Pion Power™

Pion Power App User Manual – Home Battery V1.1

Contents

1. App Introduction

The Pion Power App is an integrated management platform that connects Pion Power's renewable energy ecosystem, including **home batteries, EV chargers, commercial energy storage systems**, and more.
For residential homeowners with solar and/or home battery systems, the Pion Power App provides smart, unified control with the following key functions:

- **Remote Control:** Turn systems on or off, adjust schedules, activate AI optimizations, and manage operations anytime, anywhere.
- **Real-Time Data Monitoring:** View live solar generation, battery charge/discharge status, grid import/export power, and household energy consumption.
- **AI-powered energy management:** Optimize battery State of Charge (SOC) dynamically to maximize cost savings and efficiency.
- **Customizable Energy Strategies:** Configure Time-of-Use (TOU), Ultra-Low (ULO), and Self-Consumption (Tier-Rate) modes based on your local electricity pricing structure. Refer to 4.1.
- **Technical Support:** Access in-app system support and troubleshooting resources.
- **Push Notifications:** Receive instant alerts and updates about your system's performance and status.

Note:

- This manual may be updated periodically.
- Version 1.1 currently supports, but is not limited to, Megarevo 8-16k RxKLNA and Hoymiles HAS-LV-USG series.

2. System Login

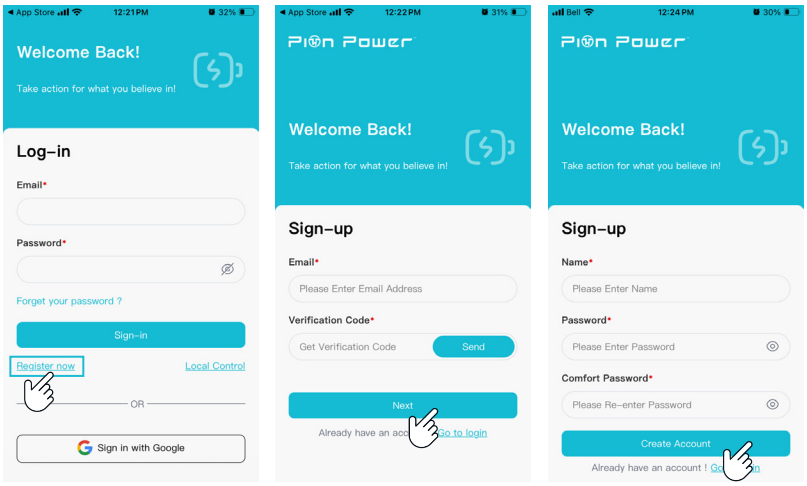
2.1 Installation & Download

The Pion Power App supports both Android and iOS systems.
Users can download the app from the official app stores or via the QR codes below:

Android iOS

2.2 User Registration

1. Tap "Register now" to create a new account.
2. Enter your email address, request a verification code, then click "Next."
3. Enter your username, password, and confirm password, then tap "Create Account."



2.3 User Login

- Log in with your registered email and password.
- Alternatively, log in quickly via Google authorization.

2.4 Reset Password

1. Tap “Forget your password” to begin password reset.
2. Verify your email and verification code, then click “Next.”
3. Set a new password (6–20 characters or digits, no spaces) and tap “Confirm.”

3. Energy Monitoring (Home Solar & Battery)

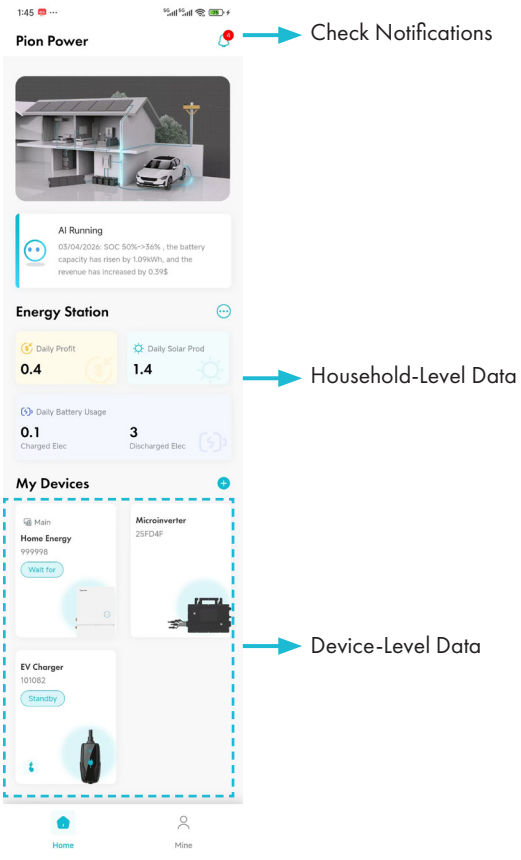
The Energy Monitoring module provides real-time and historical data views at both the household and device levels, including power flow, statistics, performance trends, and notifications.

