



Wi-SUN Mesh IoT Light Controller NEMA

User's Manual

NJ-iot306W

Xiamen Net-Join IoT Technology Co., Ltd.

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

1. Product Overview

The NJ-iot306W Wi-SUN single-lamp controller is a dedicated intelligent terminal for municipal lighting systems. Adopting standard Wi-SUN wireless mesh communication, it establishes stable data interaction with the matched Wi-SUN gateway to connect to the cloud-based management platform.

The device delivers precise independent control over street-light on-off status and dimming levels for demand-oriented energy-saving regulation. It also continuously acquires and uploads full-range operational metrics including voltage, current, power parameters, operating temperature and lamp working-state data. Real-time data monitoring facilitates rapid fault troubleshooting, elevates the intelligent-operation level of the whole lighting network and cuts down overall power consumption.

2. Core Functions and Advantages

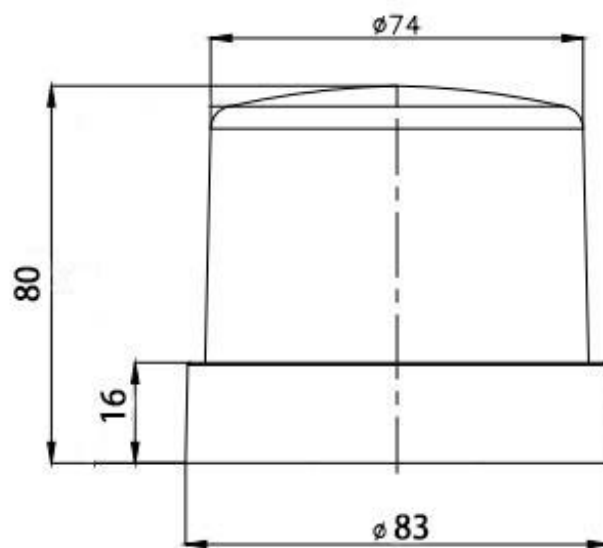
1. Adopt Wi-SUN wireless- mesh communication protocol
2. NEMA 7-pin/5-pin standard connector
3. Operating voltage: global universal voltage, AC 90-265V, 50-60Hz;
- 4.1 function of 0%~100% arbitrary ratio 0-10V/PWM infinitely dimmable output;
5. Simultaneous 0-10V, PWM dimming output;
6. Single output safety load current is 4.5A, internal relay load current is 10A;
7. Supports timed power on/off, time control method;
8. Supports customized terminal self-running, lamp post tilt, lamp post leakage and other detection alarms as well as positioning functions;
9. With over-current/over-voltage/under-voltage, overload protection, lamps and lanterns condition and line detection, and default light on;
10. Supports remote firmware upgrade function;
11. Suitable for all kinds of power LED lights, lamp;
12. Band support full network pass, the series of products also has a foreign version, support for global frequency bands
13. Plug and play, support scanning convenience installation registration;

3.Product Dimensions

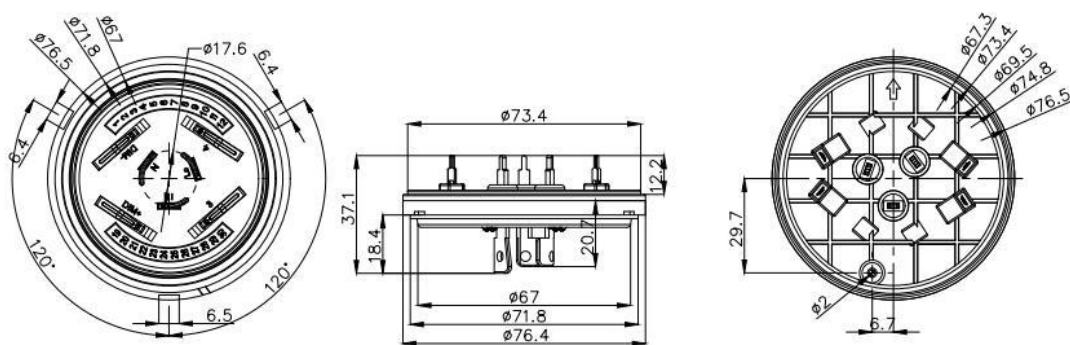
Outer Size: 83 mm × 80 mm (W × H)

