



Zhaga 4G-Connected DALI Lamp Controller

User's Manual

NJ-iot307-dali

Xiamen Net-Join IoT Technology Co., Ltd.

<https://web.net-join.com/>

1. Product Overview

The NJ- IoT307- dali Single- Lamp Controller features a standard Zhaga interface and DALI digital dimming. Leveraging 4G LTE Cat.1, it connects directly to the carrier network without a gateway, ensuring high availability and low deployment costs. It monitors input voltage, current, power, energy, line frequency, power factor, temperature, and on/off status. Via DALI, it supports independent dimming, scene switching, fault diagnosis, and energy reporting for each fixture.

2. Core Functions and Advantages

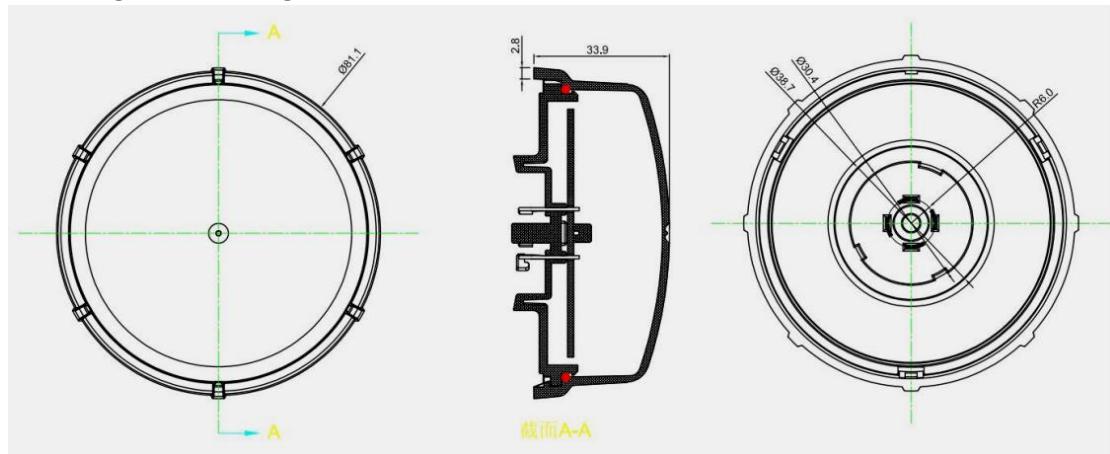
1. Supply Voltage: 12-24V DC;
2. Input current: 30mA max;
3. DALI Dimming Output: 0–100%
4. Suitable for high-bay and wall-mounted luminaires; plug-and-play installation via Zhaga connector
5. Settings can be made via the DALI bus and remote control;
6. Digital dimming delivers accurate, stable, and flicker-free performance
7. DALI can communicate in both directions and can provide feedback to the system on the condition of the fixtures;
8. Single light control for more flexible control;
9. DALI is highly resistant to interference;
10. The detection range is up to 16-18 meters in diameter;
11. Stand-alone "Application Controller";
12. Auxiliary sensor power supply;
13. Maximum Mounting Height: 12 m
14. Operating Temperature Range: -20°C to $+70^{\circ}\text{C}$
15. RoHS compliant;
16. IP rating: IP65;
17. Drive current/load current: 20mA max: 0-10V Leads must not be shorted;

