

48230KITS/48300KITS Assembly Instructions

**WARNING:**

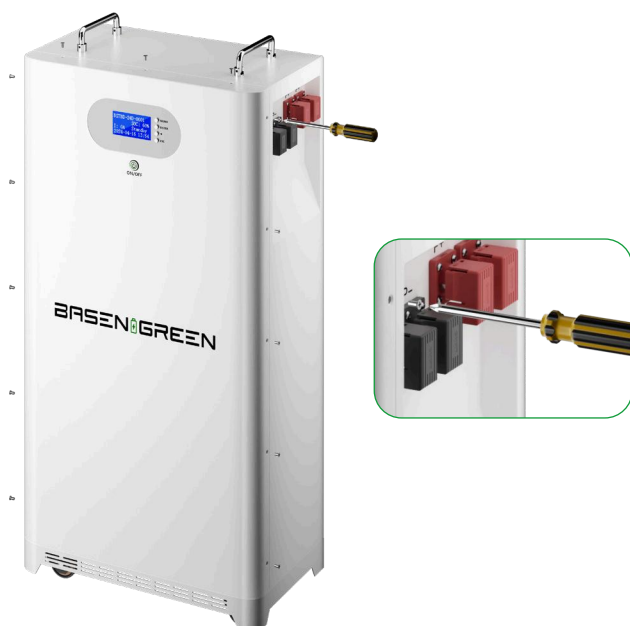
If any parts are missing, damaged or worn, stop using this KITS. Repair the KITS with manufacturer supplied parts.

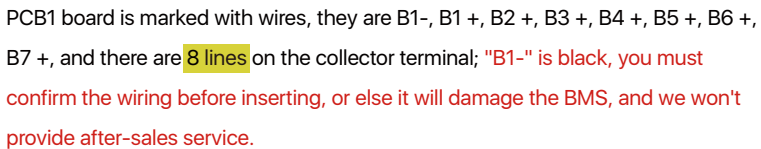
IMPORTANT:

Read these instructions carefully before beginning assembly. Failure to follow these instructions may result in serious injury.

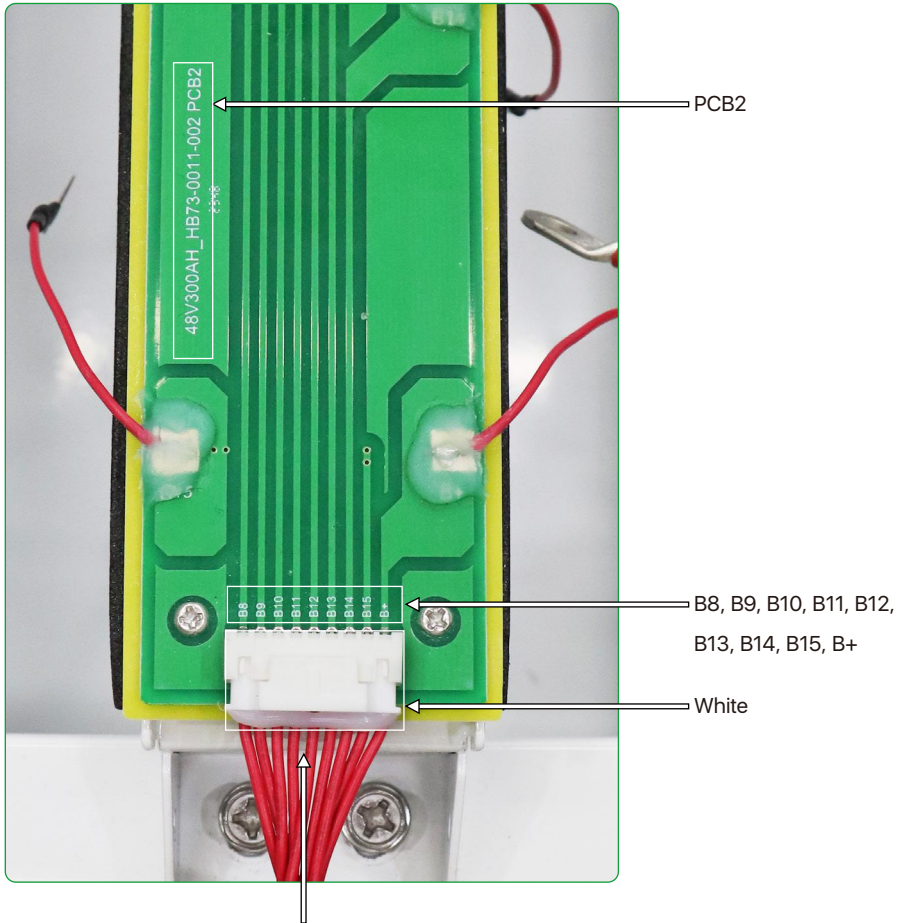
Carefully unpack all parts and identify them with the parts list before attempting to assemble the KITS. Remove all cardboard and plastic covering from DIY KITS parts.

Please examine all packing material before discarding it.





