

Bluetooth Function usage instructions

1. Introduction

Xiao xiang Electric APP is a lithium battery management APP independently developed The APP mainly displays: lithium battery voltage, current, capacity, temperature and other curves, charge and discharge switch control, SOc, battery voltage, charge and discharge current, protection status, basic parameters, etc., through the background

permission operation, you can also set the parameters of the lithium battery protection board to make the health status of the lithium battery more transparent and ensure the safety of the use of the lithium battery. According to market feedback, the upgraded version of xiaoxiang Electric optimizes the overall interface, adopts a modular layout, and adds more parameters and function settings, just to bring users a faster, more complete and stronger experience.

ISO-Client



Android-Client



Scan the code to jump to the download address, and follow the instructions to complete the download and installation.

2. Function introduction

Module	Function	Describe	Example
history	voltage, current, remaining capacity, temperature	Display the battery maximum, minimum, average voltage, battery current, remaining capacity, BMS board temperature change curve	The last 100 pieces of data, one per minute, Graph
control	charging switch, discharge switch, automatic equalization switch, clear alarm, reset capacity	Issue commands through the APP to control the BMS board; clear alarm data; reset remaining capacity; open equalization	control switch: on/off; automatic equalization switch, clear alarm, reset capacity is not displayed in some BMS versions

real time	Soc display diagram,Estimated filling time,Estimated release time,charging switch,Discharge switch,Equilibrium,Protection status,total voltage,current,power,Maximum voltage (single string),Minimum voltage (single string),Average voltage,differential pressure,cycles,temperature, humidity,Single String voltage Information	Dashboard, displaying battery voltage, current, temperature, Soc, protection status, differential pressure, cycle times and other data	Real—time data of battery static, charging and discharging
parameter	Basic information, initial settings	Display the basic information of the protection board	Display BMS basic information; initial settings are not displayed in some BMS versions
mine	complete information, unbundle equipment, use instructions for lithium batteries, use instructions for BMS, about us, log out of account	Display personal information and settings, instructions for use, and introduction to our company, Purchase channels, etc.	Account information, manufacturer information, etc.

Note : Due to the upgrade of BMS and the addition of functions, the upgraded version of the xiaoxiang Electric APP is compatible with our company,s new and old BMS boards. It will be displayed according to the protocol differences of the BMS boards, and the interface and functions will be different, which is anormal phenomenon.

