



EMS System Cloud

User Manual

2025/11/11
v1.0



目录

1. Software Overview	3
1.1 Overview	3
1.2 Functions	3
1.3 Applicable Users	5
1.4 Security	6
2. Operating Environment	6
3. User Guide	6
3.1 Website Access	7
3.2 Cloud Platform Functions	7
3.2.1 Login	7
3.2.2 Overview	8
3.2.3 Power Plants	9
3.2.4 Device List	17
3.2.5 O&M	22
3.2.6 Service Center	26
3.2.7 Account Management	27



1. Software Overview

1.1 Overview

TCL iEnergy is an intelligent energy management system (EMS) cloud platform.

The platform supports multi-role access, including device manufacturers, channel partners, distributors, and installers. It provides comprehensive data visualization and centralized management of power plants, devices, and individual device data.

The platform supports device firmware management and remote upgrades. Users can review upgrade logs and handle related service requests. Through the Service Center, users can respond to end-user inquiries, manage device inventory, and perform account management.

TCL iEnergy is designed to deliver efficient and convenient energy management solutions for various user roles.

1.2 Functions



Data Overview

Users can view real-time overall power plant data, device-level data within each plant, and detailed information for individual devices, enabling comprehensive monitoring of energy operations.

Power Plant Management

Centralized management of power plants and associated devices. Users can easily monitor operational status and perform timely adjustments and optimization.

Device Management

Real-time monitoring of device operating status, health condition, and key parameters to ensure optimal performance and improved overall energy efficiency.

Firmware Management & Upgrade

Centralized firmware management with support for remote upgrades. Manufacturers can upload firmware via the platform, and users can review upgrade logs to ensure devices remain up to date.

Service Support

Through the Service Center, users can respond to end-user inquiries, manage device outbound records, and handle after-sales service requests, ensuring timely and effective support.



Account Management

Administrators can create and manage sub-admins, channel users, distributors, and installer accounts, enabling flexible role-based access control.

1.3 Applicable Users

Device Manufacturer (Admin)

- Create and manage sub-admins, channel users, distributors, and installers
- View all power plants and devices
- Manage firmware versions and remote upgrades

Distributor

- Manage power plants, devices, and accounts
- Support installer account creation

Channel Partner

- Manage power plants, devices, and accounts
- Support installer account creation



Installer

- Monitor activated devices
- Manage own account

1.4 Security

The software features high performance and high concurrency while ensuring data security and confidentiality.

2. Operating Environment

This software runs on web browsers and supports the following minimum versions:

Chrome: 123 – 126

Firefox: 115, 125 – 128

Safari (iOS): 15.6 – 17.5

Safari (Desktop): 17.4 – 17.5

Microsoft Edge: 124 – 126

3. User Guide



3.1 Website Access

Contact Fuda FAE to provide the device manufacturer's email address.

After account activation via email, a dedicated platform URL will be provided.

3.2 Cloud Platform Functions

Login

Overview

Power Plant Management & Device Monitoring

Power Plant Details & Strategy Management

Single Device Monitoring, Data Collection & Configuration

O&M (Firmware Management, Remote Upgrade, Upgrade Logs)

Service Center (User Q&A and Device Inventory)

Account Management

3.2.1 Login

Login Process



Contact Fuda → Provide manufacturer email → Fuda sends activation email →

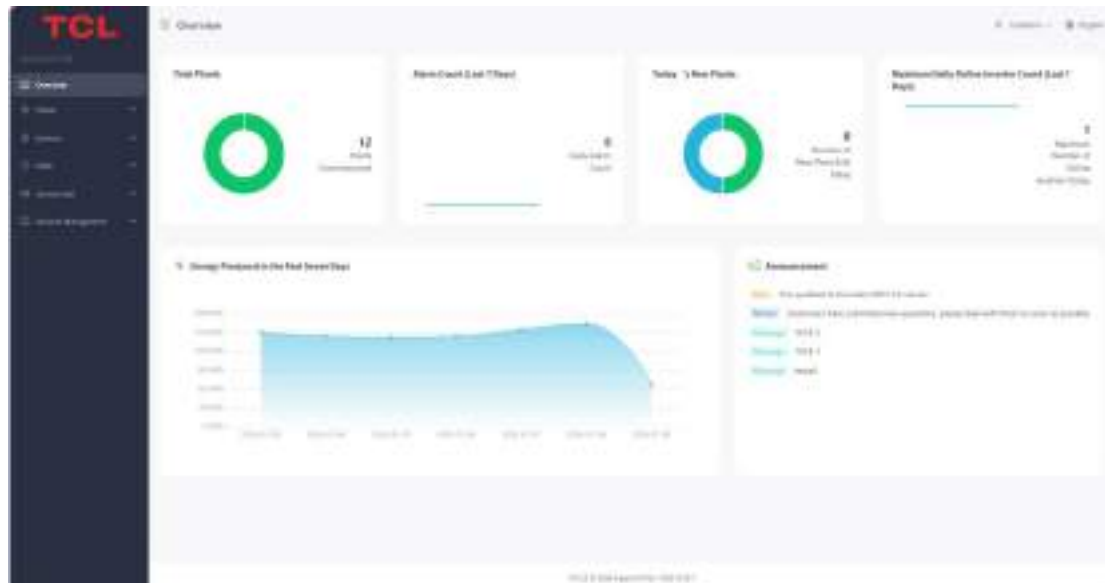
Activate account and set password → Obtain dedicated cloud platform URL



3.2.2 Overview

1, View total number of power plants, number of alarms in the past 7 days, newly created plants on the current day, and device online statistics for the past 7 days.

2, Statistics vary by device type: BMS: Charge/discharge data over the past 7 days; INV / EMS: Discharge and charge energy over the past 7 days



3.2.3 Power Plants

- 1, View user power plants,
- 2, Support creating new power plants
- 3, Click a plant name to view details
- 4, Support unbinding power plants and devices
- 5, Support deleting power plants



Plant Name	Application Scenario	Plant Type	Total Index	Online or Offline	Plant Owner	Doc	Alarm
...	Compressed & Expanded	Steam Energy Plant	...	Online	...	...	...
...	Compressed & Expanded	Hybrid Energy Plant	...	Online	...	...	...
...	Compressed & Expanded	Steam Energy Plant	...	Online	...	...	...
...	Compressed & Expanded	Hybrid Energy Plant	...	Online	...	...	...
...	...	...	...	Online	...	...	...
...	...	...	...	Online	...	...	...

