

Smart BMS 3S-16S 200A 300A 400A 500A 600A Bluetooth RS485 Modbus Li-ion Battery Ebike Ecar Inverter Solar

Please go to the website :www.cleverbms.com to download bluetooth APP and rs485 software for PC

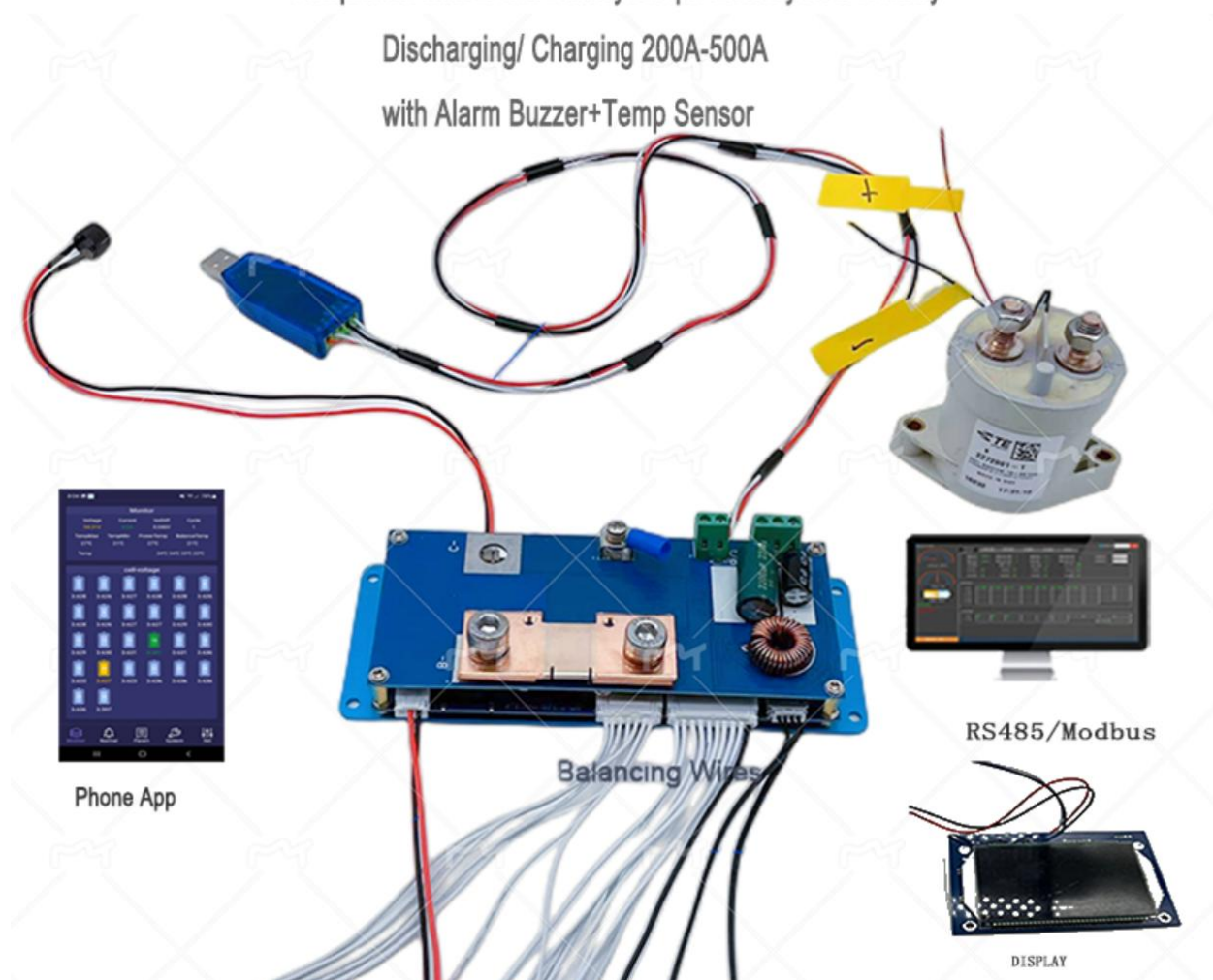
TOPBMS

www.cleverbms.com

Smart BMS 3S-16S with B/T+RS485

Compatible with Li-ion Battery/Lifepo4Battery/LTO Battery

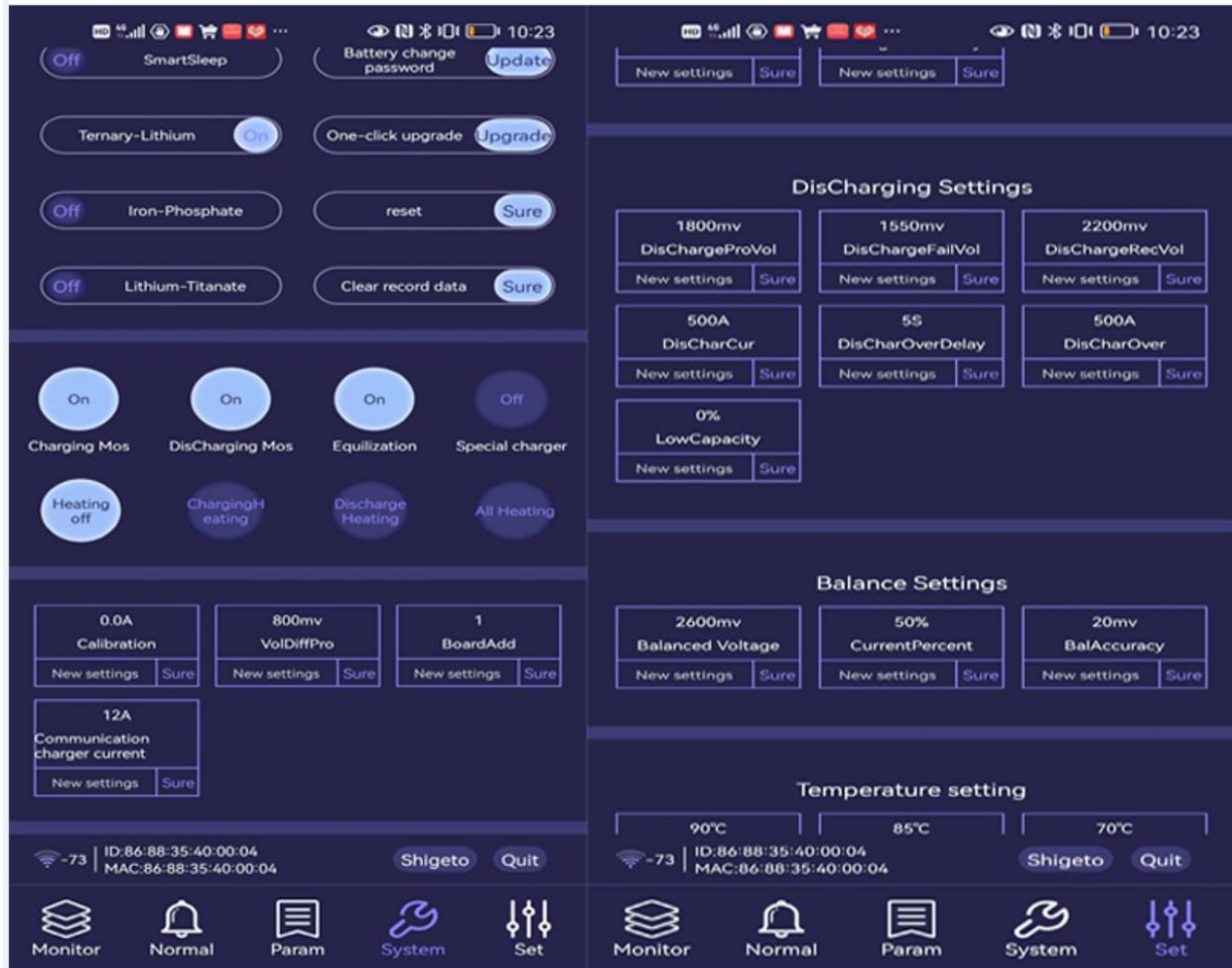
Discharging/ Charging 200A-500A
with Alarm Buzzer+Temp Sensor



Smart BMS 3S-16S 200A 300A 400A 500A 600A with bluetooth /PC software ;This BMS is compatible with Both Lithium-ion battery and Lifepo4 Battery / lithium-titanate battery; this bms is compatible with battery 3S ,4S ,5S,6S,7S,8S,9S,10S,11S,12S,13S,14S,15S,16S; you can set the parameters via Phone application or PC software; This bms has rs485 communication; we can offer modbus protocols