3. APP User Guide

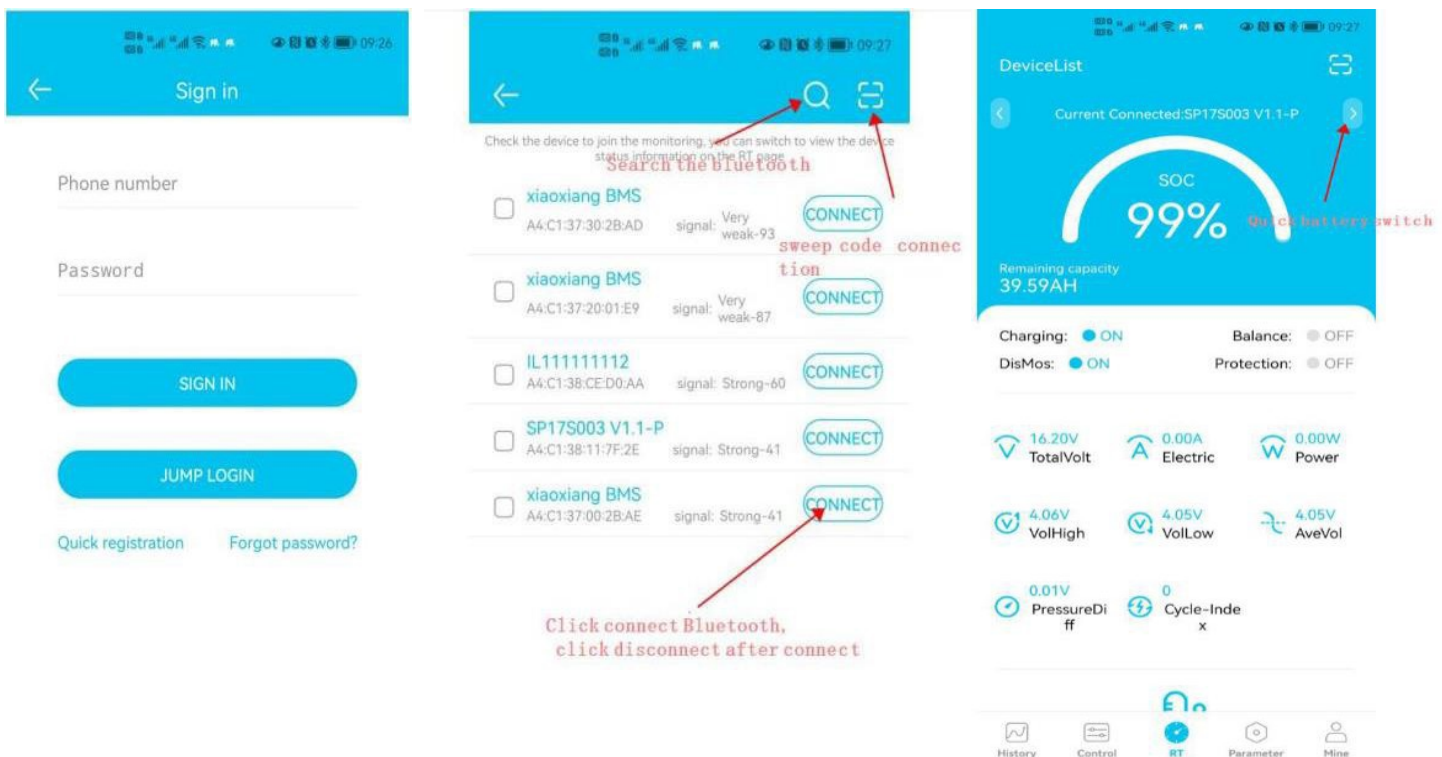
1. operating Environment

Android version 5.0 / iOS version 4.0 or above, it can be used on devices that support Bluetooth 4.0, and after obtaining the permission to use Bluetooth and GPS, it can run.

2. Login connection

3.2.1 Registering an Account

After the xiaoxiang Electric APP is successfully installed, open the APP, allow Bluetooth to be turned on, and obtain location information, the APP will automatically pop up the account registration page, please enter the mobile phone number as required, set the password, and click confirm when finished.



