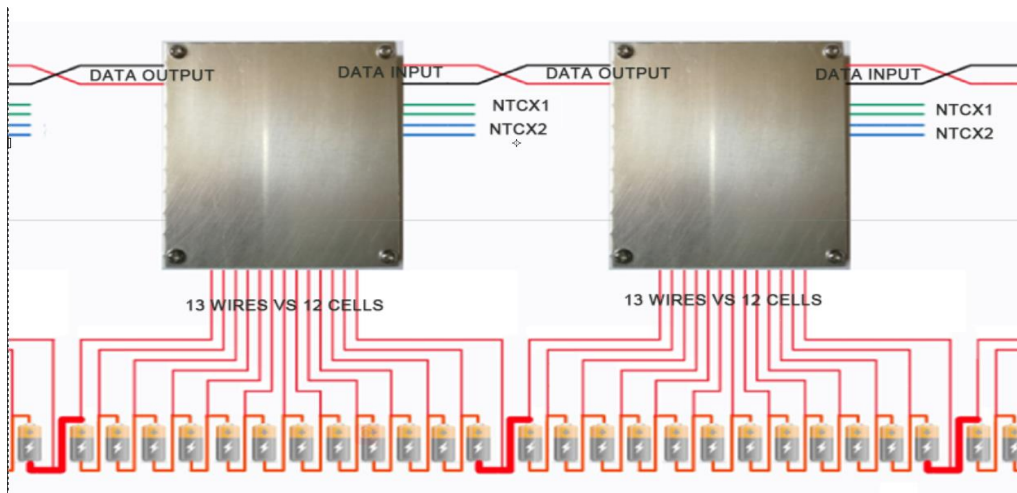


Points for Attention of BMS 4S-96S

1. Slave BMS (Real-Time DATA Acquisition Module)

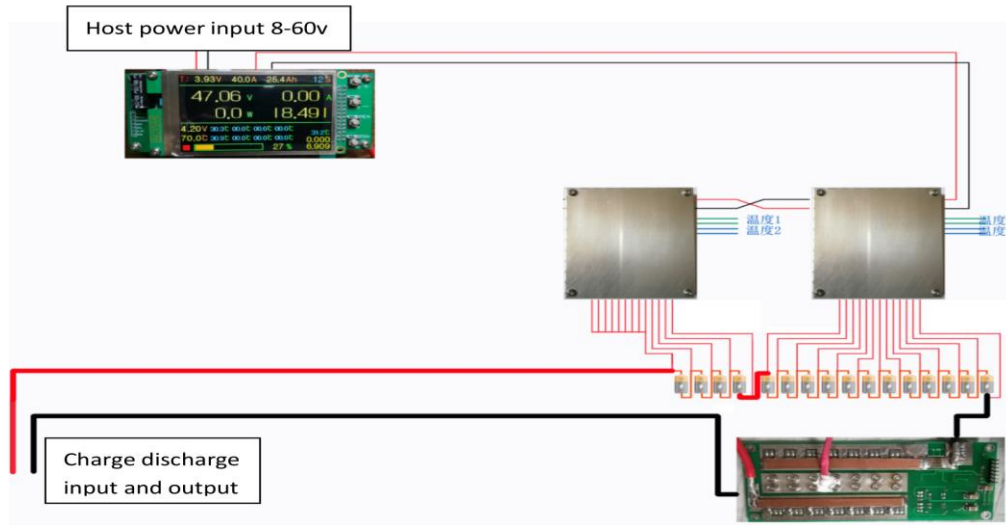
- ◇ Slave BMS (single data acquisition module) has 13 balancing wires which are connected to 12 CELLS maximum ;The most important thing for the acquisition module is that 13wires cannot be connected incorrectly. If wrong wiring , it can burn the module
- ◇ Each data acquisition module with 13 balancing wires can work with batteries connected in 12 series, and the extra wires of each data acquisition module are connected to the last pole of this module and these extra wires are not allowed to be connected next data acquisition module ;



✧ Take the following connection of 2 data modules and 16 serial batteries for example ;

The 2 data acquisition modules has 26wires , but there are only 16 CELLS

You can see that the 2nd module has extra wires which are connected to the last pole when there are less than 24 cell ; Each module is an independent unit, and each module is isolated;

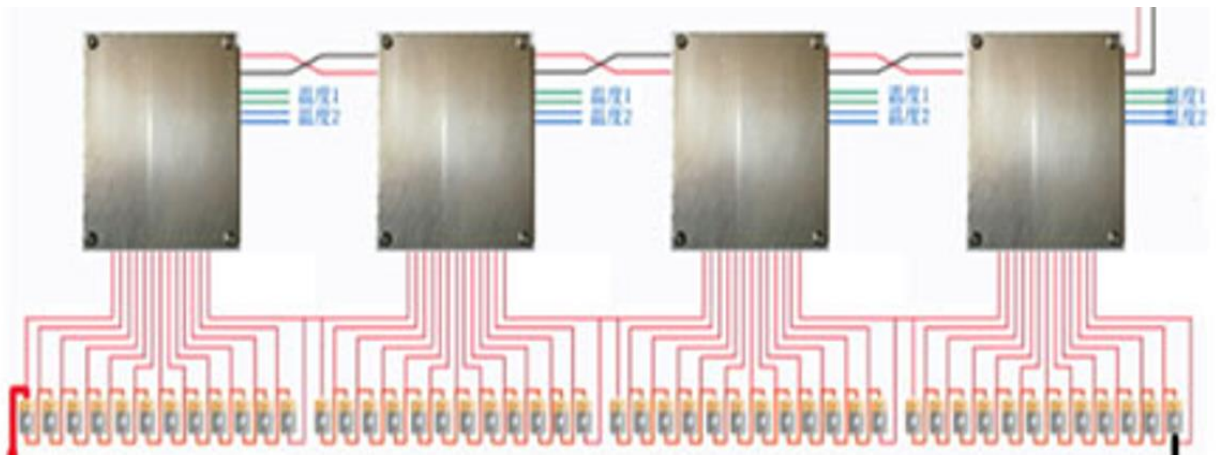


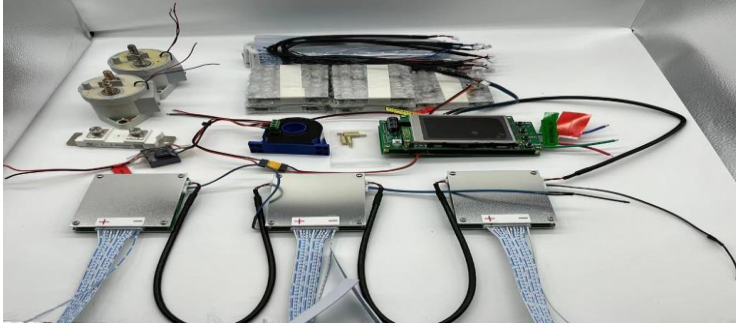
Note1 : When the serial number of battery cells is 13, 14, 15, 25, 26, 27, 37, 38,

