



Net Join IoT
Nengjia New Energy



IoT Solar Light Controller User Manual

NJ-iot402U

Xiamen Net-Join IoT Technology Co., Ltd.

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

1. Product Overview

The NJ-iot402U is a communication module compatible with solar controllers. It features 4G Cat.1 connectivity to remotely connect to cloud servers. It is equipped with RS485 and RS232 serial ports, enabling remote reading and writing of parameters and operating status from the solar controller, including charge and discharge data.

2. Core Functions and Advantages

1. Built-in 4G Cat.1 wireless cellular communication
2. Wide input voltage compatibility: 12V / 24V / 48V
3. Supports Global Frequency Bands
4. It is compatible with solar charge controllers from mainstream manufacturers via RS485 and RS232 interfaces.
5. Multi-terminal remote management: PC web platform + WeChat Mini Program + Mobile APP
6. Remote load control is available, featuring both on/off switching and continuous power adjustment
7. Real-time data acquisition: voltage, current and power of battery, load and solar panel
8. Multi-dimensional fault alarm: battery fault, solar panel fault, load fault
9. Batch & single device parameter remote configuration & query
10. Support remote OTA firmware upgrade

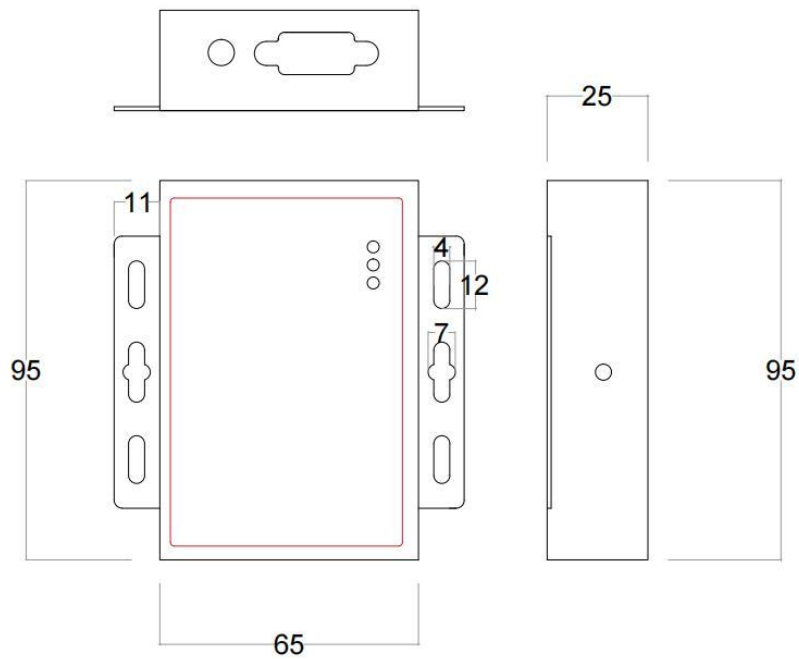
3. Product Dimensions

3.1 Product Dimension Parameters

Outer Size: L × W × H : 95mm × 65mm × 25mm

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

Net Weight: ≈0.1kg



NJ-iot402 Dimension Drawing

3.2 Product Outline



NJ-iot402 Render Image

4. Product Parameters

4.1 Product Model Table

Model No.	Battery Voltage	Supply Voltage	Applicable Region
NJ-iot402	12V/24V/48V	5-45V	China
NJ-iot402U	12V/24V/48V	5-45V	Europe, Africa and Asia
NJ-iot402G	12V/24V/48V	5-45V	Global

4.2 Technical Parameters

Parameter	Specification
Communication Standard	4G LTE Cat.1
SIM Card Type	Standard Nano SIM card
Rated Voltage	9-80V
No-load Loss	10mA(12V);6mA(24V)
Operating Temperature	-35°C ~ +65°C
IP Rating	IP65

4.3 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	Connecting to cellular network

Indicator	Blink Mode	Status Description
	(0.3s ON / 1s OFF)	
Green Network LED	Fast blink (0.1s ON / 0.1s OFF)	Network registered successfully, device online

5. Wiring Method



NJ-iot402U 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

< Search



Smart lot Lamp

Xiamen Nengjia New Energy
Technology Co., Ltd.