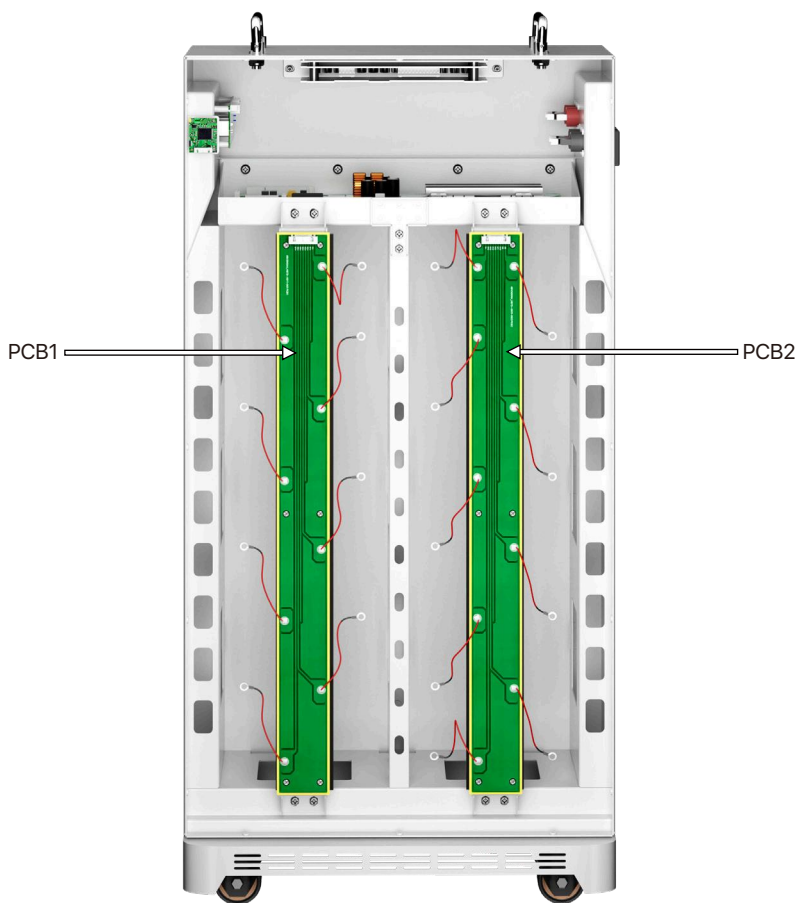
PCB2



On PCB2 board, B8, B9, B10, B11, B12, B13, B14, B15 and B +. There are 9 lines on the acquisition line terminals. PCB2 has no black wires, you must confirm the wiring before inserting, otherwise it will damage the BMS and we will not provide after-sales service.

Note:

Please make sure that the goods you receive are as follows. If you receive the goods and they are inconsistent with the picture, you should report to our customer service in time. Do not assemble them without permission.



Packing list

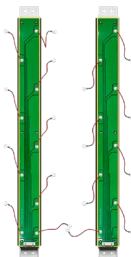
Please check the product carefully after receiving it, if any accessories are missed, please contact BASEN.



A (Pre-installed)
Shell*1



B (Pre-installed)
Cover plate*1



C (Pre-installed)
PCB bar*2



D (Pre-installed)
Bracket*1



E (Pre-installed)
Handle*2



F (Pre-installed)
LCD Display*1



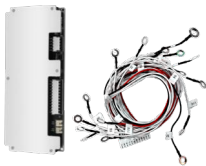
G (Pre-installed)
BASEN GREEN
16S 200A BMS*1



H (Pre-installed)
Temperature
NTC leads*1



I (Pre-installed)
16S voltage
acquisition cable*1



J (Pre-installed)
16S 2A active
equalizer*1



K
Fiberglass
Insulation plate*24



L (Pre-installed)
Removable wheels*4



M
Nuts*32
Flexible busbar*16



N
Inverter
communication cable*1



O
M8*12mm
combination screws*2



P
Expansion bolts*10



Q
USB-RS485
communication cable*1

Recommended Tools

Before installing the battery pack, the user needs to have the tools as following list :

Picture	Item	Description
	Level	Make sure the bracket is properly installed
	Hammer Drill	Drill holes on the wall
	Impact Wrench Set	Locking expansion bolts
	Electric Screwdriver	Wiring
	Hammer	Hanging the bracket
	Crimping Tool	Crimping tool for RJ45 terminal
	Crimping Plier	Crimping tool for insulated electric connectors
	Adjustable wrench	Loosening/tightening screws
	Crimping Plier	Crimping tool for insulated electric connectors
	Adjustable wrench	Loosening/tightening screws



Remove the BMS plate(G),
the cover plate(B),
and the PCB bars (C)



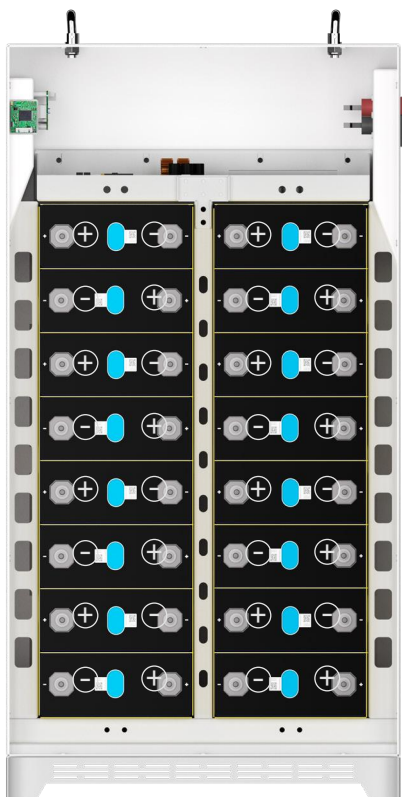


Put the fiberglass insulation plate (K)





Cells Voltage difference $\leq 20\text{mV}$

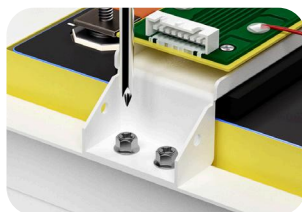
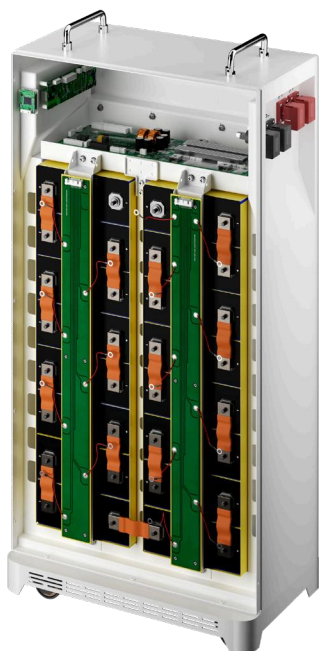


Place the battery cells in the chassis, separated by fiberglass insulation plate (K)