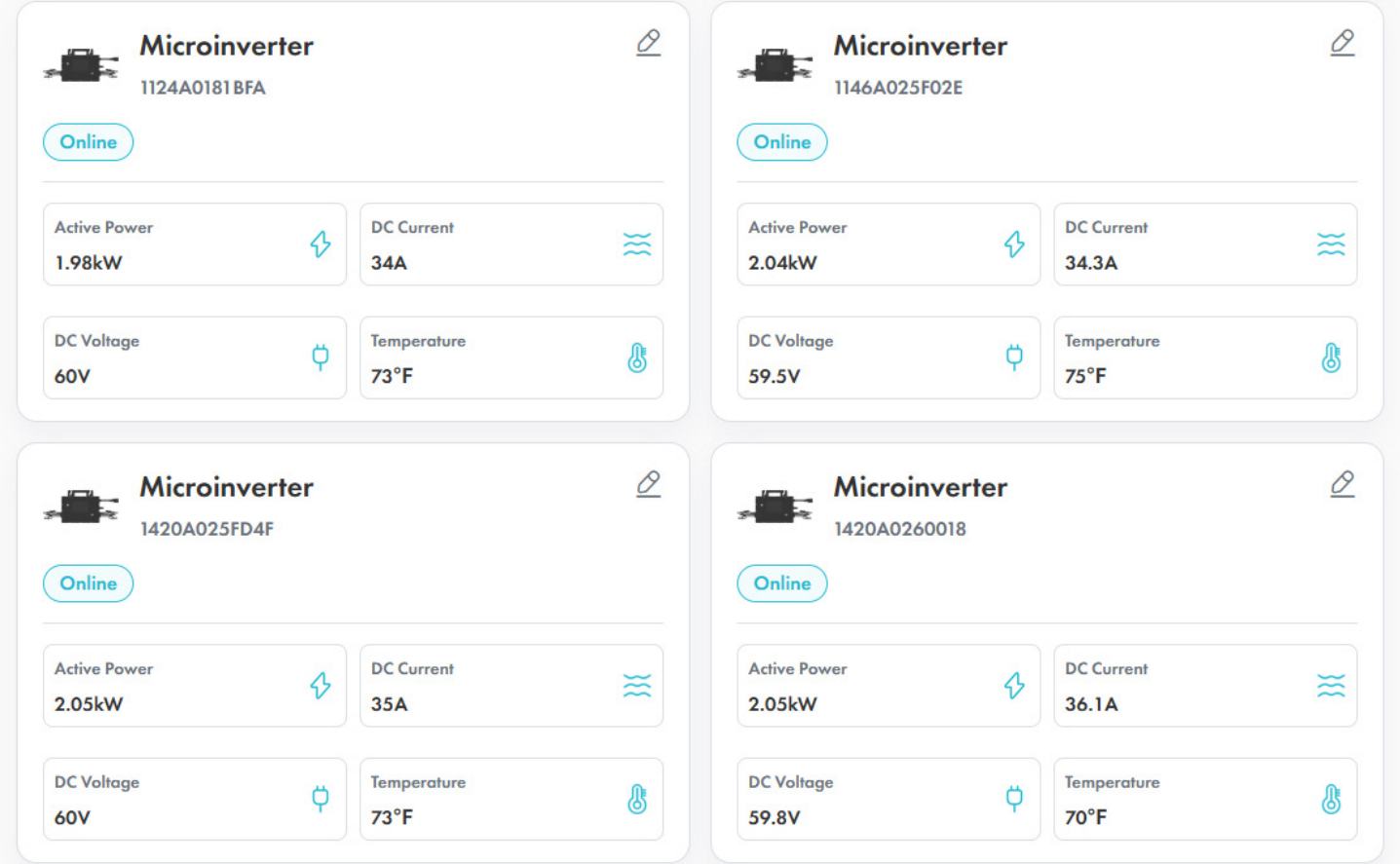
3.1 Key Terms:

- **Solar (Photovoltaic system):** Real-time solar generation power.
- **PV (Photovoltaics):** Your solar system or solar power generation.
- **Battery (Energy storage):** Real-time battery power. (Positive = discharge; negative = charge.)
- **SOC (State of Charge):** The percentage of remaining energy in a battery compared to its maximum capacity.
- **TOU (Time-of-Use):** An electricity pricing model where rates change throughout the day based on demand.
- **Grid:** Real-time power import/export between your system and the utility grid. (Positive = import; negative = export.)
- **Home (Home load consumption):** Real-time household electricity consumption.
- **Charged kWh:** Total battery charging energy.
- **Discharged kWh:** Total battery discharging energy.
- **PV kWh:** Total PV generation energy.
- **Consumption kWh:** Total household electricity consumption.
- **Green kWh Proportion:** Percentage of household usage powered by renewable energy.
- **Profit:** Combined earnings from PV generation (energy × ACP rate) and TOU arbitrage (peak–valley rate difference).
- **ACP (Avoid Cost Price):** The cost your system helps you avoid by generating solar energy instead of purchasing grid power.

3.2 Viewing Energy Data

- **Device List:** From the Home page, access all linked devices displayed in a card grid format. Each card shows the device’s communication and operating status in real time.





Active Power (kW): Active Power represents the real-time electrical power generated by the solar panels and delivered by the microinverter to the home or grid. It reflects the actual usable energy being produced at that moment. Higher values indicate greater energy production.

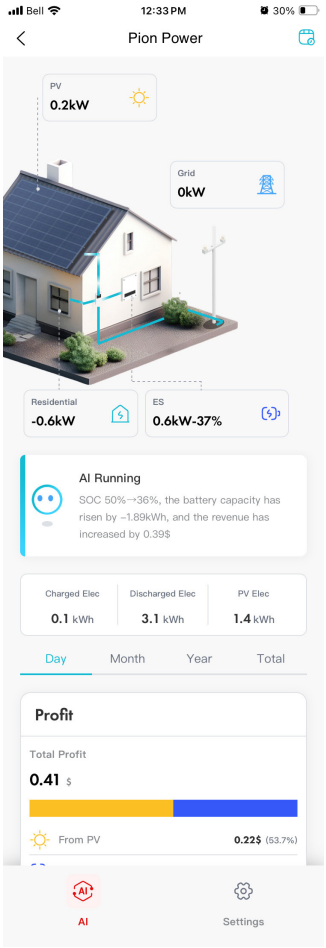
DC Voltage (V): DC Voltage refers to the voltage output from the solar panel on the direct current (DC) side before conversion. It indicates the operating voltage level of the solar module under current conditions (e.g., sunlight and temperature).

DC Current (A): DC Current represents the flow of electrical current from the solar panel into the microinverter. It varies with sunlight intensity—higher current typically means stronger solar generation.

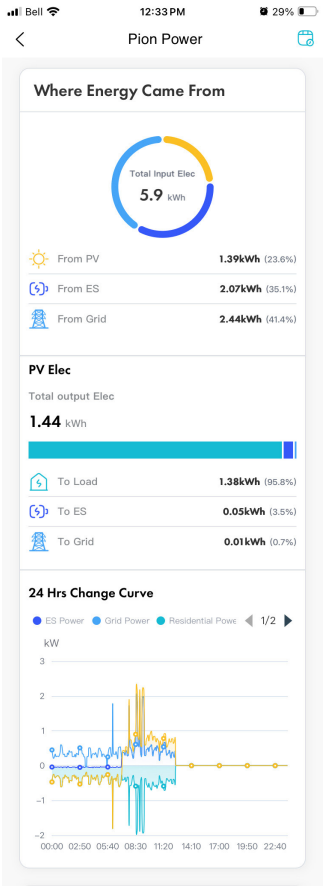
Note: Active Power is derived from both DC Voltage and DC Current. Together, they determine the overall energy output of the system.

