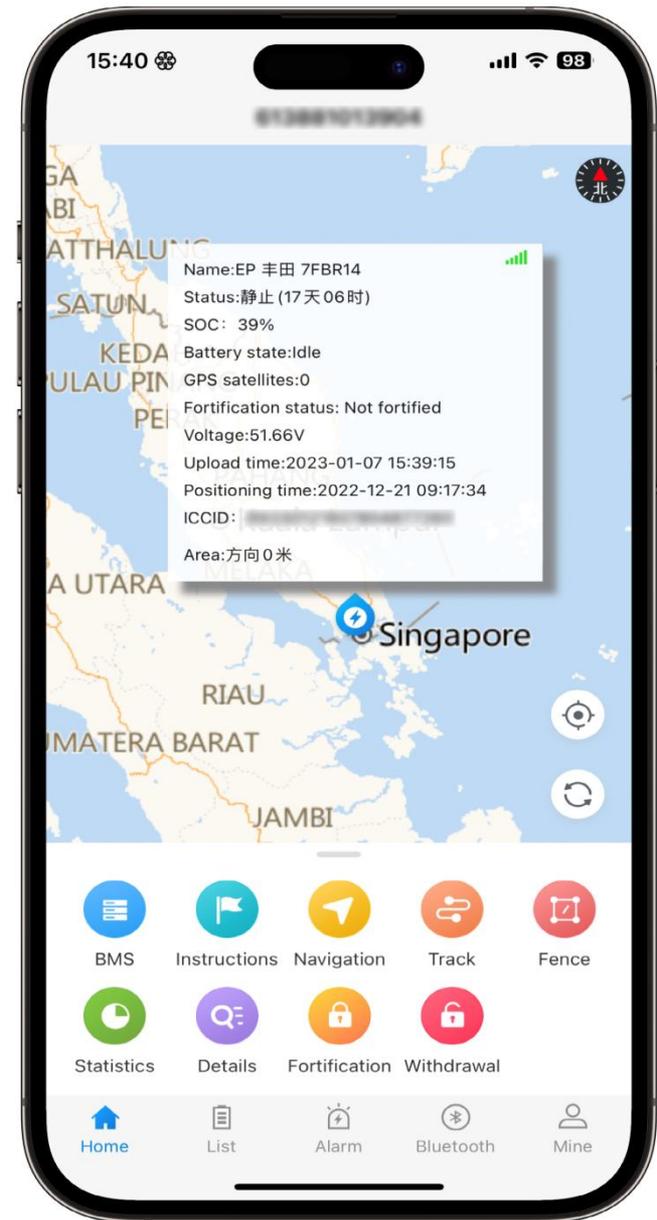


Mingtang Smart Mutual Cloud is a professional app that integrates location services and BMS battery management. Its main functions include BMS battery management, air upgrade, Bluetooth connection, location tracking, track playback, real-time alarm, mileage statistics, etc., so that users can control the battery at any time and anywhere, so that they can use the battery more safely and safely.