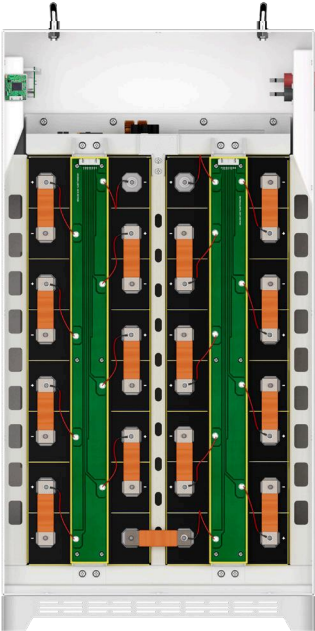


Please install it horizontally, and then place it vertically after completing all installation work

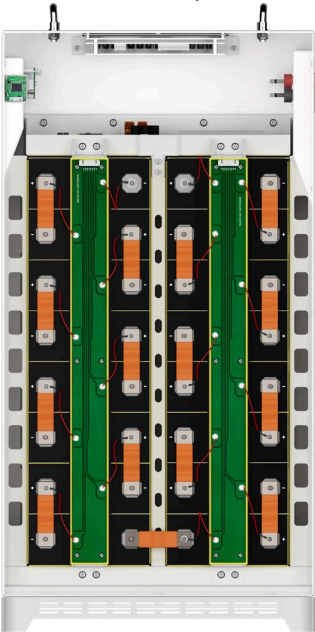


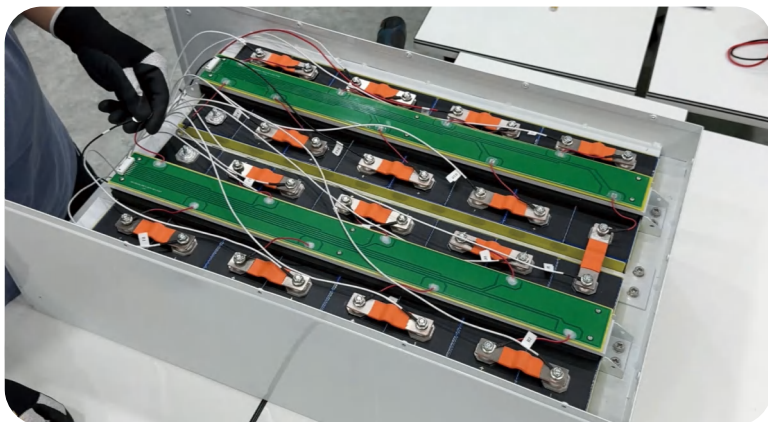


Link the PCB bars(C) and flexible busbar(M), then screw up(Torque: 5-6 Nm)

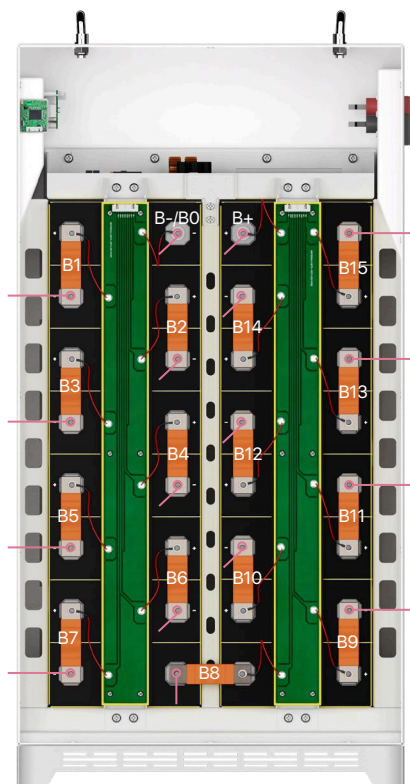


Installation of Equalizer (J)

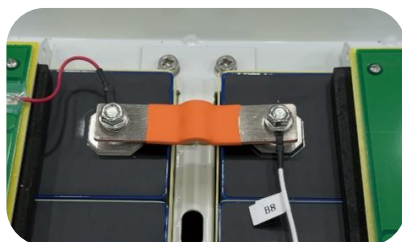




Linking Equalizer Cables (J)

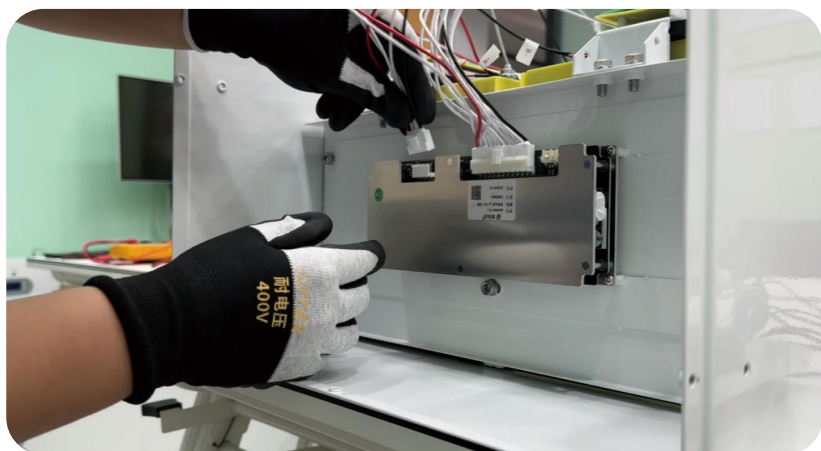
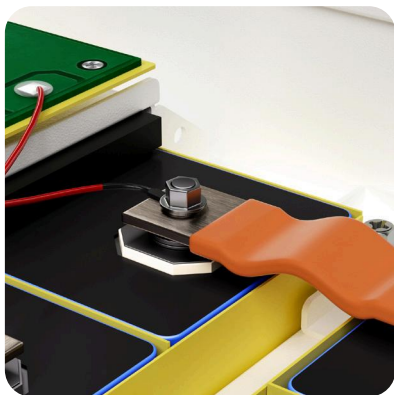
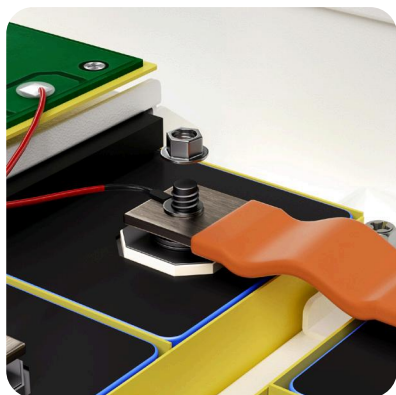