3.2.3.1 C&I Power Plant Details

1, Plant Overview:

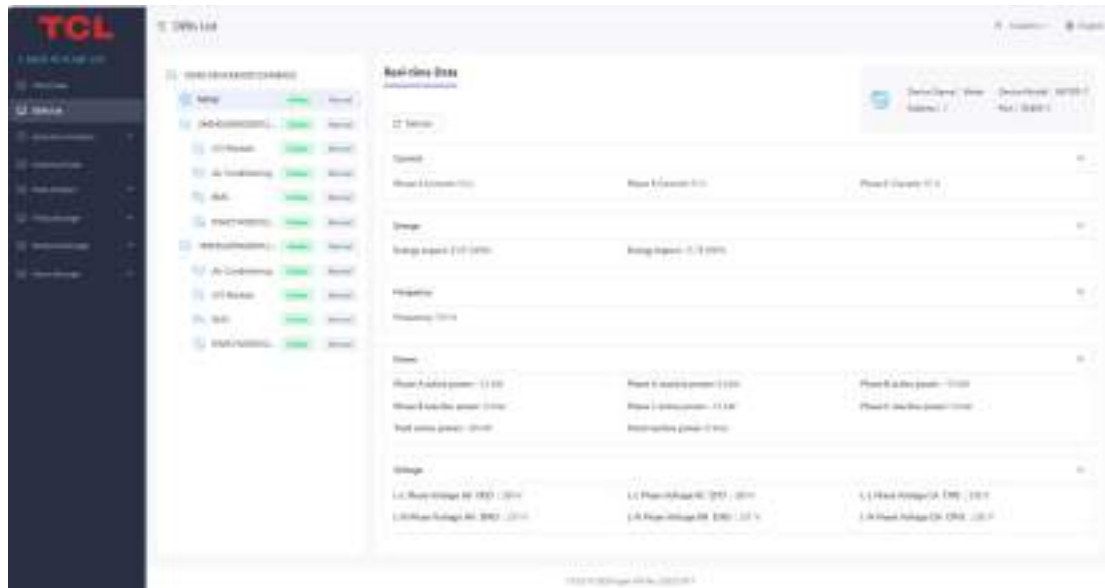
View daily/monthly energy generation, revenue & performance reports, and alarm monitoring.



2, Device List:



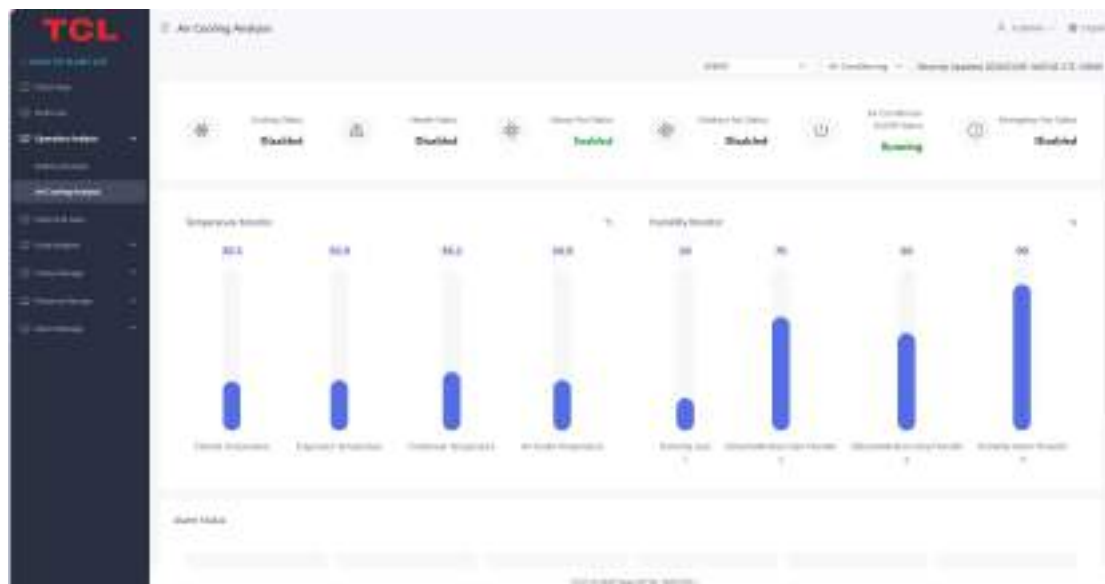
View device status and data bound to the plant.



3, Operation Analysis:

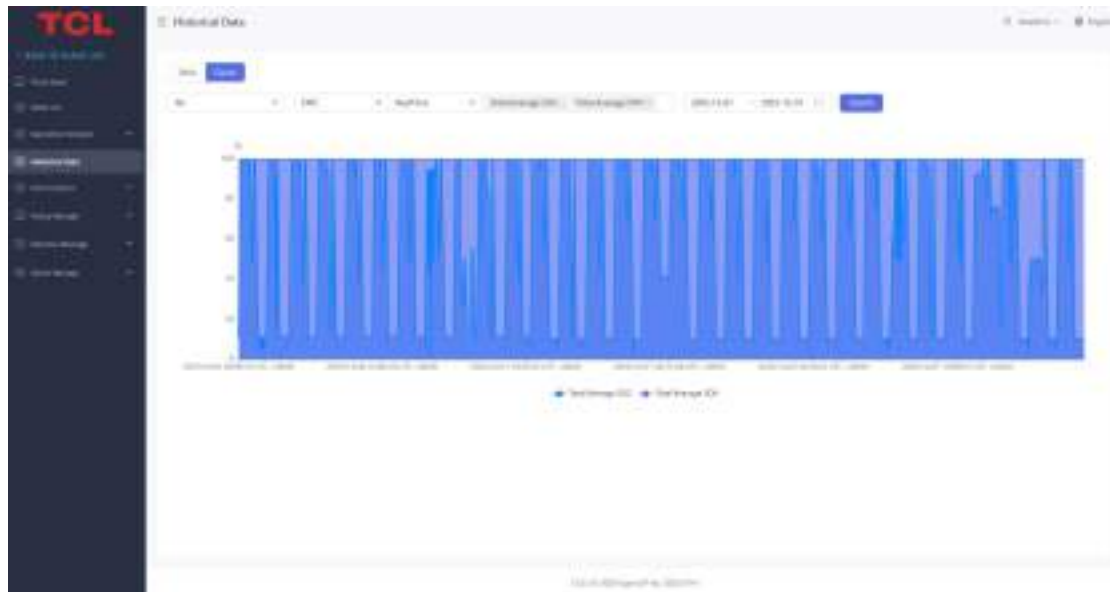
Battery analysis: charge/discharge energy, SOC, SOH, temperature,

HVAC analysis: operating status, ambient temperature, alarm status



4, Historical Data

Manually select devices to view historical data in tables or curves.



