

# **SEPLOS MASON-560L-N**

## **Installation instructions**

## 一、 Box installation accessories:

1. Cabinet mounting wheels, as "Figure 1" use 16 pics M6\*14 Phillips hex screw with spring washer fixed(Locking torque:10Nm)

2. Paste the epoxy boards A/B/C in order in the cabinet. First, tear off the centrifugal paper of the epoxy board film and paste them in the corresponding positions as shown in "Figure 2".

Material: Cabinet\*1PCS, wheel\*4PCS, Epoxy board A\*4PCS, Epoxy board B\*2PCS, Epoxy board C\*2PCS , M6\*14Phillips hex screw with spring washer\*16PCS

Tool: Electric batch、10mm sleeve、PH2 Cross bits

M6\*14



Figure 1

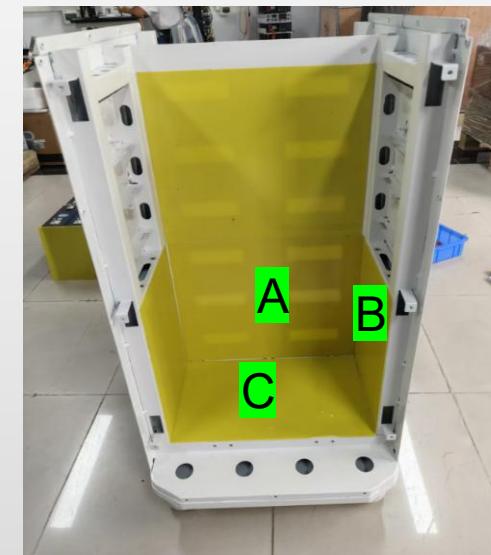


Figure 2

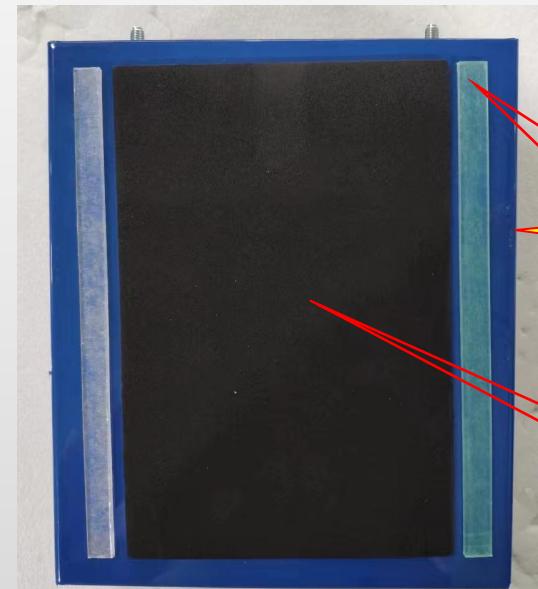
## 二、Box installation accessories:

1. Battery cell grouping test, as shown in "Figure 1", use instruments to test the battery cells and group them as required;
2. As shown in Figure 2, paste EVA foam and PC gasket on the corresponding surfaces of the battery cells. The overall position is as shown in the schematic diagram on the next page to separate the battery cells.



Figure 1

Figure 2



Material: Cell\*32PCS, Foam\*56PCS, PC gasket\*112PCS

Tool: Internal resistance test instrument

### 三、 The cells are stacked into the cabinet:

1. As "Figure 1" After the battery cells are tested and assembled as required, EVA foam and PC gaskets are pasted on the corresponding surfaces of the battery cells. The overall position is as shown in the schematic diagram of "Figure 1" to separate the battery cells.

2. As "Figure 2" "Figure 3" Stack the cells in series into the cabinet, with a sheet metal partition in the middle, and use M6\*35 screws to fix them(Locking torque:15Nm)

4. Install the left and right end plates as shown in Figure 4. use 6 pics M6\*35 Phillips hex screw with spring washer lock(Locking torque:15Nm)

**Note:** The fillet of the sheet metal is the back side, and the beveled corner is the front side.

Material: End plate\*2PCS, Cell\*32PCS , Epoxy boardA\*8PCS, Epoxy boardB\*6PCS , Epoxy boardC\*2PCS, M6\*35Phillips hex screw with spring washer\*16PCS

Tool: Electric batch、13mm sleeve、PH2 Cross bits

Note:

Because battery cells from different manufacturers have tolerances, if they are still loose after affixing the foam as instructed, add more foam filling at the head and tail.