39, the power supply voltage of a single module must be $\geq 11V$, Otherwise the data acquisition module can't work properly ;

Wrong Wirings burn/damage acquisition module ; The withstand voltage of each data acquisition channel is only 5V, which will burn the MODULE

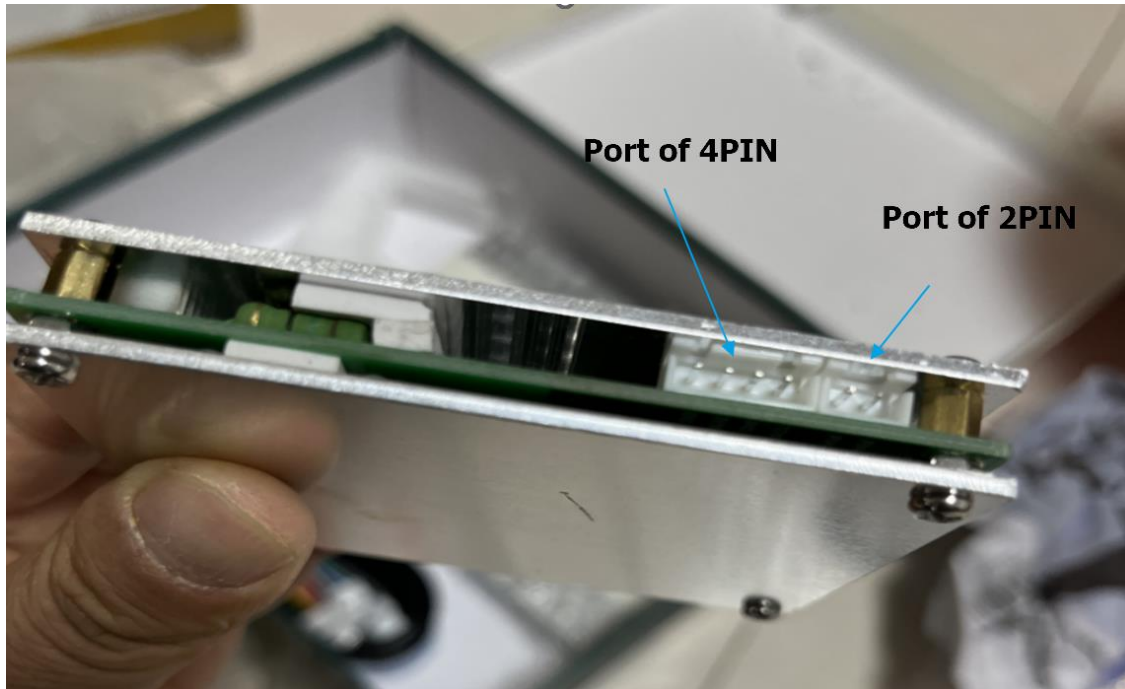
✧ Wiring Diagram of Slave Bms



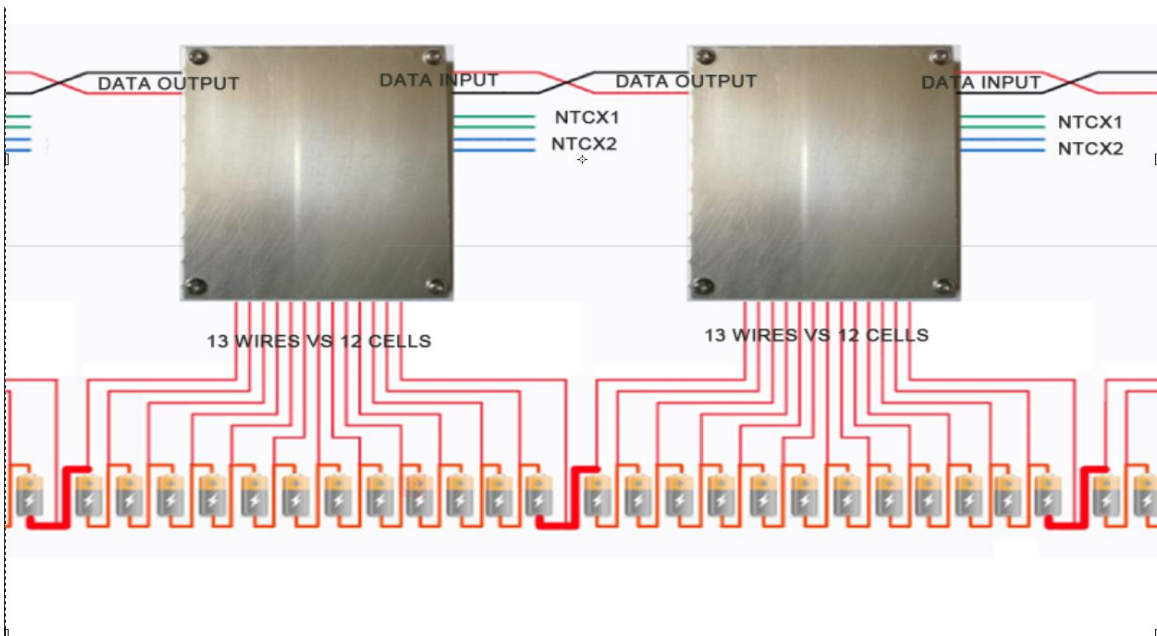
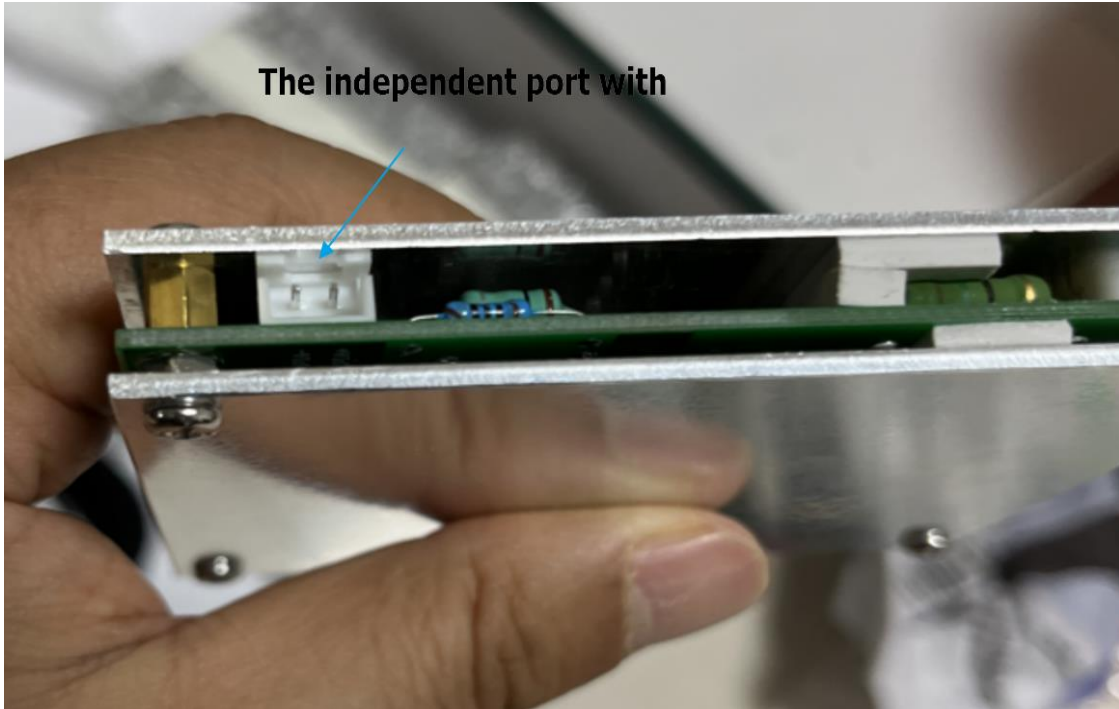