5, Data Analysis

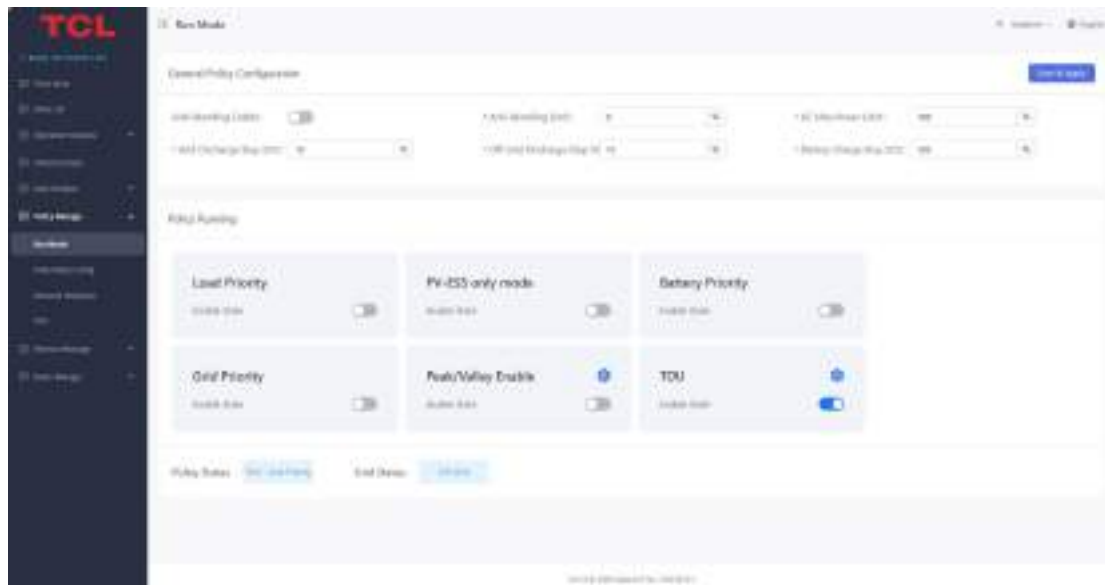
View power curves, energy curves, and system efficiency data, including:
 PV power, AC power, load power, grid power, battery charge/discharge power.





6, Strategy Management

Support manual anti-backflow control and other operational strategies, including: Self-consumption, PV-only with storage, Battery priority, Grid priority, Peak shaving & valley filling, TOU mode



The screenshot shows the 'TOU' (Time of Use) interface, which displays a table of energy usage data. The table has columns for 'ID', 'Start Time', 'End Time', 'Strategy', 'PV Power (kW)', 'ESS Power (kW)', 'ESS Power (kWh)', 'ESS Power (kWh)', and 'Status'. The data is organized into five rows, each representing a different time period and strategy.

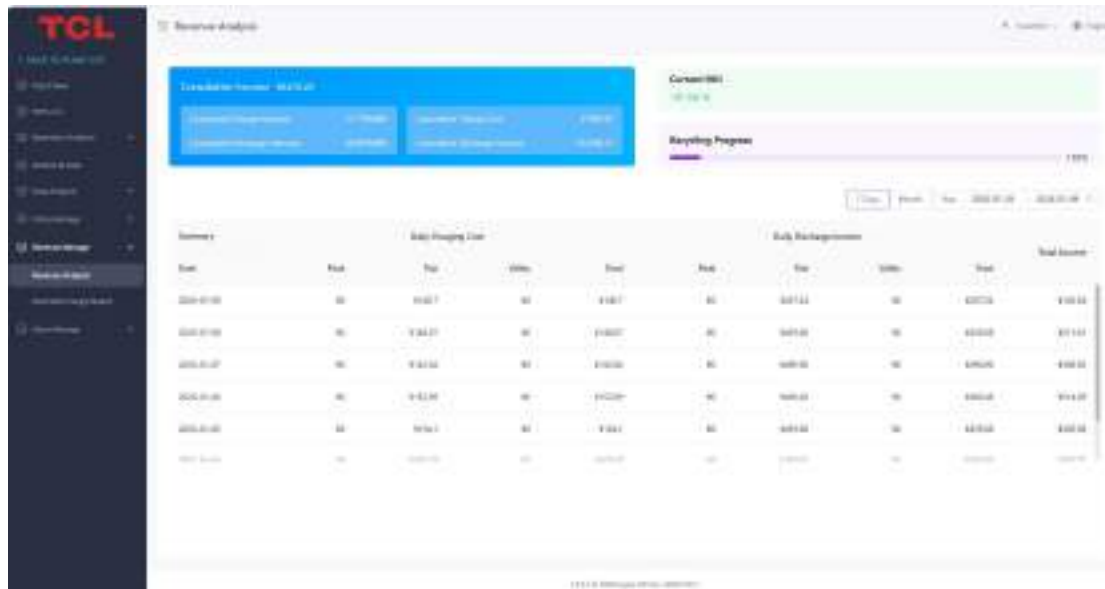
ID	Start Time	End Time	Strategy	PV Power (kW)	ESS Power (kW)	ESS Power (kWh)	ESS Power (kWh)	Status
1	00:00	06:00	Local Priority	1.00	0.00	0.00	0.00	On
2	06:00	08:00	Battery Priority	0.00	0.00	0.00	0.00	On
3	08:00	18:00	ESS P & G	0.00	0.00	0.00	0.00	On
4	18:00	22:00	Battery Priority	0.00	0.00	0.00	0.00	On
5	22:00	24:00	Local Priority	0.00	0.00	0.00	0.00	On

7, Revenue Management

Includes revenue analysis and grid-side energy reports. Revenue is



calculated based on electricity purchase/sale under different strategies.
Grid-side reports show daily, monthly, and yearly charge/discharge data.