Phone APP

Password :123456



Note: Go to website(www.cleverbms.com) to see video of Phone APP Instrcutin

Cells Setting

BMS talk to PC via rs485

BMS Lithium Battery Management System

PortNo: COM4
DevNo: 1

Connect

English

Remain: 0 %

Voltage: 0 V

Current: 7 A

MacCode: 342589975
BlueTooth: 26541C98068E
Factory: 2012年12月31日

Monitor Alarm Param Normal DLoad Graph Update LeaseSet

Battery Info

CapacitySet: 20 ah CellSet: 14 C
CurrentPercent: 50 % LowCapacity: 0 %
BalAccuracy: 20 mv DisCharCapacity: 0 ah
BalanceVol: 3800 mv CalibrationCapacity: 0 ah

Battery Operation

Ternary-Lithium ReStart
Iron-Phosphate Reset
Lithium-Titanate Modify

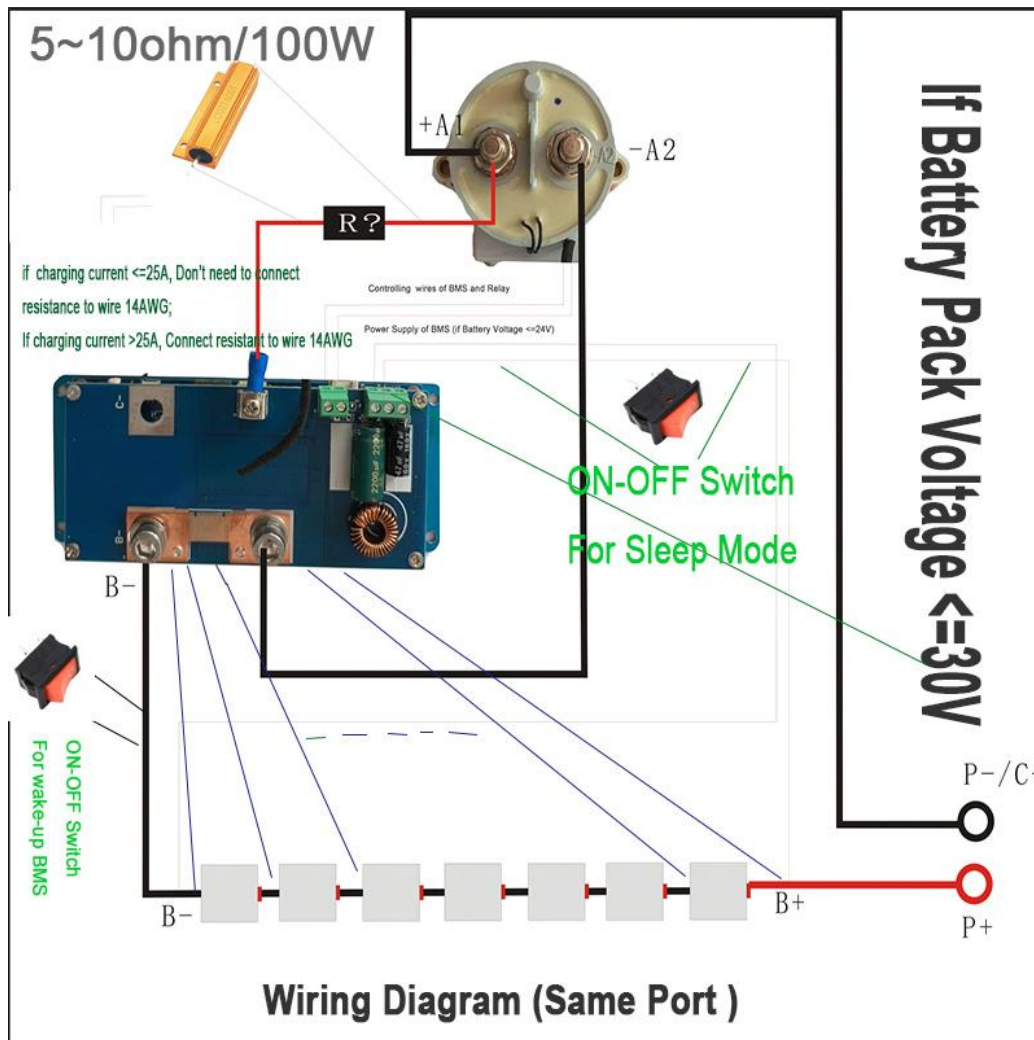
Charge MOS: Discharge MOS: Equalization: Special Charger:
HeaterClose: ChargeHeater: DisChargeHeater: AllHeater:

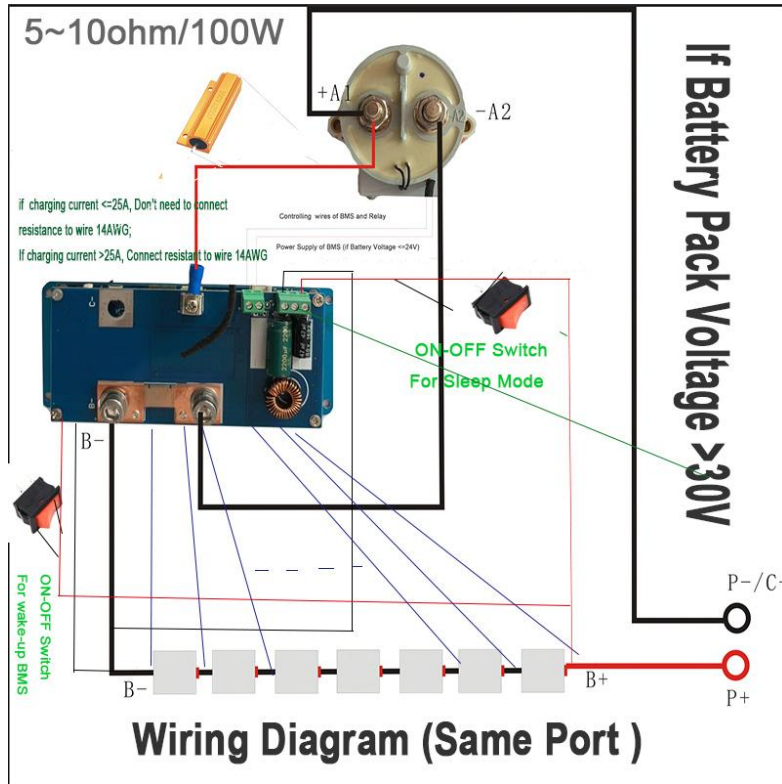
cell string

四 Parameters Sheet

TOPBMS 3S-32S BMS 200A-500A						
L*W*H 165*65*35mm						
功能	项目	功能	Voltage			Comment
		Batteries Type	Li-ion (3.7V)	LiFePo4 (3.2V)	LTO (2.3V)	
Over Voltage Protection	Level 1 Charging Protection	1500mV-4500mV	4200mV	3650mV	2800mV	Level 1 protection Voltage
	Level 2 Charging Protection	2950mV-4800mV	4300mV	3750mV	2950mV	Level 2 Protection voltage shall be set larger than Level 1 protection Voltage
	Over-charging Protection Delay Time	4S-10S				
	Over-charging Protection Recovery Voltage		4100mV	3550mV	2700mV	充电恢复设置电压必须小于充电保护电压 Over-charging Protection recovery Voltage shall be set smaller than Level 1 protection Voltage
Under Voltage Protection	Level 1 Discharging Protection	1500mV-4500mV	2750mV	2500mV	1800mV	
	Level 2 Discharging Protection		2500mV	2250mV	1600mV	Level 2 discharging protection shall be set smaller Level 1
	Over-discharging Protection Delay Time	4S-10S				
	Over-discharging Protection Recovery Voltage		3100mV	2900mV	2200mV	Over-discharging Protection Recovery Voltage shall be set larger than Level 1 Discharging Protection Voltage
High Temperature Protection	Power Module of BMS		90°C			
	Balancing Module of BMS		70°C			
High Temperature Protection Recovery	Power Module of BMS		65°C			
	Balancing Module of BMS		85°C			
	Batteries		65°C			
Low Temperature Protection		-30degree Max				MANUAL SET
Low Temperature Protection Recovery		-10degree Max				MANUAL SET
Current	Charging Current	0-500A				For example :If you order bms 40A , you can set the max value of charging current to 40A
	Continuous discharging current	0-500A				For example :If you order bms 40A , you can set the max value of discharging current to 40A
	Peak discharging current	600-1500A				For example :If you order bms 40A , you can set the max value of peak current to 120A
Balancing	Balancing start Volt	1000mV-4300mV	4100mV	3400mV	2600mV	
	Voltage Diff	1-30mV	20mV	20mV	20mV	
	Balancing Current	2-40mA	40mA	40mA	40mA	
Voltage acquisition resolution		5mv				
Temp Acquisition Tolerance		1-5%				
SOC Acquisition Tolerance		1-10%				
BMS Communication	Bluetooth					
	485-1					The port for charger with RS485
	485-2					The port for PC
Consumption	CAN					Not Applicable
	BMS +Bluetooth	2.5mA				
	BMS+CAN	7.5mA				
	Sleep Mode	50uA				
供电		20V-150V				电池组供电