Slave BMS with passive equalization, balanced current 200MA, can only correct small voltage difference; You need to add heat radiator onto the surface of slave bms during balancing

Port with 4Pin s for the temperature sensor; Port with 2pin nearby port with 4Ppin is the data input

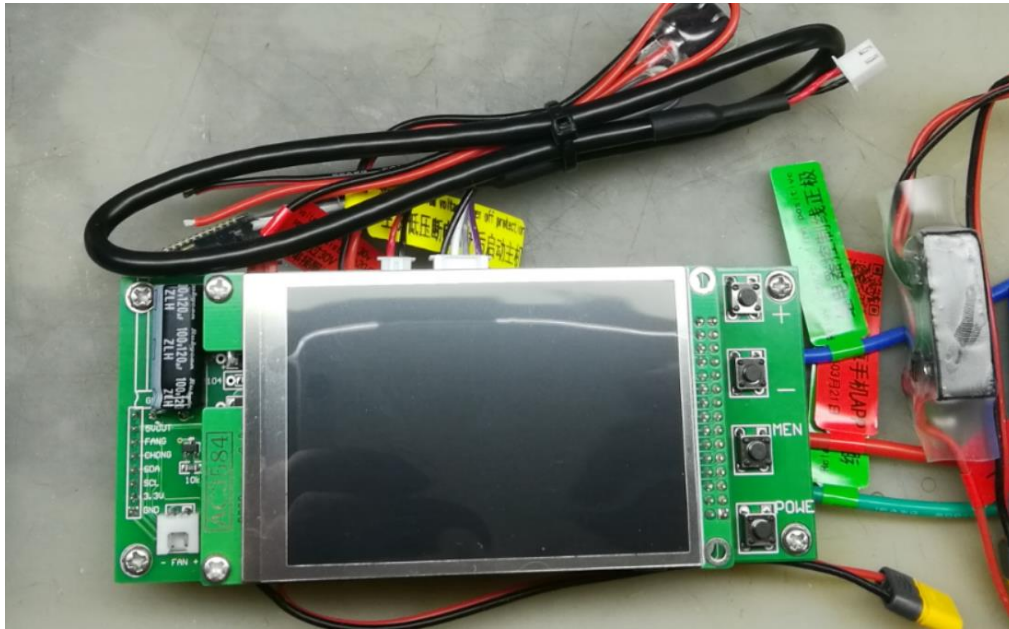


The independent port with 2PIN on the other side of data acquisition module is the output to of acquisition module;

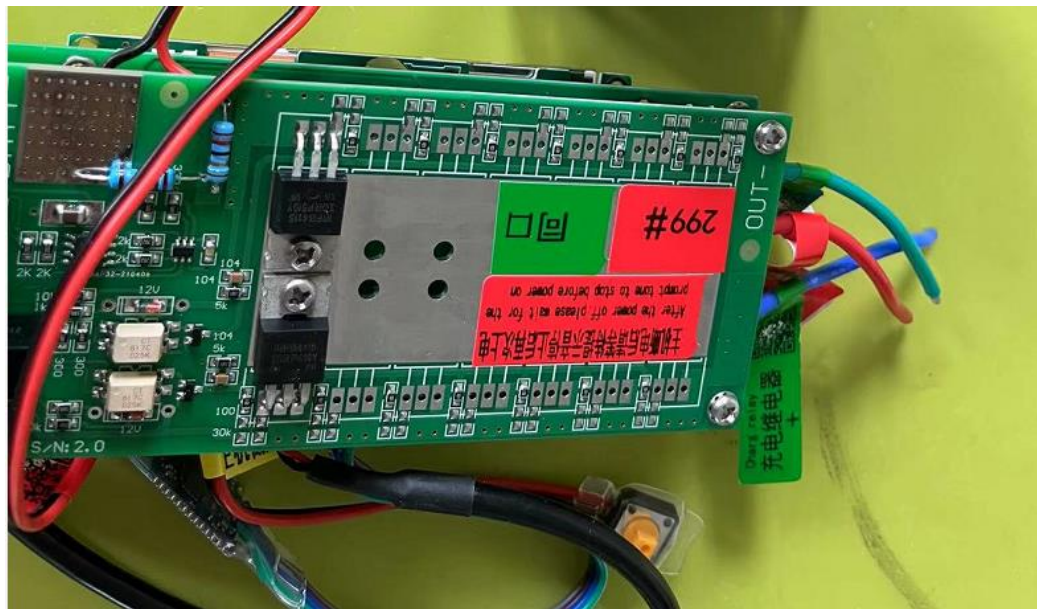


2.Master BMS

It Includes Display+ Controlling Board+ Power Driving Board



Front Side



Note: over 96S , two BMS systems can be connected in series , As long as the total Voltage does not exceed 1000V, BMS can be connected in series

