

# 1. Control Panel



- (1) Support RS485/RS232 & CAN communication.
- (2) Support cascade communication.
- (3) Support parallel connection to increase capacity. Up to 16 units. Means 160KWH.

Please get the software from the sales manager.

## 2. How to parallel connect the batteries.

In order to increase the energy stored, multiple batteries need to be used. The batteries are connected in parallel through a parallel box and then output. The parallel mode is shown in figure 5

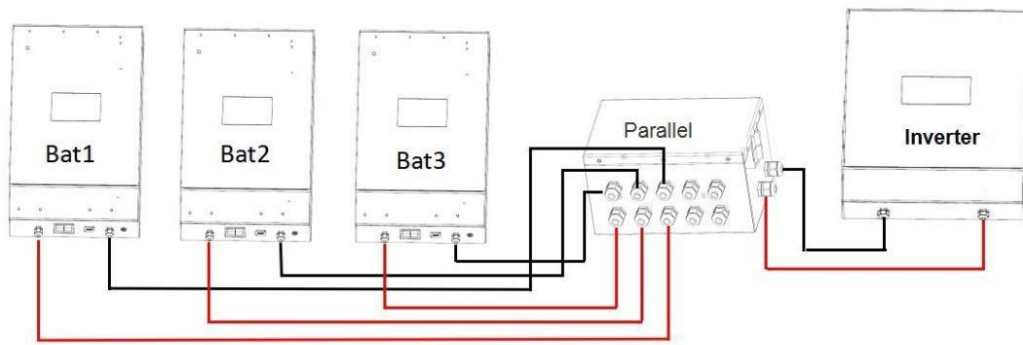


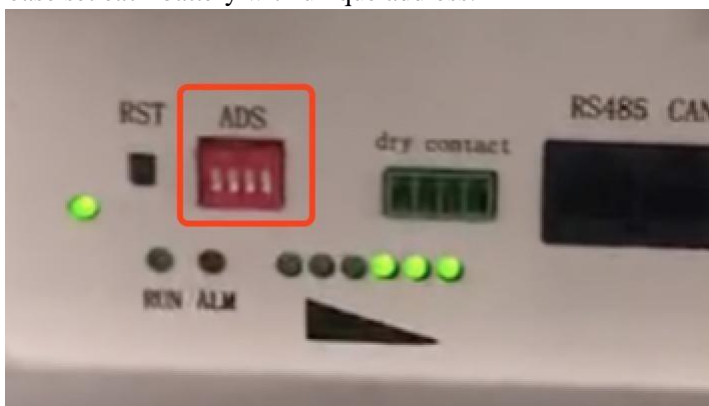
figure 5

You should be very easy to get busbar module from Amazon. To get a suitable busbar module to parallel connect the batteries.

## 3. How to do cascade communication with the software on PC

ADDR=1~4, mapping the Pack1~Pack8. The “ADDR” is as following.

Please set each battery with unique address:



