



Net Join IoT
Nengjia New Energy



IoT Solar Light Controller User Manual

NJ-iot403L-zhaga

Xiamen Net-Join IoT Technology Co., Ltd.

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

1. Product Overview

The NJ-iot403L-zhaga Solar light Node Controller is designed to operate in conjunction with a central controller. The node controller is responsible for local data acquisition, while the central controller aggregates and transmits all collected data to the cloud platform. LoRa is an emerging technology within the IoT landscape, built upon the open IEEE 802.15.4g/e standard. It offers key advantages including interoperability, high reliability, cost-effectiveness, and ultra- low power consumption.

This solar IoT module is a communication interface module fully compatible with solar streetlight controllers. It integrates LoRa communication capabilities, enabling remote connectivity to cloud servers. Additionally, it provides UART (TTL level) and RS485 communication interfaces for parameter reading and status monitoring of the solar controller.

2. Core Functions and Advantages

1. LoRa wireless communication Built-in optional
2. Bluetooth wireless communication
3. Compatible with three voltage inputs: 3.2V/12V/24V
4. Capable of communicating via UART (TTL level)/RS485 interfaces, supporting control of most mainstream solar controllers
5. Remote control and information reading via PC-side interface and mobile app
6. Remote on/off of loads and adjustment of load power
7. Reading of voltage/current/power of battery, load, and solar panel inside the controller
8. Fault alarm (battery, solar panel, and load faults)
9. Remote sending and reading of parameters for multiple or single controllers
10. Module with base station positioning function
11. Support for remote firmware upgrade

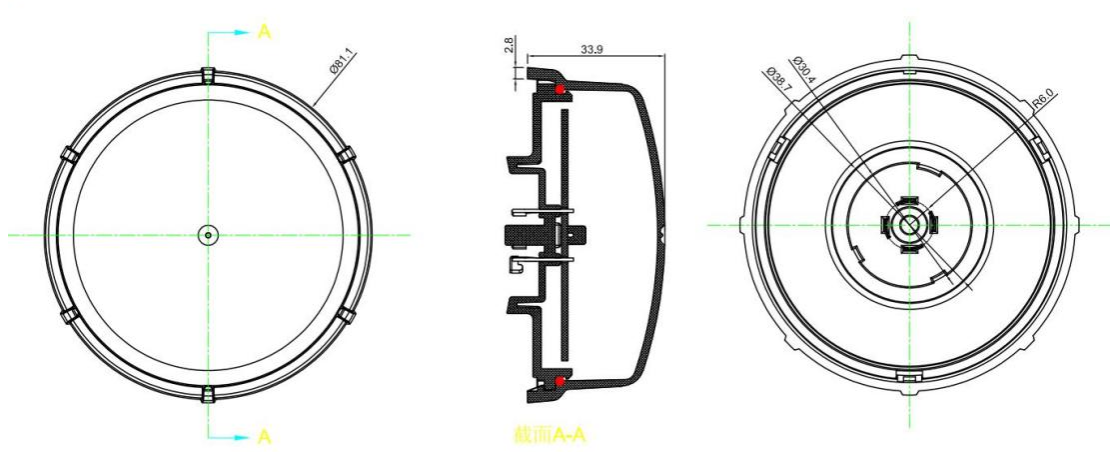
3. Product Dimensions

3.1 Product Dimension Parameters

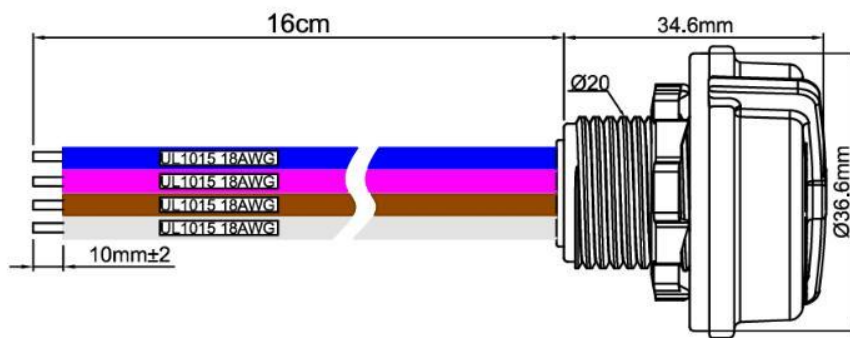
Outer Size: L × W × H : 81.1 mm x 33.9 mm