◇ 3 个系统: 主机电源、霍尔传感器电源与继电器驱动电源, 可以共用一组 12V

The buyer needs to prepare a 12V external power supply (10A discharging current) for the following three sub-systems

3 sub-systems:

- Main Board DC power supply,
- Hall sensor DC power supply
- Relay drive DC power supply, can share a group of 12V,

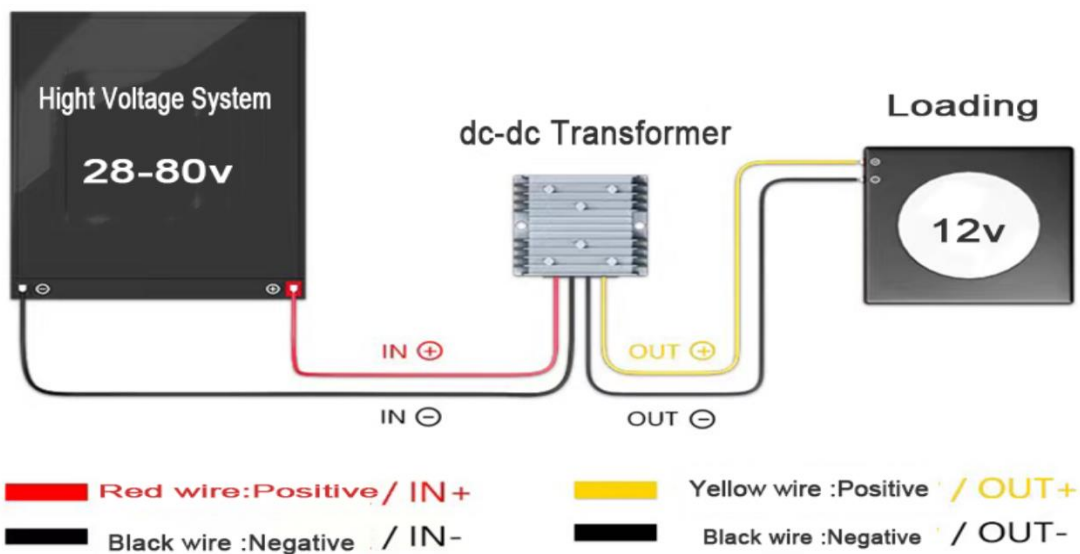
How to make a 12V external power supply:

把电池组总压降压到 12V 就可以了, 至少要有 10A 的输出能力;

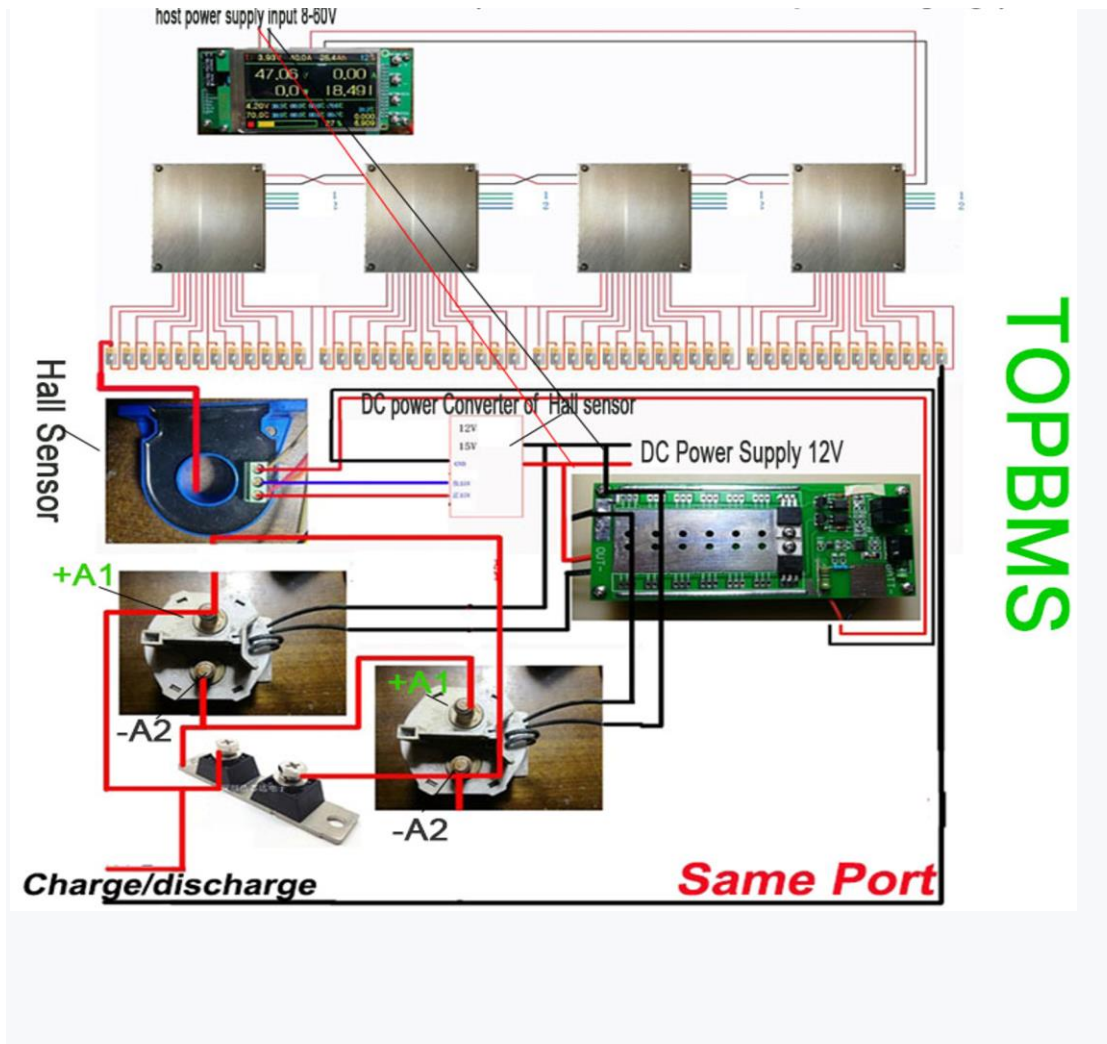
Prepare the independent battery pack of 12V, at least 10A discharging current ,