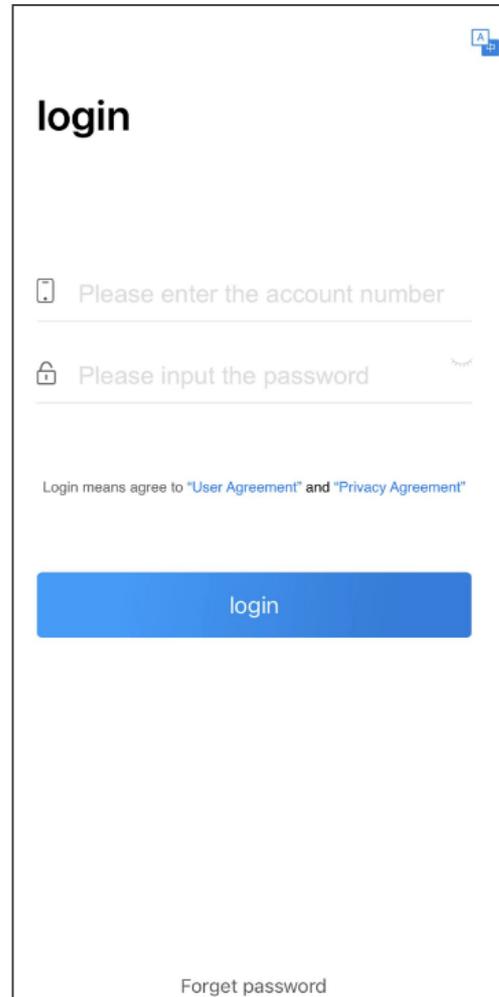
# 1. APP To Download

Please scan the following QR code to download and install the APP (click the relevant download button for Apple and Android phones)



## 1.1 Login

Open the APP to enter the login interface, enter the account and password to log in (please consult the business personnel for the account)



The screenshot shows a mobile application login screen. At the top right, there is a small blue icon with a white 'A' and a plus sign. Below this, the word "login" is displayed in a large, bold, black font. There are two input fields: the first is labeled "Please enter the account number" with a mobile phone icon to its left; the second is labeled "Please input the password" with a lock icon to its left and a small eye icon to its right. Below the input fields, a line of text reads "Login means agree to 'User Agreement' and 'Privacy Agreement'". A prominent blue button with the word "login" in white text is centered below this text. At the bottom of the screen, the text "Forget password" is visible.

## 2. Main interface introduction

**Map :** Display the location of the selected battery. Click the icon to display the relevant information of the battery

**BMS:** Display battery status, parameter settings, remote control, alarm statistics, etc

**instructions :** Including immediate positioning, air upgrade, system restart, factory reset, etc

**Navigation :** Navigate from the phone location to the selected battery location

**track :** Playback the running track of the battery

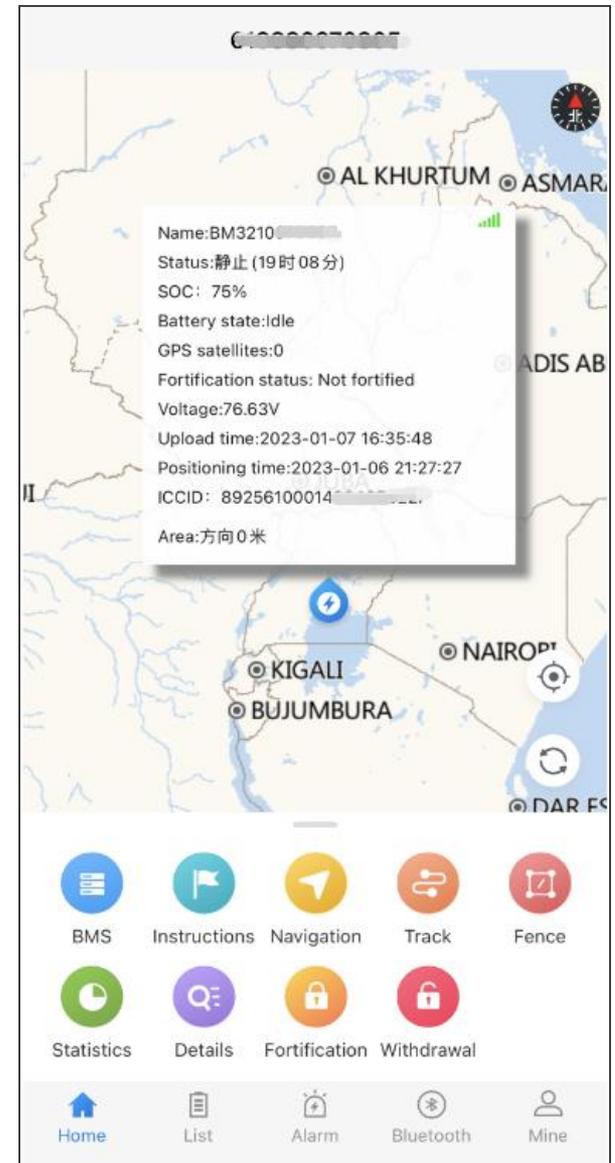
**fence :** After the battery exceeds the fence, the APP will prompt the alarm of exceeding the fence