3.Product Dimensions

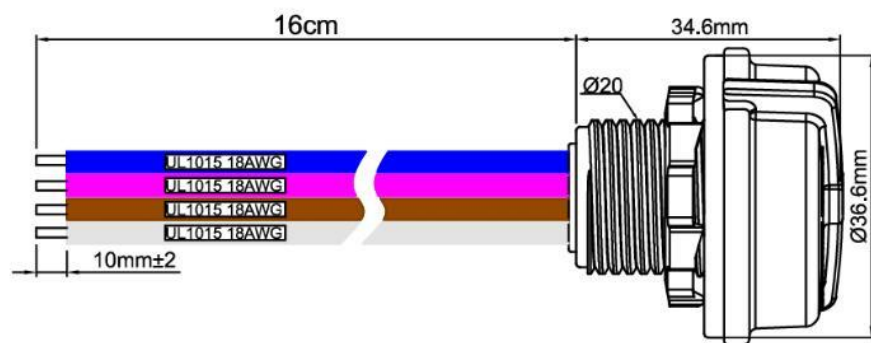
3.1 Product Dimension Parameters

Outer Size: 81.1 mm × 33.9 mm

Net Weight: ≈0.1kg



NJ-iot307-zhaga Product Size



NJ-iot307-zhaga Side Dimensions

3.2 Product Outline



4.Product Parameters

4.1 Technical Parameters

Parameter Name	Parameter Value
Power Supply Range	12-24V DC
Communication Method	4G LTE Cat.1
Control Channel	Single-Lamp
Dimming Method	DALI
Input Current	Max 30mA
Protection Level	IP65
Operating Temperature	-20°C~+70°C
Compliance Requirement	Compliant with RoHS
Optional Functions	RTC Clock Chip, GPS Positioning, Light Pole Tilt Monitoring, Leakage Voltage/Leakage Current Monitoring, Presence Detection
Platform Integration	Support Integration with Third-party Platforms

4.2 LED Status Indication

Indicator	Blink Mode	Status Description
Green Network LED	Ultra-slow blink (0.3s ON / 5s OFF)	No SIM card detected
Green Network LED	Slow blink (0.3s ON / 2s OFF)	Power-on initialization in progress
Green Network LED	Medium blink (0.3s ON / 1s OFF)	Connecting to cellular network
Green Network LED	Fast blink (0.1s ON / 0.1s OFF)	Network registered successfully, device online

5. Wiring Method

Pin Definition	Wire Color
DALI+	Purple
DALI-	Grey
Power+	Brown
Power-	Grey

For safety purposes, all operations must be performed with power disconnected.

Do not let the antenna make direct contact with metal objects (including shielded devices). It must not be placed inside fully sealed metal enclosures. During installation, fix the antenna securely, and prevent scratches or insulation damage to all wiring.

a) Connection to LED Driver The driver shall support DALI dimming function. Connect the output terminal of the single lamp controller to the input terminal of the LED driver. Link the dimming wire of the single lamp controller to the dimming port of the LED driver.

b) Connection to Load Connect the output terminal of the LED driver to the light source. The driver provides DC output power.

6. Mobile App

The Net-Join IoT Controller supports access via mobile APP and PC terminal

Method 1: APP Download

① For Android Devices

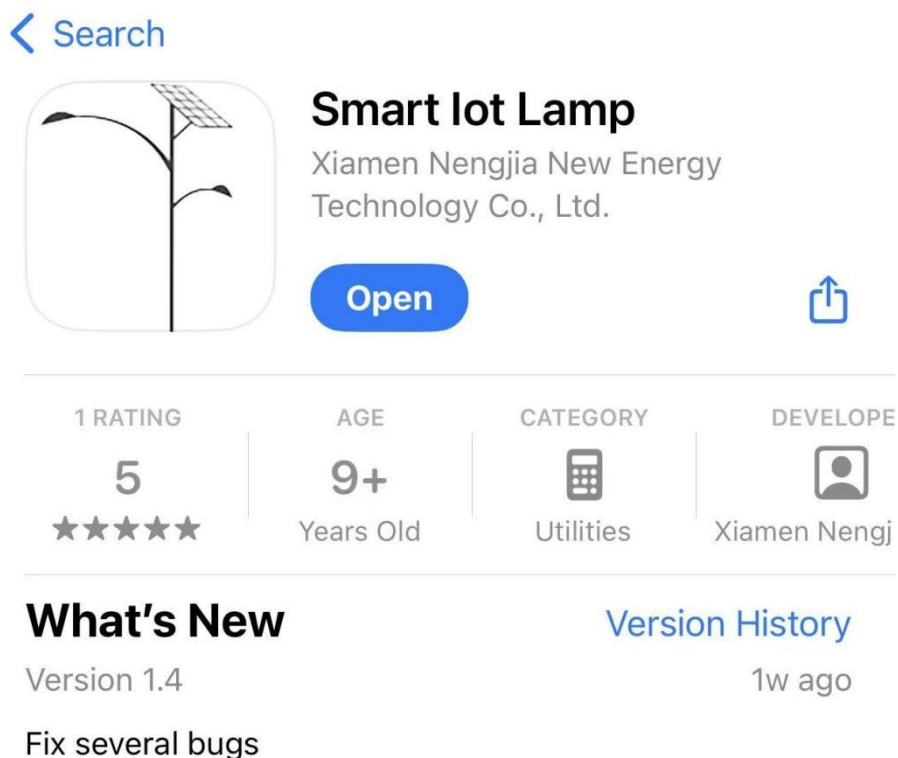
APP Download Link: <https://iot.xmnengjia.com/download/NetJoin.apk>