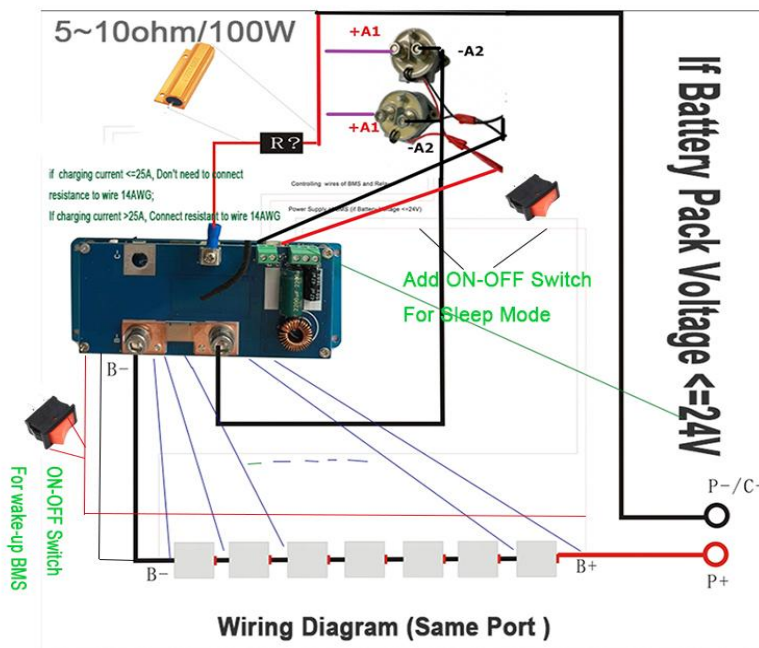
1 >. Wiring Diagram (200A/300A/400A)



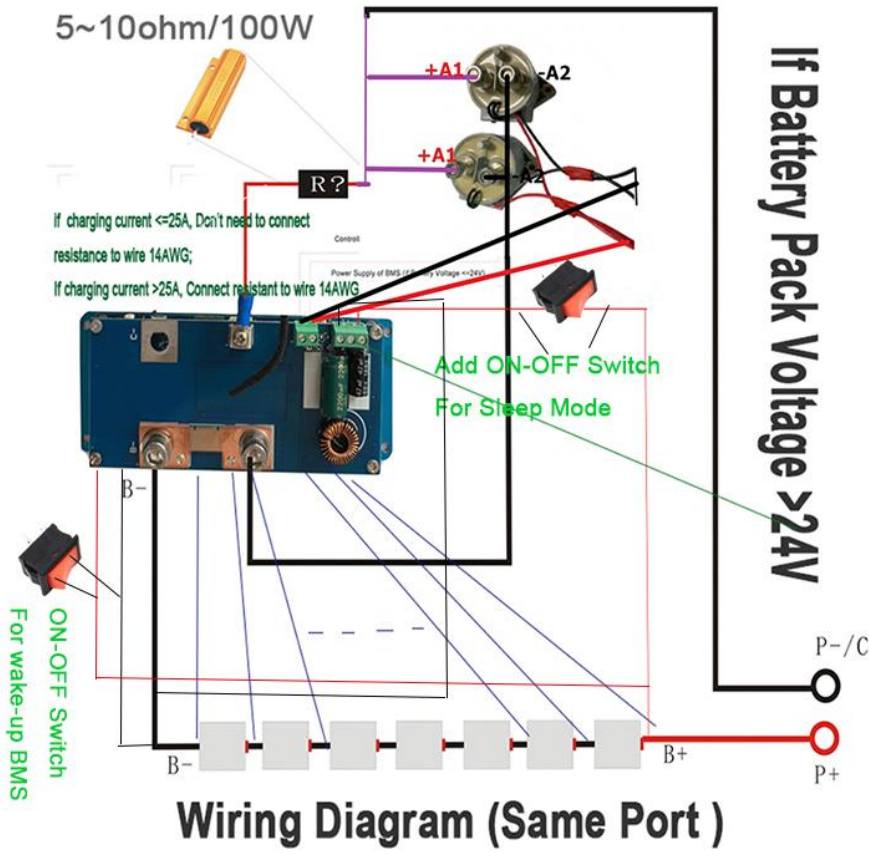


2 >. Wiring Diagram (500A/600A)

Wring Diagram Of BMS With 2 Relays



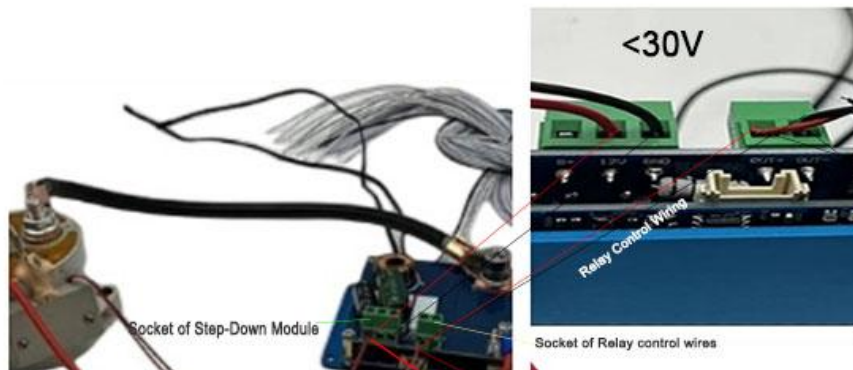
Wiring Diagram Of BMS With 2 Relays



How to Built-In DC-DC Converter Wire :

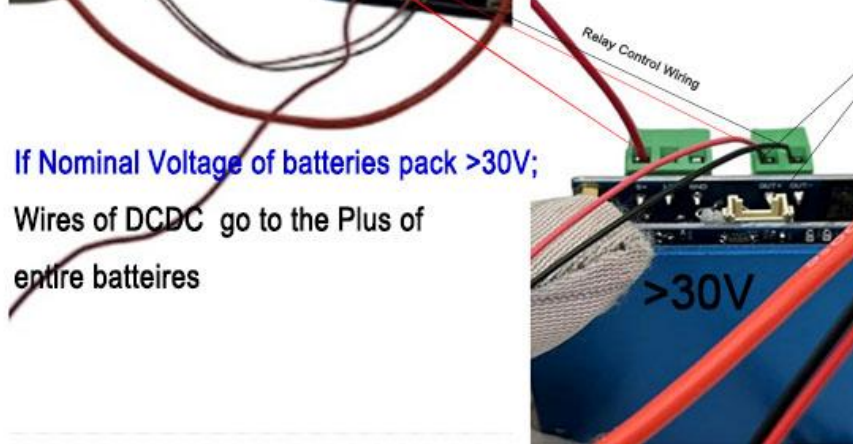
If Nominal Voltage of batteries pack $\leq 30V$;

Wires of DCDC go to the plus and minus of entire batteries



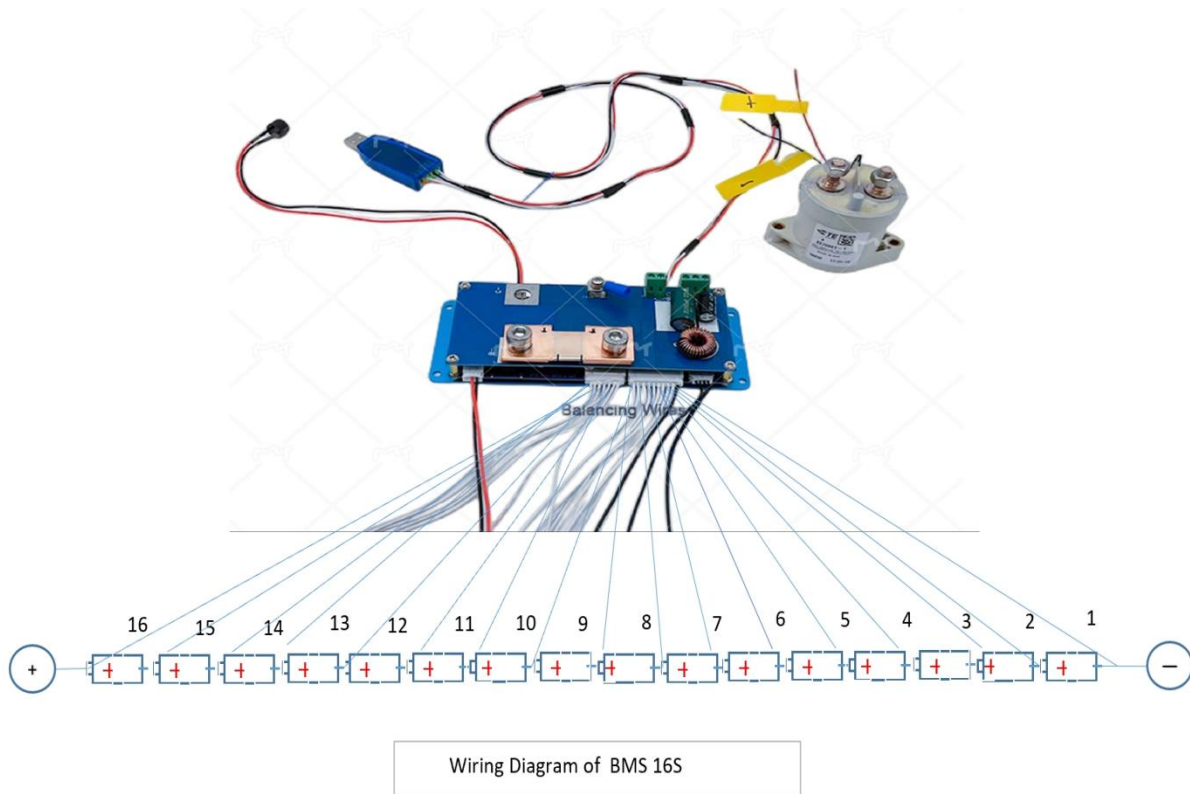
If Nominal Voltage of batteries pack $> 30V$;