Schematic diagram of battery cell stacking

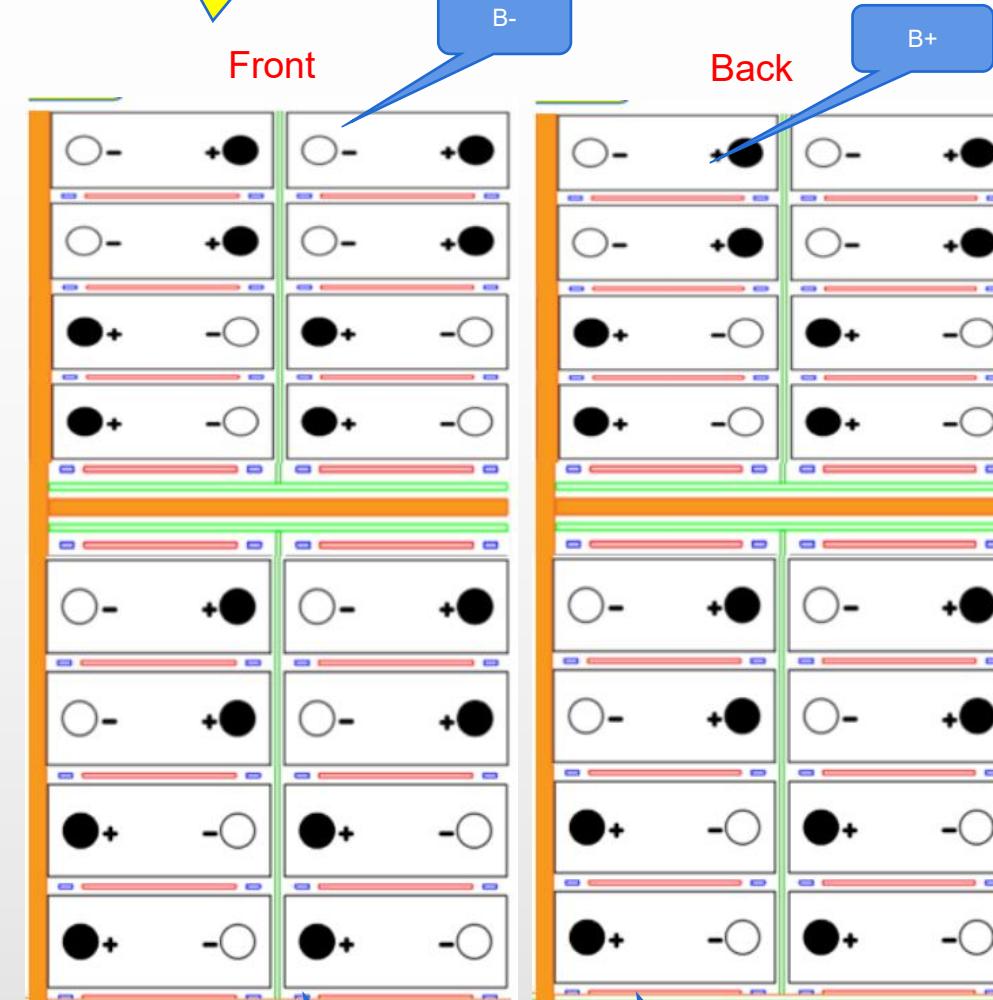


Figure 1

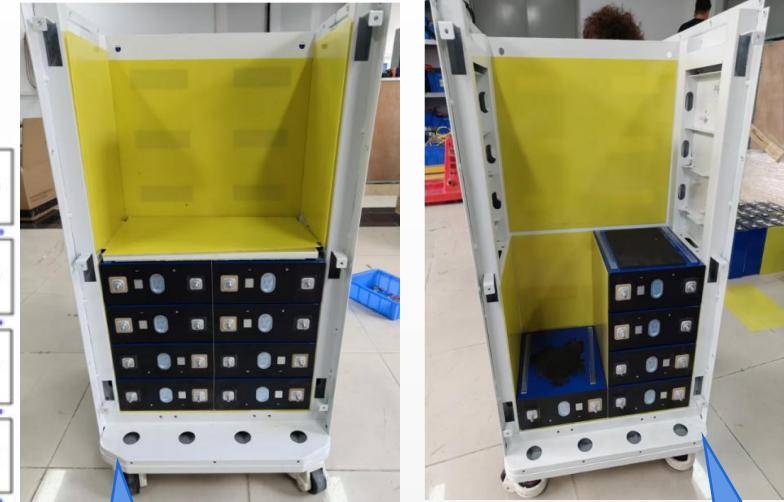


Figure 2



Figure 3