(An error of 1–2 mm may exist due to different measuring methods. Please take the actual received product as the standard.)

Net Weight: $\approx 0.1\text{kg}$



NJ-iot403L-zhaga Dimension Drawing



Zhaga Detailed Dimension Drawing

3.2 Product Outline



NJ-iot403L-zhaga Render Image

4. Product Parameters

4.1 Product Model Table

Model No.	Battery Voltage	Communication Standard	interface
NJ-iot403W	12V/24V	Wi-SUN	/
NJ-iot403W-zhaga	12V/24V	Wi-SUN	Zhaga
NJ-iot403L	12V/24V	LoRa	/
NJ-iot403L-zhaga	12V/24V	LoRa	Zhaga

4.2 Technical Parameters

Parameter	Specifications,
No-Load Power Consumption	10mA (at 12V); 6mA (at 24V)
Operating Frequency	902~928MHz
4G Operating Frequency	FDD: B1/B3/B7/B8/B20/B28
Power Supply Voltage	3.2V/12V/24V
Operating Temperature	-35°C ~ 65°C
Antenna Type	Built-in
Protection Level	IP65

4.3 LED Status Indication

Indicator Light	Status	Function Description
Network Indicator (Green)	Extremely slow flash (On for 0.3s, Off for 2.5s)	Device searching for network

Indicator Light	Status	Function Description
Network Indicator (Green)	Fast flash (On for 0.1s, Off for 0.1s, lasting for 2s)	Device uploading data
Network Indicator (Green)	Steady on	Device online

5. Wiring Method



NJ-iot403L-zhaga Wiring Diagram

6. Mobile App

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

Method 1: APP Download

① For Android Devices

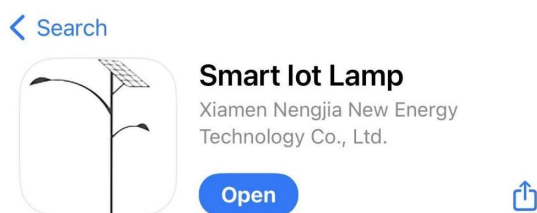
APP Download Link: <https://iot.xmnengjia.com/download/NetJoin.apk>

Or scan the QR code below:



② For iOS Devices

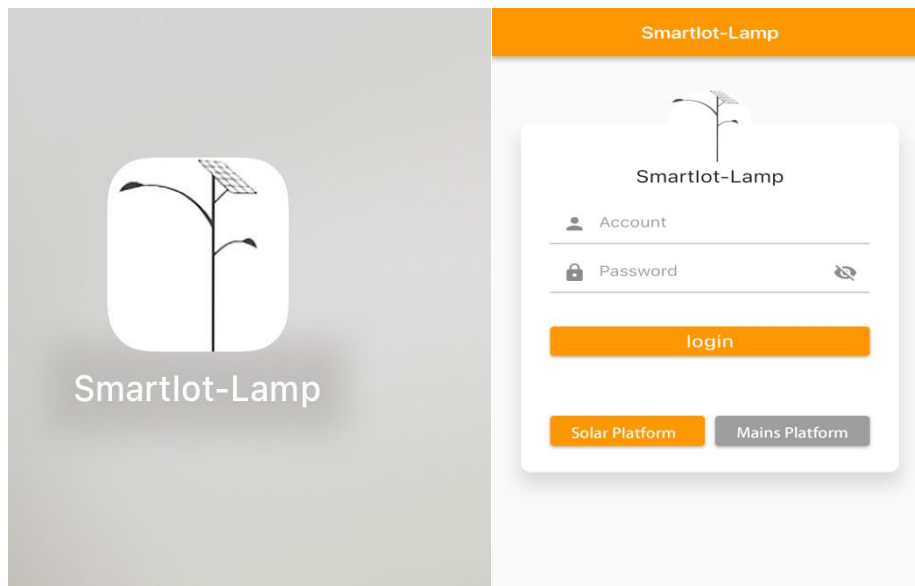
Please search for "Smart lot Lamp" in the App Store