Net Weight: 0.2kg

3.1Product Dimension Parameters



NJ-iot306W Product Base Size



3.2 Product Outline



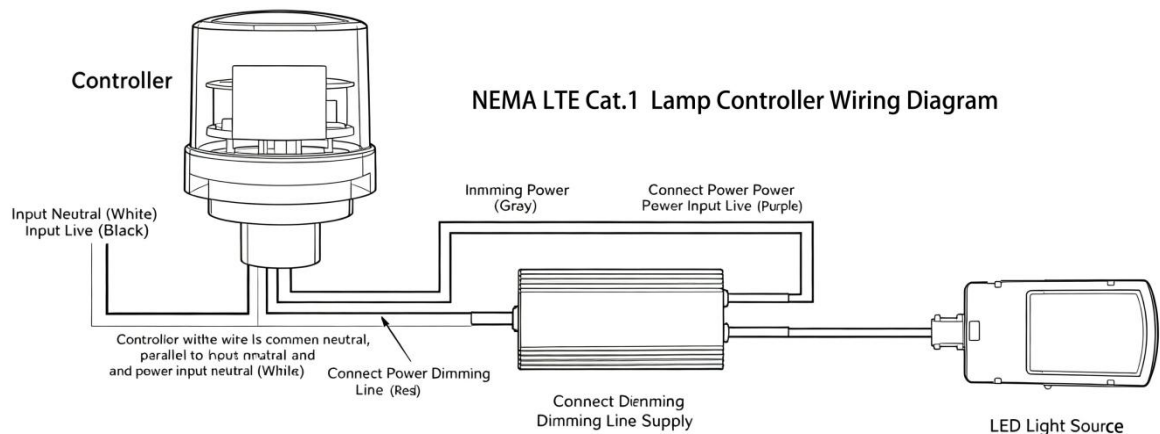
Detailed of NJ-iot306W

4. Technical Parameters

Parameter Name	Parameter Value
communication method	Wi-SUN
Supply Voltage	AC 90-265V
Maximum load current	4.5A
Wattage	≤1000W
Dimming method	0-10V/PWM

Parameter Name	Parameter Value
No-load power consumption	<2W
operating temperature	-35°C ~ 65°C
protection class	IP65
Support global frequency bands	Europe/Africa/America/ Southeast Asia etc;

5. Installation instructions



- For safety, always operate with the power off.

a) Wiring the LED Luminaire Driver

The power supply needs to support 0-10V dimming or PWM dimming power supply. The output of the single-light controller is connected to the input of the LED luminaire driver. The dimming signal wire of the single-light controller is connected to the dimming line of the driving power supply.

b) Load Connection

The output of the LED luminaire driver is connected to the luminaire and the power output is DC.

c) Access to utility power

Ensure that the input of the single-lamp controller is connected to the mains when steps A and B are completed. Lamps are switched on by default

- *Additionally the installation should be securely fastened and avoid scratches and insulation damage to the line.

6. Mobile App

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

Method 1: APP Download

① For Android Devices

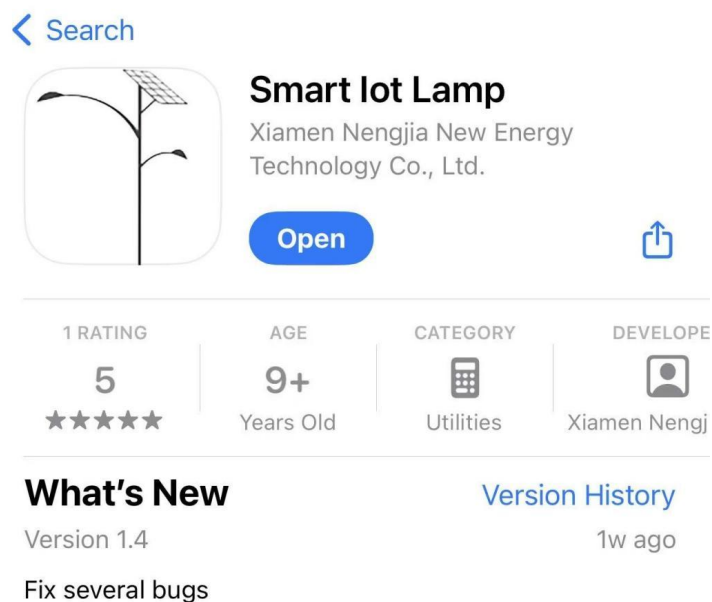
APP Download Link: <https://iot.xmnengjia.com/download/NetJoin.apk>