Each wire has a corresponding label

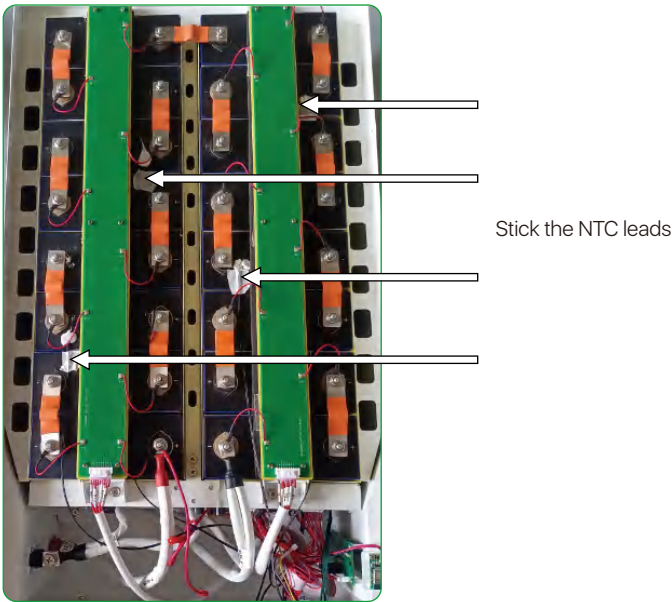
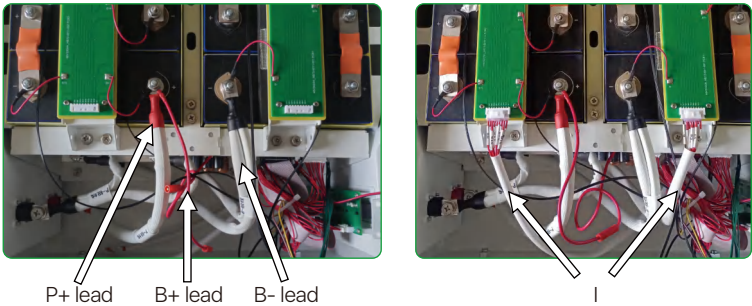


Link the other end of the flexible busbar according to the corresponding value.

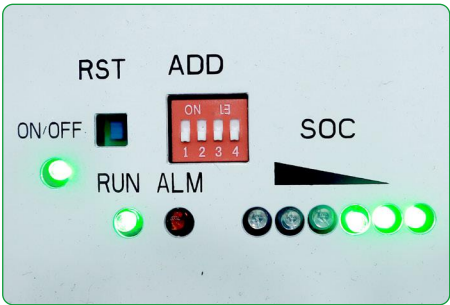
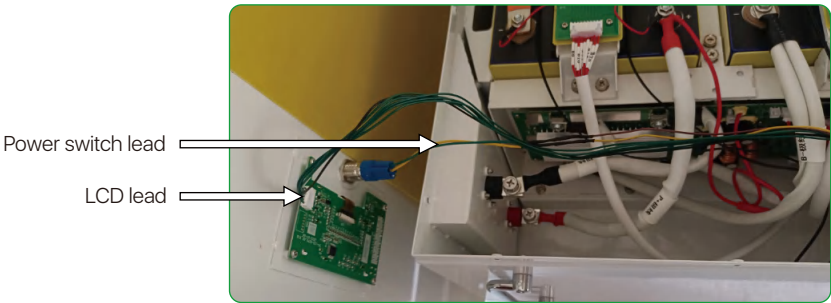
Important: Please connect all balancer's voltage sample cables correctly before plugging the connectors, incorrect wiring will damage the device.



Connect the voltage acquisition lead to the balance bars, the P+ lead to the main positive, and B- lead to the main negative. Then put the B+ lead on, and stick the temperature NTC leads(H) on the cells by heat proof tape, as shown in figure.



Connect the power switch lead and LCD lead. Using the volt meter to test the battery voltage in main positive and negative terminals. It should be $>52\text{ V}$ if everything is connected. Turn on the power switch, the LCD and the indicator lights up. The installation is successful, as shown in figure.



(The LCD and indicators lights up)

Wall Mounted Installation

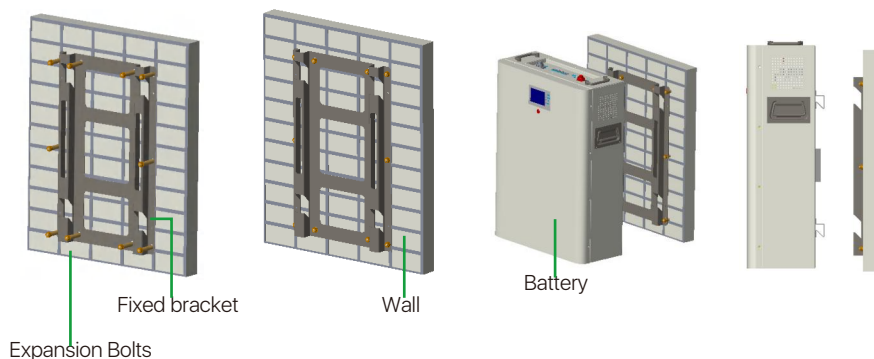
Notice for Installation

- The wall for installation should be a solid brick or cement wall with a strong load-bearing capacity, and the thickness of the wall should not be less than 100mm.
- In indoor installation, it needs to leave enough space to be installed and operated easily and pay attention to ventilation. Do not place flammable materials around the battery.
- In outdoor installation, it needs to be surrounded by protective measures, and make a rain protection.