Or scan the QR code below:



② For iOS Devices

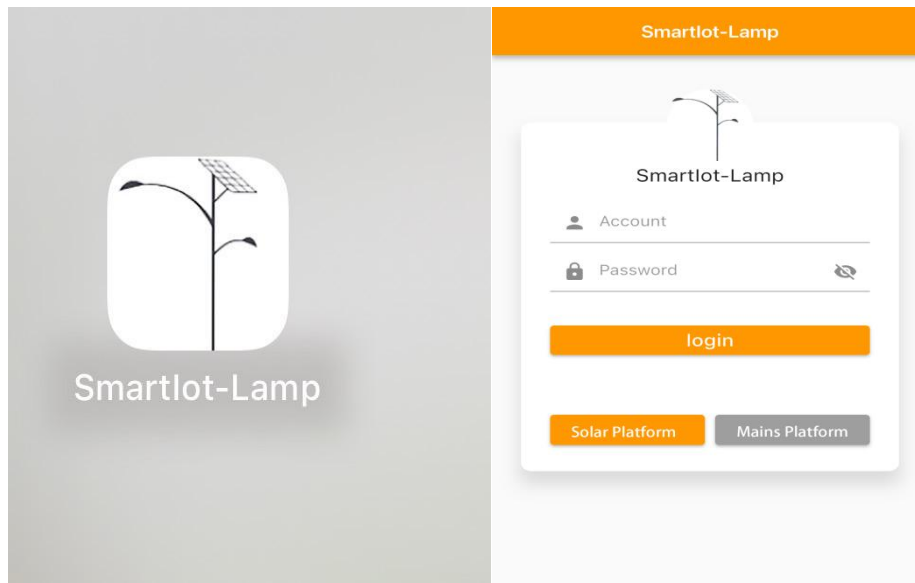
Please search for "Smart lot Lamp" in the App Store



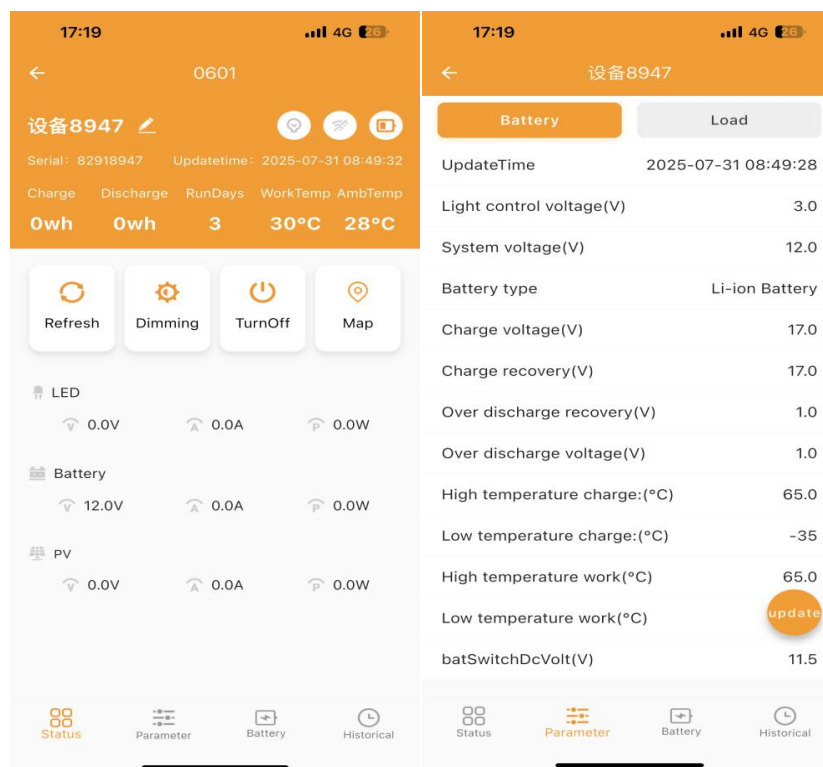
Method 2: Log in via the computer website