- **Household-level Data:** Tap " ⋯ " on the Home page to open your household view. Here you can view real-time power flow, total energy generation/consumption, and financial returns that displayed by day, month, year, or total.
- **Energy Analysis:** View detailed charts showing the breakdown of PV generation, energy usage, and profit by source and proportion.
- **Device-level Data:** Tap an individual device card to view its specific data across the same time intervals.
- **Notifications:** Tap the notification icon 4 to view system messages, performance alerts, and update logs.

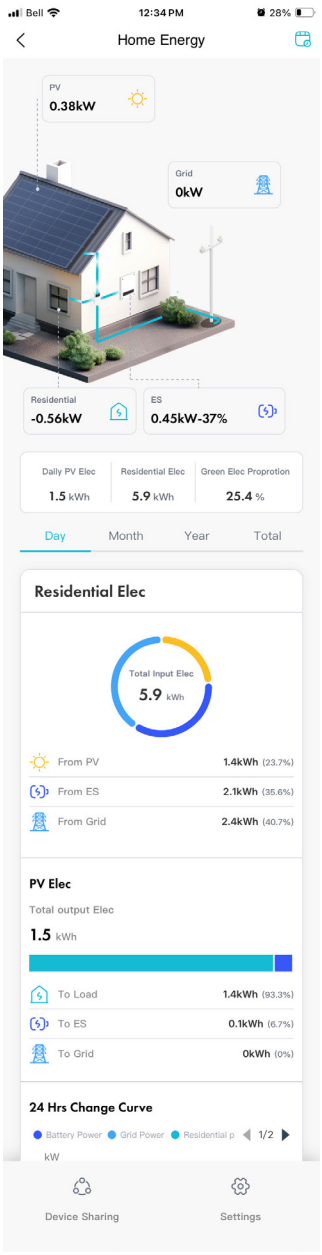
Household-level Data



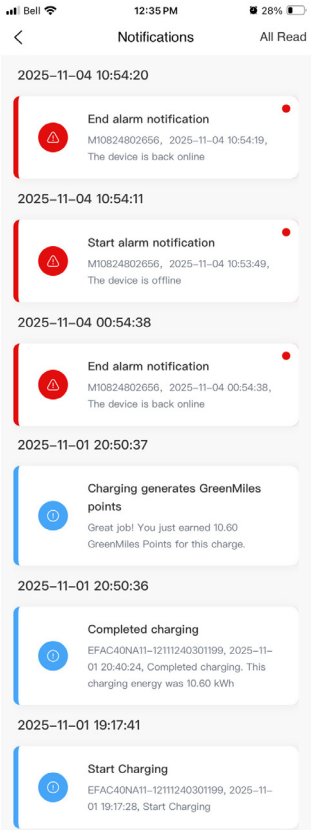
Energy Analysis



Device-level Data

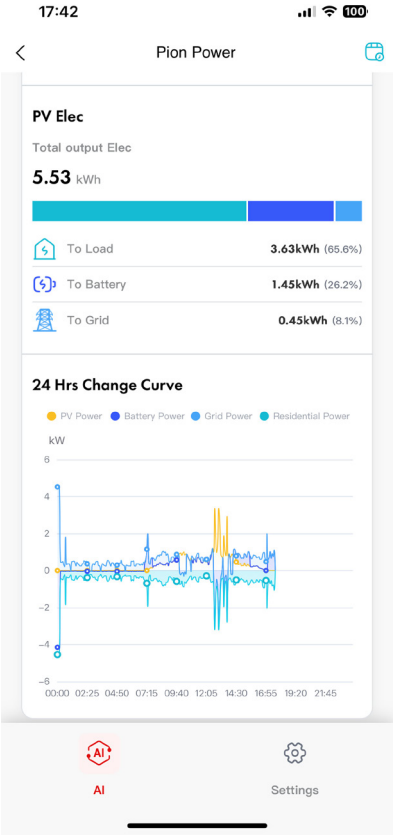


Notifications



4. 24-Hour Power Flow Curve (How to Read This Chart)

