

# 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.

ALL DIY kIT accessories are included in the DIY box



Wire pre-installation

When receiving the 48V kits accessories, the customers need to check whether the collection line of PCB bars is wrong inserted or not, it means that PCB1 and PCB2 have assembly errors, PCB1 and PCB2 board are marked, as shown in the following picture:



PCB1 board is marked with wires, they are B1-, B1 +, B2 +, B3 +, B4 +, B5 +, B6 +, B7 +, and there are **8** lines on the collector terminal; "B1-" is black, you must confirm the wiring before inserting, or else it will damage the BMS, and we won't provide after-sales service.





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 bars\*2



**D** (Pre-installed) Front plate\*1



**E (Pre-installed)** Handle\*2



**F (Pre-installed)** LCD Display\*1



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



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



K Fiberglass Insulation plate\*24



H (Pre-installed) Temperature NTC v s\*1



L Screws\*32





**M** Flexible busbar\*16



Inverter communication cable\*1



O USB-RS485 communication cable\*1



**P** Side bracket

Ν







Cells Voltage difference ≤ 20mV



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





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.







Put the BMS front plate(D) on, plug the voltage acquisition Cable P+ Cable to the main positive, and B- Cable to the main negative, then put the B+ Cable on, and stick the temperature NTC leads(H) on the cells by heat proof tape.



Check every connection, the voltage between the main positive and the negative is >52V, then turn the button on, the LCD and the indicator work out, then the assembly operation is completed.

Unbox and install video: https://www.youtube.com/watch?v=KxcEyd8IVSY&t=7s





P.S.: It is recommended to do 1-2 times of complete cycle(fully charged and discharged) in the first running of the battery pack.

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

4-BIT										
Address	Di	Dip Switch Position								
Address	#1	#2	#3	#4	illustration					
0	OFF	OFF	OFF	OFF	ON L3 1 2 3 4					
1	ON	OFF	OFF	OFF	ON L3 1 2 3 4					
2	OFF	ON	OFF	OFF	ON L3					
3	ON	ON	OFF	OFF	ON L3 1 2 3 4					
4	OFF	OFF	ON	OFF	ON L3					
5	ON	OFF	ON	OFF	ON L3					
6	OFF	ON	ON	OFF	ON L3 1 2 3 4					
7	ON	ON	ON	OFF	ON L3 1 2 3 4					
8	OFF	OFF	OFF	ON	ON L3 1 2 3 4					
9	ON	OFF	OFF	ON	ON L3 1 2 3 4					
10	OFF	ON	OFF	ON	ON L3 1 2 3 4					
11	ON	ON	OFF	ON	ON L3					
12	OFF	OFF	ON	ON	ON L3					
13	ON	OFF	ON	ON	ON L3 1 2 3 4					
14	OFF	ON	ON	ON	ON L3 1 2 3 4					
15	ON	ON	ON	ON	ON L3					

## **Operation of Upper System**

#### Download: https://www.basenpower.com/download/

	DOW	NLOAD CENTER			
Residential Energy Storage Battery	LiFePO4 Golf Cart Battery	12V/24V LiFePO4 Battery	DIY Kit	Brochure	Software
App for Android	Bluetooth file download		Na ki	BR-HV (High Voltage) Series Upper Computer Software - V11.80-100 BR-HV (High Voltage) Series Upper Computer Twer BR-LV Series Upper Computer Contaure V1.V Series Upper Computer Driver	Deensed Deensed Deensed Deensed

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

ALM

JN

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.

拉	参数	配置	存储			
组显示	多组显示	显示记录	并机分组显示 并机	几分组数据存储		
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<mark>最大电</mark> 关闭串 波特率	± □ ₩:	♪电压 ~ ~	〕 単体匀衡 拨码地址 1 ~ Pack数量 1 ~	<u>状态提示</u> 100000 123456 □ 从0并机轮询	(语言/Language)	

inglePack	MultiP	acks Reco	ord Parallel group	display P	arallel	acket data storage	
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Vol 03	3.29	98 V	MOS Temp	15.0	97	
Vol 04	3.3	34 V	nos_remp	15.0	C	
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Vol 13	3. 29	94 V	Temp 04	16.0	C	· · · · · · · · · · · · · · · · · · ·
Vol 14	3. 29	93 V				
Vol 15	3.20	96 V				
.01 10	3.20	95 V	-			Fault
Vol 16	5.2	*				
Vol 16						
Vol 16						

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(280000mAh).

