Shenzhen Jiabaida Electronic Technology Co., Ltd.

<<Xiaoxiang Electric APP (Operation Terminal)-Instruction Manual>>

Compilation: Zhu Jie Review: Zhang Qiaoqiao Approval: Liu Guanghui

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Content

1. Introduction

Xiaoxiang Electric APP is a lithium battery management APP independently developed by Shenzhen Jiabaida Electronic Technology Co., Ltd. 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, the parameters of the lithium battery protection board can be set 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.

IOS-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, current calibration, voltage calibration, clear alarm, reset	Send commands through the APP to control the BMS board; turn on the	Control switch: on/off; voltage, current calibration: input value

	capacity	equalization; modify the calibration voltage and current values; clear the alarm data; reset remaining capacity	
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,Rated charging voltage,Rated discharge current,Rated charging current,Rated discharge power,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, protection parameters, current settings, temperature settings, equalization settings, capacity-voltage curve, connection resistance, function settings, system settings	Display the basic information, parameters and additional function settings of the protection board	Real-time parameter display and setting
mine	Complete information, un-bundle 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 a normal phenomenon.

3. APP User Guide

3.1 Operating Environment

Android version 5.0 / IOS version 10.0 or above, it can be used on devices that support Bluetooth 4.0, and it can run after obtaining the permission to use Bluetooth and GPS.

3.2 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 automatic jump into 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

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 and choose 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 bar-code 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.

APP physical display Figure 2

APP physical display Figure 3

3.3 Setting permissions to activate

After the APP is downloaded, the initial interface is the user version. The user version has

no parameter viewing and setting function pages. It is necessary to apply for the APP setting permission. The specific steps are as follows:

1. The prerequisite is that you need to register an account before you can apply for opening, because you need to bind the Bluetooth address and account in the background;
2. After the account registration is completed, connect to the corresponding Bluetooth. After the connection is successful, a prompt dialog box will automatically pop up: whether to bind the device or not. After selecting the binding, the Bluetooth management platform receives the request. After verification by the background administrator, the setting permission is opened.
3. After the account is set up in the background, the APP will display the parameter setting interface accordingly. If it is not updated immediately, you can try to disconnect the current Bluetooth, and then connect to refresh.

3.4 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 and protection status: the current status of the charge and 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, and vice versa; the protection status display, when the protection board triggers the protection threshold or manual control When charging and discharging, the protection state displays the corresponding protection state, and it displays off when the protection state is not triggered.

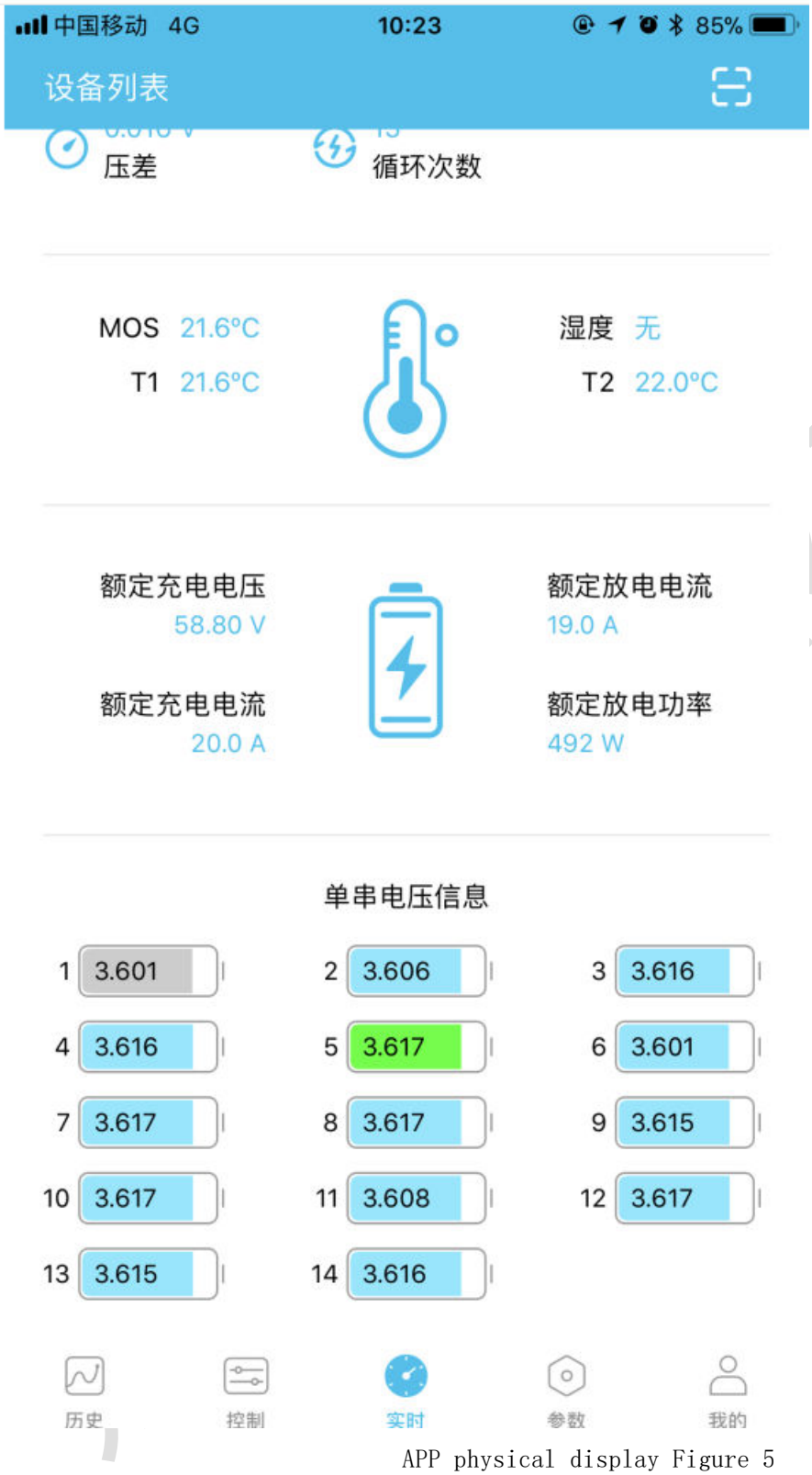
3. Battery information: total voltage, current, power, maximum single-cell voltage, minimum single-cell voltage, average voltage, voltage difference, cycle times, read or calculated through the protection board, and the above data is displayed on the APP.