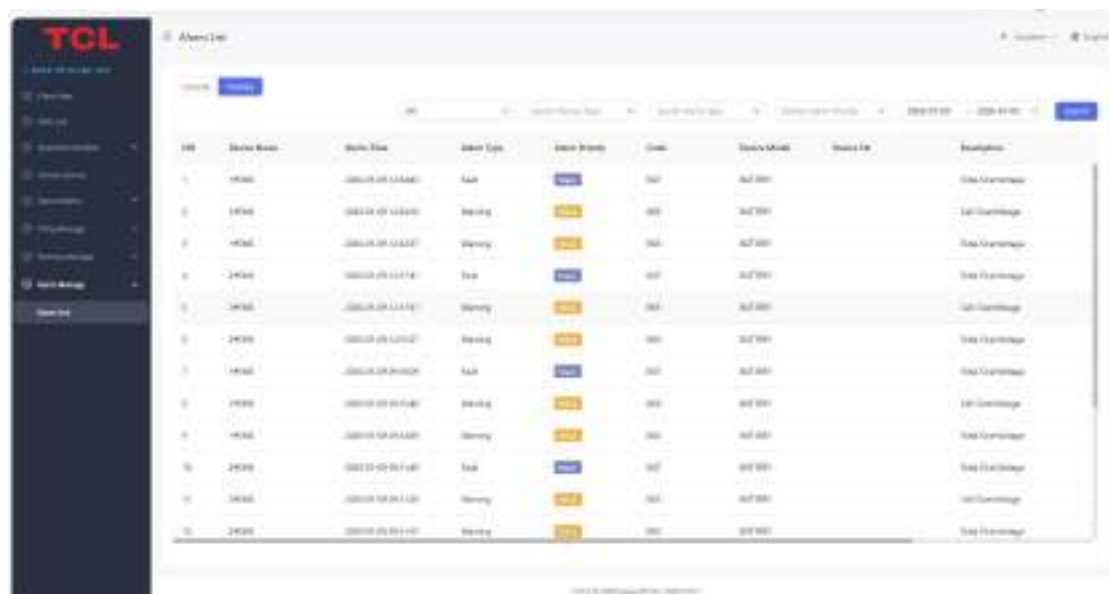
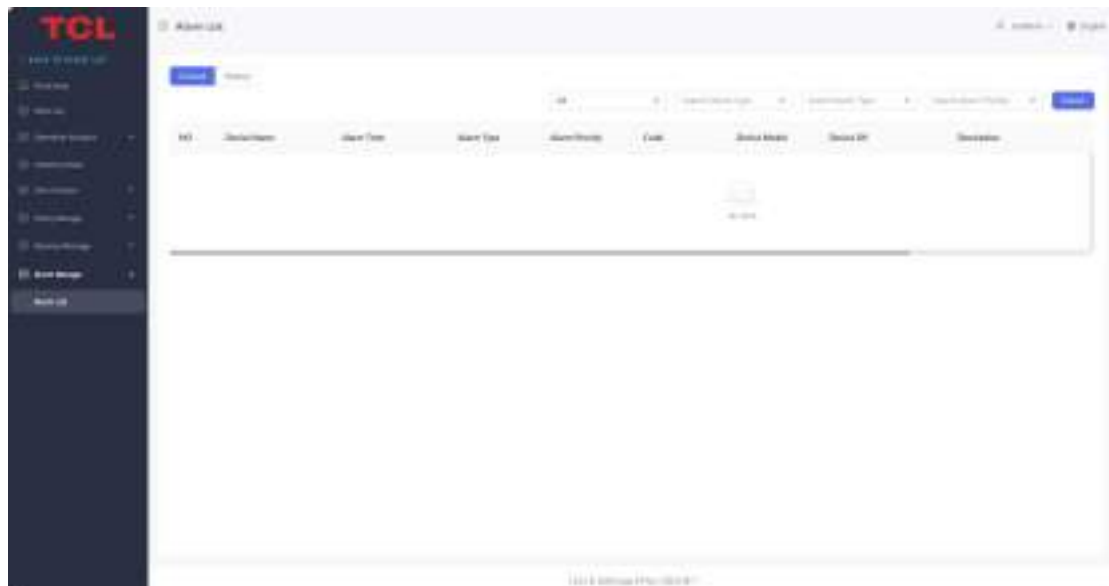


8, Alarm Management

Includes alarm dashboard and alarm list. Dashboard: total alarms, daily alarms, critical alarms, average processing time, with 7-day/month/year



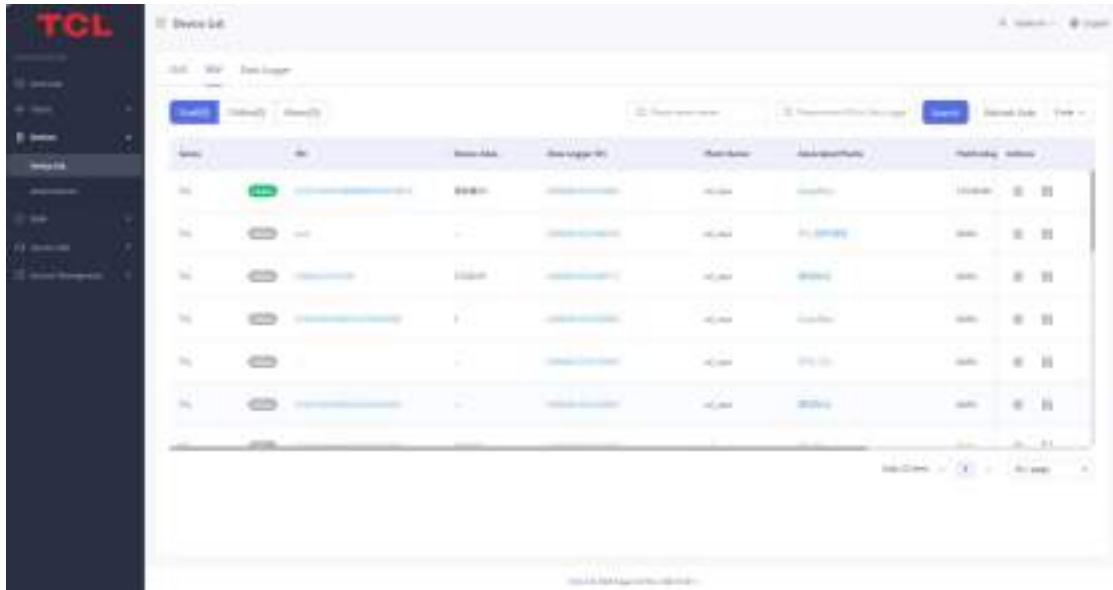
trend curves, Alarm list: view current and historical alarms with filtering by device, alarm type, and severity



3.2.4 Device List

Monitor operating status and issue control commands for bound devices.