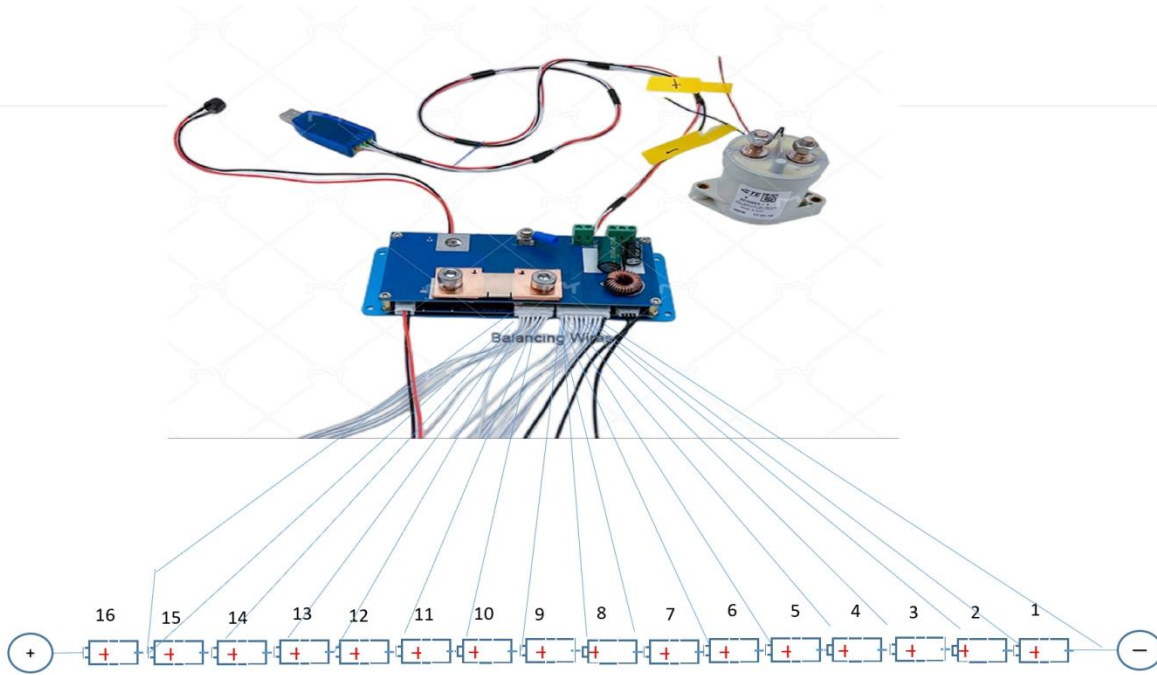
Wires of DCDC go to the Plus of entire batteries



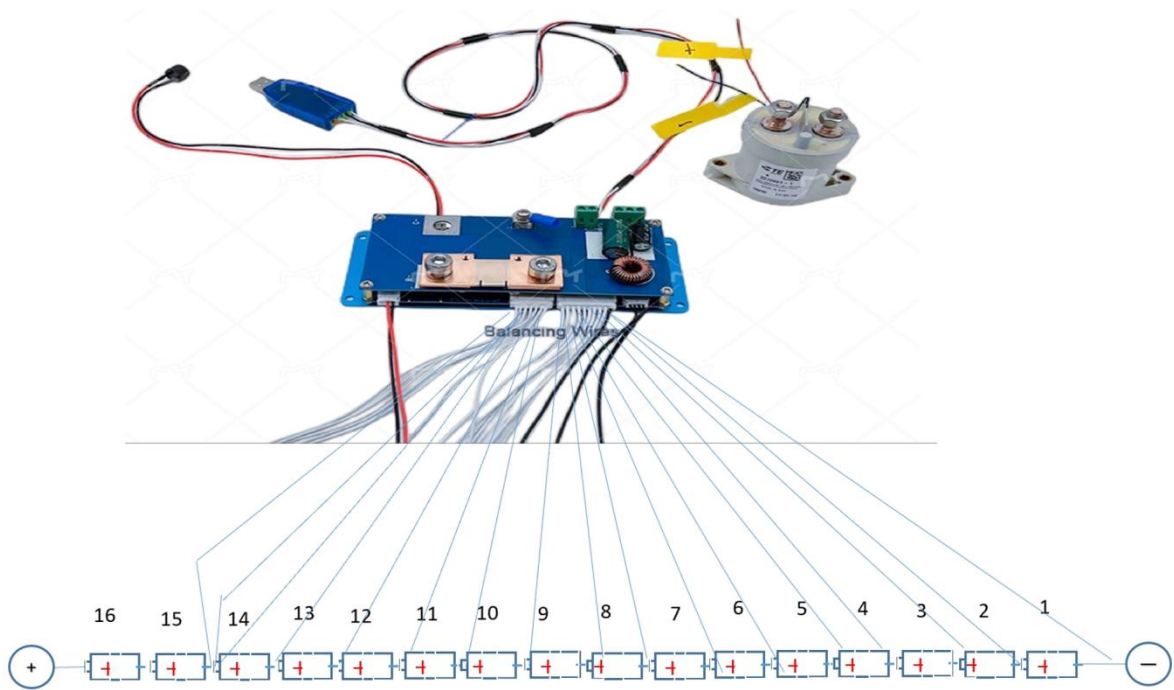
The BMS has downward compatibility; Therefore, there are some points for the wiring of BMS 3S-16S:

Wiring Diagram For BMS 3S-16S

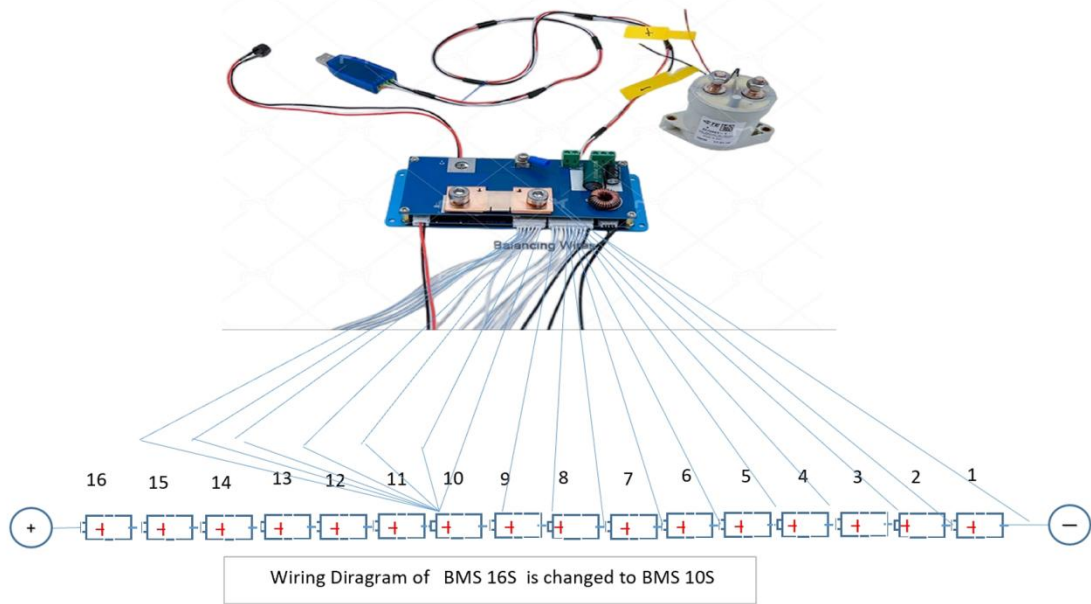
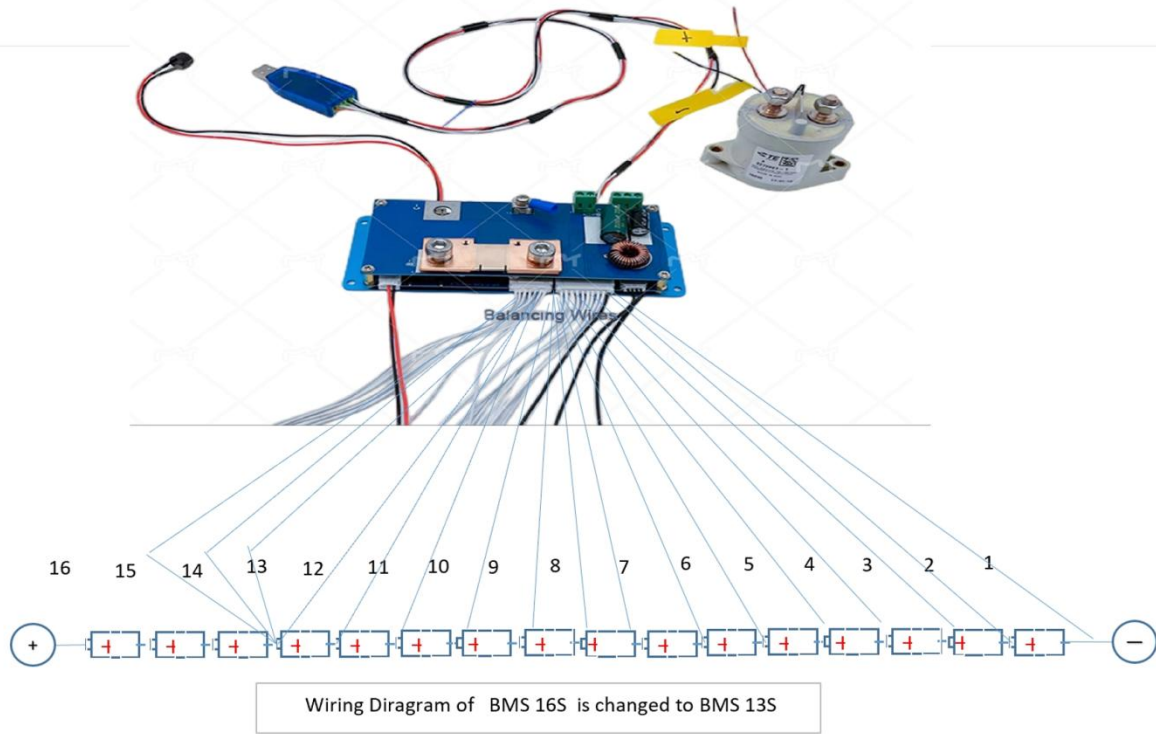


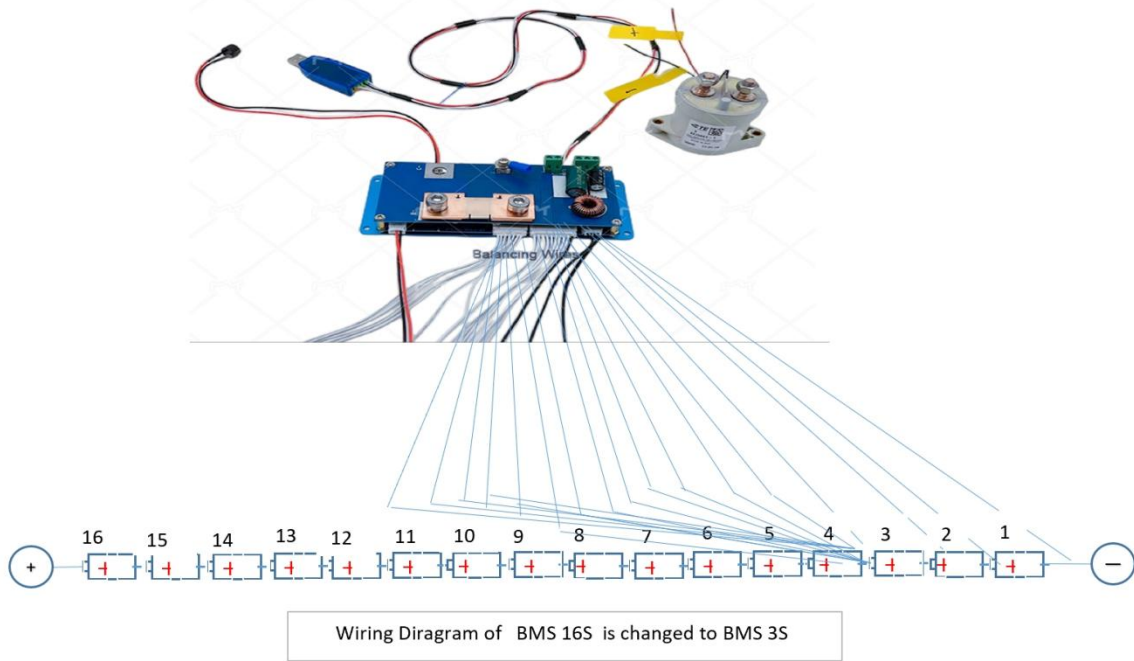


Wiring Diagram of BMS 16S is changed to BMS 15S



Wiring Diagram of BMS 16S is changed to BMS 14S

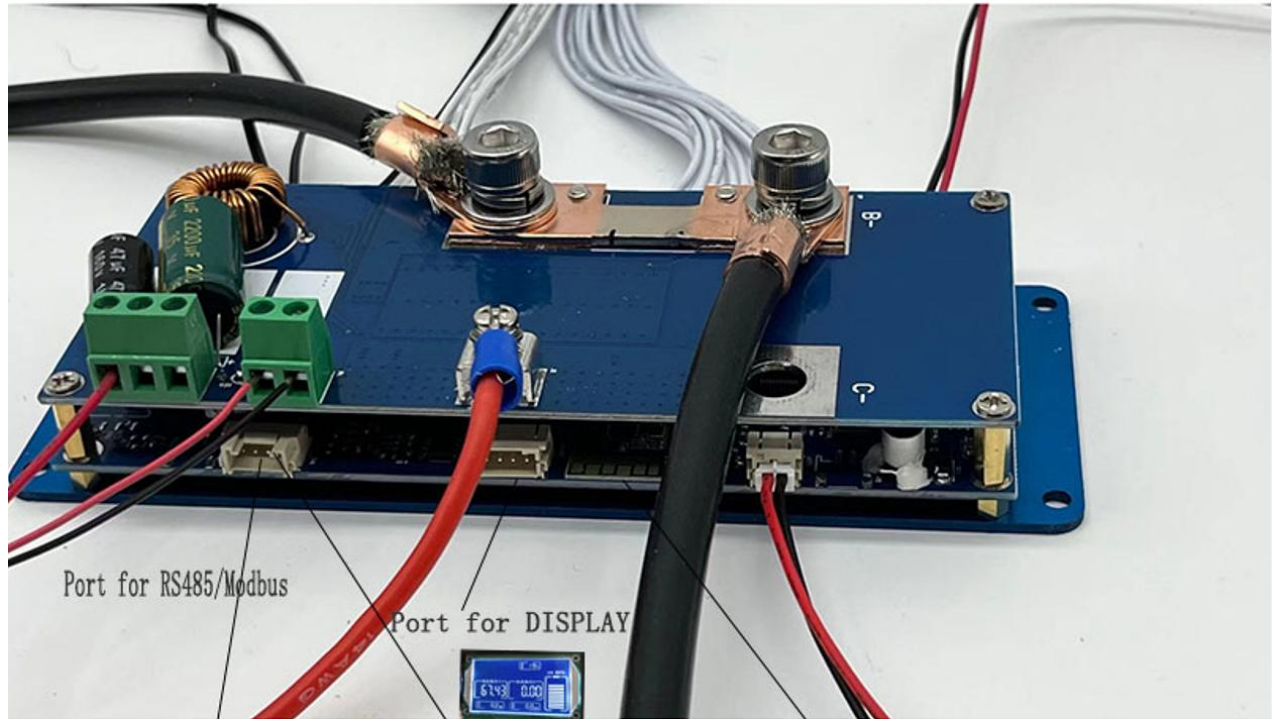




TOPBMS

BMS Communication Ports Description

Email: 66057580@qq.com



Port for RS485/Modbus

Port for DISPLAY

Built-In B/T



RS485/Modbus Master Computer



RS485 to USB cable



Phone APP

Phone APP Setting Instruction

STEP1 Start Up of BMS and Relay

After you enter the phone app, please go to the button "SET" and then set the correct batteries capacity and cell series in the app.



Step 2:How to Set Discharging /Charging

Charging Setting:

Please make sure to set charging current larger than actual one in the charging settings

Dischaging Setting :

Please make sure to set discharging current larger than the actual one in the discharging settings;
Discharging over current is 2 times larger than discharging current

Attention:the bms will be dead if the set discharging/charging is less than actual one !!