<https://solar.xmnengjia.com/#/login>

7. Display on APP

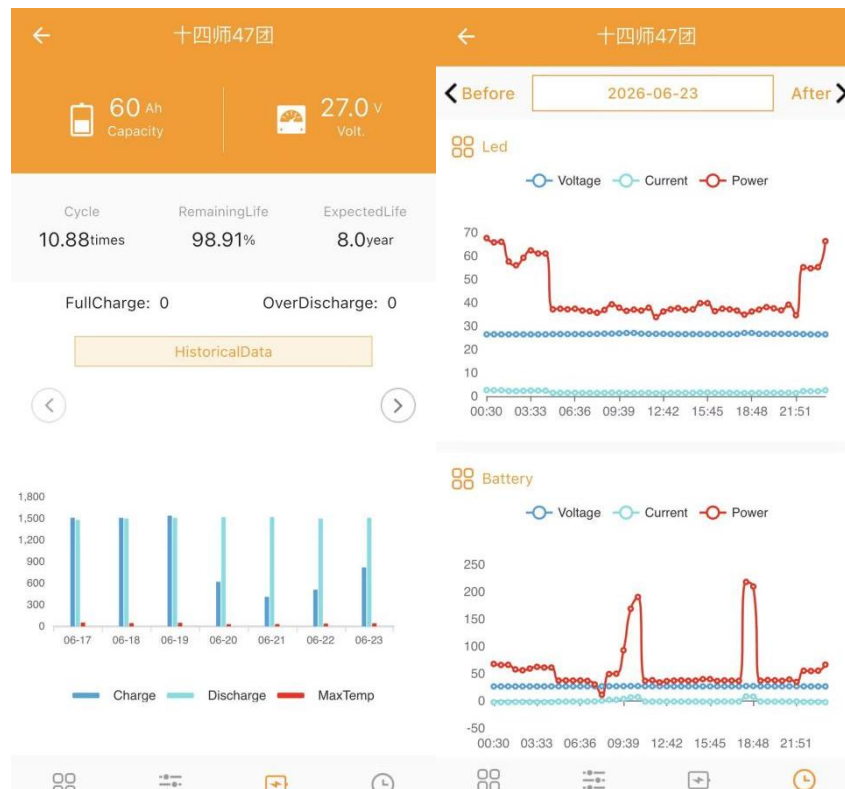


Enter account number and password, click login, enter the solar IOT system, you can see the account information and the account of the subordinate user.



By clicking on a device to select a device in the device list and enter the device information interface, you can update, dim, switch, and view the map of the device.