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. Rated parameters:Rated charging voltage, current, rated discharge current, rated discharge power.

6. 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.

APP physical display Figure 4



APP physical display Figure 5

3.5 Control interface

3.5.1 General Description

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.

2. Automatic equalization: Forcibly open the equalization function. When the opening is successful,

the real-time interface equalization status will be displayed.

3. Current calibration: When there is a deviation between the charging/discharging current and the actual value, the current value can be calibrated through the APP.

4. Voltage calibration: When there is a deviation between the voltage of a single string and the actual one, the voltage value can be calibrated through the APP.

5. Clear alarm: clear alarm data.

6. Reset capacity: Re-estimate the remaining capacity through the current voltage value.

APP physical display Figure 6

3.5.2Current and voltage calibration

APP physical display Figure 7

APP physical display Figure 8

3.6 Parameter interface

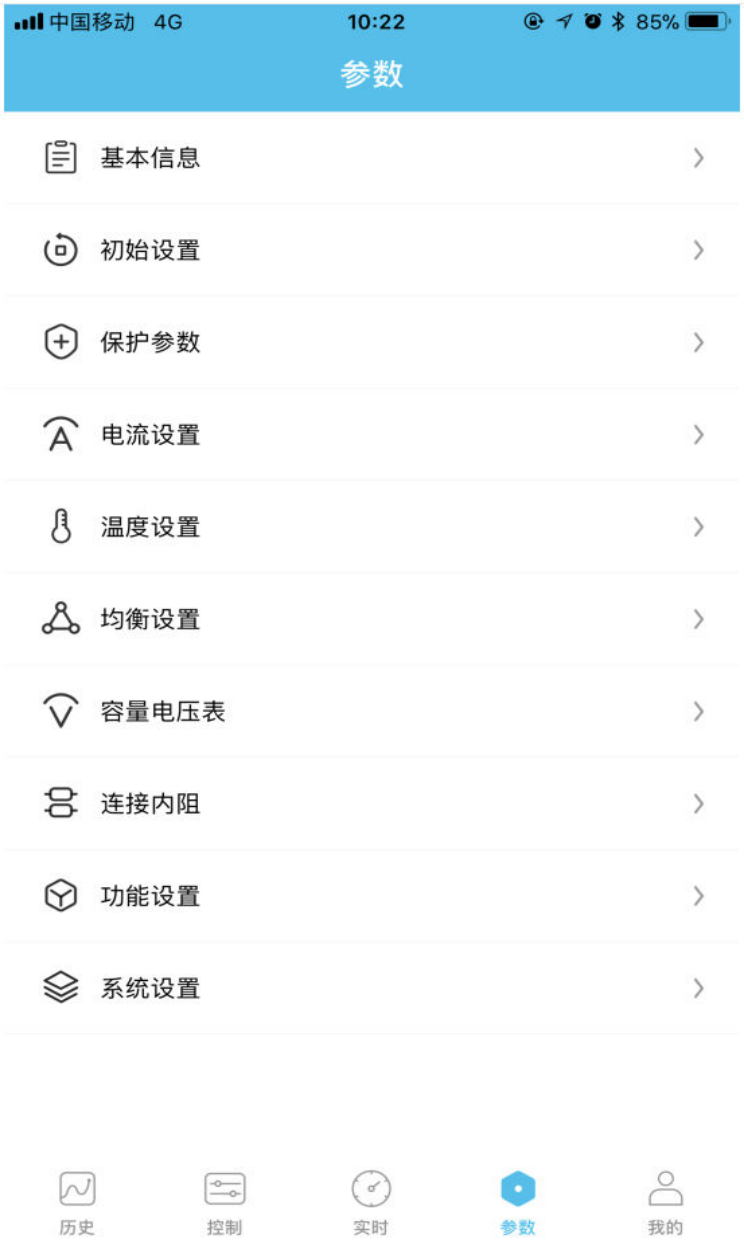
3.6.1 Parameter introduction

primary information	secondary information	Example
	Blue-tooth name	Xiaoxiangbms, modifiable
	serial number	Can be modified according to customer needs

Basic Information	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	24 digits, read and cannot be modified
	Rated charging current	20.0A, read cannot be modified
	Rated discharge current	19.0A, read unmodifiable
	Rated shop power	492W, read unmodifiable
default setting	Nominal capacity	10000mAH, can be modified
	Cycle capacity	8000mAH, can be modified
	full capacity	10000mAH, can be modified
Protection parameters	Single Over-voltage Protection	3650mV, can be modified
	Cell over-voltage recovery	3550mV, can be modified
	Single Over-voltage Delay	2S, can be modified
	Cell under-voltage protection	2500mV, can be modified
	Cell under-voltage recovery	2700mV, can be modified
	Cell under-voltage delay	2S, can be modified
	Total voltage over-voltage protection	60000mV, can be modified
	Total pressure over-voltage recovery	57000mV, can be modified
	Total voltage over-voltage delay	2S, can be modified
	Total voltage under-voltage protection	36000mV, can be modified