**Statistics :** You can view the mileage data of the battery

**Details :** Basic information about the battery

**Fortification :** After the security is set, the battery stops for 3 minutes and then vibrates, and the APP will prompt the vibration alarm

**Withdrawal :** After disarming, the battery will not prompt vibration alarm



# 3. Introduction to BMS functions

**3.1 State :** It mainly includes battery basic information, soc capacity, single string voltage, balance information, charge discharge protection status, temperature protection status, cycle times and other information display.  
 (When the data is not up-to-date, you can try to click the refresh icon to get the latest battery information)

The screenshot shows the main status page of the BMS. At the top, there are navigation tabs: Status, Settings, Control, Stats, and Extend. Below the tabs, the BMS Time is displayed as 2023-06-16 13:48:51. A battery icon shows a 50% charge level. A 'Read' button and a refresh icon are visible. A red box highlights the refresh icon with the word 'Refresh' written below it. Below the battery icon, the 'Warning Info' is shown as 'None'. The main content area contains a table of battery parameters:

The total voltage	47.18V	The residual capacity	25.3Ah
Short circuit status	normal	Battery type	Ternary(13)
Charging protection	normal	Discharge protection	normal
Charging current	0.0A	Discharge current	0.0A
Board temperature	29.7°C	Standard capacity	50.0Ah
Bat temp 1	27.5°C	Bat temp 2	27.8°C
Ext temp 1	Open circuit	Ext temp 2	Open circuit
Balance state	open	cycles	162time
Battery code	BT204805013CT00220940784		
485 Lock Function	close	485 Lock Status	Unlocked
The version number	BM312_V01_220424_TT_M-MT01_BM312_VOR1.V01.01.TT.M_2022/01/20 17:59-21-865099039022039-MCU312_MT_6_16S-46 0082367104585		

The screenshot shows the 'Cell volt details' page of the BMS. It displays individual cell voltages and their balance status. The cells are numbered 1 through 13. Cells 1, 2, 3, 9, and 10 are highlighted with red boxes, indicating they are not in equilibrium. Cells 4, 5, 6, 7, 8, 11, and 12 are highlighted with blue boxes, indicating they are in equilibrium. The voltage for each cell is shown below its number.

Max voltage	3.631V	Min voltage	3.629V
Max voltage diff	0.002V		
Unit balance state	Not equilibrium		
1	2	3	4
3.629V	3.629V	3.629V	3.631V
5	6	7	8
3.629V	3.629V	3.629V	3.63V
9	10	11	12
3.629V	3.63V	3.629V	3.63V
13			
3.63V			

## 3.2 Settings :

Including the general settings, temperature settings and over-current protection settings of the battery. Please enter relevant values according to the unit when entering, and click "Issue" after entering. Batch modification is supported. After entering the value, click the "Distribute" button below.

6 [REDACTED]

Status Settings Control Stats Extend

BMS Time: 2023-06-16 15:41:51

Normal TEMP Current

Standard capacity: 50.0Ah  Setup

Battery nums: 17  Setup

Battery type(0 Ternary 1 Lithium iron): Ternary  Setup

Unit charge protection voltage: 4250mV **4200**  Setup

Unit charge recovery voltage: 4150mV  Setup

Unit discharge protection voltage: 2750mV  Setup

Unit discharge recovery voltage: 3000mV  Setup

Unit differential protection voltage: 1000mV  Setup

Total charge protection voltage: 71.75V  Setup

Total charge recovery voltage: 69.7V  Setup

Total discharge protection voltage: 47.6V  Setup

Total discharge recovery voltage: 52.7V  Setup

Secondary charge protection voltage: 72.25V  Setup

Secondary discharge protection voltage: 45.9V  Setup

Rated current: 45A

Read Setup

6 [REDACTED]

Status Settings Control Stats Extend

BMS Time: 2023-06-16 15:41:51

Normal TEMP Current

Mainboard TEMP:

Over TEMP protection value: 75°C  Setup

Over TEMP recovery value: 60°C  Setup

Low TEMP protection value: -20°C  Setup

Low TEMP recovery value: -15°C  Setup

Charge temp:

Over TEMP protection value: 60°C  Setup

Over TEMP recovery value: 50°C  Setup

Low TEMP protection value: -5°C  Setup

Low TEMP recovery value: 0°C  Setup

Discharge temp:

Over TEMP protection value: 65°C  Setup

Over TEMP recovery value: 55°C  Setup

Low TEMP protection value: -20°C  Setup

Low TEMP recovery value: -15°C  Setup

Read Setup

6 [REDACTED]

Status Settings Control Stats

BMS Time: 2023-01-07 17:30:15

Normal TEMP Current

Charge over current protectionLevel 1:

Current: 49A  Setup

Duration: 10S  Setup

Recovery: 30S  Setup

Charge over current protectionLevel 2:

Current: 38A  Setup

Duration: 30S  Setup

Recovery: 30S  Setup

Charge over current protectionLevel 3:

Current: 27A  Setup

Duration: 120S  Setup

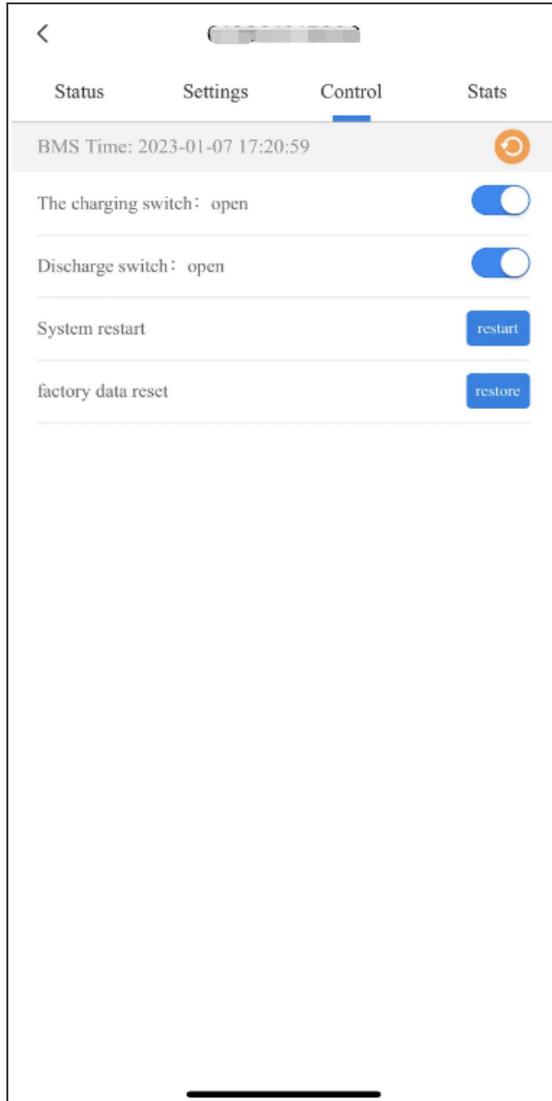
Recovery: 30S  Setup

Read Setup

### 3.3 Control and statistics :

- **Control** : It can remotely control battery charging and discharging on or off, system restart, and factory reset.

- **Statistics** : Mainly count the times of battery protection .