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	Change Parsword ******
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Status: Communication OK-COM5, addr= BMS: HY-PT003-B200LT55-V1.0.3 PCB BarCode: TB123090

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

Family_BMS-V1.1.635-15	- 0 ×
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tatus: Communication OK-, addrlfail BMS: EN-HES16548V200LT55-V1.0.8 PCB BarCode: TB122100702822	●英ノ , 四よ

## **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 **V**, 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 BM	S Inverter Communication Protocol Matchi	ng Table		
Invert	ter Brand	Communication method	Protocol Name	Protocol Remarks	Communication Potter rate	Interface Definition
维克托-Victron	wictron energy	CAN	Victron-CAN-V1.00- 211135	Active Upload	500K	7H、8L
古瑞瓦特-SPF Growatt-SPF	Growatt	485	Growatt BMS-RS485-protocal-1xSxxP_ESSL_V2.01 Growatt BMS-RS485-protocal-V2.0	MODBUS Standard protocols	9600	18、2A
古瑞瓦特-SPF Growatt-SPF	Growatt	CAN	Growatt BMS CAN-Bus-protocol-low-voltage-V1.05	Active Upload	500K	4H、5L
古瑞瓦特-SPH Growatt- SPF	Growatt	CAN	Growatt BMS communication protocol of growatt low voltage- V1.01	Active Upload	500K	4H、5L
德业 Deye	Deye ୡ≭	CAN	Deye LV-CAN communication protocol	Active Upload	500K	4H、5L
德业 Deye	Deye ‰≭	485	485 Modbus Protocol(4)-deye	MODBUS protocols	9600	18、2A
尚科-Scolar	SACOLAR	CAN	Growatt BMS CAN-Bus-protocol-low-voltage-V1.05	Active Upload	500K	4H、5L
固德威-Goodwe	GOODWE	CAN	Goodwe-CAN-V1.7-220228-SolarinverterFamily-EN	Active Upload	500K	4H、5L
日月元-Voltronic Power	Voltronic Power	485	Voltronic Power-485-V1.03-200325	MODBUS protocols	9600	3B、5A
首航-SOFAR	SCIFAR	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	LU	CAN	Luxpowertek Battery CAN Protocol -2021	Active Upload	500K	4H、3L
派能-Pylontech	PYLONTECH	485	Pylon-485-V3.5-161216-low voltage protocol	1363	115200	18、2A
派能-Pylontech	PYLONTECH	485	Pylon-485-V3.5-161216-low voltage protocol	1363	9600	18、2A
派能-Pylontech	PYLONTECH	CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
硕日-Srne	💋 SRNE	485	shuori BMS Modbus Protocol for RS485 V1.3(2020-11-24)	MODBUS	9600	7A、8B
美世乐 Must	MUST美世乐	CAN	PV1800F-CAN communication Protocol1.04.04	Active Upload	100К	6H、5L
艾思玛 SMA	SMA	CAN	SMA-CAN-V1.0.0-210630-FSS -ConnectingBat-TI-en-20W	Active Upload	500K	4H、5L
阳光电源 SUNGROW	SUNGROW	CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
爱士惟 AiSWEI	AiSWEI	CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
英威腾 INVT	invt	CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
科士达 KSTAR	KSTAR	CAN	Kstar CAN_Protocol-V1.11	Active Upload	500K	4H、5L
艾伏 Afore	Afore	CAN	Afore Communication Protocol CAN Bus Version V1.02_20210104	Active Upload	500K	4H、5L
索瑞德-SOROTEC	SOROLEC Power Solutions Expert	CAN	CAN Protocol 1.0(SOROTEC Protocol)	MODBUS Standard protocols	500K	4H、5L
索瑞德 SOROTEC	SOROLEC Power Solutions Expert	485	Protocal between Sorotec Inverter and Lithium Battery (RS485)	Active Upload	500K	1B、2A
SOL-ARK	Sol-Ark	CAN	Sol-Ark CAN Bus Protocol V1.2.pdf4-25-22		500K	4H、5L
迈格瑞能 MEGAREVO	MEGAREVO	CAN	Shenzhen MEGAREVO Hybrid Inverter-5K BMS Protocol V1.01	Active Upload	500K	4H、5L
MPP Solar	W Bolar	485	BMS 485 communication protocol 20200325(2)	MODBUS	9600	18、2A
拓宝-TBB	11//1/ TEE PC+67	CAN	CAN BUS Protocol of TBB Lithium Battery BMS Platform V 1.1	Active Upload	500K	4H、5L
盛能杰-Senergy	Seneigy EIII	CAN	SenergyINV&BMS_CAN_Protocols	Active Upload		4H、5L

**Need additional information?** 

Just Contact BASEN!

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