Rounded corners

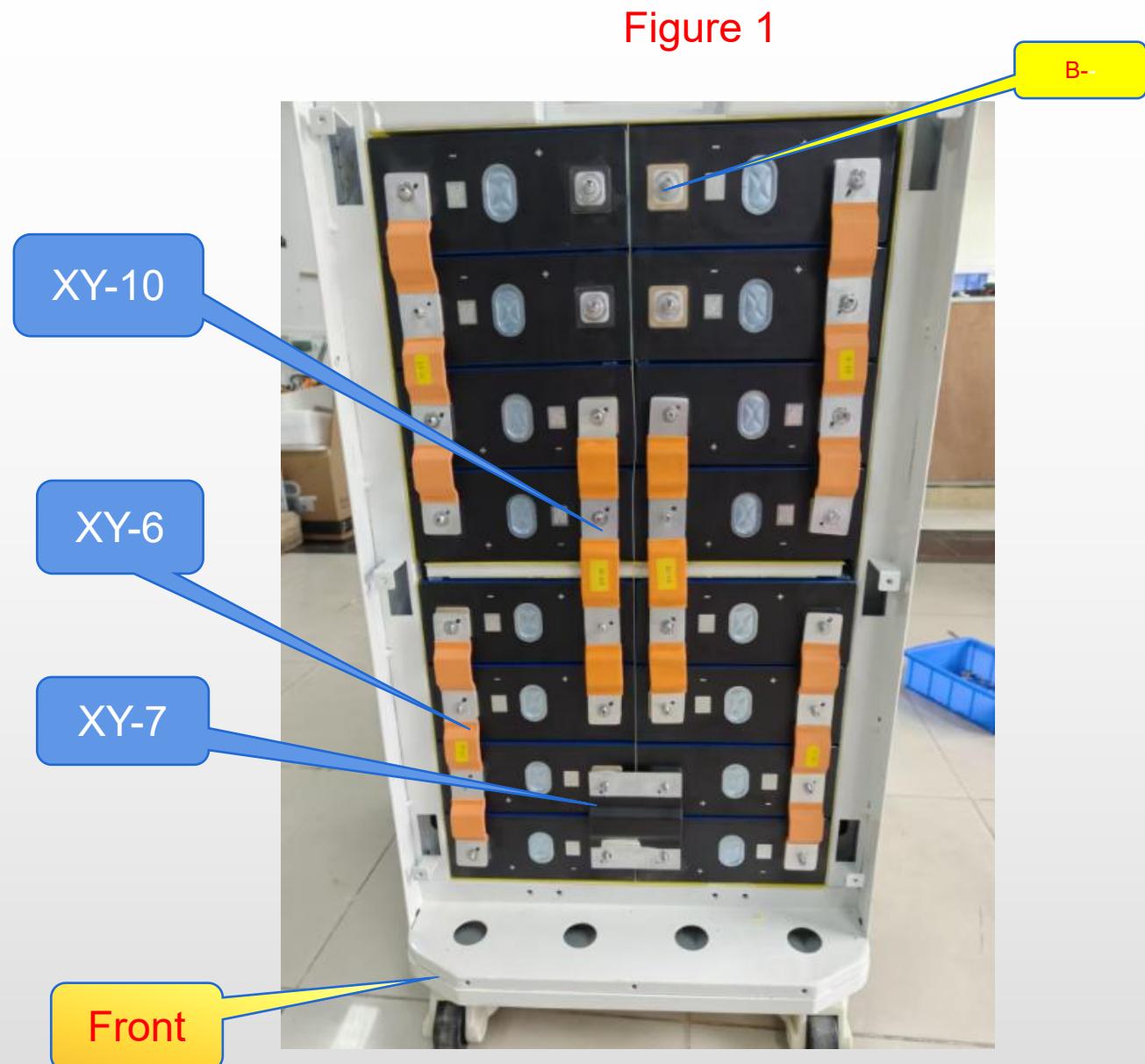


Figure 4

After tightening the electrical connection screws, check with a torque wrench and mark them.