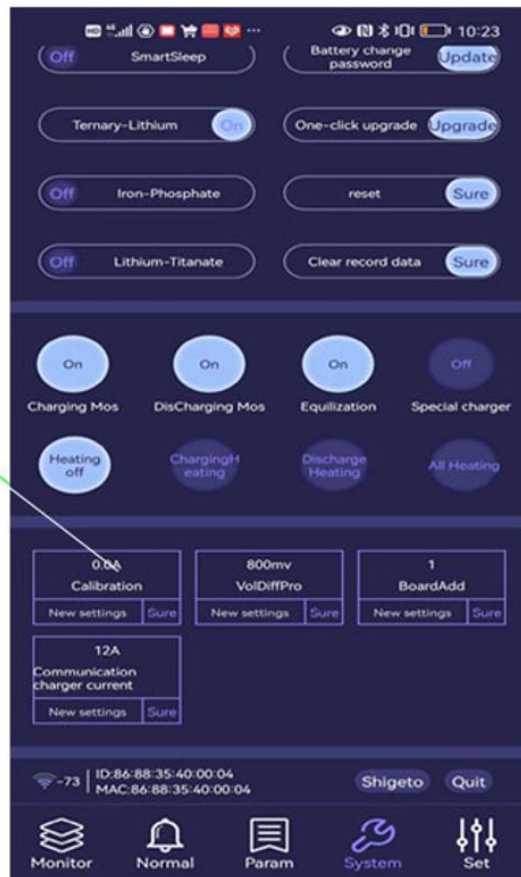


Step 3.1

Current Calibration-1

In the beginning, The BMS and relay can't work without the loading and without *current calibration*;

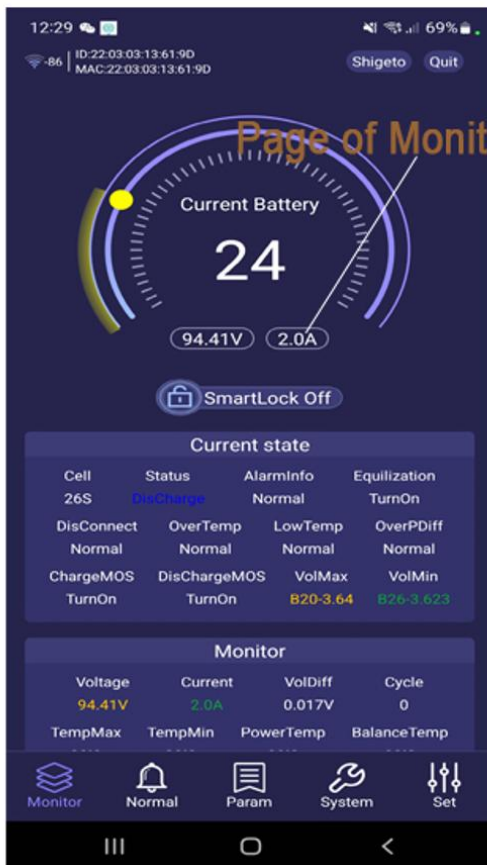
Please set the correct discharging current in the *current calibration* after connect loading; Afterwards, the BMS and relay works



Step 3.2

Current Calibration-2

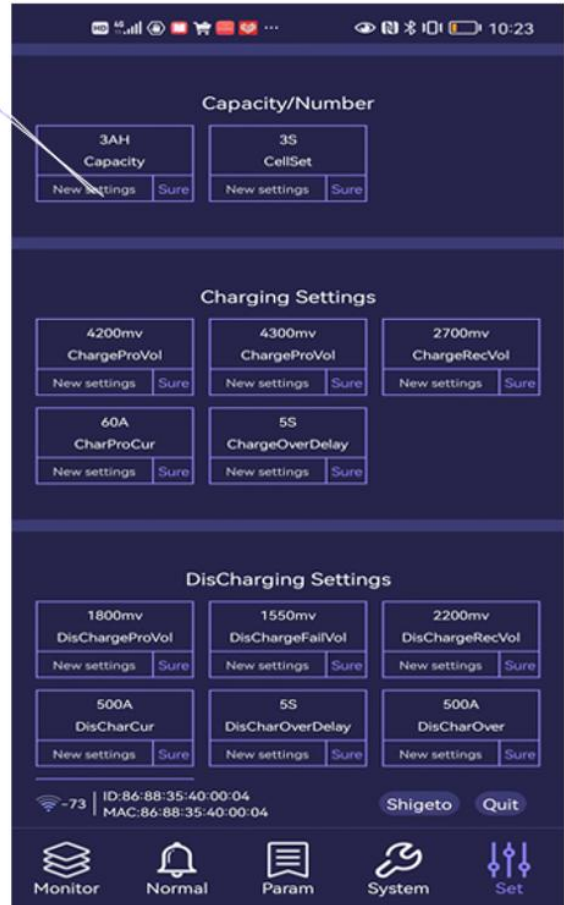
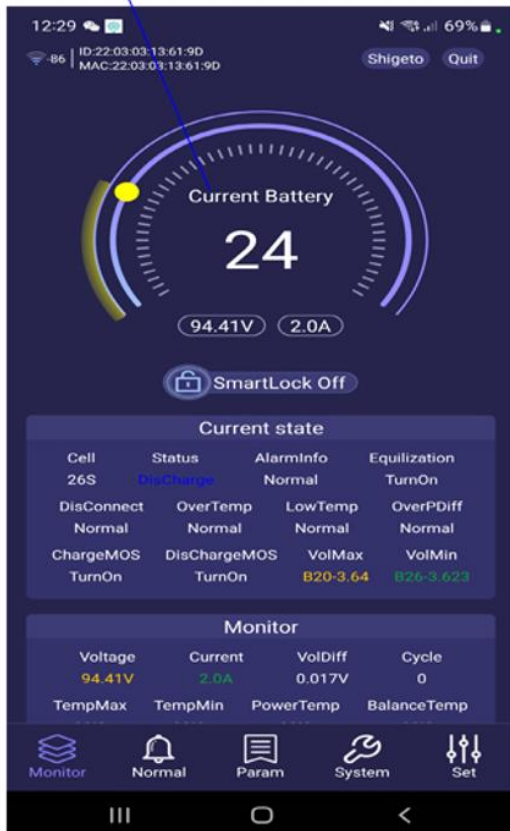
Enter 2A in calibration and check if page of "monitor" shows 2A;
If yes, the calibration is completed successfully



Attention: you can enter 2~more in the calibration

STEP 4 SOC Calibration

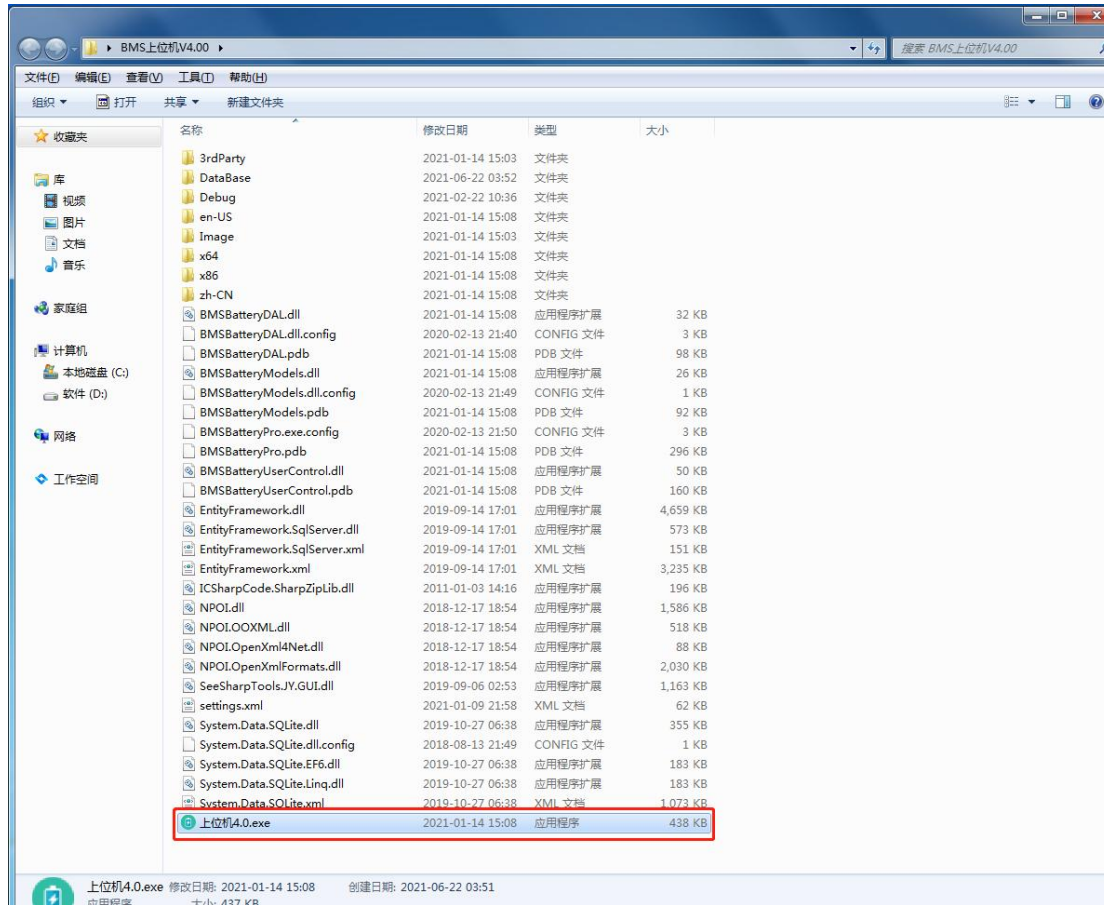
Set the actual capacity of the batteries pack in the phone APP ,and Discharge the batteries to under-voltage protection and then Charge batteries to the over voltage protection and then SOC can be corrected and calibrated