Installation Procedure

- Mark the drilling position using the wall mounting plate, and level using a spirit level.
- Place the wall mounting plate close to the wall firmly, mark the drilling position, and remove the wall mounting plate.
- Drill holes in the wall using the driller. The hole diameter is 12mm and the depth is 60mm.
- Fix the M8 Expansion bolts, tightening torque: 20N.m
- Lift the battery parallel to the ground, and hang the battery module on the bracket as shown in the following figure:

Installation Diagram

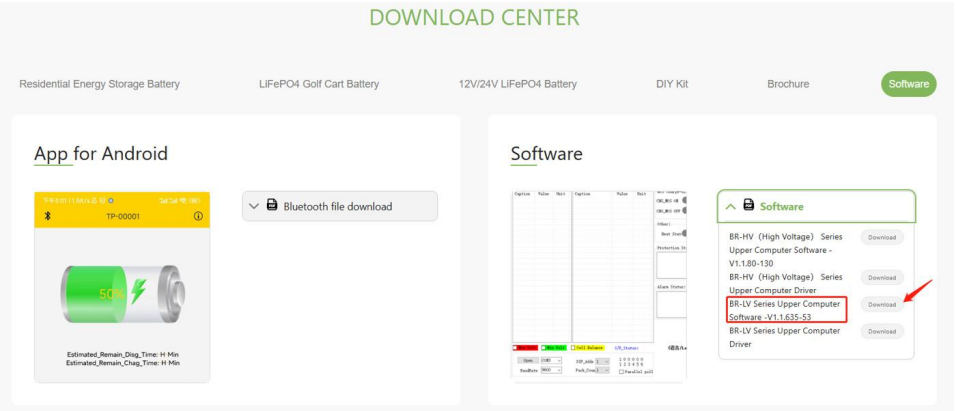


Please refer to the table below to set the DIP switch for parallel connection of different batteries.

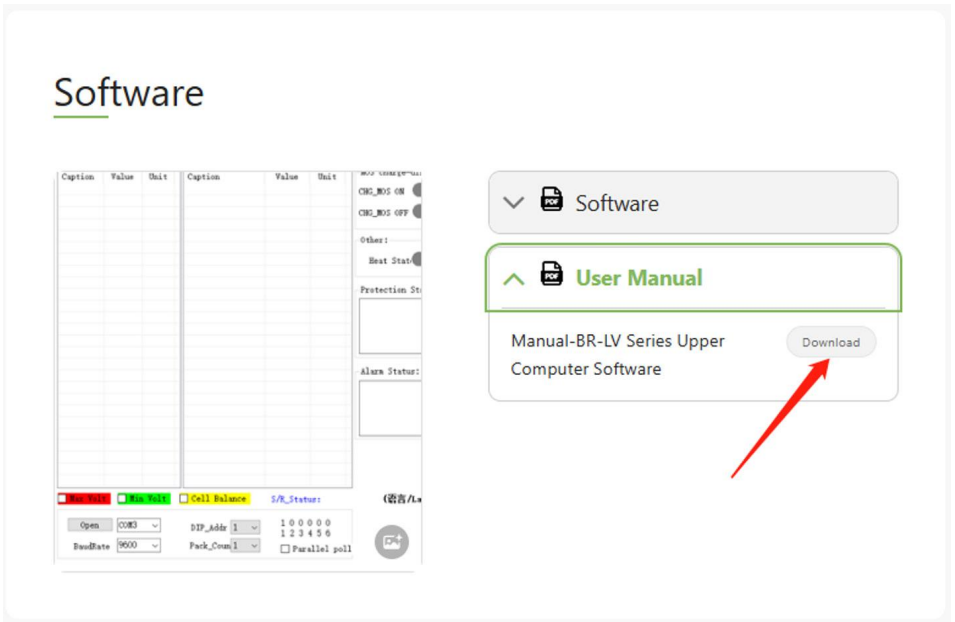
4-BIT					
Address	Dip Switch Position				Illustration
	#1	#2	#3	#4	
0	OFF	OFF	OFF	OFF	
1	ON	OFF	OFF	OFF	
2	OFF	ON	OFF	OFF	
3	ON	ON	OFF	OFF	
4	OFF	OFF	ON	OFF	
5	ON	OFF	ON	OFF	
6	OFF	ON	ON	OFF	
7	ON	ON	ON	OFF	
8	OFF	OFF	OFF	ON	
9	ON	OFF	OFF	ON	
10	OFF	ON	OFF	ON	
11	ON	ON	OFF	ON	
12	OFF	OFF	ON	ON	
13	ON	OFF	ON	ON	
14	OFF	ON	ON	ON	
15	ON	ON	ON	ON	

Operation of Upper System

Download: <https://www.basenpower.com/download/>



PS: To install the PC computer software for the first time, please download and read the user manual(<https://www.basenpower.com/download>)



Firstly, connect the USB to RS485 Cable from Battery to the PC/Laptop, dip switch 1 on the front plate, download the PC software and open it.

Secondly, modify the language, and check the status of the battery pack



P.S: Please check the data on "single pack" page when only 1 pack is connected, the page of "Parallel group display" might show the nonsense characters.



Family_BMS-V1.6.35-15

INFO
PARAM
CONFIG
STORAGE

SinglePack
MultiPacks
Record
Parallel group display
Parallel packet data storage

0
1
2

Intervals 4000 Full time 1000 Read Count: 13

Pack Volt: 52.97 V Pack Curr: 0.00 A SOC 100 % SOH 100 %

Remain_Cap 280.00 Ah Full_Cap 280.00 Ah Cycles 0 Times

Caption	Value	Unit
Max_Vol	3.337	10
Min_Vol	3.292	11
Vol_Diff	0.045	V


100 %

Caption	Value	Unit
Amb_Temp	19.0	
MOS_Temp	15.0	
Max_Temp	16.0	01
Min_Temp	15.0	03
Temp_Diff	1.0	
Temp 01	16.0	
Temp 02	16.0	
Temp 03	15.0	
Temp 04	16.0	