The **24-Hour Change Curve** shows how energy flows through your home system during the day. Each colored line represents a different power source or load:



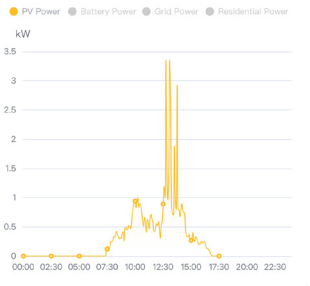
- **Yellow — PV Power** (solar generation)
- **Dark Blue — Battery Power** (charging or discharging)
- **Light Blue — Grid Power** (importing or exporting to the grid)
- **Teal — Residential Power** (your home's electricity usage)

Understanding the Vertical Axis (kW)

- **Above 0 kW →** Energy is being **supplied/output**
  - Solar is generating
  - Battery is discharging
  - Grid is supplying power to your home
- **Below 0 kW →** Energy is being **absorbed/used**
  - Battery is charging
  - Grid is receiving your excess power (exporting)
  - Home is consuming electricity

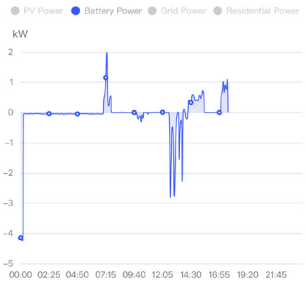
It provides a complete real-time picture of **where your energy comes from and where it goes**, helping you optimize savings, backup power, and energy independence.

4.1 What Each Line Means



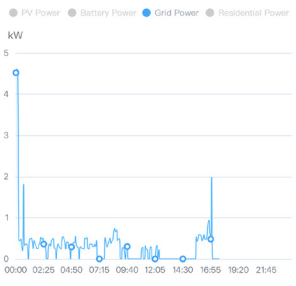
PV Power (Yellow)

Shows how much solar energy your system produces at each moment. Peaks usually occur around midday.



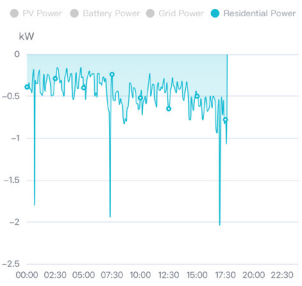
Battery Power (Dark Blue)

Above 0: Battery is discharging to support your home
Below 0: Battery is charging from solar or the grid



Grid Power (Light Blue)

Above 0: Your home is drawing power from the grid
Below 0: Your system is exporting excess power to the grid



Residential Power (Teal)

Shows how much electricity your home is actively consuming. Spikes may happen when appliances start (EV charger, oven, dryer, AC/heat pump, etc.).

5. Energy Management Strategy – Household information Settings

To maximize your energy savings and profit, the Pion Power App intelligently considers your electricity rate plan, selling price to the grid (if applicable), reserved battery capacity, and electricity pricing schedule.