Open



1 RATING

5



AGE

9+

Years Old

CATEGORY



Utilities

DEVELOPER



Xiamen Nengj

What's New

Version 1.4

Fix several bugs

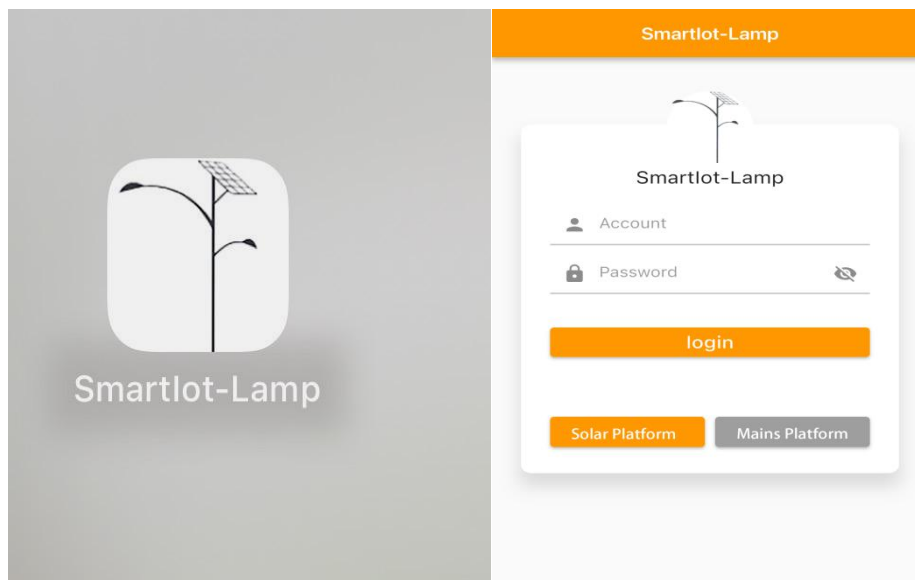
Version History

1w ago

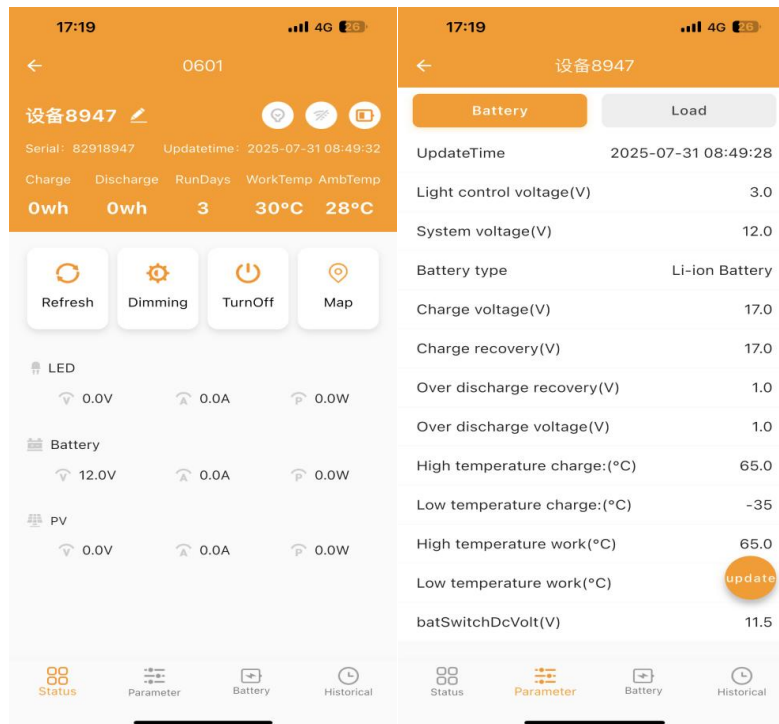
Method 2: Log in via the computer website