Address 0 CAN type Pylon Read Set

New address: 1 496 type Pylon Read Set

Real-time data read successfully

CHG MOS On
BDSG MOS On
Charge
Discharge

Battery system

Volt: 52.97 V Total_Cap 840 Ah SOC 99 %

Curr: 0 A Remain_Cap 839 Ah

Max_Cell_V 3353 mV Max_Batt_T 18.0 °C Max_Amb_T 19.0 °C

Min_Cell_V 3291 mV Min_Batt_T 15.0 °C Min_Amb_T 19.0 °C

Charge Discharge Volt high alarm Volt low alarm

Alarm

Protect

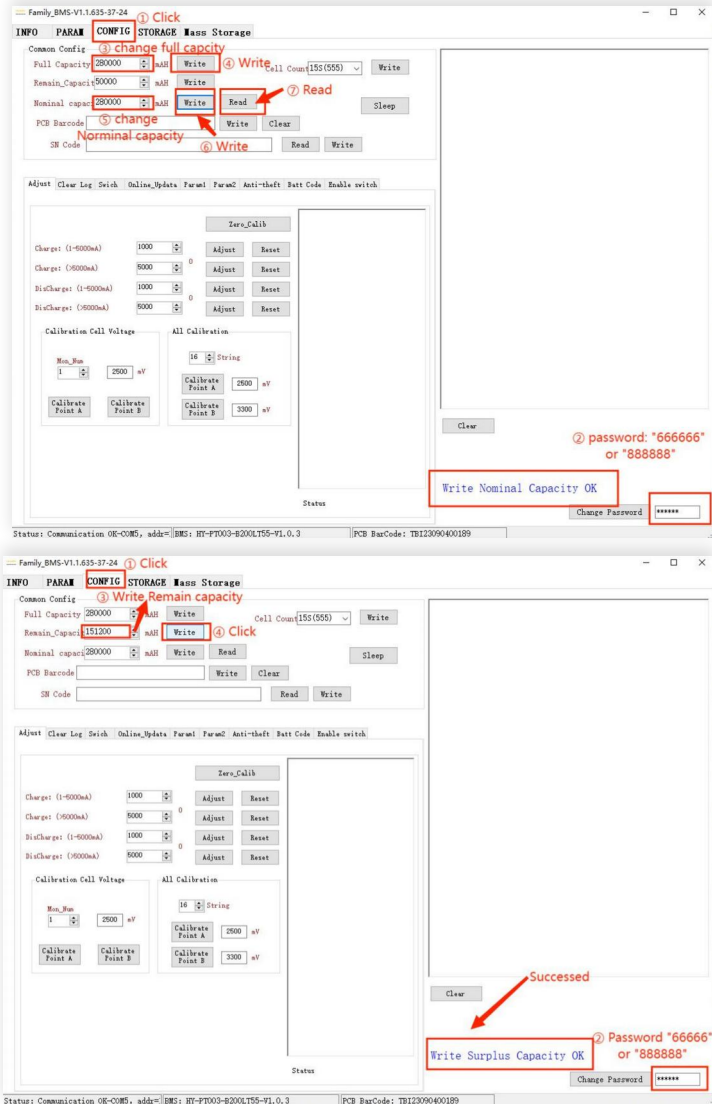
Fault

Status: Communication OK-COM3, addr=BMS: BN-HS16348V200LT55-V1.1.0 PCB Barcode: TB123013000135

Note: "Nominal capacity" means the rated capacity, and "Full capacity" means the actual full charge capacity

(1) Full capacity modification

For example, if the capacity is set to be 300 AH, but the actual battery capacity is 280 AH, then when the "Full capacity" is modified to 280 AH(280000mAh), the "Nominal capacity" also needs to be changed to 280 AH(2800000mAh).



Important: After modifying the capacity, it is needed to perform a complete cycle(full charging and discharge) 1-2 times for the BMS to learn the latest status.

Operation of Bluetooth

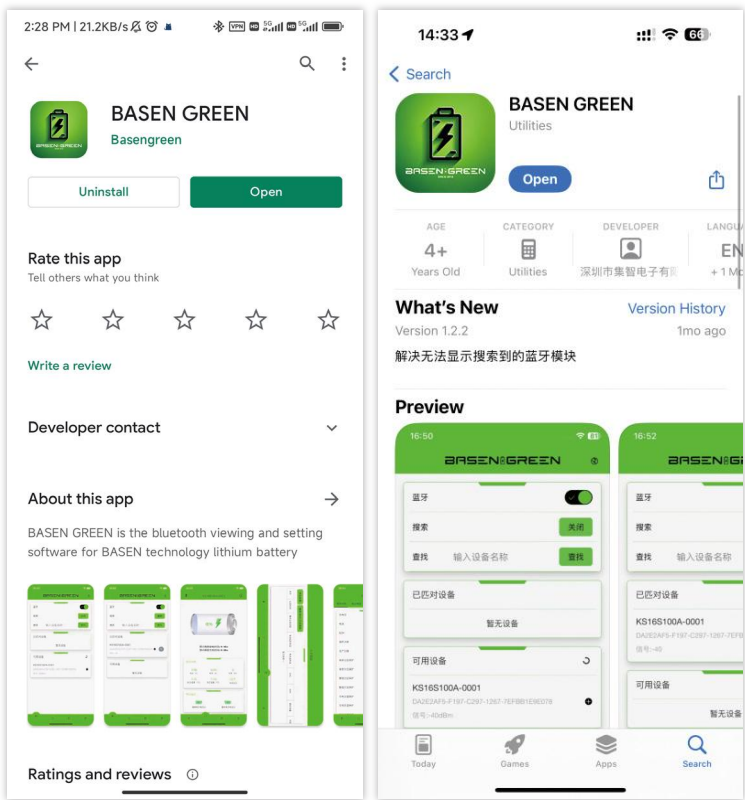
DIY KIT is equipped with a Bluetooth function, supports APP monitoring battery statuses. All information available in the battery, such as the state of charge, voltage, operating current, temperature, and other operating information are transmitted in real-time via the Bluetooth transmitter. The parameters can be made visible with the BASENGREEN App.