APP physical display Figure 1

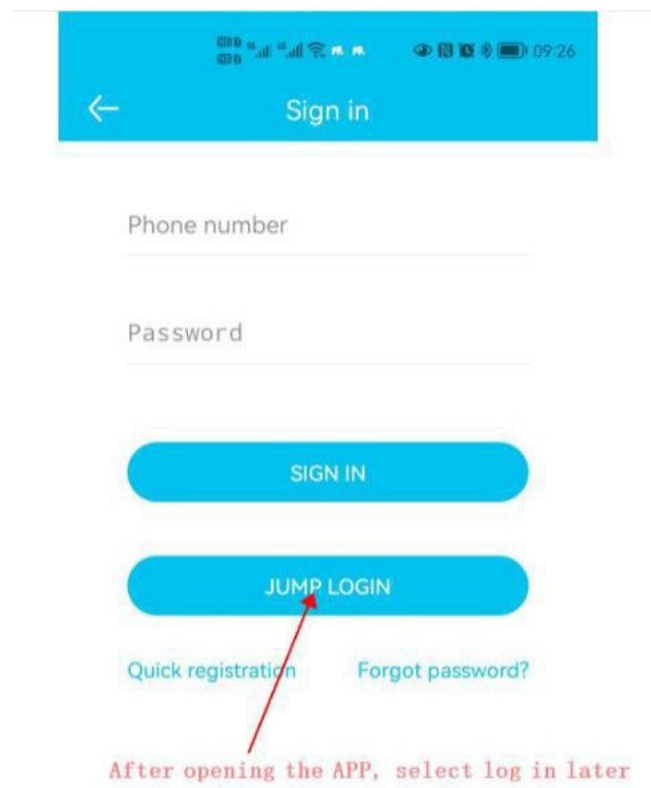
APP physical display Figure 2

3.2.2 Bluetooth connect/disconnect

- (1) connect to Bluetooth : After successful login, the APP will jump to the Bluetooth list, select the Bluetooth that needs to be connected to connect.
- (2) switch battery: when there are multiple batteries, you can check multiple Bluetooth names in the list, and quickly switch the battery to be connected on the real-time interface
- (3) scan code connection: In the upper right corner of the real-time interface, click the scan code button to connect directly by scanning the barcode of the Bluetooth module
- (4) search for Bluetooth : on the device list page, when there are multiple batteries, you can quickly find the battery that needs to be connected by searching for the Bluetooth name
- (5) Disconnect Bluetooth : on the device list page, click Disconnect.

3.2.3 Guest Mode

when the mobile phone signal in the user,s environment is poor or the user needs to skip the account registration, they can choose to use the guest mode. Note that this mode cannot obtain the setting permission because there is no login account. To obtain the setting permission, you must log in to the account. operation steps: open the APP, enter the login interface, choose to log inlater, and the APP Will directly enter the user interface.



APP Physical display Figure 3

3. Real-time interface

1.capacity information: only the battery Soc percentage and remaining capacity are displayed when it is static; the estimated full time is displayed when charging; the estimated emptying time is displayed when discharging.

2.Switch andprotection status: the current status of thechargeand discharge switch is displayed, when the switch is turned on, it is on, otherwise it is off; the balance status display, the balance is turned on, it is on,andviceversa; theprotection statusdisplay,whentheprotection board triggers theprotectionthreshold ormanual controlwhencharging and discharging, the

protection state displays the corresponding protection state, and it displays off when the protection state is not triggered.

- 3. Battery information: total voltage, current, power, maximum single—cell voltage, minimum single—cell voltage, average voltage, voltage difference, cycle times, read or calculated through the protection board, and the above data is displayed on the APP.
- 4. Temperature and humidity: The MoS temperature is the ambient temperature of the protection board, the others are the external NTc temperature, and the temperature of the cell is detected; the humidity is the ambient humidity, which needs to be installed with a humidity probe to display.
- 5.Single string voltage: single string cell voltage, the protection board collects cell information, the highest voltage is displayed in green, the middle value is displayed in blue, and the lowest voltage is displayed in gray.

3.4 control interface

- 1.charge and discharge switch: Through the APP, you can directly control the charge and discharge switch to open or close, and control the charging/discharging of the battery.
- 2Automatic equalization: The equalization function is forced to be turned on. when it is turned on successfully, the real— time interface equalization status will be displayed.
- 3.clear alarm: clear alarm data.
- 4.Reset capacity: Re— estimate the remaining capacity through the current voltage value.

Note: Automatic equalization switch, clear alarm, reset capacity are not displayed in some BMS versions

3.5 parameter interface

primary information	secondary information	Example
	bluetooth name	xiaoxiangbms, modifiable

Basic Information	serial number	can be modified according to customer needs
	Bar—code	can be modified according to customer needs
	battery model	can be modified according to customer needs
	battery manufacturer	DGJBD, can be modified
	BMS version number	30, read the BMS version, cannot be modified
	BMS model	Sp17S003, read cannot be modified
	production Date	2022—1—18, read unmodifiable
	BMS address	2 4 digits, read and cannot be modified
	Rated charging current	20.0A, read cannot be modified
	Rated discharge current	13.0A, read unmodifiable
	Rated shop power	492w, read unmodifiable
default setting	Nominal capacity	10000mAh, can be modified
	cycle capacity	8000mAh, can be modified