Or scan the QR code below:



② For iOS Devices

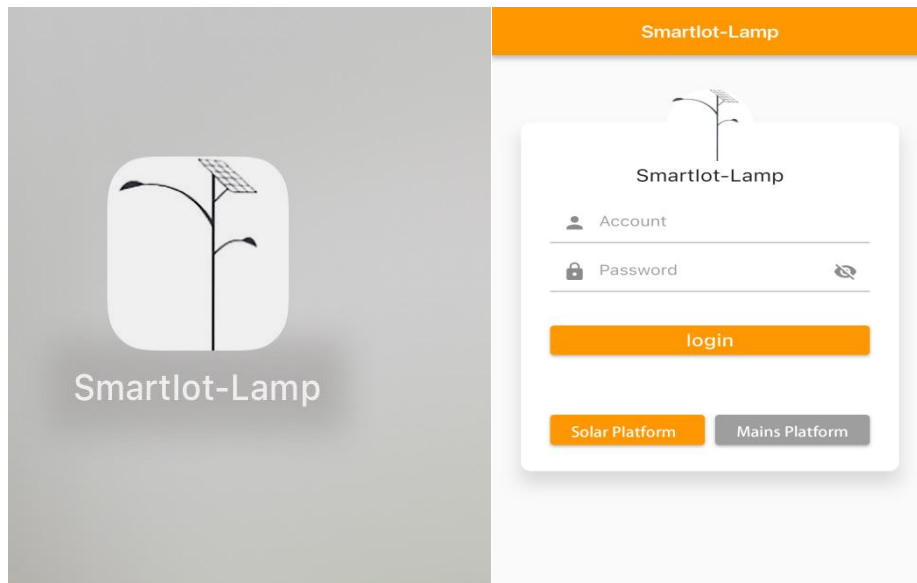
Please search for "Smart lot Lamp" in the App Store



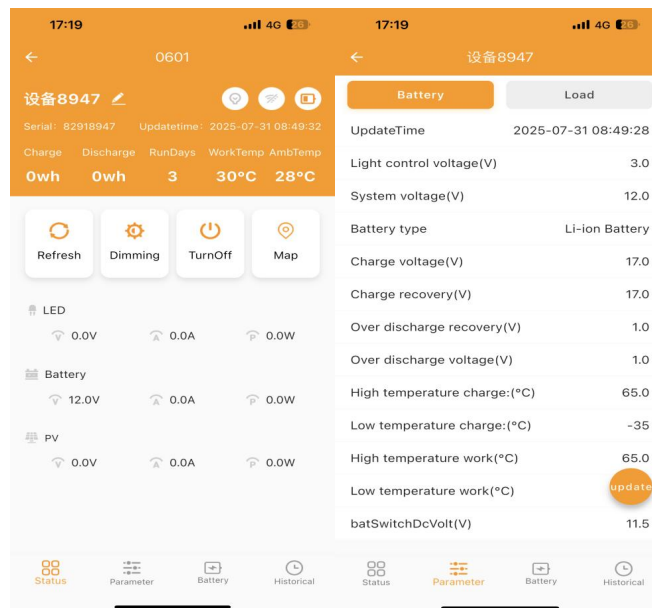
Method 2: Log in via the computer website