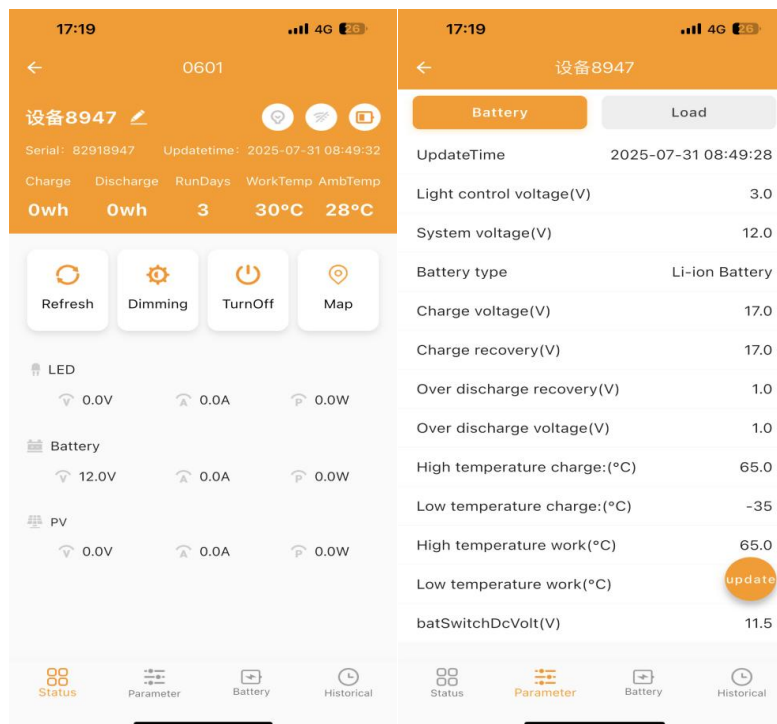
Method 2: Log in via the computer website

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

7.Display on App

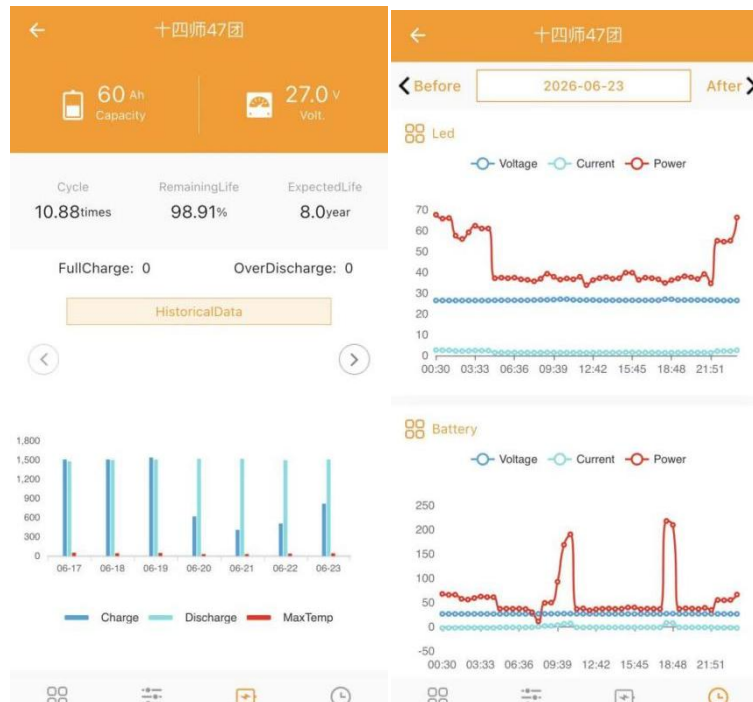


Enter account number and password, click login, enter the solar IOT system, you can see the account information and the account of the subordinate user



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.