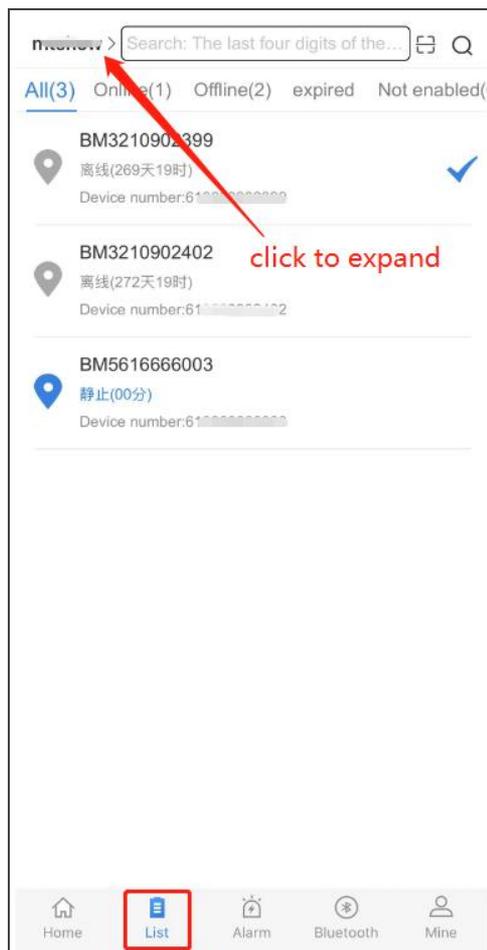


Stats Tab Interface:

Protection Type	Charge Times	Discharge Times	Total Times
Unit over voltage	70Times	Unit under voltage	131Times
Total over voltage	3Times	Total under voltage	6Times
Charge over current	0Times	Discharge over current	3Times
Charge protection	73Times	Discharge protection	142Times
Charge over temp	0Times	Charge low temp	0Times
Discharge over temp	0Times	Discharge low temp	2Times
Short circuit protection	0Times		

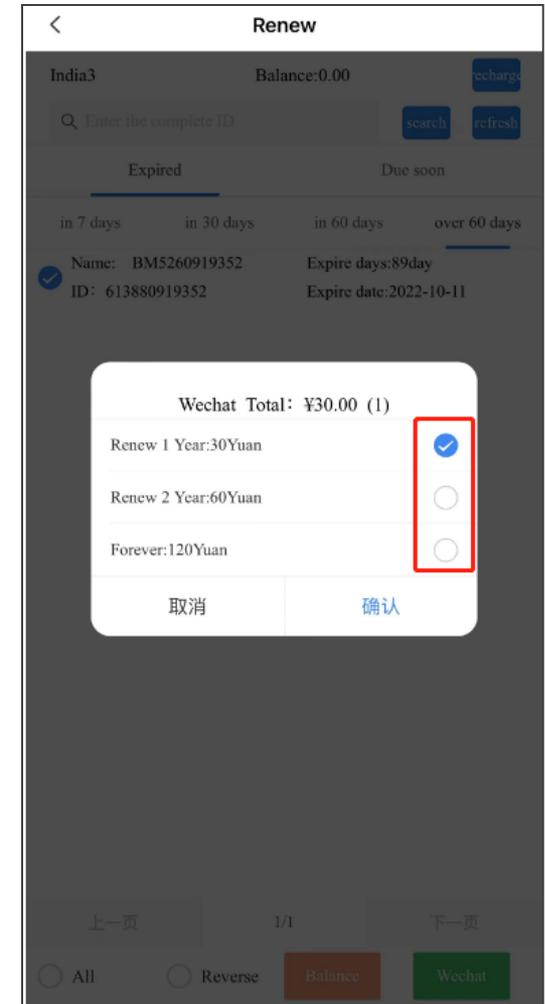
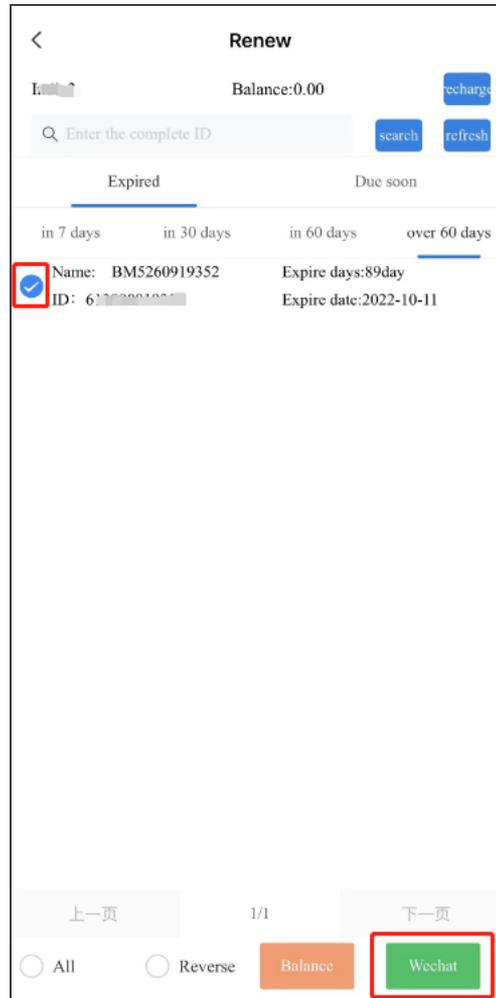
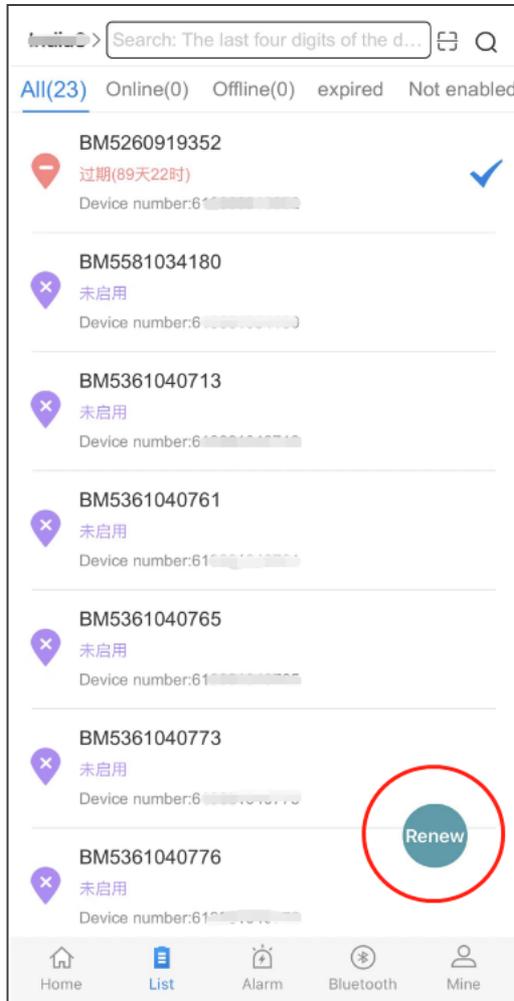
## 4. List