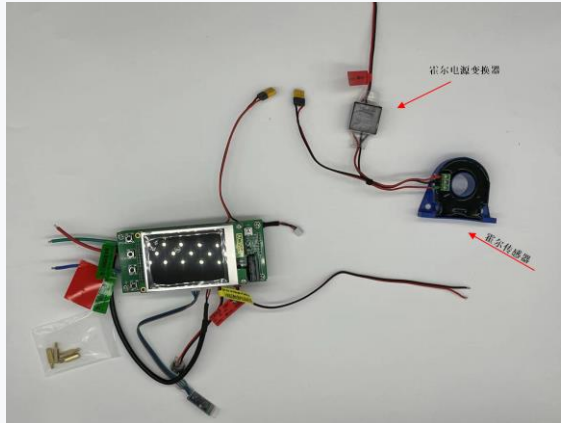
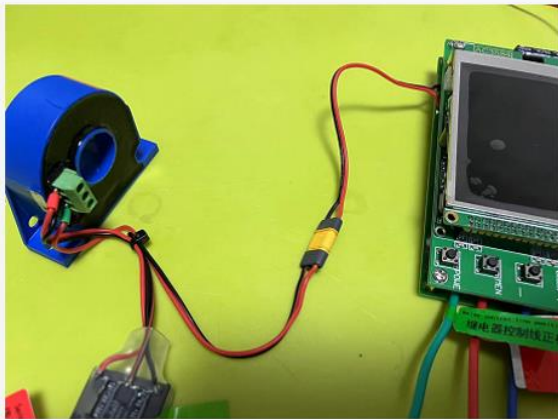
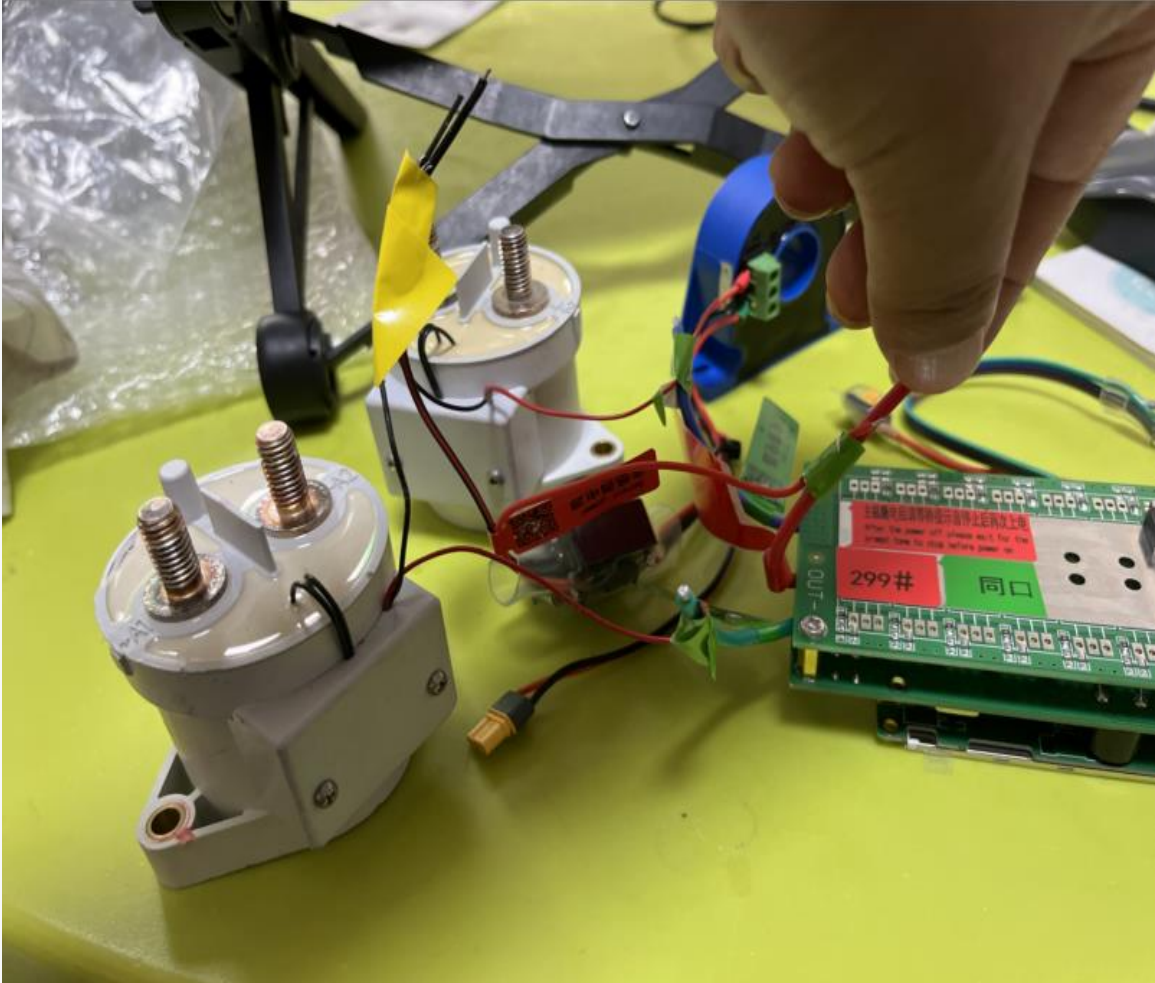
You can use DC-DC step down transformer to gain the 12V power supply from current batteries pack ; Something like this