Download: Android: "BASENGREEN" in Play Store

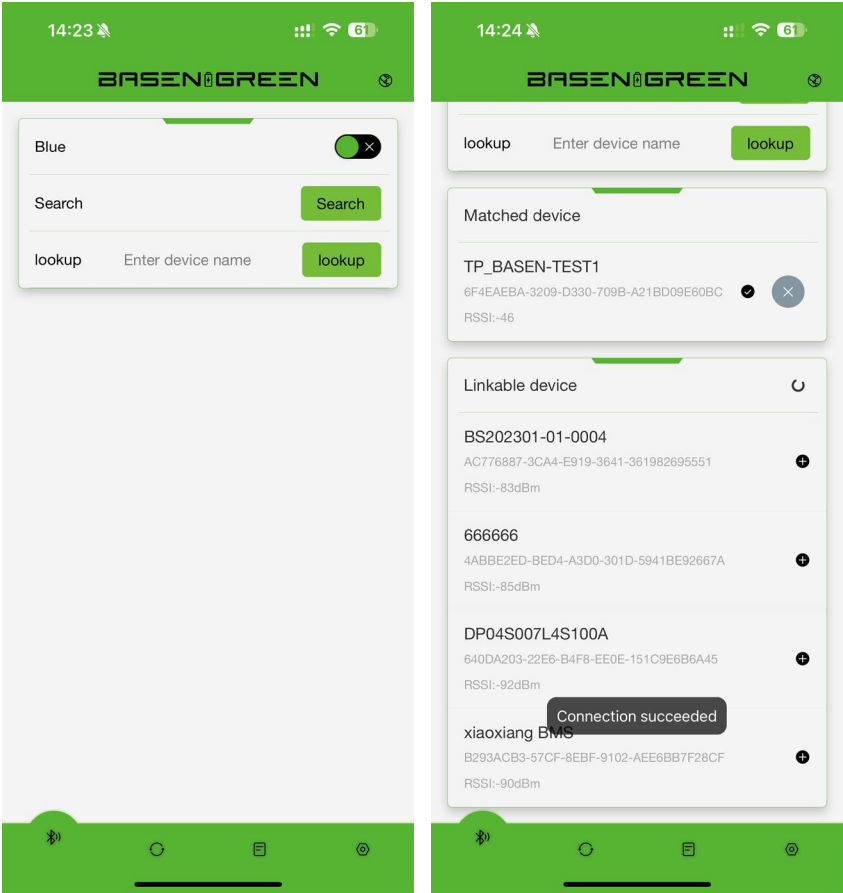
iOS: "BASENGREEN" in Apple Store

Bluetooth

1. For Android users, please visit the Google Play Store and search for 'BASENGREEN'. For iOS users, go to the Apple Store and look up 'BASENGREEN'.



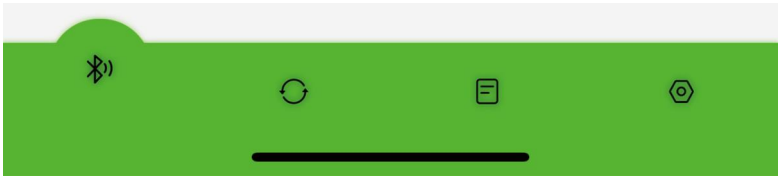
2. Turn on Bluetooth and search for the corresponding product's Bluetooth code



NOTE:

- a. If you selected a battery to connect to and the app doesn't confirm the connection, it might be someone else is already connected to the battery. Only one device connects to the battery at the same time.
- b. The Bluetooth app supports status monitoring only. It does not support any modified operation except communication protocol switching

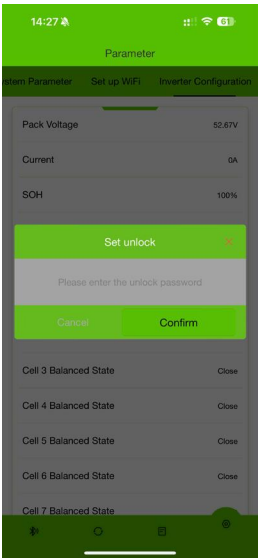
3. Menu



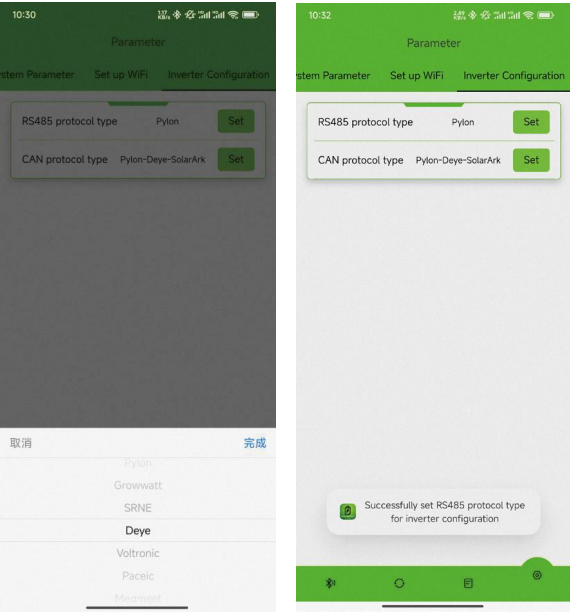
- Bluetooth list:** Check the Device list and connect it.
- Homepage:** Check the status of battery-SOC, Volt, Current, Temperature, etc.
- Historical Data:** Not available
- Setting:** Base Message: Check the pack voltage, current, cycle time, etc.
- Cell Voltage:** Check the cells voltage.
- Language:** English/Chinese switching.
- Fault Data:** Not available
- System Parameter:** Not available
- Set up WiFi:** Setup WiFi function(Not available)
- Inverter configuration:** Communication protocol switching(Chapter 9.2)

Operation of Communication Protocol Switch(Via Bluetooth App)

- a. Connect to the Bluetooth app first
- b. Swipe left to find 'Inverter Configuration'. Set unlock code is 888888