#### 四、Install aluminum row:

1. Install the aluminum busbars in the corresponding positions on the poles as shown in Figure 1, and install the series aluminum busbars in sequence, and connect them in the same way on the back.



Material:

XY-6 Aluminum row\*8PCS, XY-7 Aluminum row\*2PCS, XY-10 Aluminum row\*4PCS

Tool: Small rubber hammer

## 五、Install the acquisition board, voltage strips, and connect the copper busbars:

1. Stick foam on the voltage strip, as shown in "Figure 1".

2. Install the sampling plate on the voltage strip, as shown in "Figure 2". use 6 pics M4\*8Phillips hex screw with spring washer lock(Locking torque:3Nm)

Install the voltage strip into the cabinet, as shown in "Figure 3" and "Figure 4".  
Install the acquisition board into the cabinet according to the corresponding positions of A/B/C/D, and use M5\*10 screws to fix (Locking torque: 5Nm) to connect the copper bar. Use M6 flange nut lock (Locking torque: 6Nm);

**Note:Figure 3 Figure 4 The back and front have been annotated**

**Material:** Foam\*4PCS, Layering\*4PCS, Sampling plate\*4PCS, M4\*8 Phillips hex screw with spring washer\*24PCS , M5\*10Phillips hex screw with spring washer \*16PCS

**Tool:** Electric batch、PH2 cross bit

Figure 1



Figure 2



Figure 3



Note the location of the acquisition socket

Rounded corners for back side

D acquisition board  
C acquisition board  
B acquisition board



Figure 4



Connect copper busbar TD-5

Bevel is positive

After tightening the aluminum row screws, check with a torque wrench and mark them.

## 六、Install sampling wire lugs:

1. Install the sampling line ear and temperature sensing line, as shown in "Figure 1". Install the sampling line ear at the corresponding position. use M6 flange nut lock (Locking torque: 6Nm) ;
2. Lock the aluminum bar nuts. As shown in Figure 1, the aluminum bar is locked with an M6 flange nut. (Locking torque: 6Nm)
3. Use a torque wrench to check whether each nut is tightened, and then mark it with a marker;