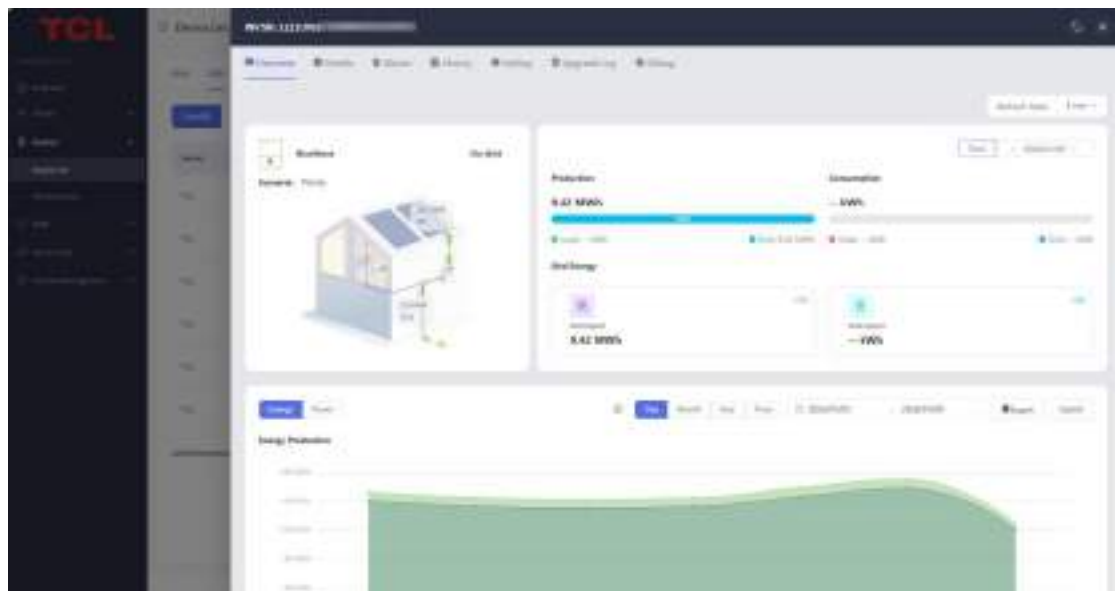
Currently supported devices: **BMS / INV / Data Logger**



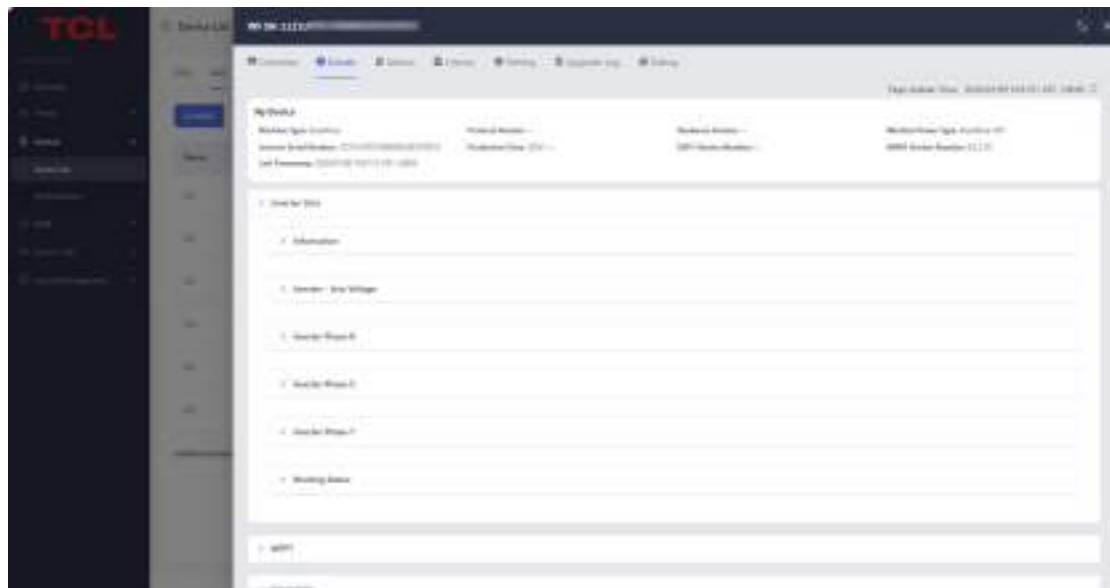
3.2.4.1 Device Monitoring Details

1, Monitor operating status and energy data

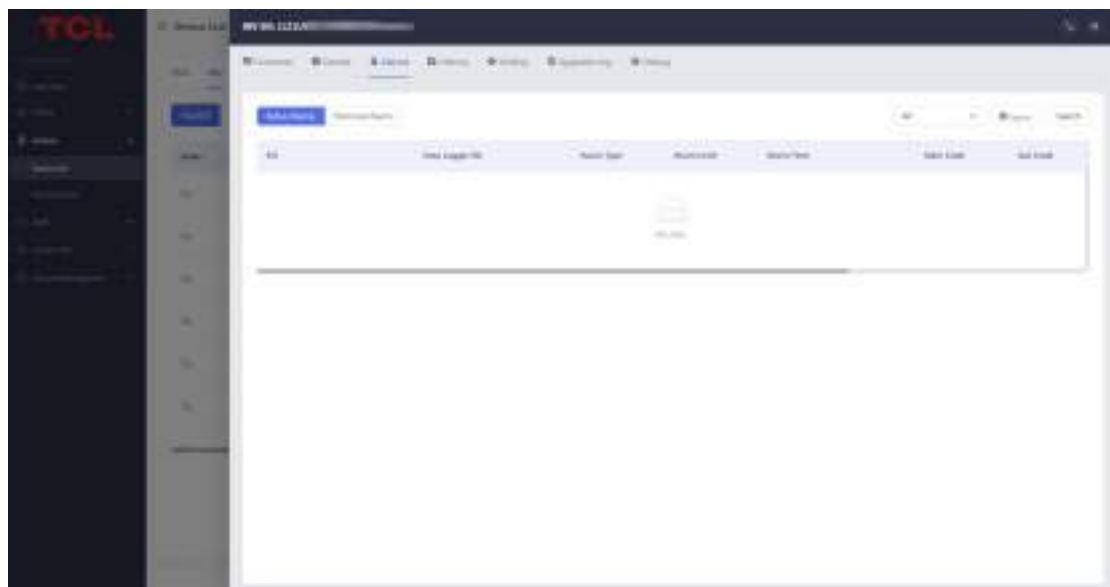
INV



2, View basic device information



3, Monitor alarm information



4, View historical data (curve and table formats supported)



The screenshot displays the TCL EMS interface with a table of energy production data. The table has five columns: Date, Energy Day Peak (kWh), Energy Mtr Daily Production(kWh), Energy Mtr Daily Production(kWh), and Energy PVI. The data is organized into two sections: 'Energy Day Peak' and 'Energy Mtr Daily Production'. The table shows data for the last 7 days, with the most recent data at the top.

Date	Energy Day Peak (kWh)	Energy Mtr Daily Production(kWh)	Energy Mtr Daily Production(kWh)	Energy PVI
2023-09-20 00:00:00	1000	1000	1000	1000
2023-09-19 00:00:00	1000	1000	1000	1000
2023-09-18 00:00:00	1000	1000	1000	1000
2023-09-17 00:00:00	1000	1000	1000	1000
2023-09-16 00:00:00	1000	1000	1000	1000
2023-09-15 00:00:00	1000	1000	1000	1000
2023-09-14 00:00:00	1000	1000	1000	1000
2023-09-13 00:00:00	1000	1000	1000	1000

5, Send control commands

The screenshot displays the TCL EMS interface with the 'Send Control Commands' section. This section contains several input fields for sending control commands to the system. The fields are organized into two groups: 'Energy Day Peak' and 'Energy Mtr Daily Production'. Each group has a 'Send' button next to the input fields.