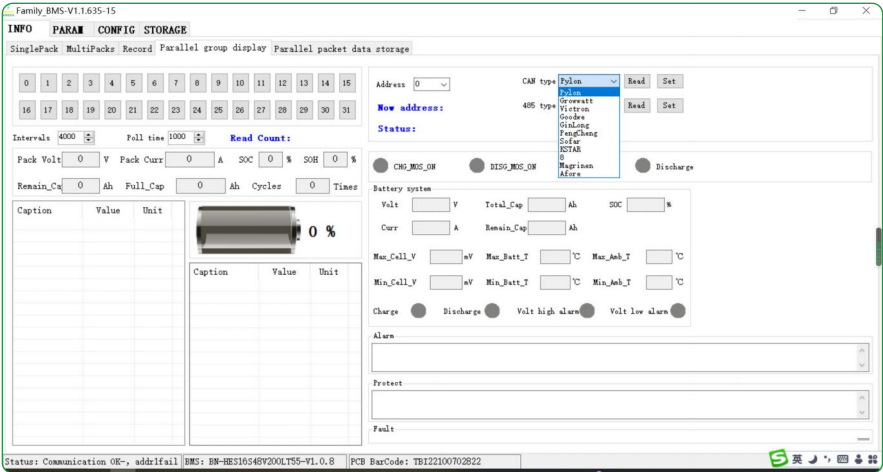


c. Choose the communication protocol and set, the battery pack will be restart after few second with “bee” sound. Then set up is successful.



Switching communication protocols via PC

Open the PC software and follow the path:
INFO—Parallel Group Display—CAN Type/RS485 Type—Read—Choose the protocol—Set



Communication Protocol Switching via Screen

1. Introduction



There are 4 buttons on the side of screen

- MENU : Enter the "MENU" page
- ENTER : Confirm the change/enter the next page
- ▼ : Select items/turn pages
- ESC : Back to the last page

2. Switch the communication protocol

a. Turns on the battery, the screen will lights up and shows the data.



b. Click "MENU" button, then click ▼ , enter the "CommType Set" page.



c. There are CAN/RS485 options, click the correct option based on the inverter model.
(Default communication protocol: Pylon)



d. Choose the protocol and click the "ENTER" button.



e. All of the indicators will light up after 3-5 seconds, and then it has a "bee" sound. The screen will show the latest communication protocol, which means the protocol has been updated successfully.



Communication Compatible List

BASEN BMS Inverter Communication Protocol Matching Table						
Inverter Brand		Communication method	Protocol Name	Protocol Remarks	Communication波特率	Interface Definition
维克托-Victron		CAN	Victron-CAN-V1.00- 211135	Active Upload	500K	7H、8L
古瑞瓦特-SPF Growatt-SPF		485	Growatt BMS-RS485-protocol-1xSoP_ESSL_V2.01 Growatt BMS-RS485-protocol-V2.0	MODBUS Standard protocols	9600	1B、2A
古瑞瓦特-SPF Growatt-SPF		CAN	Growatt BMS CAN-Bus-protocol-low-voltage-V1.05	Active Upload	500K	4H、5L
古瑞瓦特-SPH Growatt-SPF		CAN	Growatt BMS communication protocol of growatt low voltage-V1.01	Active Upload	500K	4H、5L
德业 Deye		CAN	Deye LV-CAN communication protocol	Active Upload	500K	4H、5L
德业 Deye		485	485 Modbus Protocol(4)-deye	MODBUS protocols	9600	1B、2A
尚科-Solar		CAN	Growatt BMS CAN-Bus-protocol-low-voltage-V1.05	Active Upload	500K	4H、5L
固德威-Goodwe		CAN	Goodwe-CAN-V1.7-220228-SolarinverterFamily-EN	Active Upload	500K	4H、5L
日月元-Voltronic Power		485	Voltronic Power-485-V1.03-200325	MODBUS protocols	9600	3B、5A
首航-SOFAR		CAN	SOFAR-CAN-V1.00-211117-Rev6	Active Upload	500K	1H、2L
锦浪-Solis		CAN	Solis-CAN-V1.0-191228-lowVoltage	Active Upload	500K	4H、5L
鹏城-Luxpower		CAN	Luxpowertek Battery CAN Protocol -2021	Active Upload	500K	4H、3L
派能-Pylontech		485	Pylon-485-V3.5-161216-low voltage protocol	1363	115200	1B、2A
派能-Pylontech		485	Pylon-485-V3.5-161216-low voltage protocol	1363	9600	1B、2A
派能-Pylontech		CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
硕日-Srne		485	shuori BMS Modbus Protocol for RS485 V1.3(2020-11-24)	MODBUS	9600	7A、8B
美世乐 Must		CAN	PV1800F-CAN communication Protocol I.04.04	Active Upload	100K	6H、5L
艾思玛 SMA		CAN	SMA-CAN-V1.0.0-210630-FSS -ConnectingBat-TI-en-20W	Active Upload	500K	4H、5L
阳光电源 SUNGROW		CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
爱士维 AISWEI		CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
英威腾 INVT		CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
科士达 KSTAR		CAN	Kstar CAN_Protocol-V1.11	Active Upload	500K	4H、5L
艾伏 Afore		CAN	Afore Communication Protocol CAN Bus Version V1.02_20210104	Active Upload	500K	4H、5L
索瑞德-SOROTEC		CAN	CAN Protocol 1.0(SOROTEC Protocol)	MODBUS Standard protocols	500K	4H、5L
索瑞德 SOROTEC		485	Protocol between Sorotec Inverter and Lithium Battery (RS485)	Active Upload	500K	1B、2A
SOL-ARK		CAN	Sol-Ark CAN Bus Protocol V1.2.pdf4-25-22		500K	4H、5L
迈格瑞能 MEGAREVO		CAN	Shenzhen MEGAREVO Hybrid Inverter-5K BMS Protocol V1.01	Active Upload	500K	4H、5L
MPP Solar		485	BMS 485 communication protocol 20200325(2)	MODBUS	9600	1B、2A
拓宝-TBB		CAN	CAN BUS Protocol of TBB Lithium Battery BMS Platform V 1.1	Active Upload	500K	4H、5L
盛能杰-Senergy		CAN	SenergyINV&BMS_CAN_Protocols	Active Upload		4H、5L

Need additional information?

Just Contact BASEN!

BASEN  GREEN

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YOUR RELIABLE POWER



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