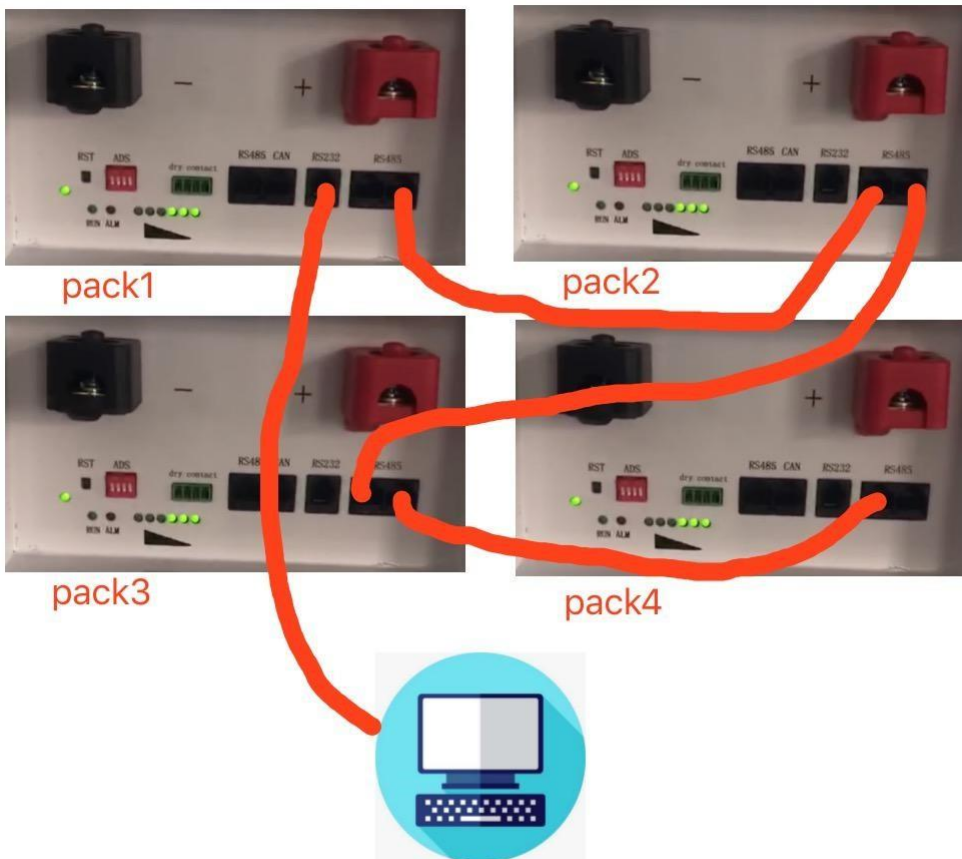
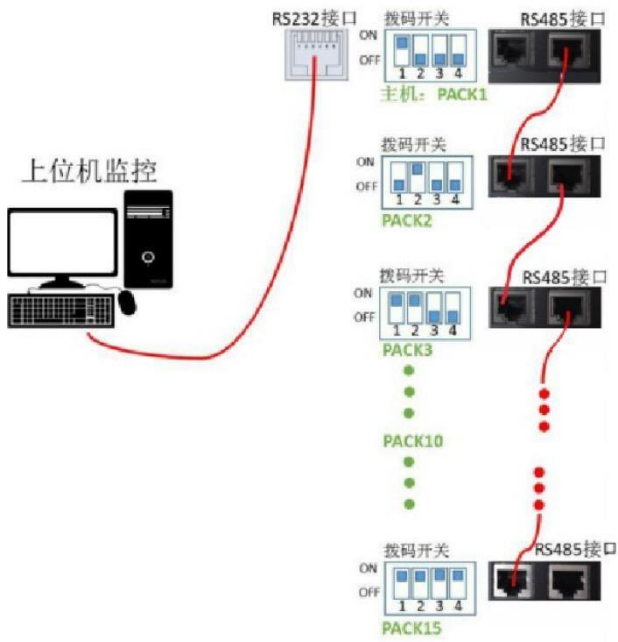
PACK1-PACK8	ADDR[1]	ADDR[2]	ADDR[3]	ADDR[4]
PACK1	1	0	0	0
PACK2	0	1	0	0
PACK3	1	1	0	0
PACK4	0	0	1	0
PACK5	1	0	1	0
PACK6	0	1	1	0
PACK7	1	1	1	0
PACK8	0	0	0	1

Then you will be able to monitor all the batteries info on PC by switching the tabs:

The screenshot displays the PblmsTools V2.5 software interface. At the top, there are several tabs: Realtime Monitoring, Multi Monitoring, Memory Info., Parameter Setting, System Config., and Export Data. A red box highlights the 'Realtime Monitoring' tab, which contains a sub-tab bar with numbers 1 through 15. Below this, the interface is divided into several sections:

- Pack Information:** Fields for Pack Voltage (V), Pack Current (A), SOC (%), SOH (%), RemainCapacity (mAh), FullCapacity (mAh), and Battery Cycle.
- Temperature:** Fields for MOS\_T (°C) and ENV\_T (°C).
- Cell Voltage(mV):** A grid of 16 input fields labeled Vcell 1 through Vcell 16. Above this grid are color-coded indicators for MaxVolt (orange), MinVolt (green), and VoltDiff (cyan).
- Serial Port:** Configuration fields for Port, Baud Rate (9600), Pack I, Pack Qty (1), and Interval (S) (1). Includes 'Open' and 'Try Connect' buttons.
- System Status:** Radio buttons for CHARGING-OFF, CHARGING, CHG-LIMIT-OFF, ACIn, DISCHARGING-OFF, DISCHARGING, HEATER-OFF, and Fully.
- Alarm Status:** A scrollable area for alarm logs.
- Protect Status:** A scrollable area for protection logs.
- Fault Status:** A scrollable area for fault logs.
- Switch Control:** Buttons for CHG Circuit (Open), DSG Circuit (Open), Sound Alarm (Open), LED Alarm (Open), and Shutdown (Off).
- Password:** A field with 'Change' and 'Clear' buttons.

At the bottom of the window, there are status indicators for VER, BMS S/N, PACK S/N, and COMM, along with a system tray showing the time (22:56:39) and date (2019-08-12).



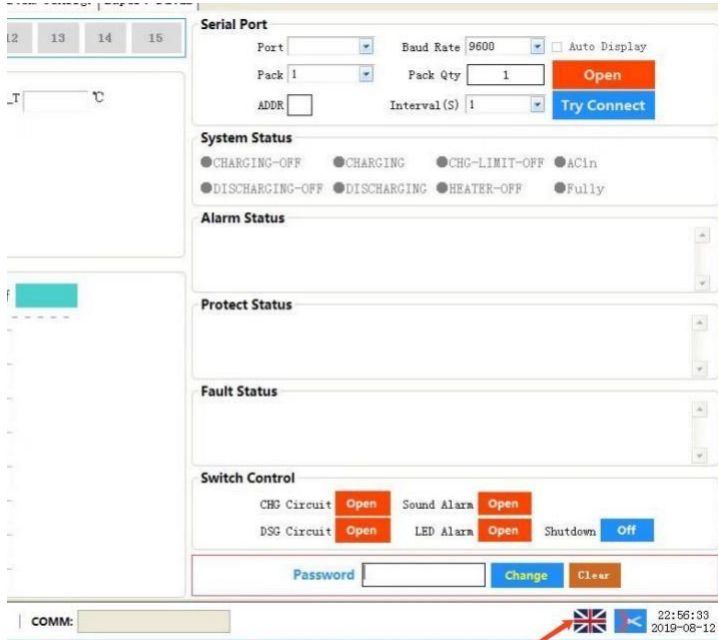
#### 4. Install the software

Download the software via this link:

<https://drive.google.com/file/d/1uF6dugt4LCDPLb59osBvdPdwfjffU53y/view?usp=sharing>

Unpack the software, PBMSTool.zip, and then click to install. (Win7 or above, only support Windows System)

Switch language to English:



click here to switch language

## 5. Charge setting:

Lithium Battery favors of CC-CV mode charging. Means constant current and constant voltage 2 phase charging.

Recommended Settings:

Max Charge Voltage: 56.5v

Float Charge: 54.5v

Min Cutoff Voltage: 49v

Equalization Charge: Disabled or 0V.

Recommended Charge Current:  $\leq 20A$ . 2 packs in parallel  $\leq 40A$ , 3 packs in parallel  $\leq 60A$ . ...

Recommended Charge rate  $< 0.5C$

If you need faster charging, please refer to 6.

## 6. Release of charging restriction

The standard charge current is being restricted to 20A in order to protect the BMS from careless charging damage, but the restriction can be released.

- (1) Connect the batteries in parallel first
- (2) Connect the batteries communication cables on each battery, and plug to the PC, open the software.
- (3) Click the release current button as shown below, turn off the **CHG Limiter**