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

7. Display on APP

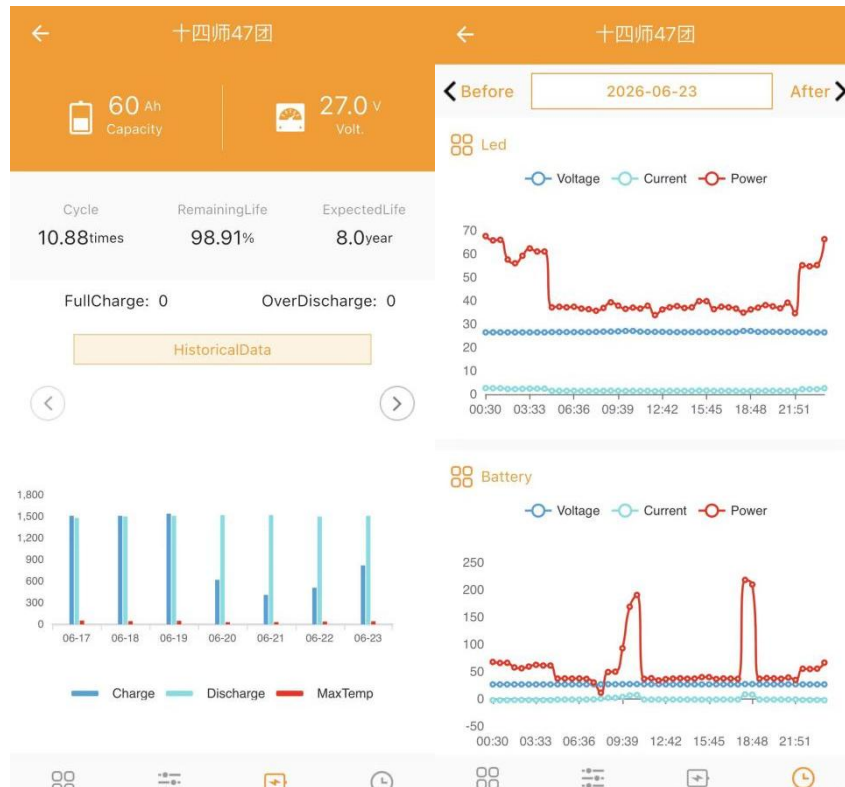


Enter account number and password, click login, enter the system, you can see the account information and the account of the subordinate user.



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.

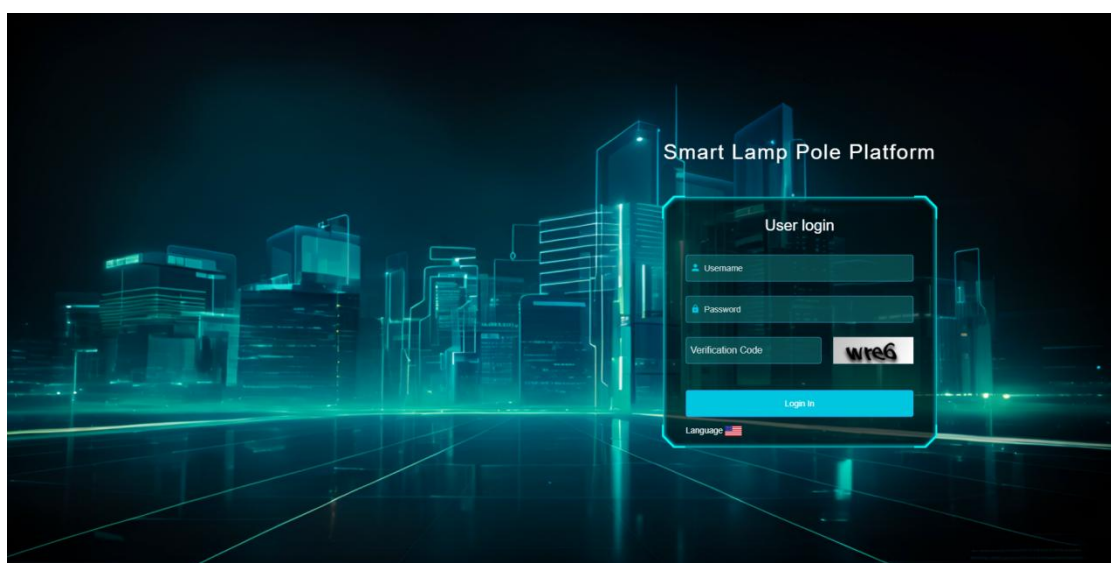
In the interface of parameters, you can send down parameters and update parameters.



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.