3.6 My interface

3.6.1 Interface introduction

primary information	secondary information	Example
complete material	phone number	phone number
	Mail	email address
Device bound	Bluetooth list	unbind the device
Lithium battery notice	web links	web links
Instructions for using BMS	web links	web links
About us	company profile	company profiles
	the way of buying	Alibaba, Taobao, service hotline
	contact us	official website link, service hotline, manufacturer address
Logout	Log out of current account	quit

2. Bind/unbind Device

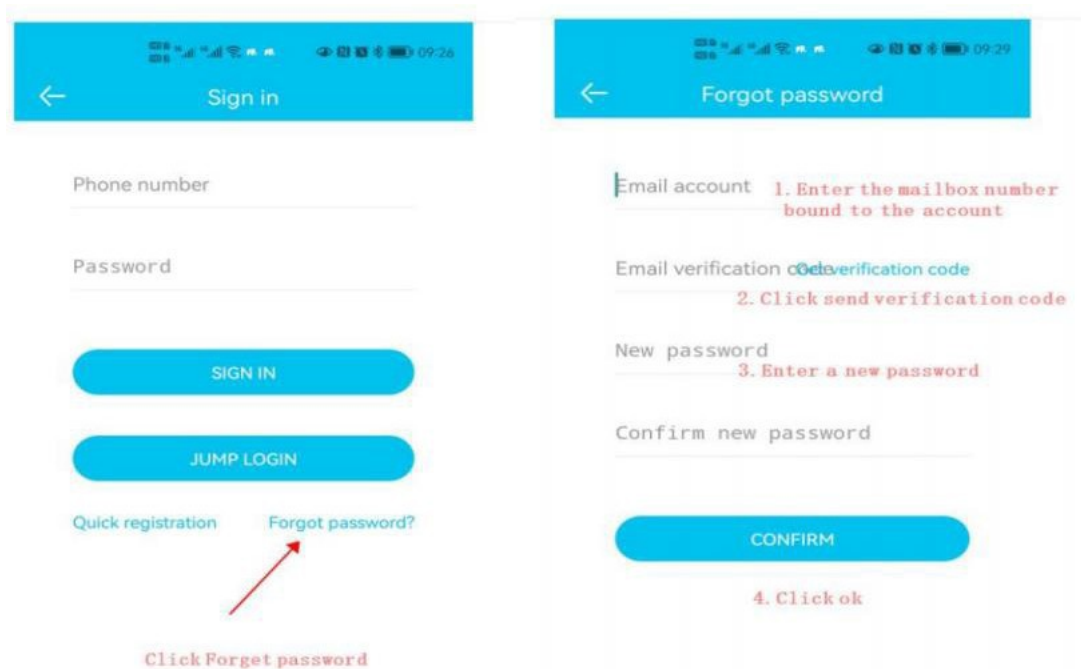
1. Binding device : when connecting to Bluetooth for the first time, the App automatically pops up a dialog box to prompt : whether to bind this device, click ok to bind; obtainSettingpermissions requires background consent to modify parameters.

2. unbind devices : Enter the My interface, select the device that needs to be unbound, and click unbind. one account can be bound to multiple devices.

3. Reset password

when you forget your login password, You can reset a new password through your email. The steps are as follows:

1. Open the login interface, find the forgotten password, click it, and the reset password interface will popup;
2. Enter the corresponding binding email and click send verification code. Generally, you will receive the verification code within 60s, pay attention to open the mailbox to check;
3. . Enter the verification code, set a new password, and finally click Ok.