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

7.Display on App

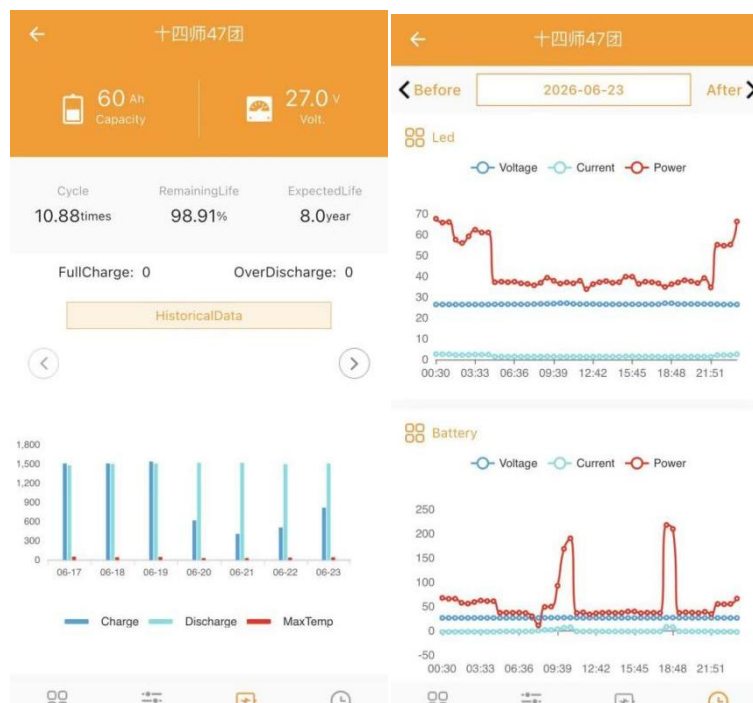


Enter account number and password, click login, enter the solar IOT system, you can see the account information and the account of the subordinate user



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

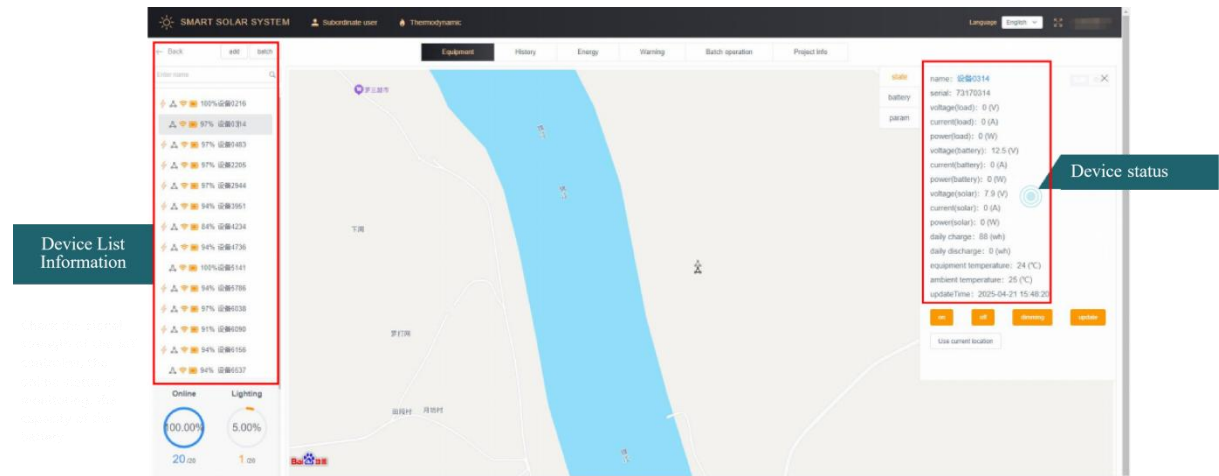
In the interface of parameters, you can send down parameters and update parameters