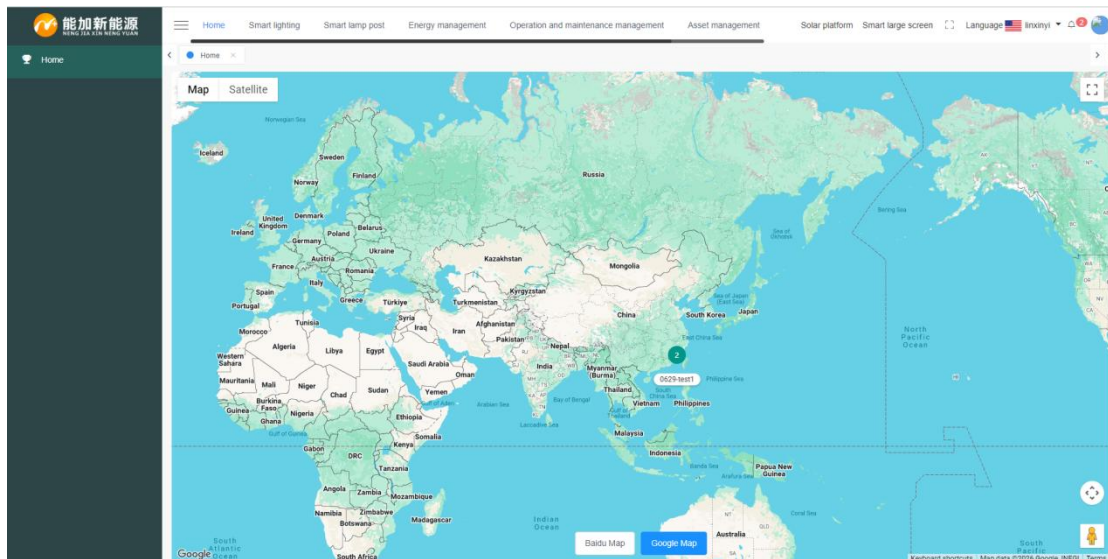
8.Display on PC side



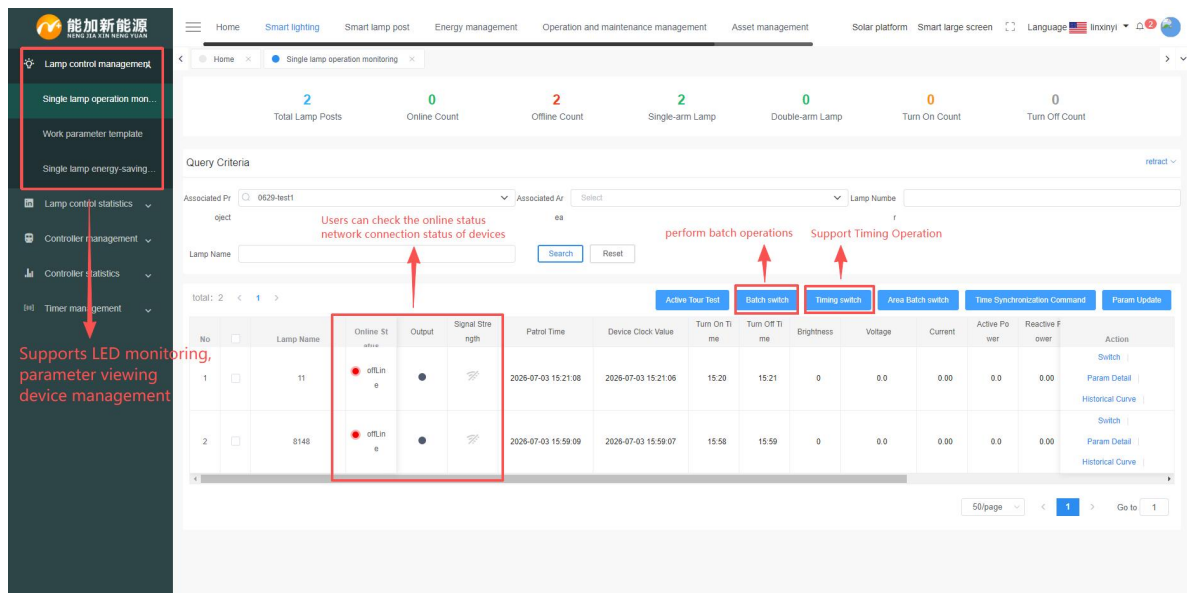
Smart Lamp- Pole Platform is an IoT cloud- management system.

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.