Wiring Diagram



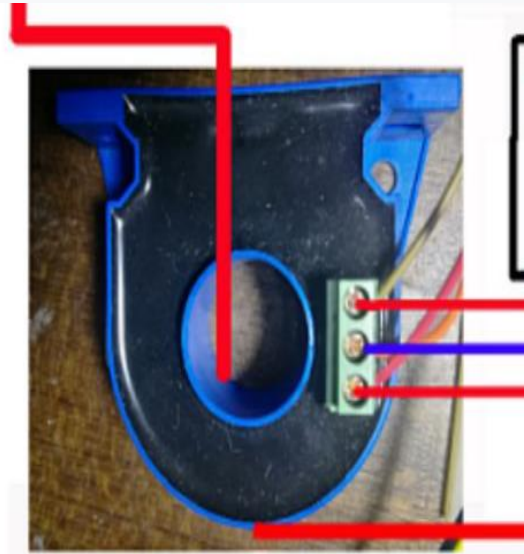
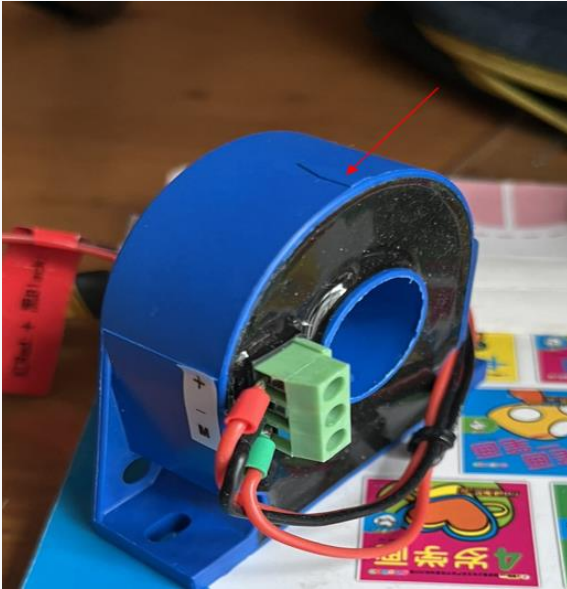
◇ Master BMS+Slave BMS + relay + Hall sensor external 12V power connection method:



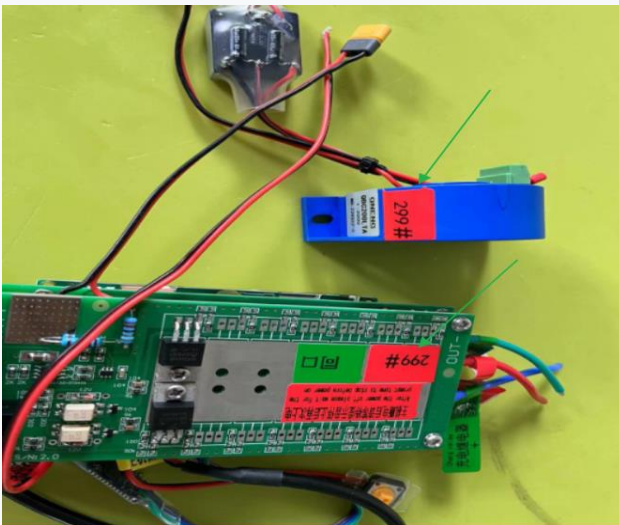


The positive wire of the entire battery goes through the hole of the hall sensor according to the following instruction :

- ◇ The sensor has arrows on top which indicates the direction of wire going through the hole ,
- ◇ If wire goes through in opposite direction, charging will show discharge, discharge will show charge in the DISPLAY



Note: During use, the host numbering must be consistent with the Hall sensor numbering

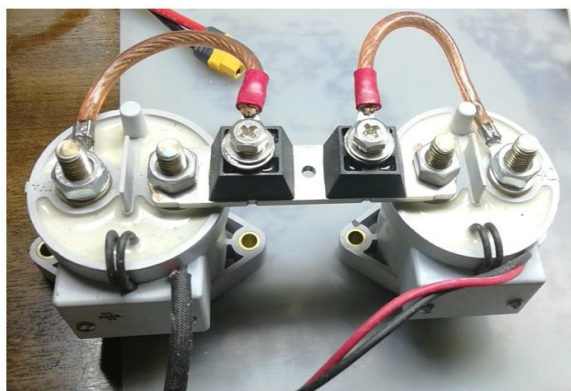


3.Wiring OF Fast Recovery Diode+Relay

- Copper Belt Connection method of Fast Recovery Diode+Relay



- It can also be another kind of wiring: because the hole of the Fast Recovery Diode is smaller than the terminal of Relay ;Widen the hole of Fast Recovery Diode , and then install the diode onto the 2 relays;



2. Supporting Screw of Master BMS



It Can replace the screws on the four corners of the main board, fixed to the panel;

3. Soft Start of High voltage system:

Customers need to confirm whether there is a large inductive load before installation; If there is a large capacitor, the impedance of the capacitor is almost equal to zero before power is added

In this case, the instantaneous peak current is very large; It will greatly reduce the life of the relay, serious will instantly melt the relay contact ;

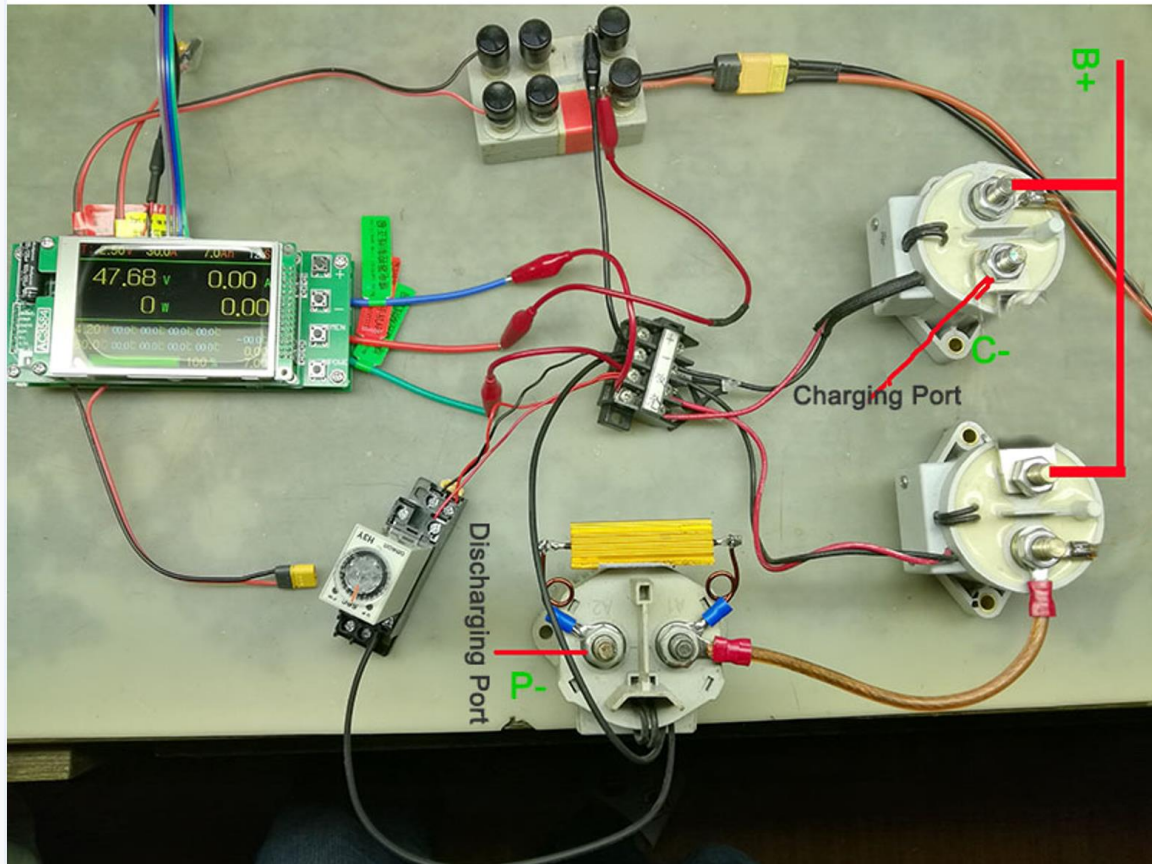
Therefore, there must be a pre-charging design; The design of pre-charging circuit is recommended as follows: a power relay, a time relay and a resistance of 50 or 100 ohms of about 100W, plus a power step-down device; Will greatly reduce the life of the relay, serious will instantly melt the relay contact