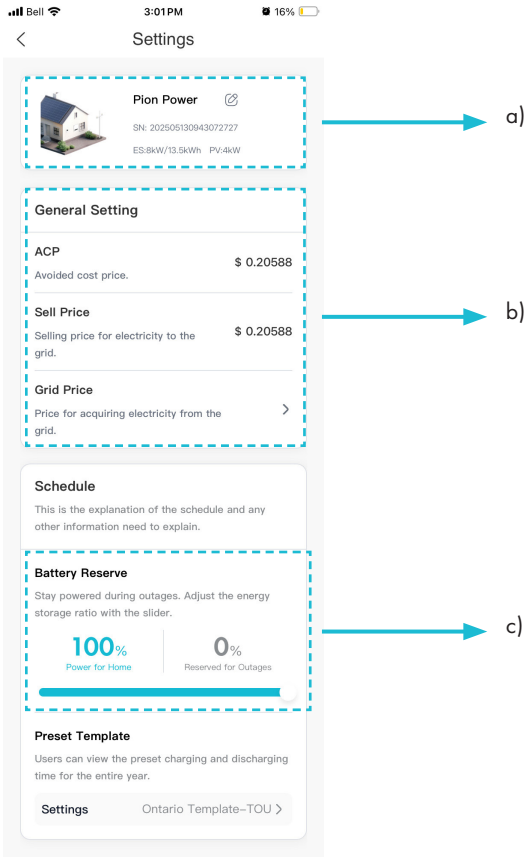
5.1 Basic Household Information Setup

From the Home page, tap " ⋯ " to enter your Household View, then tap ⚙ icon at the bottom to configure the following:

a) Name Your House: Tap ✎ to rename your household and view general user information.

b) Cost & Price Checking: View your ACP, selling price and grid import price.

c) Battery Reserved Capacity: Define the minimum SOC (backup reserve). The system will not discharge below this level under any circumstances.



5.2 Choose and Customize your template

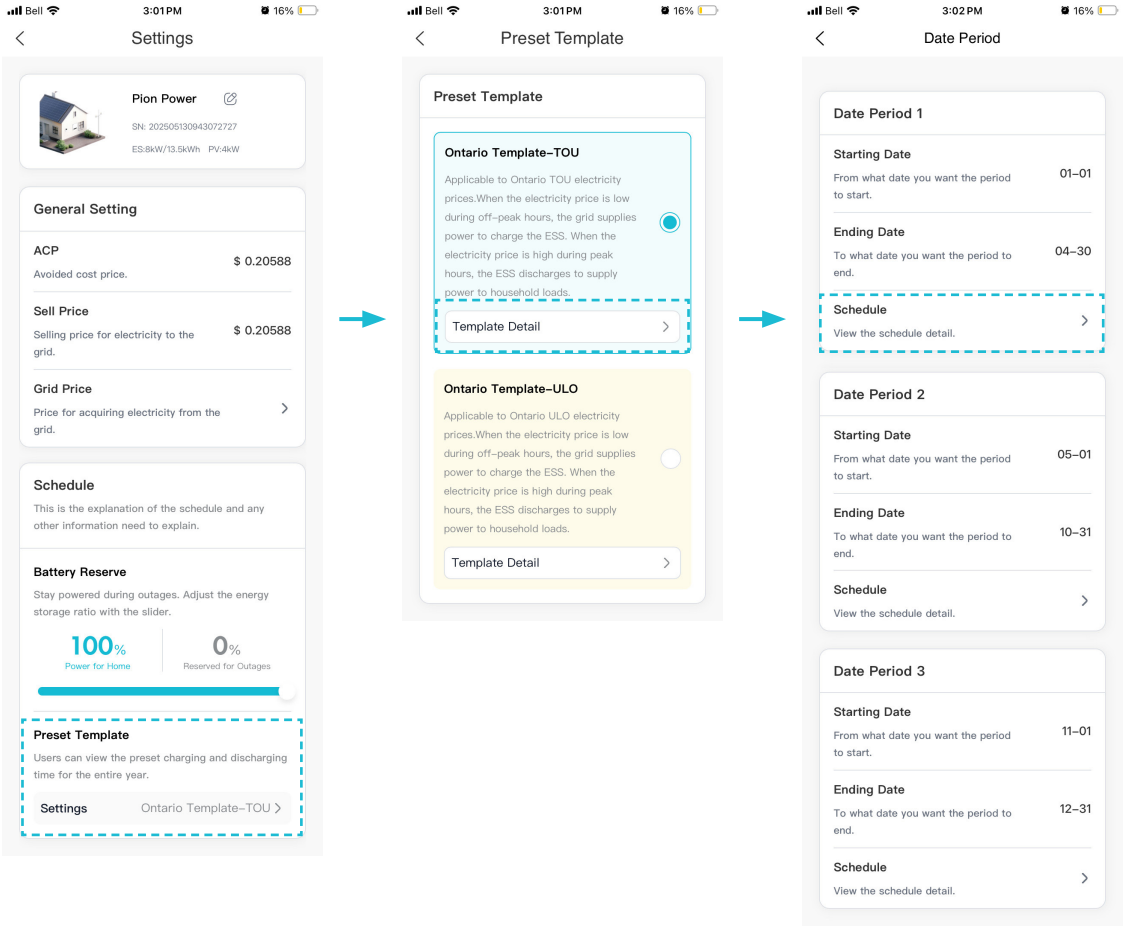
The current system version provides multiple working-mode templates designed for different usage scenarios:

- TOU (Time-of-Use): Optimizes charge/discharge operations based on peak/off-peak rates.
- Ultra-Low: For users with very low nighttime electricity prices.
- Self-Consumption (Default): Maximizes direct solar usage without time-based scheduling.

Once a template is configured, the app will automatically adjust charge/discharge behavior according to your chosen schedule.
Templates support flexible settings by date range, weekdays, and time periods.

To Select a Template:

From the Household View, go to [Settings] → [Preset Template] → [Schedule] to configure your preferred strategy.



To Turn Off a Template:

In the same menu, you can disable the existing template by toggling off the selection switch.

6 AI Settings

Please kindly note that the AI function is only available for customers who have selected either the TOU or ULO strategy.

Once a TOU or ULO strategy is chosen, you can then enable AI Smart Control.

The AI engine predicts solar generation and household load, then automatically adjusts SOC targets throughout the day.

This ensures maximum solar utilization and leverages peak-valley price differences to improve total system savings.

6.1 AI Settings

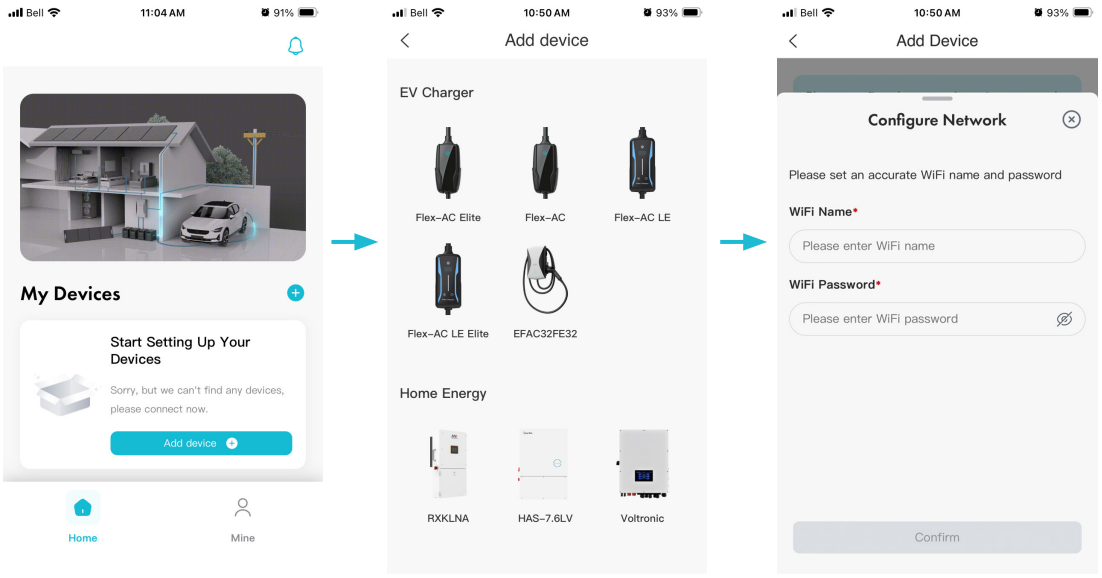
- From the Home page, tap " ⋯ " to enter your household view, then tap AI or Turn on AI > to open the AI configuration page.
- Enable/Disable AI: Use the button at the bottom to turn AI Control on or off.
- Working mode template with AI Control: Choose TOU or Ultra-Low mode based on your tariff plan.
- AI Operation Log: Review daily SOC adjustments on the household view page (e.g., SOC 35% → 20% means AI lowered nighttime valley SOC from 35% to 20%)