Energy Day Peak	Energy Mtr Daily Production

6, View firmware upgrade logs



The screenshot shows the TCL Data Logger software interface. On the left is a dark sidebar with the TCL logo and navigation options. The main window displays a table titled 'Data Logger Details'. The table has columns for ID, Data Logger ID, Data Type, Model Name, Downloading Progress, Uploading Progress, and Status. There are 10 rows of data loggers. Most are in 'Online' status with green progress bars. Two are in 'Uploading' status with grey progress bars. One is in 'Offline' status with a red progress bar. At the bottom right, there are buttons for 'Download' and 'Upload'.

ID	Data Logger ID	Data Type	Model Name	Downloading Progress	Uploading Progress	Status
1	2023-10-10-10-10-10	2023	Model A	100%	100%	Online
2	2023-10-10-10-10-10	2023	Model A	100%	100%	Online
3	2023-10-10-10-10-10	2023	Model A	100%	100%	Online
4	2023-10-10-10-10-10	2023	Model A	100%	100%	Online
5	2023-10-10-10-10-10	2023	Model A	100%	100%	Online
6	2023-10-10-10-10-10	2023	Model A	100%	100%	Uploading
7	2023-10-10-10-10-10	2023	Model A	100%	100%	Uploading
8	2023-10-10-10-10-10	2023	Model A	100%	100%	Offline
9	2023-10-10-10-10-10	2023	Model A	100%	100%	Online
10	2023-10-10-10-10-10	2023	Model A	100%	100%	Online

3.2.4.2 Data Logger Details

View detailed operating status of the data logger



The screenshot shows the TCL device management interface. On the left is a dark sidebar with the TCL logo and navigation options. The main area is titled 'Device List' and contains a table of devices. The table has columns for 'Device ID', 'Status', 'Firmware Version', 'Type', 'Bluetooth Name', and 'Action'. There are 8 rows of device data. The first row has a green status icon, while the others have grey icons. At the bottom right of the table, it says 'Total 8 Items' and '1/1 Page'.

Device ID	Status	Firmware Version	Type	Bluetooth Name	Action
12345678901234567890	Online	1.0.0.0	Android	12345678901234567890	[Icon]
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890	[Icon]
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890	[Icon]
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890	[Icon]
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890	[Icon]
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890	[Icon]
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890	[Icon]
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890	[Icon]

The screenshot shows the TCL device management interface with a detailed view of a device on the right. The main area is titled 'Device List' and contains a table of devices. The table has columns for 'Device ID', 'Status', 'Firmware Version', 'Type', and 'Bluetooth Name'. There are 8 rows of device data. The first row has a green status icon, while the others have grey icons. At the bottom right of the table, it says 'Total 8 Items' and '1/1 Page'. On the right side, there is a detailed view of a device with the title 'Device ID: 12345678901234567890'. It includes sections for 'Device Info', 'Firmware Info', and 'Device Status'.

Device ID	Status	Firmware Version	Type	Bluetooth Name
12345678901234567890	Online	1.0.0.0	Android	12345678901234567890
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890
12345678901234567890	Offline	1.0.0.0	Android	12345678901234567890

Device ID: 12345678901234567890

Device Info

Device Name: 12345678901234567890

Device Type: Android

Device Model: 12345678901234567890

Device Status: Online

Device ID: 12345678901234567890

Device Name: 12345678901234567890

Device Type: Android

Device Model: 12345678901234567890

Device Status: Online

Device ID: 12345678901234567890

Device Name: 12345678901234567890

Device Type: Android

Device Model: 12345678901234567890

Device Status: Online

3.2.5 O&M

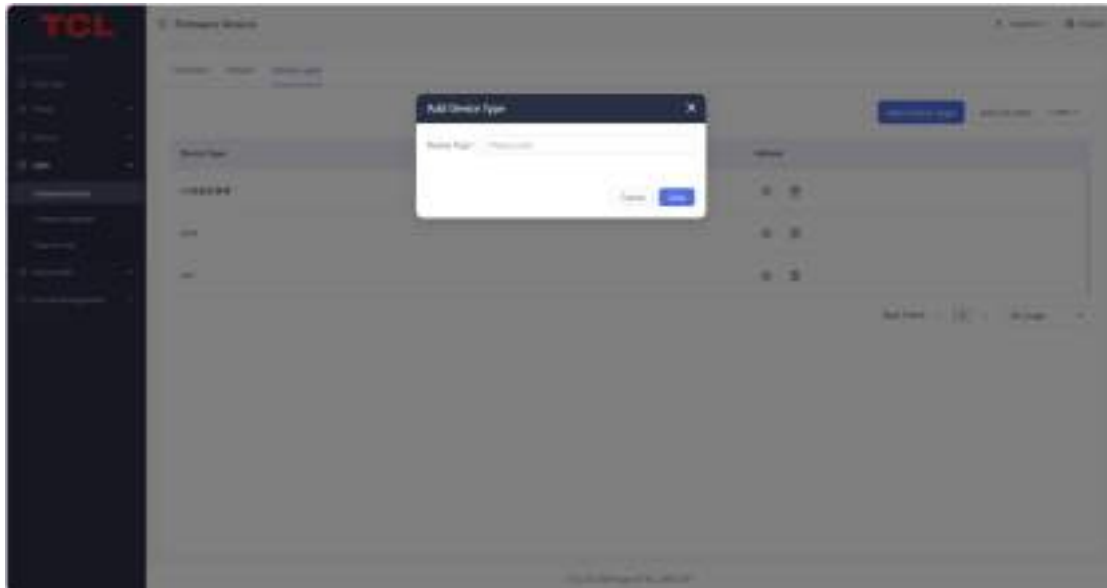
3.2.5.1 Firmware Version Management

1, Users can manage device firmware versions and perform remote upgrades or Bluetooth upgrades via App.