- Quick search for battery: Enter the battery ID number in the search box above, and then click the search icon. (You can also enter the ID number by scanning the barcode)
- Click the arrow at the upper left corner to expand or close the display of lower level users. Press and hold the screen to pull down on the list interface to refresh the equipment list
- The list type includes "All, Online, Offline, Expired and Not Enabled". Click the type to automatically switch to the relevant list. Click a single battery to enter the map interface to view more battery information.



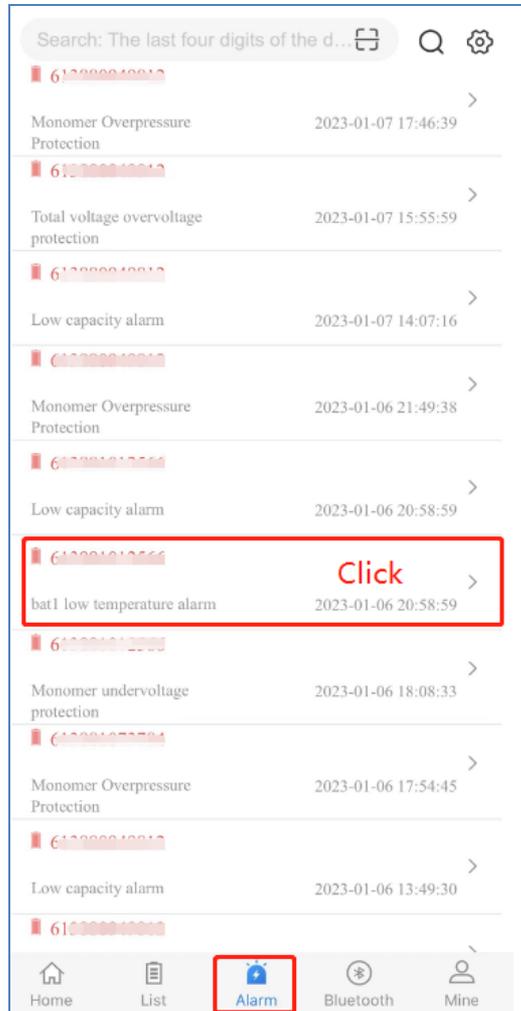
## 5. Renew (Only in China)