7. Device Management – Adding device

7.1 Device Network Configuration

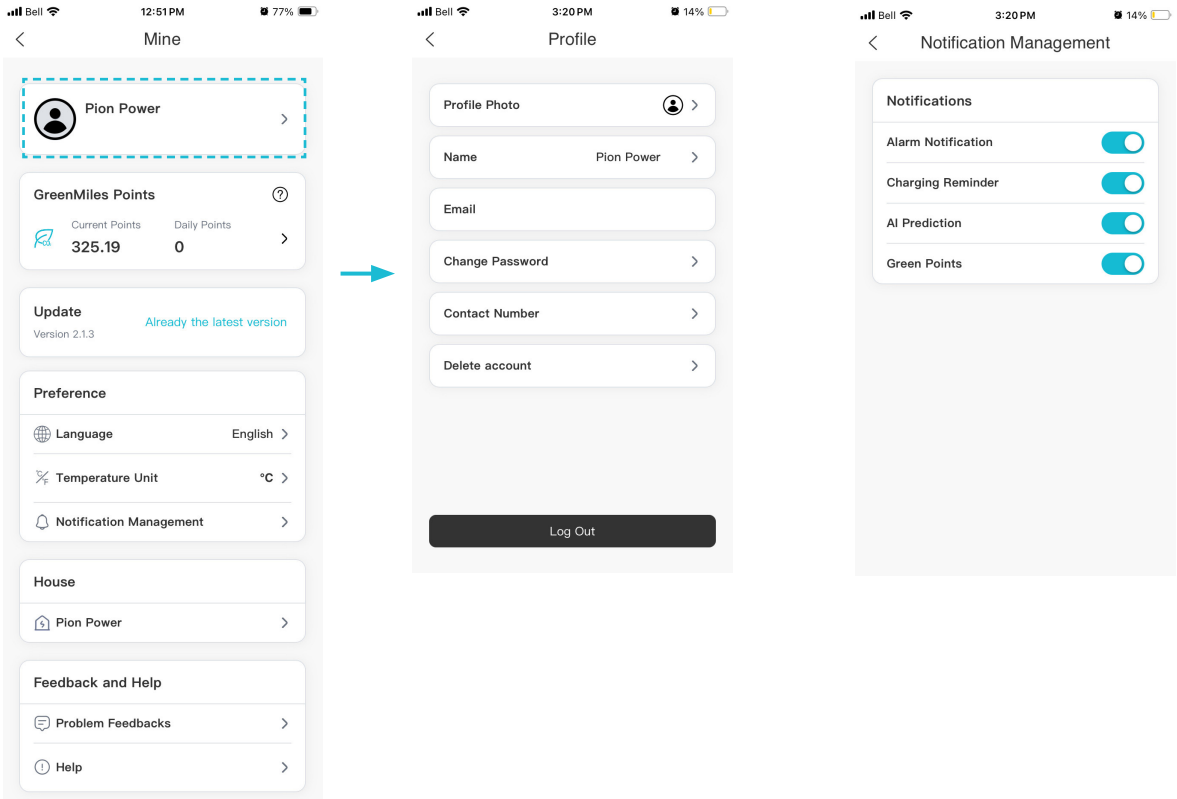
Device network configuration refers to setting up the network parameters that allow the device to connect to the cloud platform. Once connected, the app can access and display device data.

1. **Device Binding:** tap "**Add Device**" or the "⊕" icon
2. **Product Selection:** Choose the corresponding product model (must be accurate).
3. **Wi-Fi Configuration:** Select the correct Wi-Fi name → enter Wi-Fi password → tap "**Confirm**."



8.User Information

- Personal Info: Tap [Mine] from Home page, then tap Pion Power › to view and edit your profile, then save changes.
- Version Update: Go to [Update] to check for the latest app version
- Preference Settings: Preferences: Adjust language, temperature units, notifications, and logout options.
- Household & Device Management: Under [House], manage or remove paired, shared, or bound devices under the households.



9. Help & Feedback

Users can access FAQs and submit inquiries directly within the app. Our Support team will review and respond to request through the same interface.

- Feedback: Tap [Mine] from the Home page, scroll down to [Feedback and Help] then tap to submit your questions and check responses.
- Help: Tap to browse frequently asked questions and guides.