2, Steps:

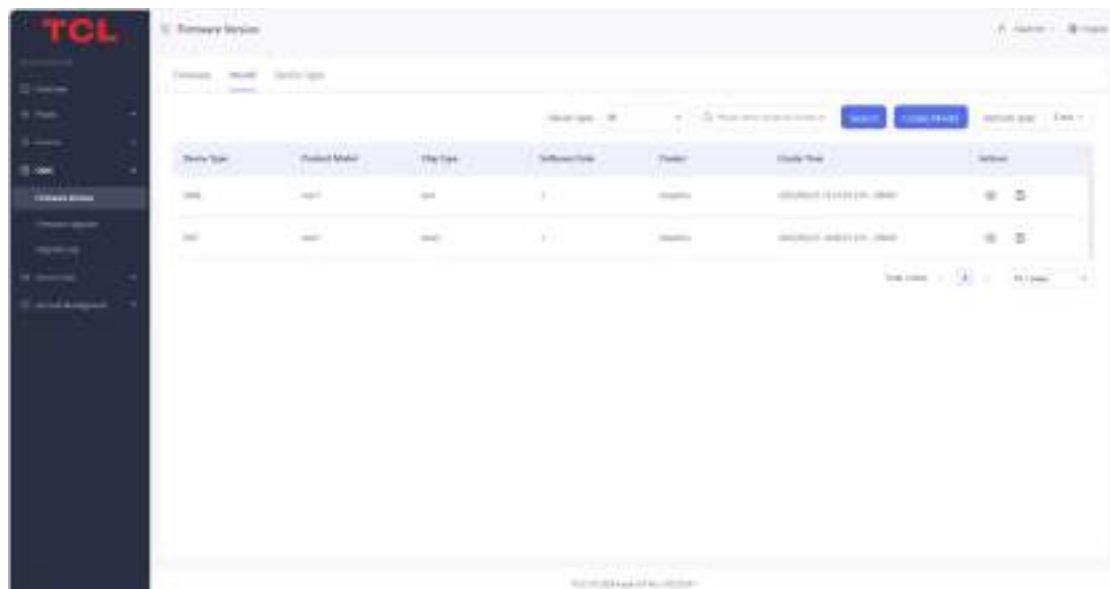
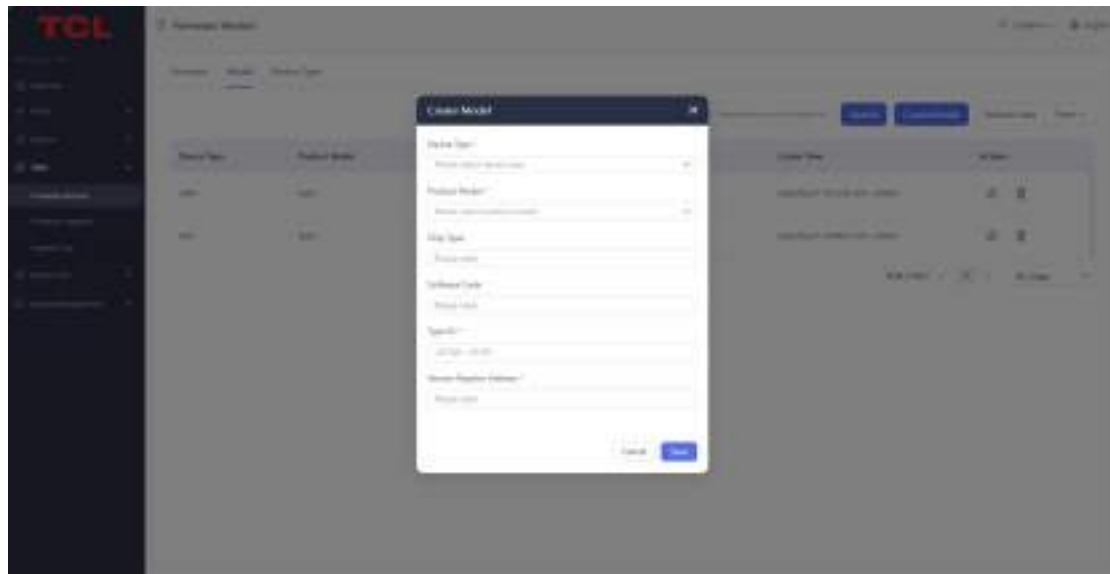


01, Add device type → Enter device type name → Save



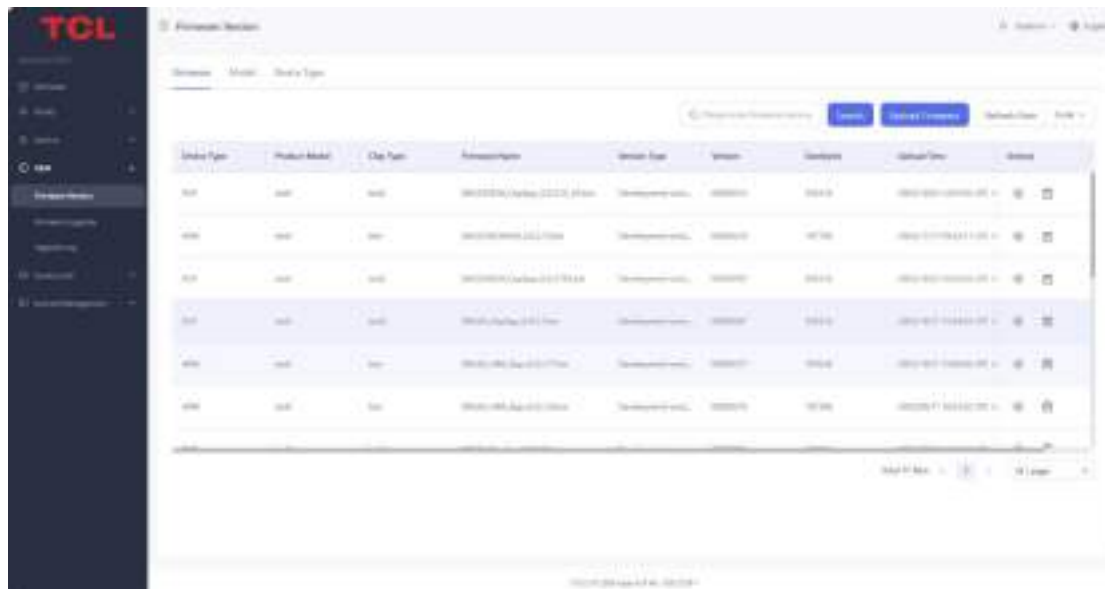
2, Create model → Fill in model information → Save