APP physical display Figure 5—6

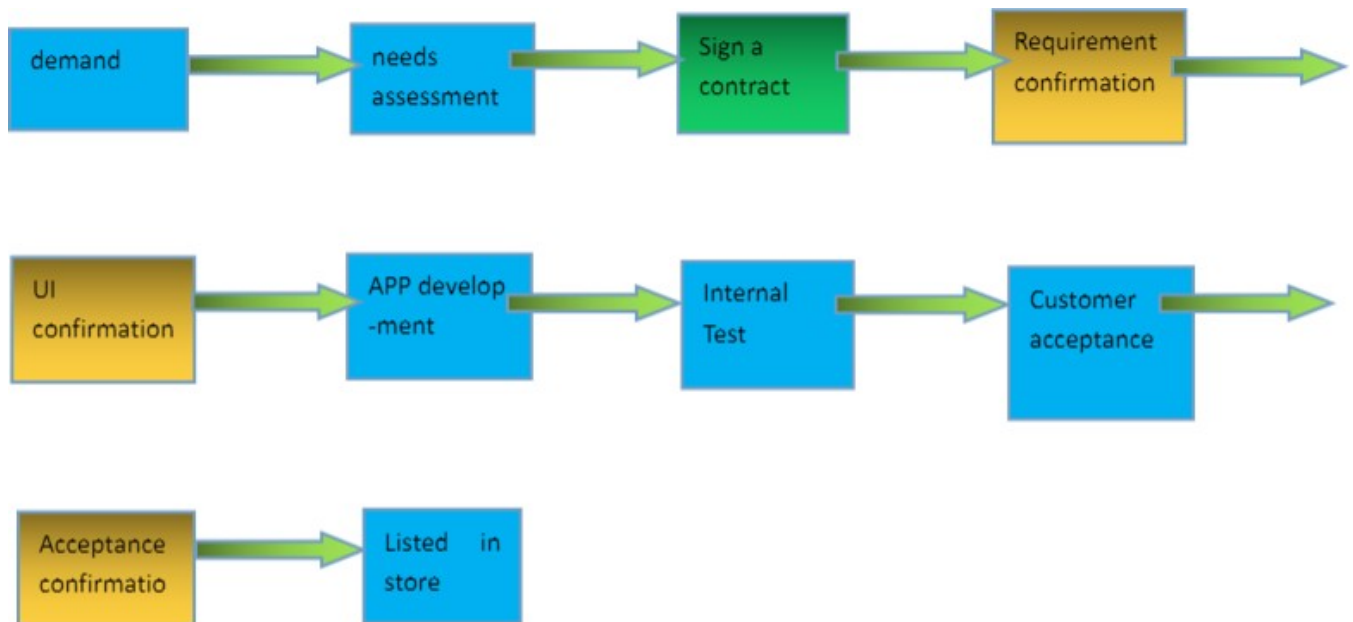
4. services

1. scope of services

1. . support APP name and logo modification, customized according to customer needs;
2. support Google, APP store store applications;
3. support operation interface design, 100% meet customer needs;
4. support adding custom functions, and provide function implementation solutions.

Note: The above services are modified based on the xiaoxiang Electric APP, and the excess part needs to be confirmed with our company.

4.2 APP development process



5.Note

- 4.1 Lithium batteries with different capacities, different performances and different manufacturers cannot be used together. The power cables connected and drawn out of the battery pack must be matched according to the load power;
- 4.2 When the battery pack is used in series and parallel, the voltage difference is less than or equal to 1V;
- 4.3 When connecting and removing the battery pack, be sure to cut off the power to avoid danger.
- 4.4 The battery pack must be kept away from sources of fire or water;
- 4.5 It is strictly forbidden to short-circuit the positive and negative poles, and it is strictly forbidden to reverse the positive and negative poles;
- 4.6 It is strictly forbidden to throw, drop, or disassemble the battery pack;
- 4.7 The temperature range of the battery pack cannot exceed 60°C, and it is recommended to use it in a working environment within 45°C;
- 4.8 If the battery pack is not used for a long time, it needs to be recharged every 3 months