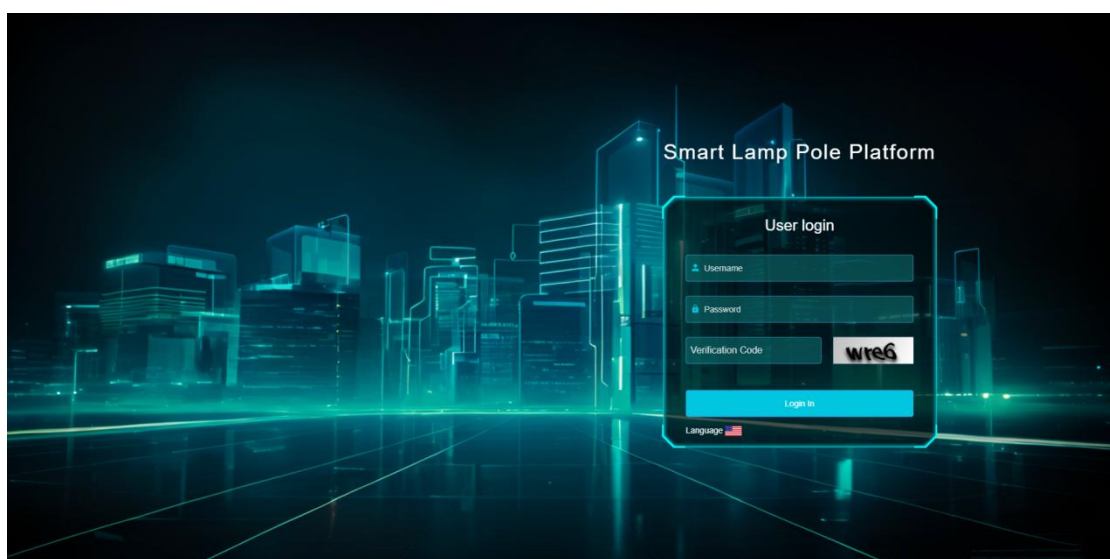
In the interface of parameters, you can send down parameters and update parameters.



Click the battery to view the historical data of the battery, and view the corresponding historical working time, historical power generation/discharge(wh).

In the interface of historical data, you can select the device and date to view the data table graphs (voltage,current, power and temperature)of solar panels, batteries, load sand temperatures.

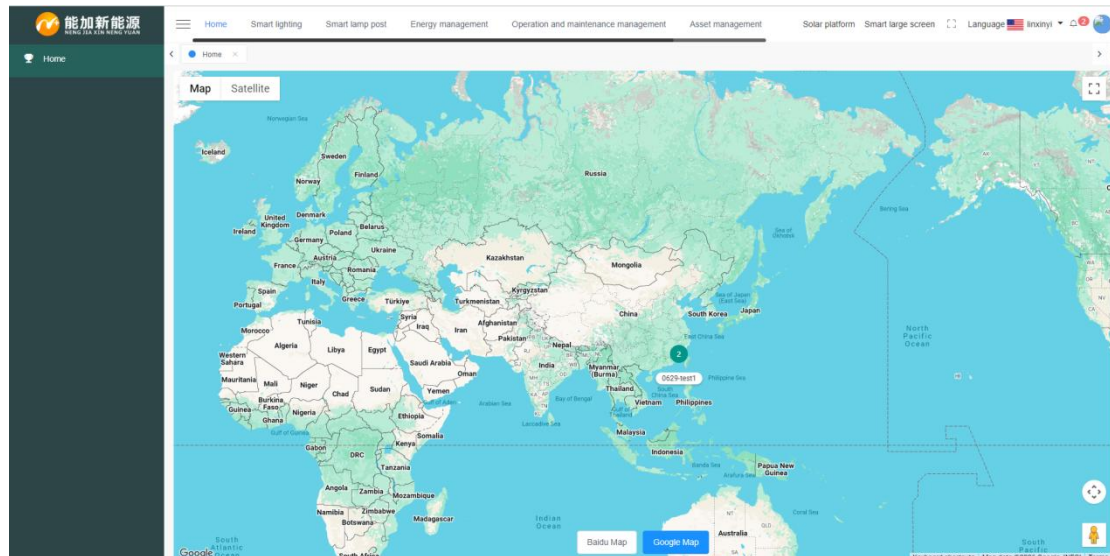
7. Display on PC side



Smart Lamp- Pole Platform is an IoT cloud- management system.