TCL



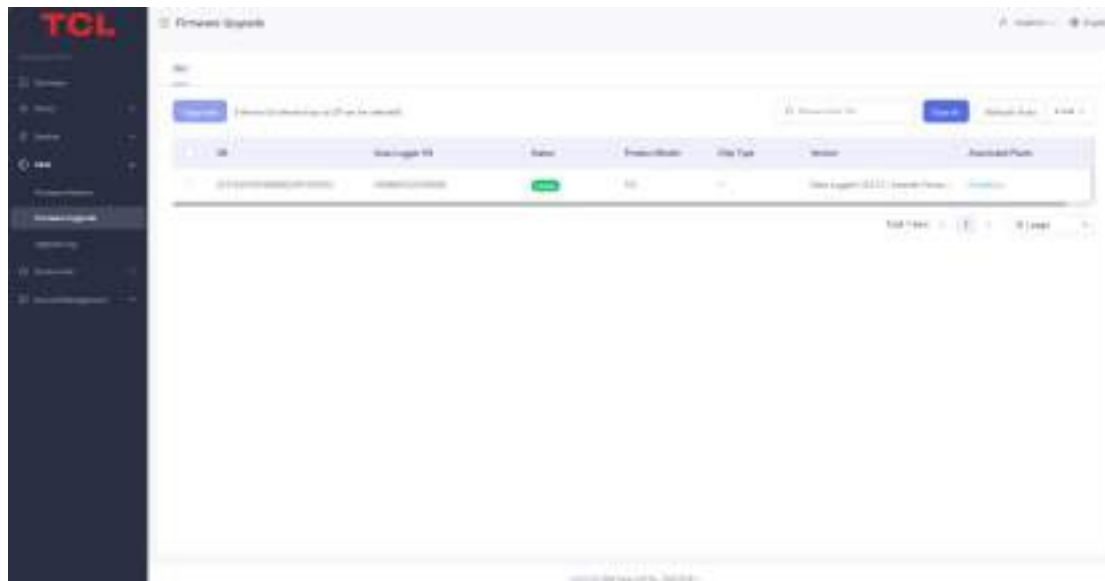
3, Upload firmware (optionally assign to specific channel users) →

Save



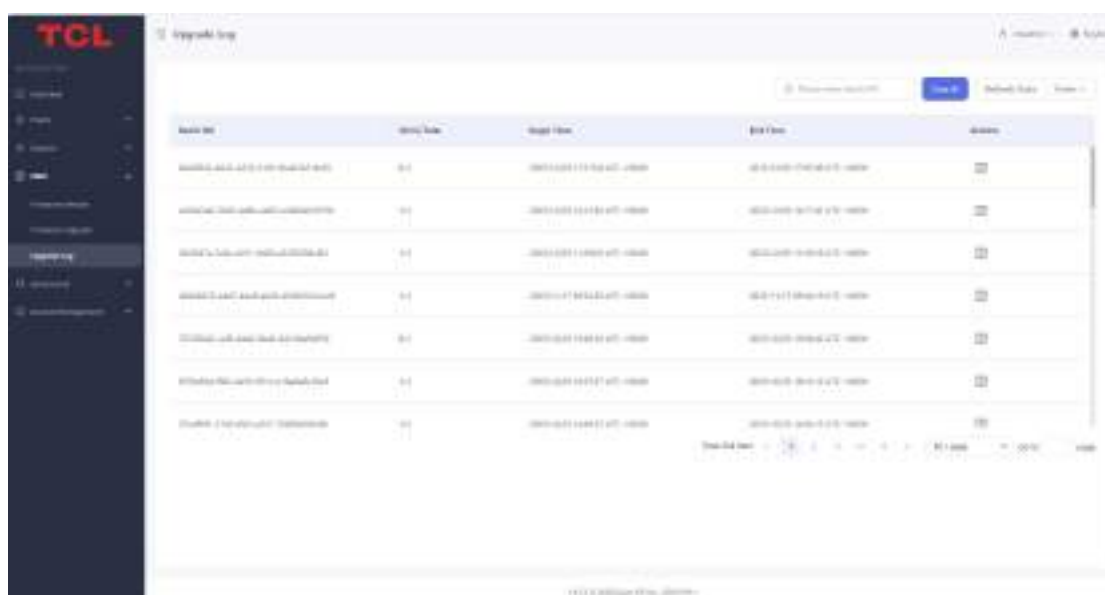
3.2.5.2 Firmware Upgrade

Perform remote firmware upgrades by selecting target devices and initiating the upgrade.



3.2.5.3 Upgrade Logs

View firmware upgrade logs.

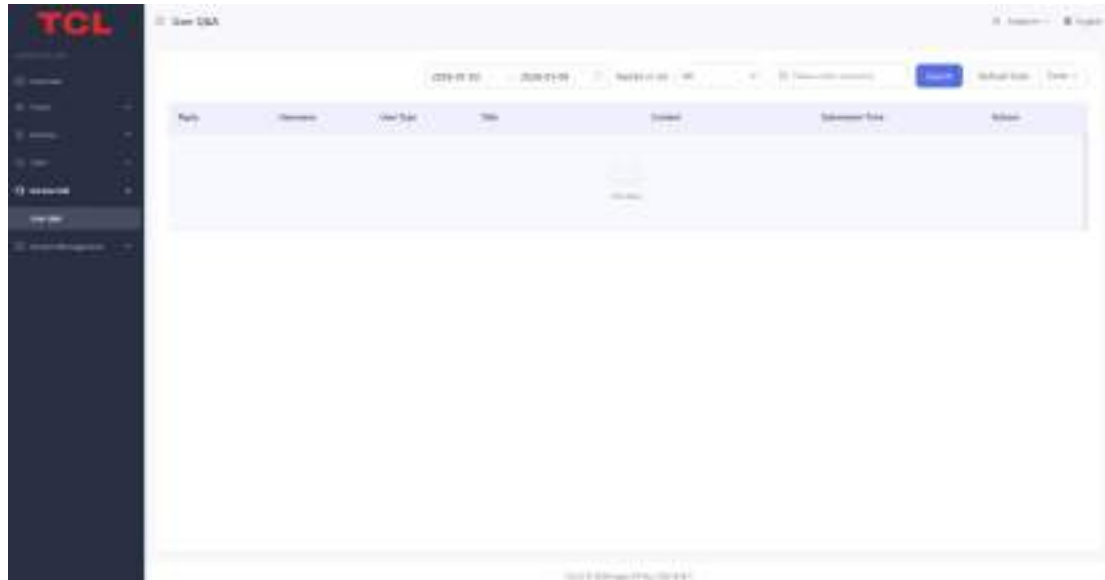


3.2.6 Service Center

3.2.6.1 User Q&A



End-user device issues are displayed here and responded to by the device manufacturer.



3.2.7 Account Management

- 1, Device manufacturers can create Sub Admin, Channel, and Distributor accounts
- 2, Channel users can create Sub Channel and Installer accounts
- 3, Distributor users can create Sub Distributor and Installer accounts

Note: Devices activated and power plants bound via sub-accounts will appear in the Power Plant List and Device List.

The screenshot displays the 'Account List' interface. At the top, there's a header with the TCL logo and user information. Below the header, a table lists various accounts. The table has columns for 'Account', 'Asset Asset', 'Manager', 'Email', 'Status', 'Account Type', 'Open Date', and 'Action'. The 'Status' column features a toggle switch. The 'Action' column contains icons for editing and deleting. The table lists accounts with IDs like 'TCL-001' through 'TCL-008'. A sidebar on the left contains navigation links, and a top bar includes the TCL logo and user details.

[illegible]