	Total voltage under-voltage recovery	40000mV, can be modified
	Total voltage under-voltage delay	6S, can be modified
Current setting	Charge over-current protection	30000mA, can be modified
	Charge over-current delay	6s, can be modified
	Charge over-current recovery delay	20s, can be modified
	Discharge over-current protection	-30000mA, can be modified
	Discharge over-current delay	6s, can be modified
	Discharge over-current recovery delay	30s, can be modified
	Secondary over-current protection *2	78mA, optional: 16, 22, 28, 34, 38, 44, 50, 56, 62, 66, 72, 78, 84, 88, 94, 100.
	Secondary over-current protection	39mA, optional: 8, 11, 14, 17, 19, 22, 25, 28, 31, 33, 36, 39, 42, 44, 47, 50.

	Secondary over-current delay	20mS, optional: 8, 20, 40, 80, 160, 320, 640, 1280.
	Short circuit protection	89mV, optional: 22, 33, 44, 56, 67, 78, 89, 100.
	Short circuit protection delay	70uS, optional: 70, 100, 200, 400.
	Short circuit protection recovery delay	6S, can be modified
temperature setting	Charging high temperature protection	75℃, can be modified
	High temperature recovery after charging	55℃, can be modified
	Charging high temperature delay	2S, can be modified
	Charging low temperature protection	-10℃, can be modified
	low temperature recovery	0℃, can be modified
	Charging low temperature delay	2S, can be modified
	Discharge high temperature protection	75℃, can be modified
	Discharge high temperature recovery	55℃, can be modified
	Discharge high temperature delay	2S, can be modified
	Discharge low temperature protection	-10℃, can be modified
	Discharge low temperature recovery	0℃, can be modified
	Discharge low temperature delay	2S, can be modified
Equalization settings	Equalization voltage	3600mV, can be modified
	Equalization Accuracy	50mV, can be modified
	Turn on equalization	open close
	Balanced way	Charge Equalization/Static Equalization
Capacity Voltmeter	10%	3100mV, can be modified
	20%	3300mV, can be modified
	30%	3500mV, can be modified
	40%	3600mV, can be modified
	50%	3700mV, can be modified
	60%	3800mV, can be modified
	70%	3950mV, can be modified
	80%	4000mV, can be modified
	90%	4050mV, can be modified
	100%	4150mV, can be modified
Connection internal resistance	String 1 - String 30	0mR, can be modified
	switch function	switch
	load detection	switch
	Equalization function	switch
	Balanced way	switch