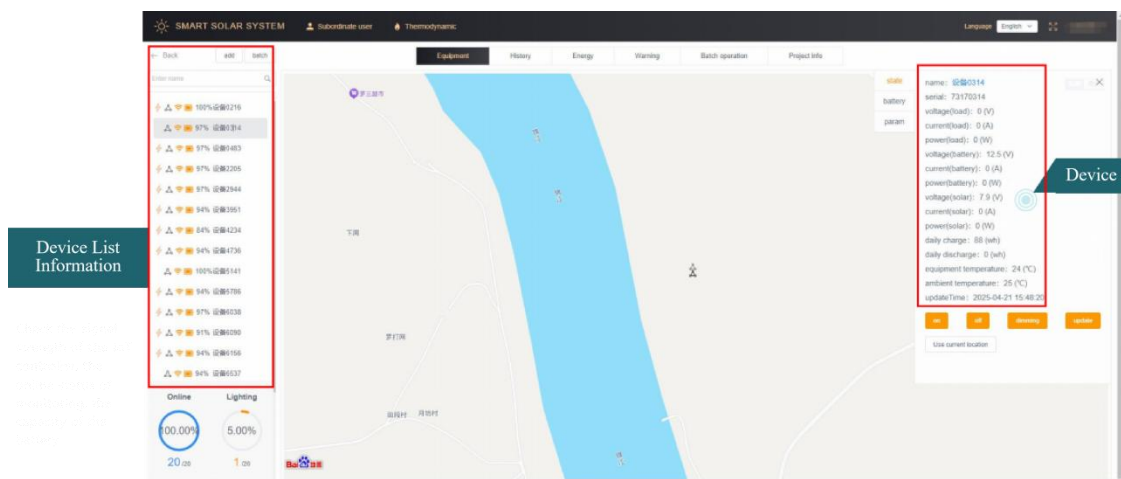
In the interface of parameters, you can send down parameters and update parameters



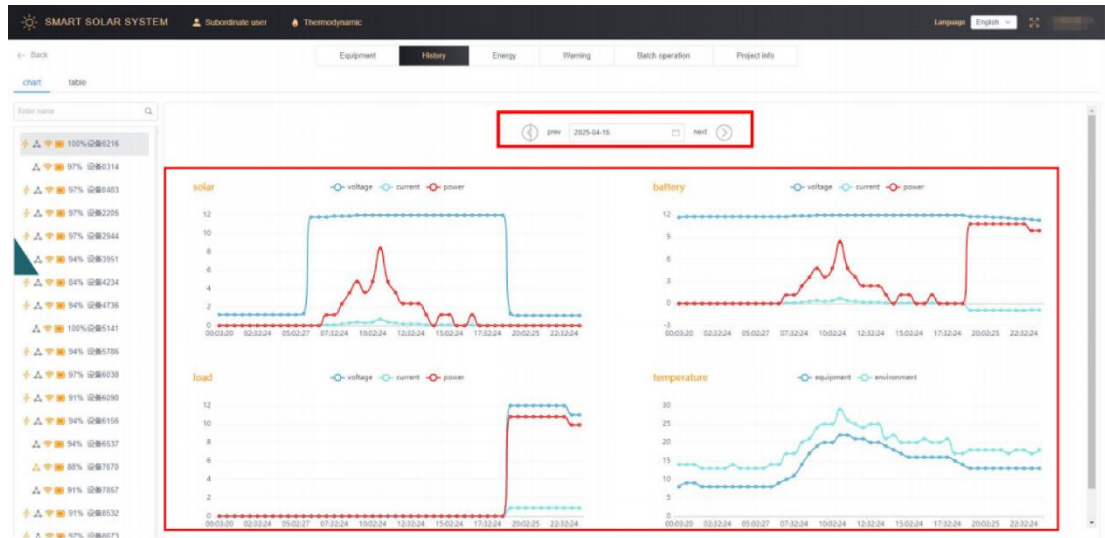
Click the battery to view the historical data of the battery, and view the corresponding historical working time, historical power generation/discharge(wh).