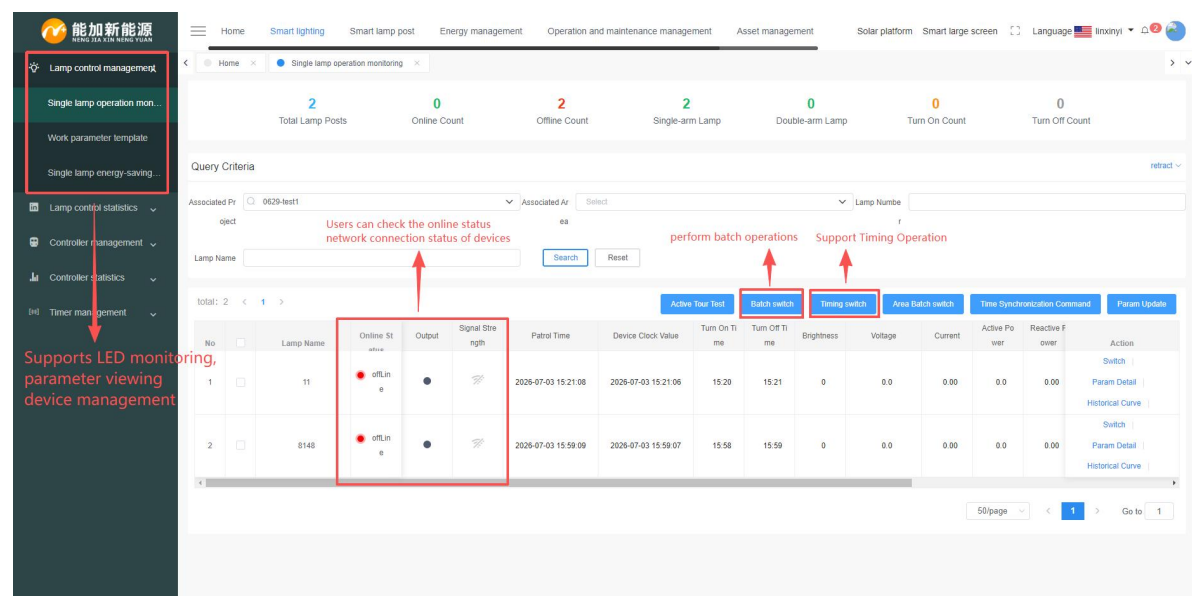
Login URL: <https://gm.xmnengjia.com>

With secure login and multi- language option, it enables remote street- light control, fault alert and energy- data statistics for intelligent urban- lighting operation.



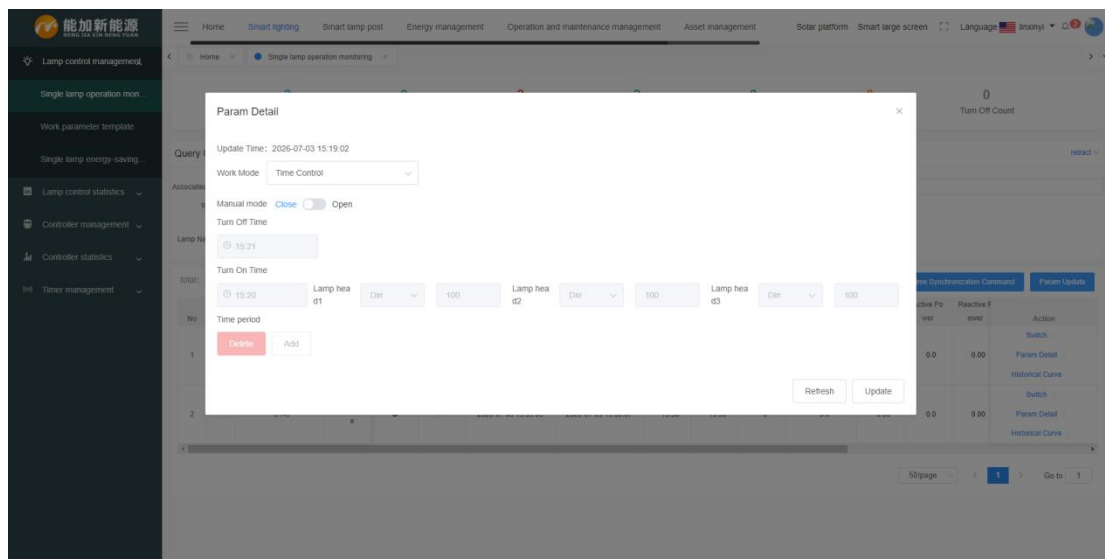
The dashboard homepage showcases an interactive world map that displays the coordinates of all IoT devices ready to bind. The top navigation bar includes tabs for smart lighting, smart poles, energy data, O&M, and asset management.