Function settings	Temperature control_1——Temperature control_8	switch
	led	switch
	FCC function	switch
	RTC	switch
	GPS	switch
	Charging handshake function	switch
	Buzzer enable	switch
system settings	Identify current	200mA, can be modified
	sleep time	30S, can be modified
	Capacity Correction Interval	3600S, can be modified
	string number	14, can be modified
	sense resistance	0.2mR, can be modified



APP physical display Figure 9

3.6.2 Parameter setting

APP physical display Figure 10

APP physical display Figure 11

APP physical display Figure 12

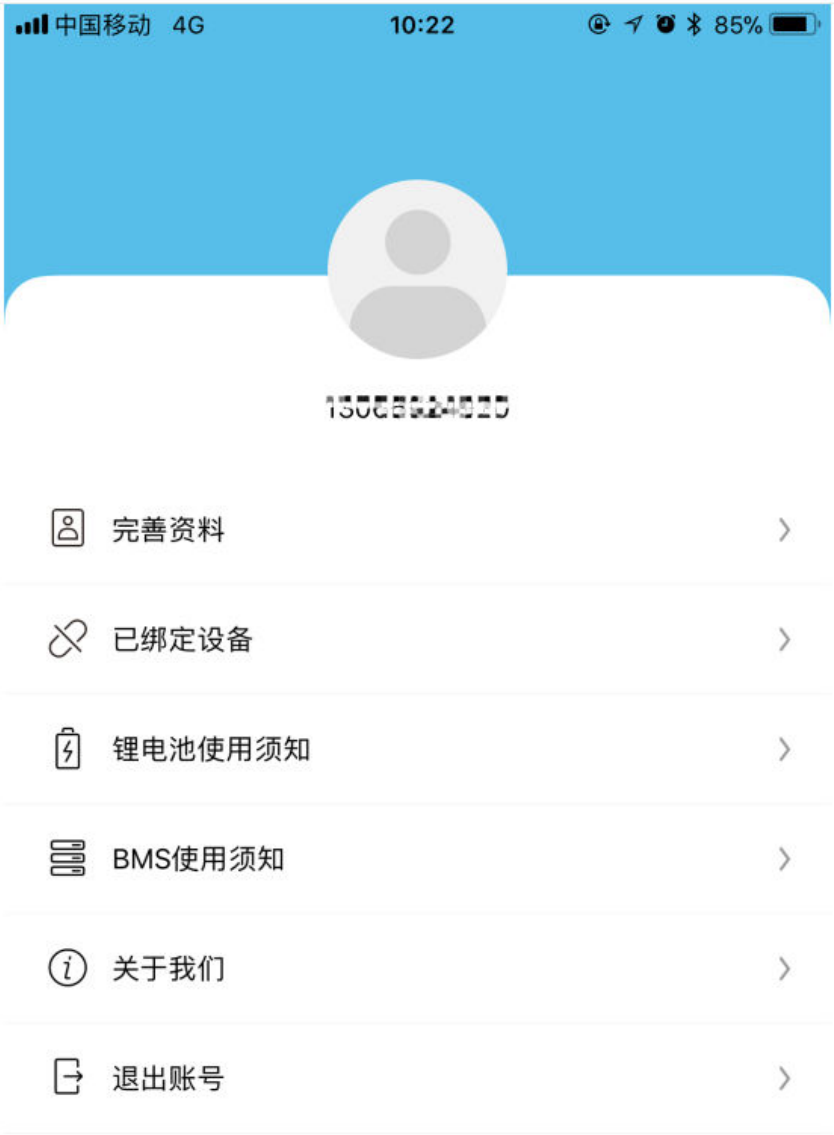
APP physical display Figure 13

3.7 Users interface

3.7.1 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



APP physical display Figure 14

3.7.2 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;ObtainSetting permissions 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.

APP physical display Figure 15

3.7.3 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 pop up;

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 16-17

4. Services

4.1 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