Material: M6 flange nut\*60PCS

Tool: Electric batch、10mm sleeve、Torque wrench

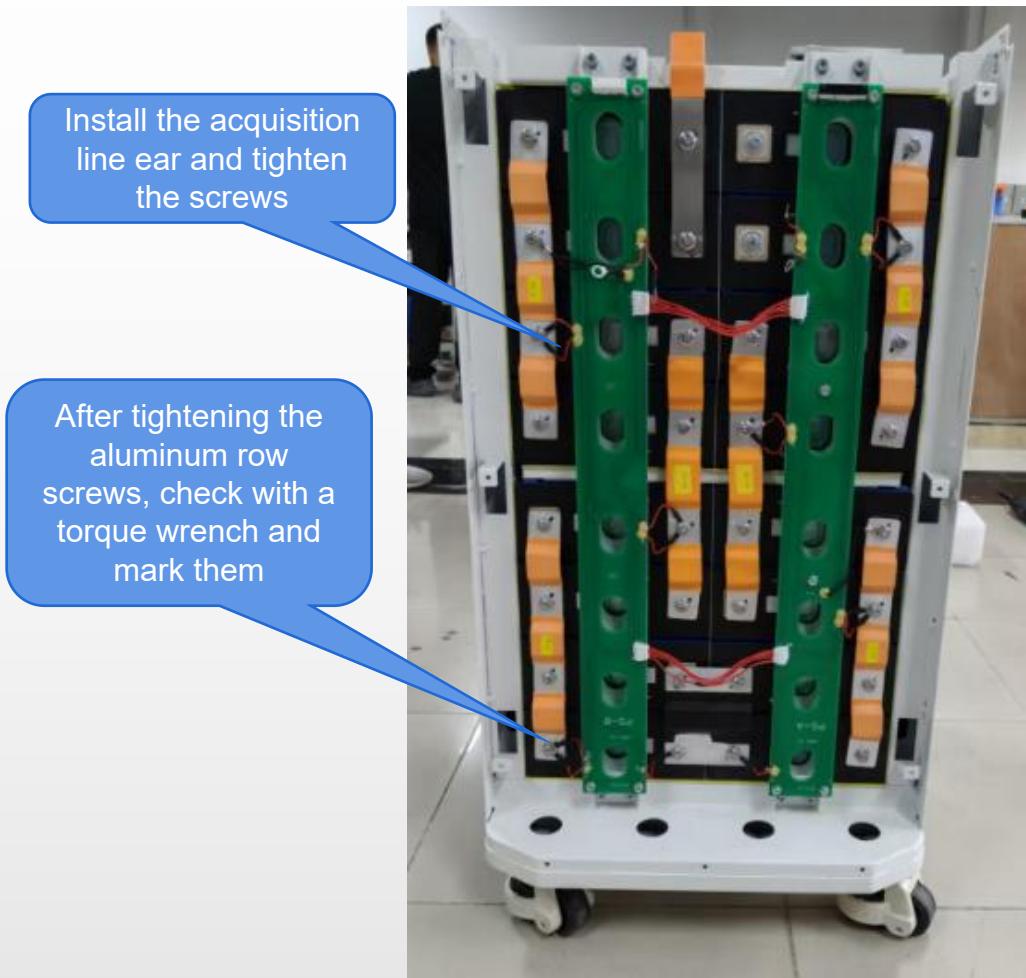


Figure 1

## 七、BMS interface definition of protection board:

1.BMS function interface introduction, as shown in the figure, the wiring protection board at the back, please install it according to the instructions in the figure.

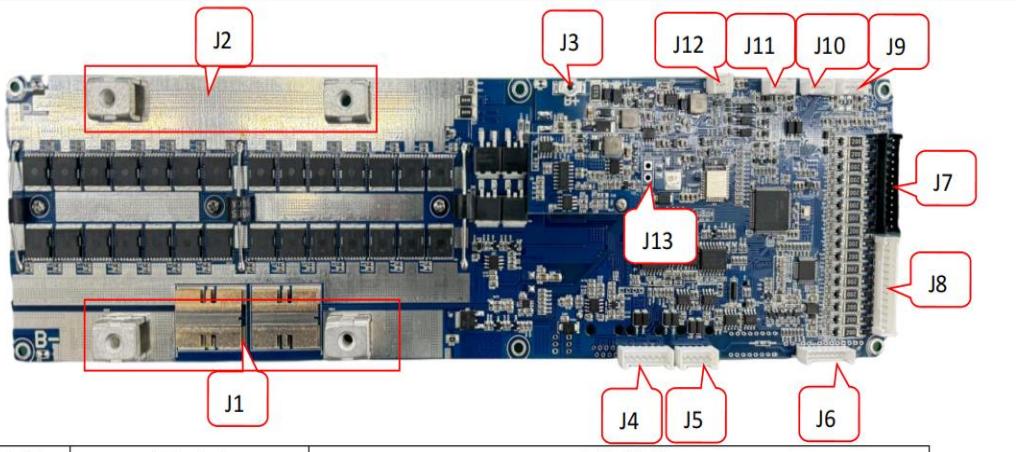


Figure 1

NO	Function definition	Function description
J1	Total battery negative B-	Use M5 screws to fasten (copper busbar is recommended), the negative terminal of the battery
J2	Output power line P-	Use M5 screws to fasten (copper busbars are recommended)
J3	Battery total positive B+	BMS power supply, fastened with M3 screws
J4	485 communication interface	External internal parallel and host computer communication interface (Note: 7PIN line)
J5	CAN/485 communication interface	External inverter communication interface (Note: 5PIN line)
J6	LED interface	External reset button and LED lights (capacity light, warning light, running light)
J7	Cell low module acquisition interface	Black row shell, connected to the sampling harness of cells 1 to 8 (see 3.4.2 wiring definition)
J8	Cell high module acquisition interface	White row shell, connected to the sampling harness of cells 9 to 16 (see 3.4.2 wiring definition)
J9	Display interface	The default power supply voltage of the display is 3.3V (the touch screen is powered by 12V)
J10	2-way dry contact interface	Control the power on of the active balancing board (other logic needs to be customized)
J11	External switch interface	Self-locking weak current switch access port, power supply voltage 12V (see 6.14 wiring definition)
J12	Release interface	The output voltage is equal to the total battery voltage
J13	Heating film interface	Heating film interface, maximum output power 200W

## 八、 Balance board function introduction:

Figure 1



1. The function of the balance board interface is introduced in Figure 1. Please install the balance board according to the instructions in the figure.