- In the equipment list interface, click the "Renew" button
- Check the expired or about to expire equipment for renewal. After confirmation, select balance or WeChat payment
- Select the renewal period, including 1 year, 2 years and lifetime. After confirmation, click "OK" to pay



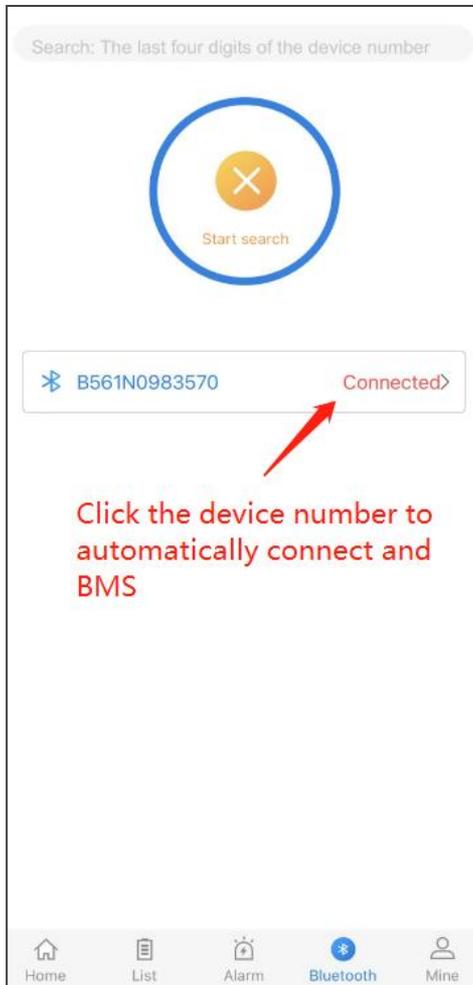
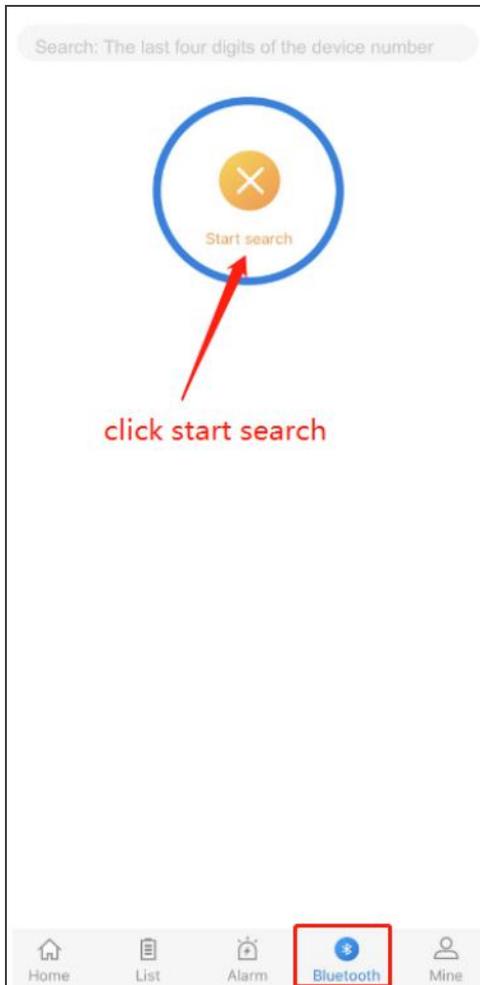
## 6. Alarm