Multi-language support is also available. The system provides location search, real-time status monitoring, and centralized control over field hardware deployed internationally, enabling efficient device maintenance across global operations.

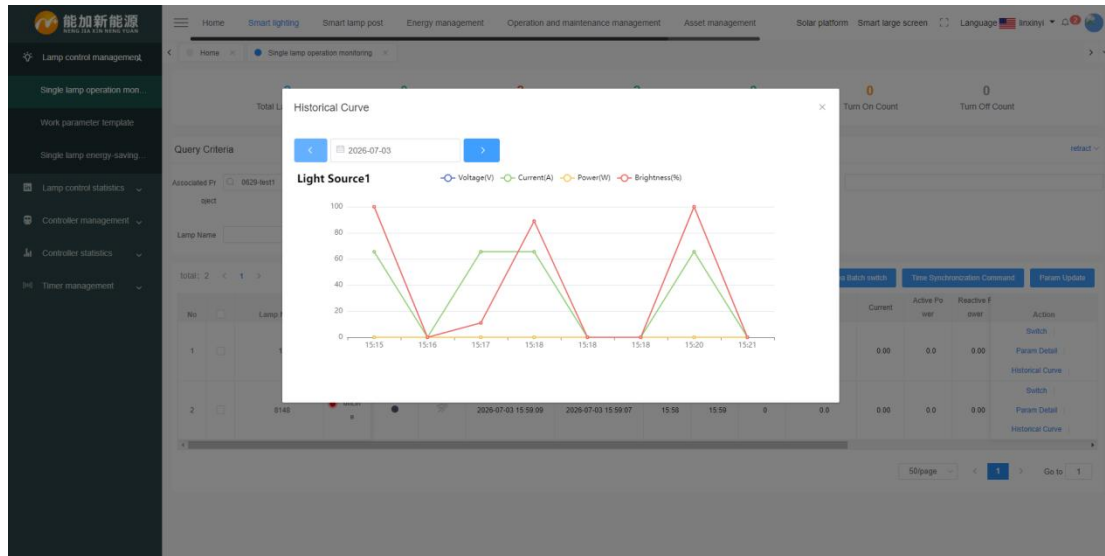


- Active Tour Test: Batch online inspection, one-click verification of device online connectivity status

- Batch Switch: Mass on/off control for all lamps, quickly adjust lighting status of the whole road uniformly
- Timing Switch: Batch schedule timing strategies, support automatic brightness adjustment & lamp on/off by time periods
- Area Batch Switch: Group lamp control by regions, differentiated lighting management for main roads, parks and branch roads
- Time Synchronization Command: Synchronize local clock of all devices in batch to ensure accurate execution of timing strategies
- Param Update: Batch modify lamp operation parameters, including dimming level, output power, alarm thresholds and other configurations



The parameter-configuration pop-up window enables custom-built timing schemes for street-light operation. Users can freely switch between timing-based and manual control modes, and configure power-on/power-off timings and dimming levels for multiple lamp channels separately. Multiple sets of time schedules are available for addition or removal. Remote parameter deployment allows automated on-off and multi-channel dimming, delivering fine-grained lighting management for diverse usage scenarios.



The system offers visualization of historical data trends. Users can select a custom time range to view fluctuation curves for key operating metrics, such as voltage, current, power output, and brightness. Operators can track long-term device performance, quickly identify faults, and conduct full-cycle data monitoring and operational analysis for street-lighting hardware.



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