● Wiring Diagram of BMS Separate port with precharging

TOPBMS

WIRING Instruction

(Separate Port With Precharging)

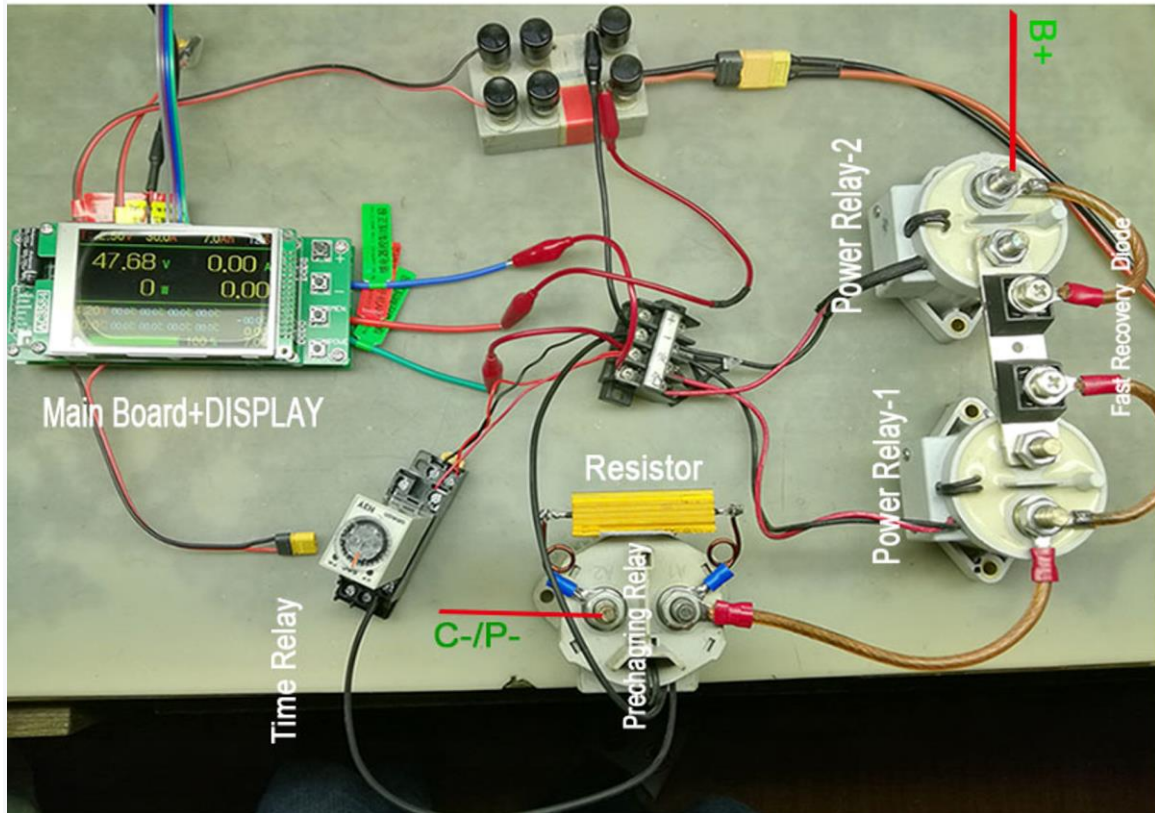


● Wiring Diagram of BMS Same port with precharging

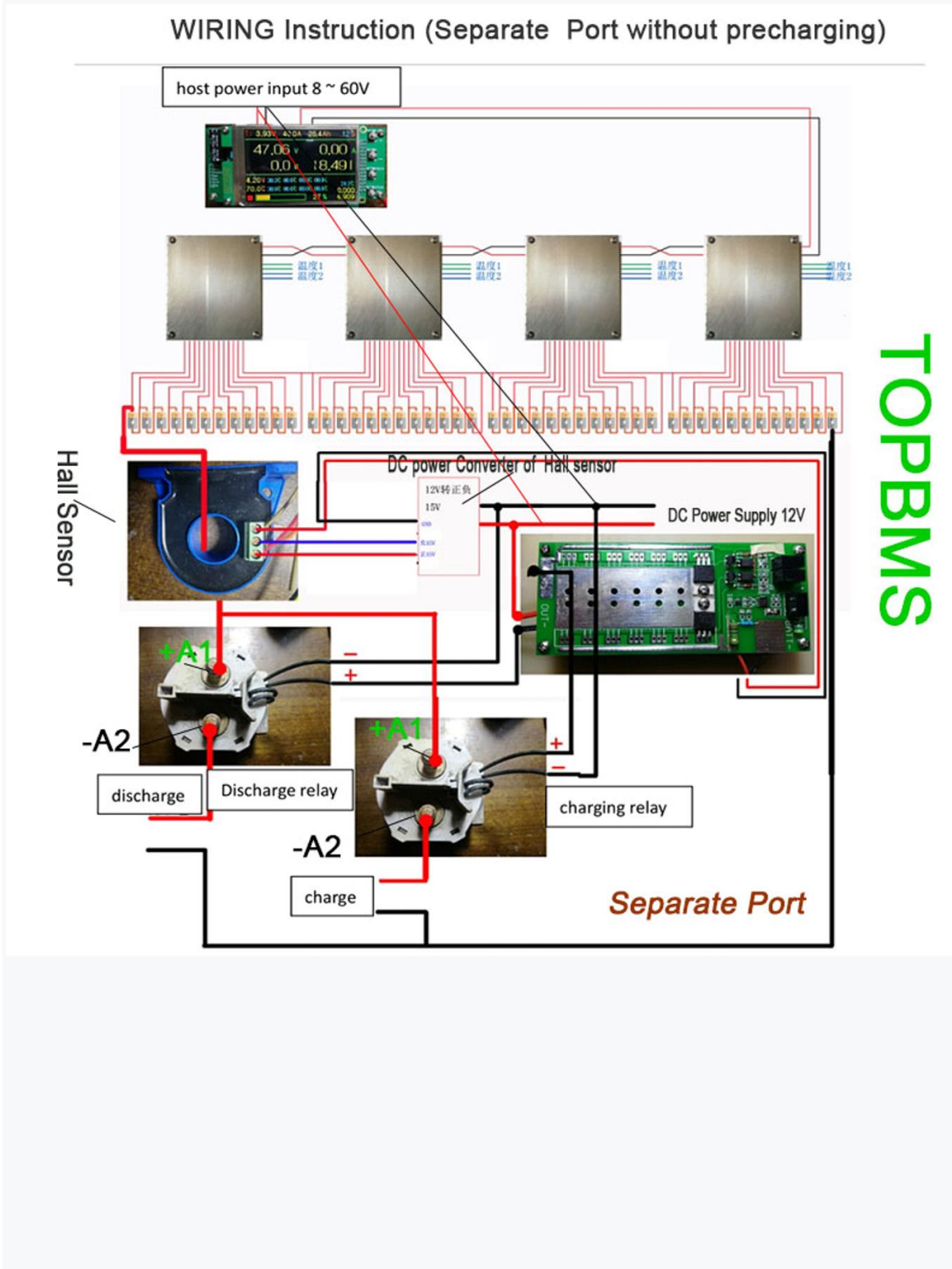
TOPBMS

WIRING Instruction

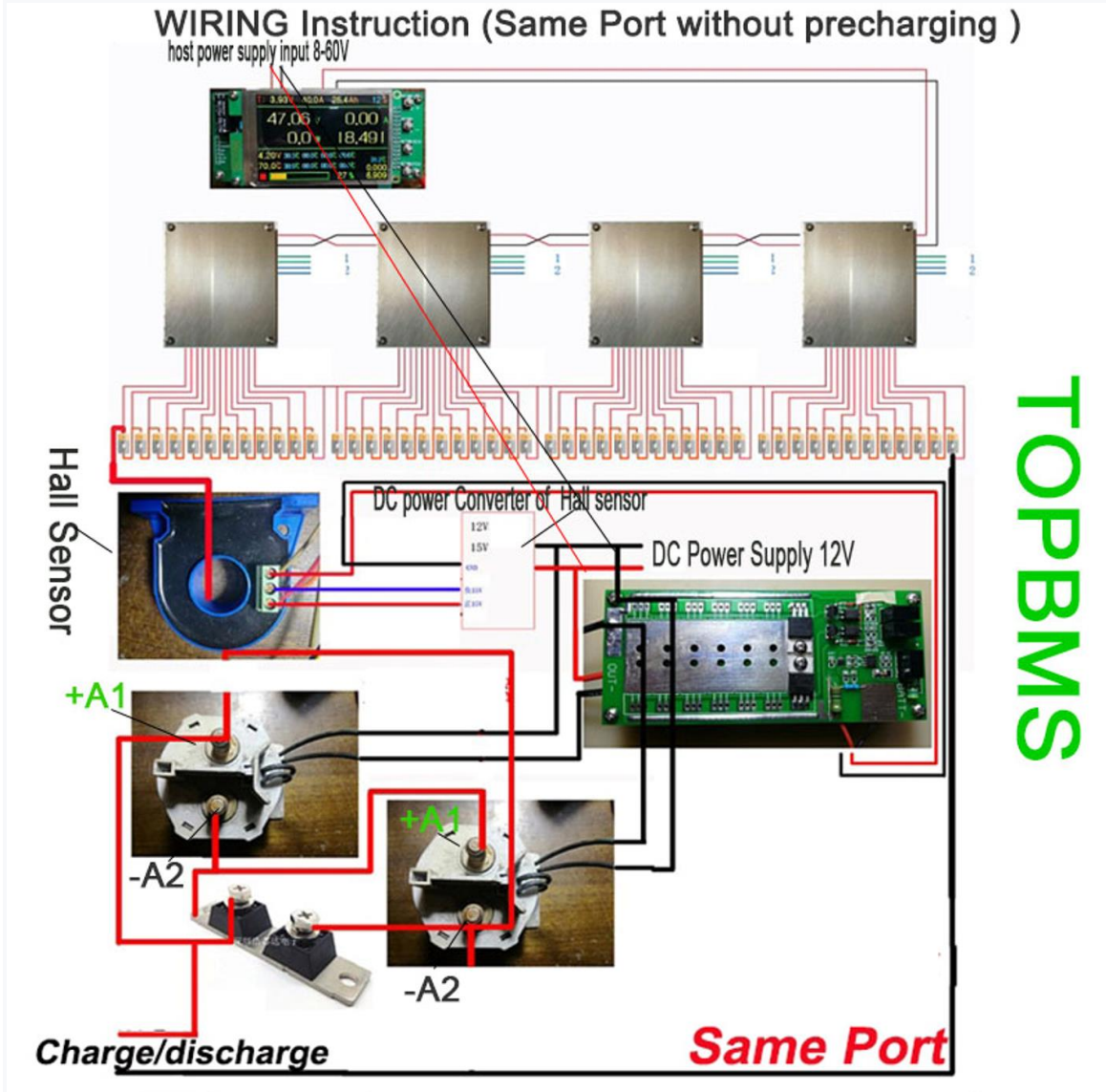
(Same Port With Precharging)



- Wire Instruction of BMS separate port without precharging system



- Wire Instruction of BMS common port without precharging system



4. Phone App Downloaded from the website :
www.cleverbms.com
5. Dimension of Master BMS: Length*Width*Height=135*57*45MM
6. Dimension of Slave BMS: L * W * H =82*72* 13.8mm

TOPBMS 珠海市希望电子有限公司; www.cleverbms.com; Tel/微信 17841591535;

1688 网店地址: <https://shop1471149033007.1688.com>