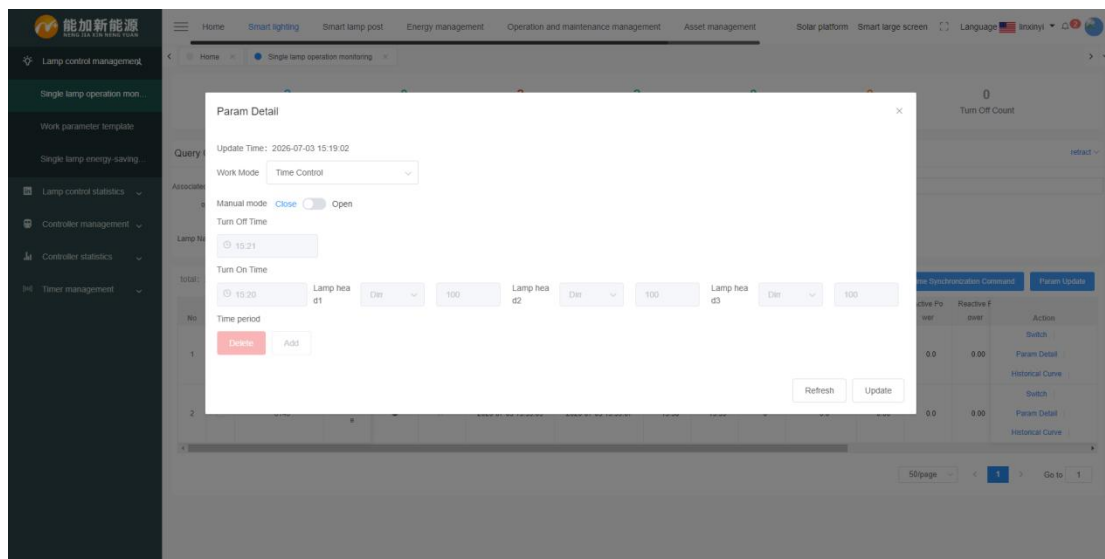


The dashboard homepage showcases an interactive world map that displays the coordinates of all IoT devices ready to bind. The top navigation bar includes tabs for smart lighting, smart poles, energy data, O&M, and asset management. Multi-language support is also available. The system provides location search, real-time status monitoring, and centralized control over field hardware deployed internationally, enabling efficient device maintenance across global operations.

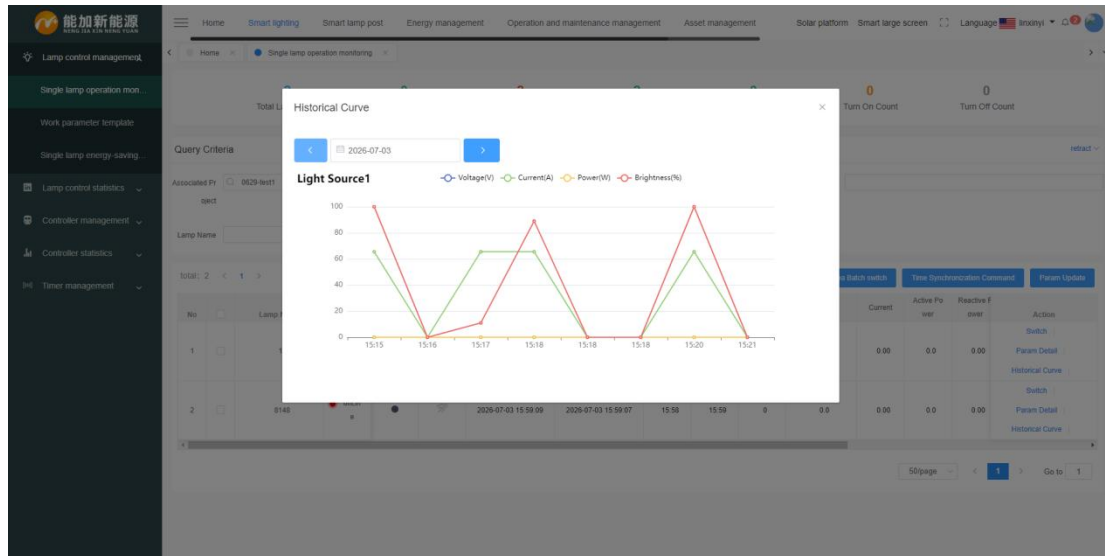


- Active Tour Test: Batch online inspection, one-click verification of device online connectivity status
- Batch Switch: Mass on/off control for all lamps, quickly adjust lighting status of the whole road uniformly

- 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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