MatriCloud Web	The cloud-based monitoring and O&M management platform. It is available as both a web application and a mobile app. (Note: This manual specifically covers the web application, MatriCloud Web v2.14.0).
Web	—	The browser-based version of the MatriCloud platform.
App	—	The mobile application version of the MatriCloud platform. For on-site commissioning, please refer to the MatriCloud App Commissioning Manual. For remote monitoring, refer to the MatriCloud App Remote O&M Manual.
Site	—	A power plant or installation registered on the platform. A Site contains Devices and is bound to a Gateway or a Local Controller.
Substation	—	A sub-unit of a Site that groups the Devices of an energy storage Site (for example, a cluster of PCS and BMS devices) under a Local Controller.
Owner	—	The end user who owns the Site account. An Owner account is bound to a Site and can view and manage its data.
Distributor	—	An account type used by distributors who install and maintain Sites on behalf of end users.
Installer	—	An account type used by installation and commissioning personnel.
Common Manager	—	A platform-level manager account with extended functions (for example, Remote Read/Write and Gateway management), as noted where a function is marked "Common Manager Function Only".

O&M	Operation and Maintenance	The daily operation and maintenance activities performed through the platform.

13.2. System and Device

Term	Full Term	Description
PV	Photovoltaic	Technology that converts sunlight into electrical energy; used for PV inverters and PV power plants in this manual.
ESS	Energy Storage System	A system that stores electrical energy and releases it when needed, including battery-based storage sites.
PCS	Power Conversion System	The power conversion device of an energy storage system that converts between AC and DC to charge or discharge the battery.
BMS	Battery Management System	The system that monitors and manages the battery, including its state, protection, and cell data.
EMS	Energy Management System	The management system used to monitor and control a Site (for example, the EMS system entered from the System Center).
LC	Local Controller	The on-site controller of an energy storage Site. Through the LC, the platform reads the energy-storage Devices of the Site, including PCS, BMS, PV inverters, and electricity meters.
Gateway	—	The network-card communication device that connects a Site to the platform. PV Sites and energy storage PCS Sites are accessed through a Gateway.
Inverter	PV Inverter	A device that converts the DC output of PV panels into AC power. Residential storage inverters also manage battery charging and discharging.
Electricity Meter	—	A device that measures the energy imported from or exported to the grid. Electricity Meter data is collected through a Gateway.
Firmware	—	The embedded software of a Device. Firmware can be upgraded remotely through the Firmware module of the platform.

DI/DO	Digital Input / Digital Output	Signal interfaces of a Device (for example, the DI/DO Board / Communication Box used for external control).

13.3. Electrical Terms and Parameters

Term	Full Term	Description
AC	Alternating Current	Electric current that periodically reverses direction; used for the grid side and AC-side loads in this manual.
kWh	Kilowatt-hour	The unit of electrical energy used in energy statistics.
kW	Kilowatt	The unit of power used in this manual.
MPPT	Maximum Power Point Tracking	The function of a PV inverter that tracks the operating point at which the PV array delivers maximum power.
SOC	State of Charge	The remaining capacity of a battery expressed as a percentage of its full capacity.
TOU	Time-of-Use	An electricity pricing method in which different prices apply to different time periods (for example, peak, normal, and off-peak).
C&I	Commercial and Industrial	Used with Site categories, for example C&I PV and C&I ESS (Commercial & Industrial Energy Storage).
VPP	Virtual Power Plant	A network of distributed energy resources that can be dispatched as a single power plant.
SN	Serial Number	The unique serial number of a Device, used to identify it on the platform.

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