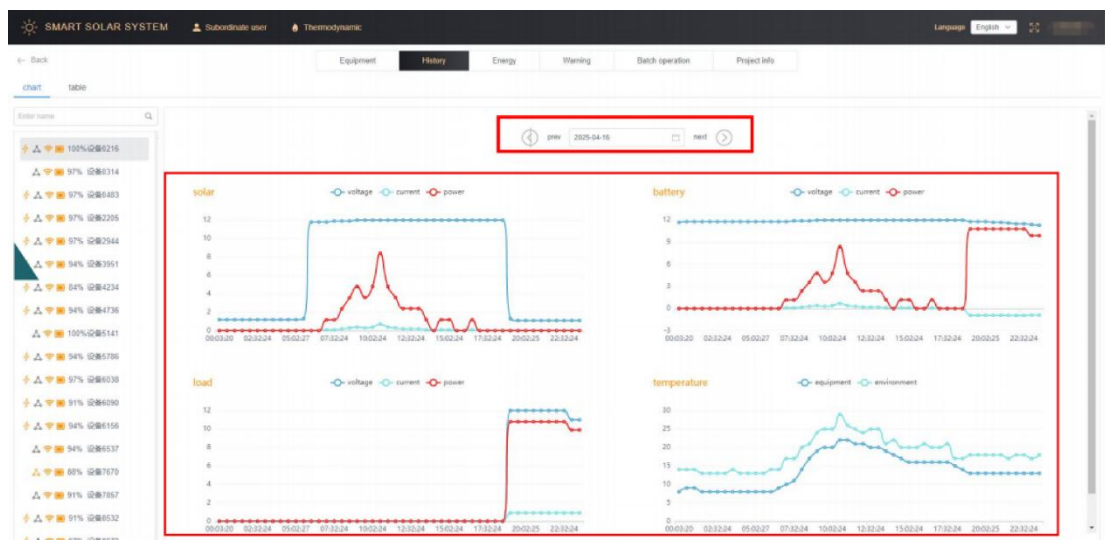
Click the battery to view the historical data of the battery, and view the corresponding historical working time, historical power generation/discharge(wh).

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.

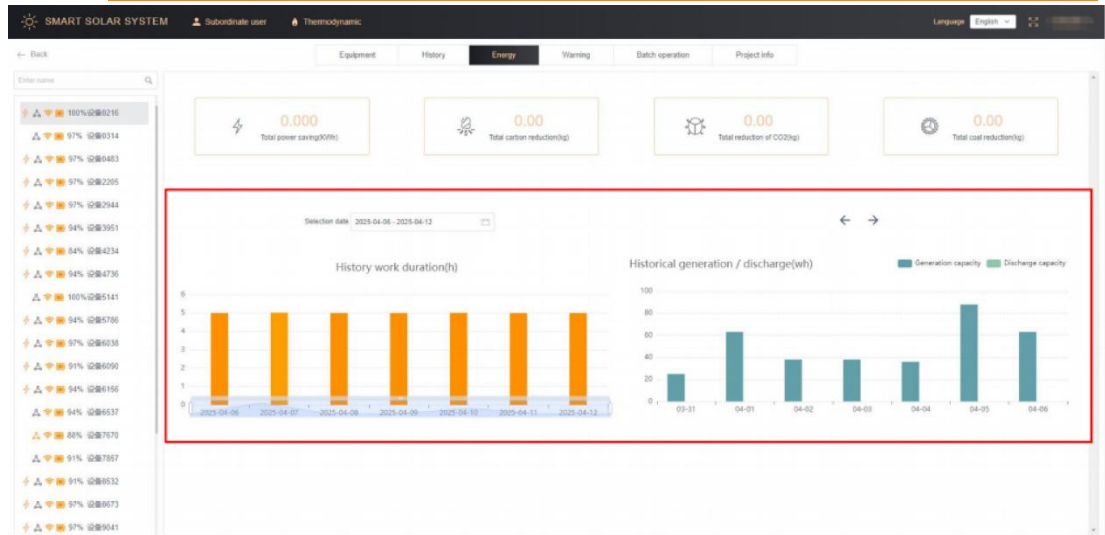
7. Display on PC side



- 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

The screenshot displays the 'Warning' tab of the SMART SOLAR SYSTEM interface. It shows a table of alarms under the 'Configuring Alarm Push' section. The table lists equipment names, alarm content, status, and time. All listed alarms are 'Low-voltage protection' and are currently 'Unreated'.

Equipment Name	Content	Status	Time	Handle
设备459	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备458	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备463	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备873	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备216	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备156	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备205	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备114	Low-voltage protection	Unreated	2025-03-15	Dismiss
设备080	Low-voltage protection	Unreated	2025-03-14	Dismiss
设备537	Low-voltage protection	Unreated	2025-03-14	Dismiss
设备458	Low-voltage protection	Unreated	2025-03-14	Dismiss
设备216	Low-voltage protection	Unreated	2025-03-14	Dismiss

- 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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