PC Software Instruction OF BMS talk to PC

Step1 : PC Software Installation

For technical support , please contact me via whatsapp:+8617841591535/email:zhxiwangdianzi@126.com



Step2 : Select the correct Port

BMS Lithium Battery Management System

PortNo: COM4
DevNo: 1
Connect
English

Remain: 0 %
Voltage: 0 V
Current: 7 A

MacCode: 342589975
BlueTooth: 26541C98068E
Factory: 2012年12月31日

Monitor Alarm Param Normal DLoad Graph Update LeaseSet

Battery Info

CapacitySet:	20 ah	CellSet:	14 C
CurrentPercent:	50 %	LowCapacity:	0 %
BalAccuracy:	20 mv	DisCharCapacity:	0 ah
BalanceVol:	3800 mv	CalibrationCapacity:	0 ah

Battery Operation

Ternary-Lithium
Iron-Phosphate
Lithium-Titanate

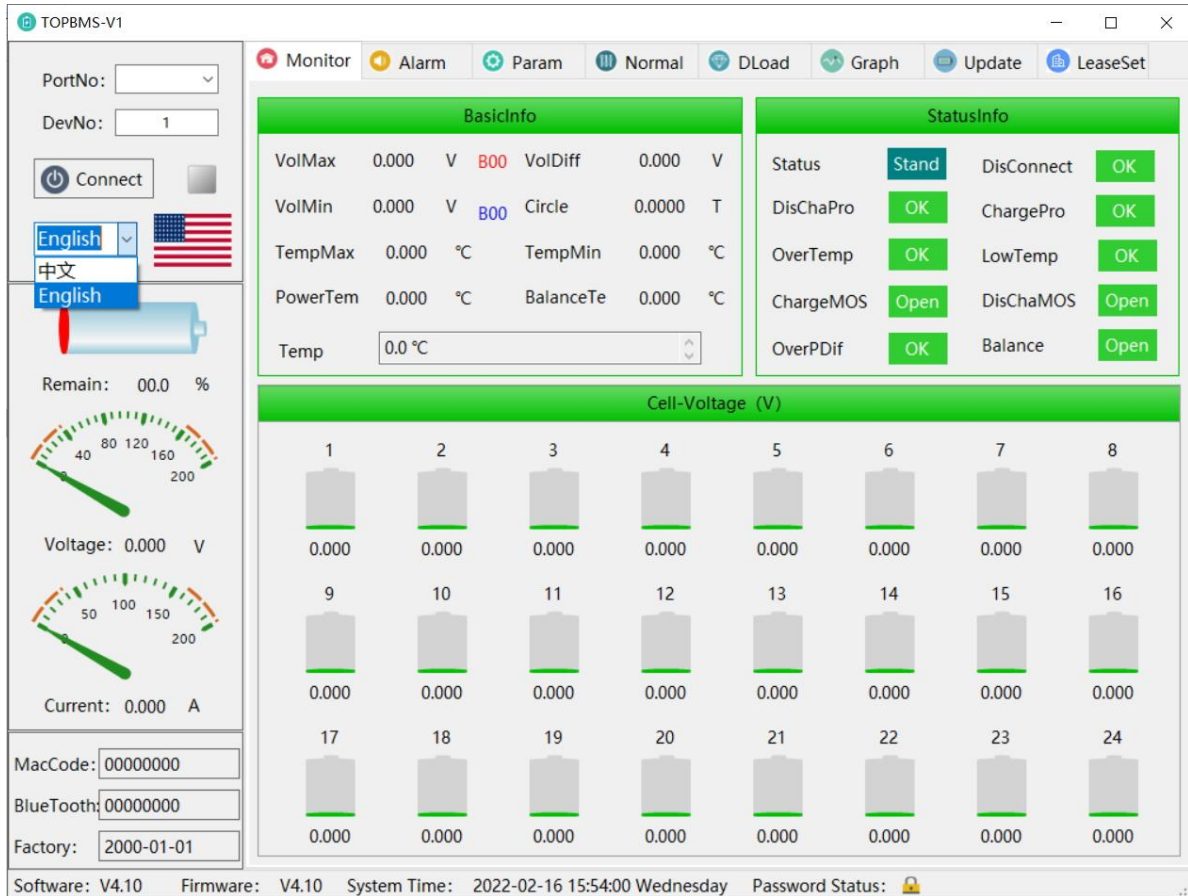
ReStart
Reset
Modify

Charge MOS: Discharge MOS: Equalization: Special Charger:

HeaterClose: ChargeHeater: DisChargeHeater: AllHeater:

Step3 : The address " 1 " cannot be changed. After this, press the botton "Connect"

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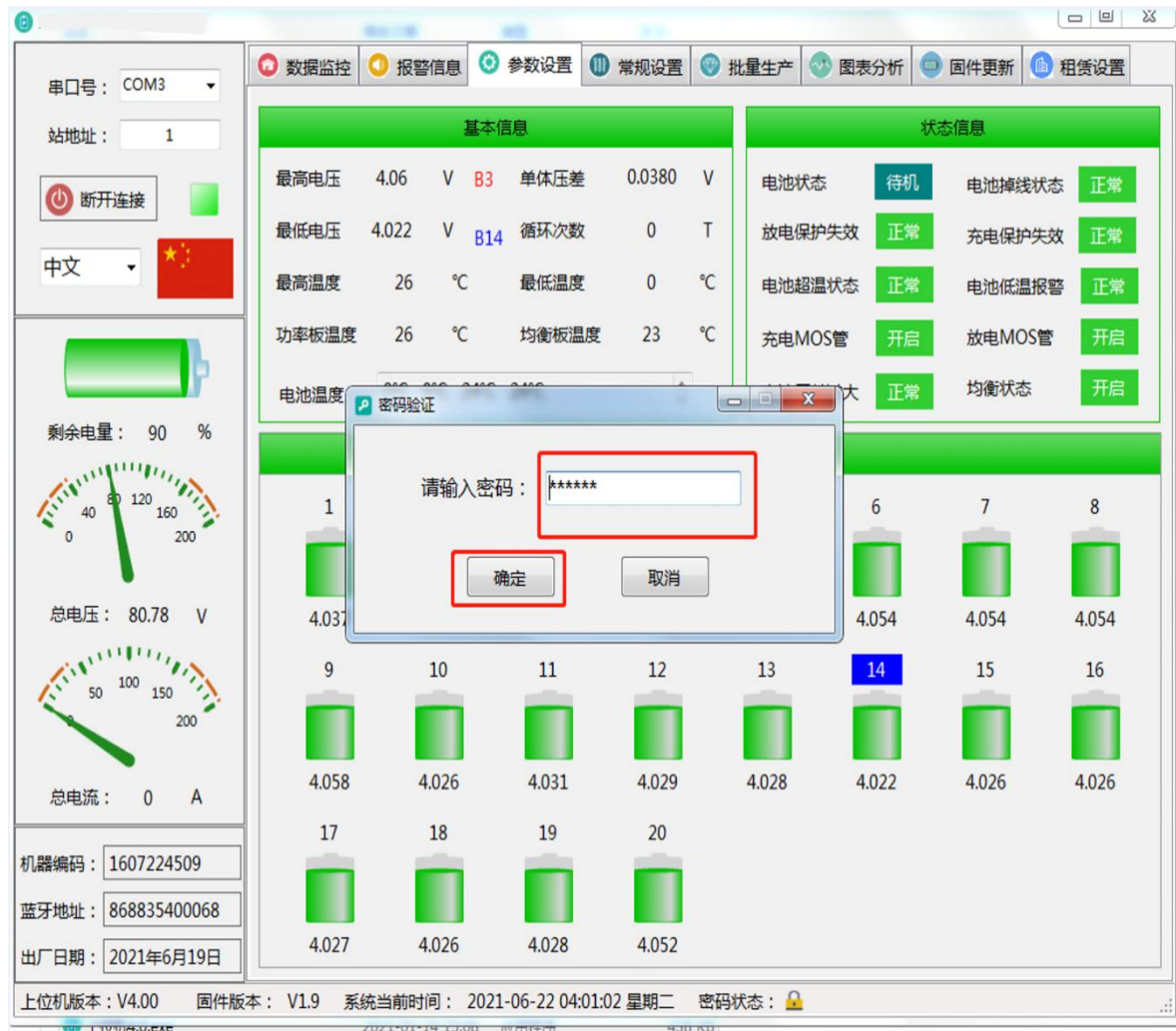