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.

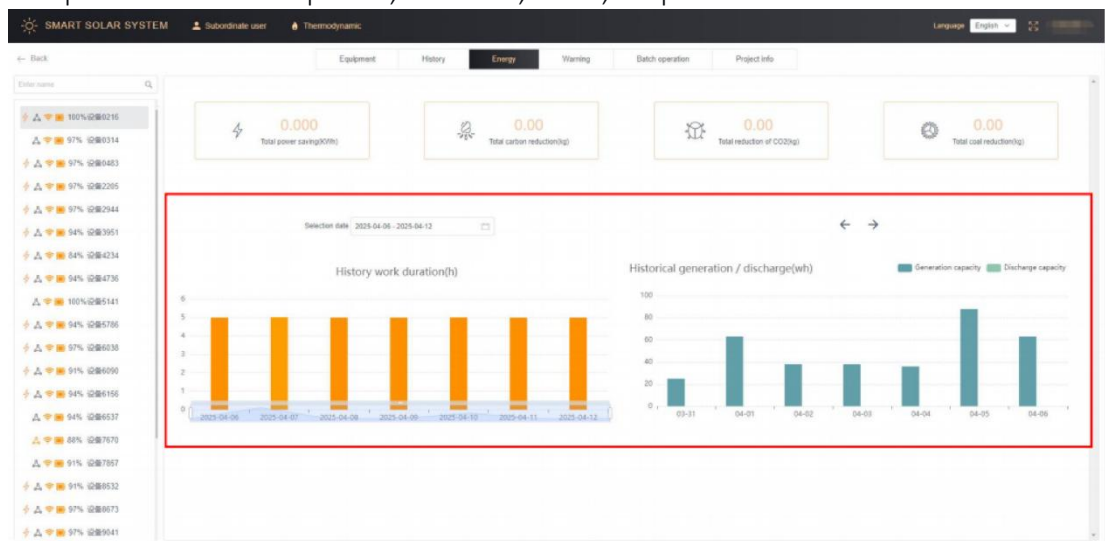
7. Display on PC side



- Check the signal strength of the IoT controller, the online status of monitoring, the capacity of the battery
- Check voltage,current, and power of loads, batteries, solar panels,equipment temperature,ambient temperature



- Historical status of the device: Select the time to view the voltage, current and power of the solar panels, batteries, loads, temperatures



- Charging and discharging conditions: View historical operating hours, historical power generation/discharge of the device

SMART SOLAR SYSTEM Subordinate user Thermodynamic Language: English

Equipment History Energy **Warning** Batch operation Project info

Back

Enter name

Configuring Alarm Push

Equipment Name	Content	Status	Time	Handle
设备409	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备0235	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备463	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备873	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备216	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备155	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备205	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备114	Low-voltage protection	Untreated	2025-03-15	Dismiss
设备090	Low-voltage protection	Untreated	2025-03-14	Dismiss
设备037	Low-voltage protection	Untreated	2025-03-14	Dismiss
设备038	Low-voltage protection	Untreated	2025-03-14	Dismiss
设备216	Low-voltage protection	Untreated	2025-03-14	Dismiss

1 2 3 4 ... 42 12/20

- **Alarm List:** The alarm list is reported to the platform, and the alarm list is sent to the operation and maintenance personnel through the form of SMS



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