- Check the alarm details: click the relevant ID number or enter the ID number above for quick search. Click it to enter the map interface, where the alarm occurs
- Turn off and turn on the alarm: click the setting icon in the upper right corner to enter the alarm setting. The blue switch indicates that the function is turned on, while the white switch indicates that it is turned off. The closed item will not trigger the alarm



## 7. Bluetooth ( To use this function, you must turn on Bluetooth )

- Click "Bluetooth" to enter the Bluetooth search interface, click to open the search, and the device found will be displayed at the bottom of the interface
- Click the device number to automatically connect. After success, click the device number again to enter the BMS interface, where you can view the BMS information
- Note: The effective search distance of the device is about 15 meters. Please try to be close to the device. The equipment to be connected can be determined according to the last five digits of the equipment number



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Status Settings Control Stats

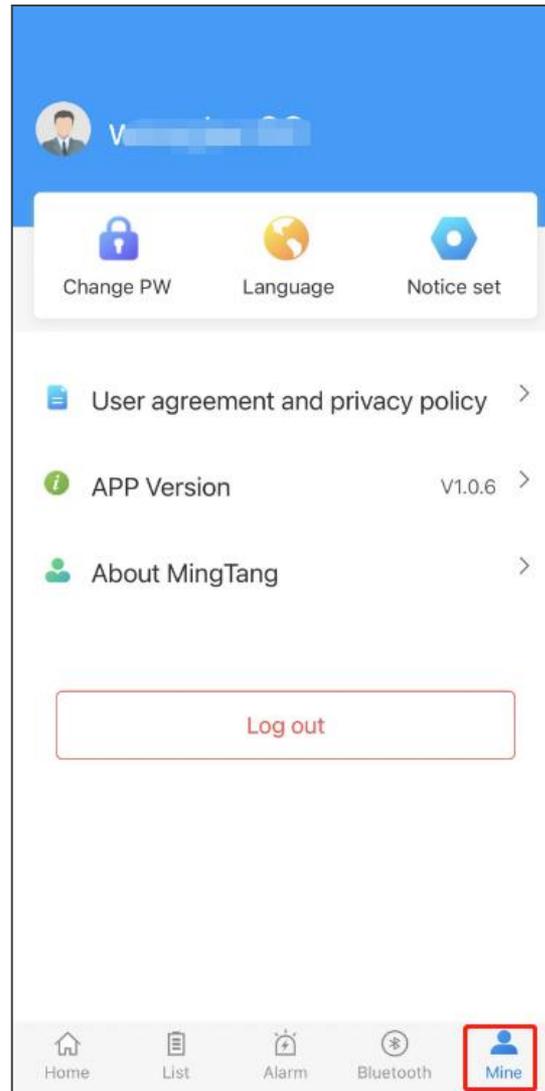
BMS Time:2023-06-16 13:56:17 Locate

Warning Info:Low power alarm

The total voltage	71.66V	The residual capacity	9% (0.5Ah)
Short circuit status	normal	Battery type	Lithium iron(24)
Charging protection	normal	Discharge protection	normal
Charging current	0A	Discharge current	0A
Board temperature	24.6°C	Standard capacity	5.0Ah
Bat temp 1	24.6°C	Bat temp 2	23.8°C
Ext temp 1	23.8°C	Ext temp 2	23.9°C
Balance state	open	cycles	1time
SIM State	OK,Signal Value34	Locate State	Not Located,satellite:0
Battery code	Not written		
485 Lock Function	未知	485 Lock Status	未知
The version number	MT20_BM570_VOR1.V01.01.EU.TT-23-BM570_V01_230614_EU_TT-230614183557-MCU570_F072_24S_C_230615		
Vendor code	570_TL_24S_100A_MT		

## 8. Mine

The personal center includes functions such as password modification, language selection, notification setting, user agreement, logout, etc .



ThankYou!