Step 4: According to different customers ,the PC software has English and Chinese version ; The monitoring can be used to check the data of each cell, battery situation



Step 5: if you want to set the parameters, please enter password :123456

For technical support, please contact me via whatsapp:+8617841591535/email:zhxiwangdianzi@126.com



Step6 :Enter data to be set to confirm the modification. The modification is successful



Step7 In the "Normal; No of battery in series can be set based on the actual situation ; In the meanwhile, according to the battery properties you can select the protection

mode

BMS Lithium Battery Management System

PortNo: COM4
DevNo: 1
Connect
English

Monitor Alarm Param **Normal** DLoad Graph Update LeaseSet

Battery Info

CapacitySet:	20	ah	CellSet:	14	C
CurrentPercent:	50	%	LowCapacity:	0	%
BalAccuracy:	20	mv	DisCharCapacity:	0	ah
BalanceVol:	3800	mv	CalibrationCapacity:	0	ah

Battery Operation

Ternary-Lithium ReStart
Iron-Phosphate Reset
Lithium-Titanate Modify

Charge MOS: Discharge MOS: Equalization: Special Charger:
HeaterClose: ChargeHeater: DisChargeHeater: AllHeater:

Remain: 0 %
Voltage: 0 V
Current: 7 A
MacCode: 342589975
BlueTooth: 26541C98068E
Factory: 2012年12月31日

Setting of CELL in series

Step 8: you can set the protection parameters you expect

BMS Lithium Battery Management System

Monitor
Alarm
Param
Normal
DLoad
Graph
Update
LeaseSet

PortNo: COM5

DevNo: 1

Connect Green

English

Remain: 0 %

Voltage: 0 V

Current: 7 A

MacCode: 342589975

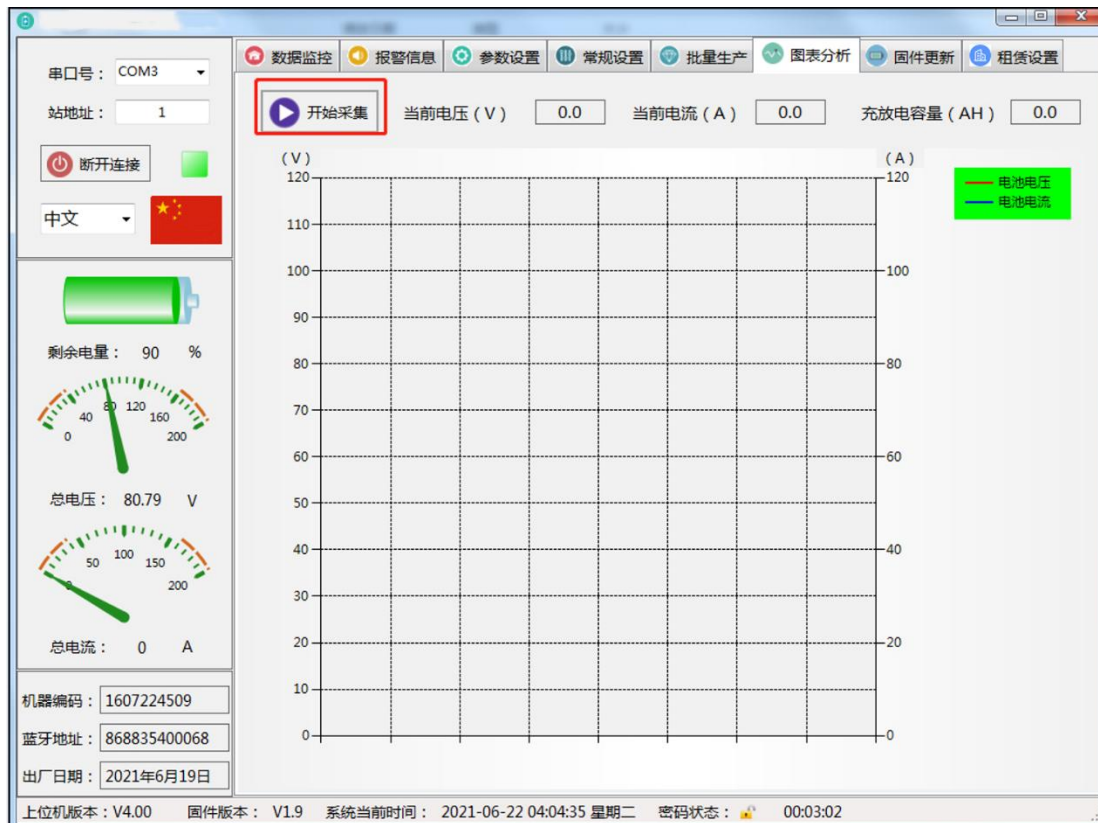
BlueTooth: 26541C98068E

Factory: 2012年12月31日

Mass Production ParamSet

Parameter	Actual	Set	Result
Charge-Pro (mv) :	4350	<input type="text"/>	<div style="border: 1px solid gray; padding: 5px; width: 100px; margin: 0 auto;"> Open </div>
Charge-Pro (mv) :	4200	<input type="text"/>	
Charge-Rec (mv) :	4150	<input type="text"/>	<div style="border: 1px solid gray; padding: 5px; width: 100px; margin: 0 auto;"> Save </div>
Charge-Pro (A) :	40	<input type="text"/>	
Discharge-Fail-Pro (mv) :	2550	<input type="text"/>	<div style="border: 1px solid gray; padding: 5px; width: 100px; margin: 0 auto;"> DLoad </div>
Discharge-Pro (mv) :	2750	<input type="text"/>	
Discharge-Pro (A) :	2900	<input type="text"/>	
Balance Voltage (mv) :	80	<input type="text"/>	
Capacity (AH) :	3800	<input type="text"/>	
Cell-Set (Cell) :	20	<input type="text"/>	
PasswordSet:	14	<input type="text"/>	
BluetoothName:	123456	<input type="text"/>	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">Set</div>
Bluetooth-Reading:	0	<input type="text"/>	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">Read</div>

Step9: You can view the voltage curve and current curve



Step 10 可以更新固件一键休眠

The screenshot displays the TOPBMS software interface with the following components:

- Navigation Bar:** Includes tabs for 数据监控 (Data Monitoring), 报警信息 (Alarm Information), 参数设置 (Parameter Settings), 常规设置 (General Settings), 批量生产 (Batch Production), 图表分析 (Chart Analysis), 固件更新 (Firmware Update), and 租赁设置 (Leasing Settings).
- Left Panel:**
 - 串口号 (Serial Port): COM3
 - 站地址 (Station Address): 1
 - 断开连接 (Disconnect) button and status indicator.
 - Language: 中文 (Chinese)
 - Battery icon and 剩余电量 (Remaining Power): 90 %
 - 总电压 (Total Voltage) gauge: 80.79 V
 - 总电流 (Total Current) gauge: 0 A
 - 机器编码 (Machine Code): 1607224509
 - 蓝牙地址 (Bluetooth Address): 868835400068
 - 出厂日期 (Production Date): 2021年6月19日
- Main Panel - 固件更新过程 (Firmware Update Process):**
 - STEP 1: 选择固件文件 (Select firmware file) with 文件选择 (File Selection) and 一键更新 (One-click Update) buttons.
 - STEP 2: 发送重启命令 (Send restart command)
 - STEP 3: Baud9.6K连接 (Baud9.6K connection)
 - STEP 4: 发送0x20指令 (Send 0x20 command) with 烧录段号 (Burn segment number): 0
 - STEP 5: 发送0x31指令 (Send 0x31 command) with 总计段长 (Total segment length): 0
 - STEP 6: 正常返回0x43 (Normal return 0x43)
 - STEP 7: 发送固件信息 (Send firmware information)
 - 固件更新耗时 (Firmware update time): 00: 00: 00
- Main Panel - 其他设置 (Other Settings):**
 - 电流校准 (Current calibration): 0 A
 - 保护板地址 (Protection board address): 1
 - 压差保护值 (Pressure difference protection value): 800 mv
 - 一键休眠 (One-click sleep) button.
- Status Bar:** 上位机版本: V4.00 | 固件版本: V1.9 | 系统当前时间: 2021-06-22 04:05:16 星期二 | 密码状态: [lock icon] | 00:03:43