Figure 2



state	Function description
standby	The LED light of the active balance board flashes in standby mode
Turn on balance	The LED light of the active balancing board is always on in the balancing state.
Power on	Press the reset button and the LED light flashes once to turn on the balance board
Power off	Press the reset button, the LED light flashes 6 times, then turns off the power
stop balance	In the balancing state, press the reset button and the LED light flashes 4 times to stop balancing. Press the reset button and the LED light flashes 4 times to start balancing.

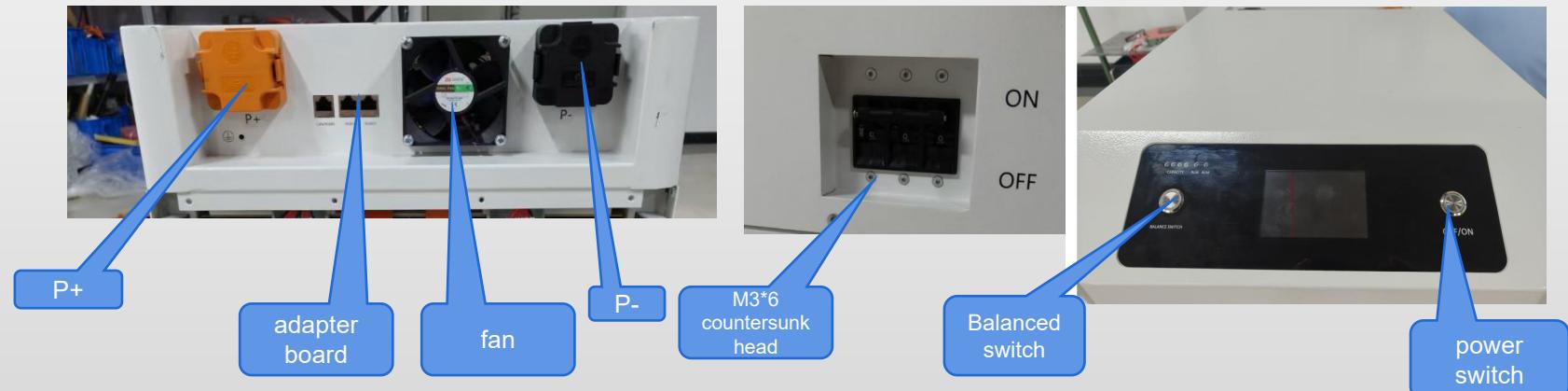
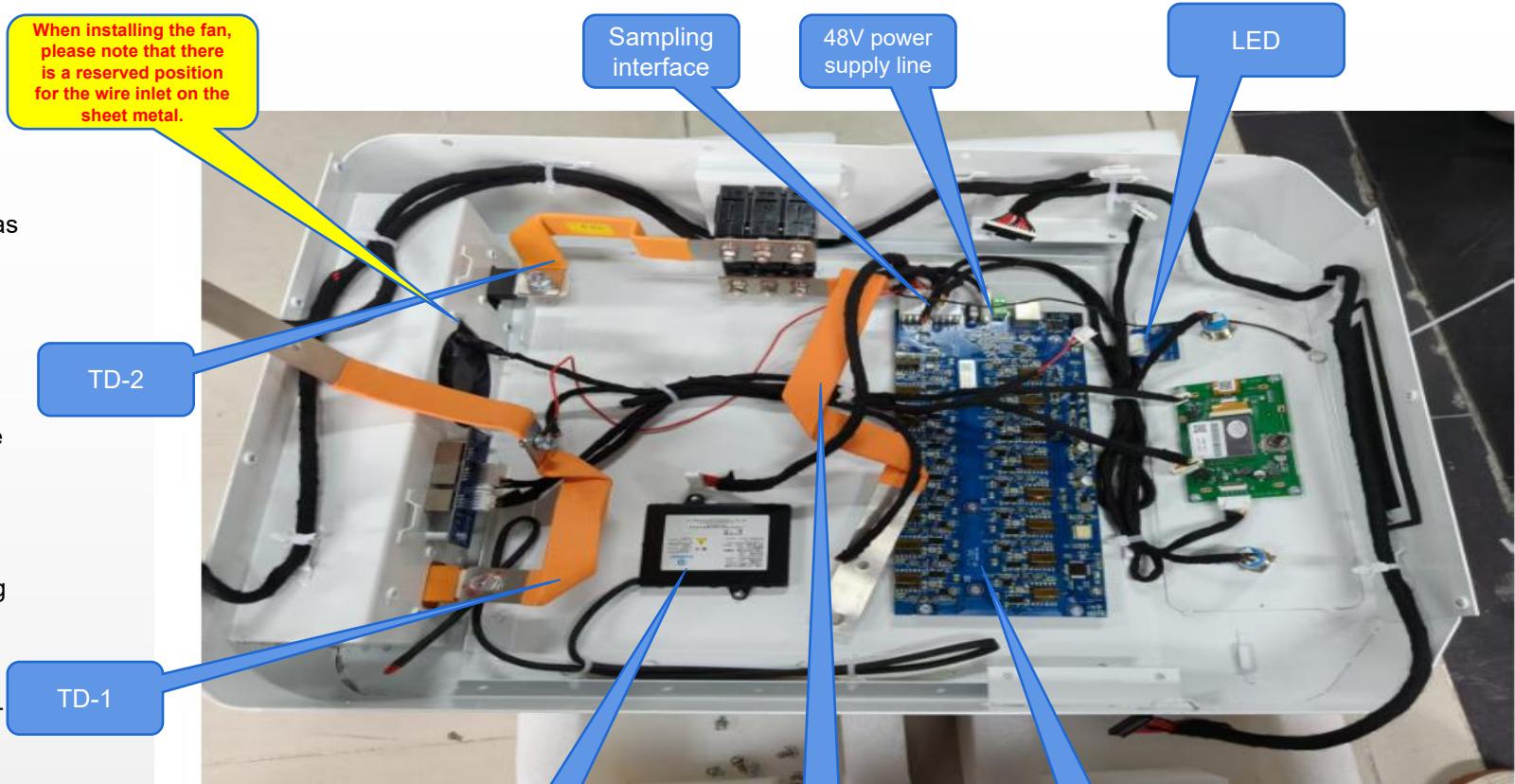
## 九、Top cover mounting accessories:

1. Top plate installation accessories: Install the balancing plate as shown in the figure and fix it with three M3\*8 cross screws (Locking torque: 1Nm)
2. Install terminal sockets\*2 and fix them with 8 M4\*10 hexagon sockets (Locking torque: 3Nm)
3. Install the self-locking switch, the switch corresponding to the sticker ON/OFF is installed into the sheet metal, the self-reset switch is installed as a balance switch, and it is inserted into the balance board interface after installation;
4. Install the LED light board using M3\*6 cross screws (Locking torque: 1Nm)
4. Install the adapter board. First insert the adapter cable, then install the top cover and fix it with 3 M3\*8 cross screws (Locking torque: 1Nm)
5. Before installing the circuit breaker, first install the connecting copper busbars TD-2 and TD-3, and use M3\*6 countersunk screws to fix them in the sheet metal (Locking torque: 1Nm); P+ copper busbar: TD-1, P- copper busbar TD-2, use M8\*16 hexagon socket to fix them (Locking torque: 8Nm)
6. Install the aerosol, use M4 flange nut lock (Locking torque: 3Nm)

### Material:

Top plate\*1, Balance board\*1, Copper row TD-1\*1, TD-2\*1, TD-3\*1, circuit breaker\*1, connector socket\*2, adapter board\*1, Metal self-locking switch\*1 Metal self-reset switch\*1, Fan\*1, Aerosol\*1, Balanced acquisition line\*1, Balanced power supply line\*1, LED light panel\*1, Touch screen\*1, M4\*10 Hex socket flat head screw \*8PCS, M3\*8 Phillips round head screw \*4PCS, M3\*8 Phillips round head screw \*2PCS, M8\*16 Phillips hex screw with spring washer \*2PCS, M3\*6 Countersunk head screws\*6

Tool: Electric batch, PH2 cross bit, PH1 cross bit, 10mm sleeve, 13mm sleeve, Hexagonal H2.5 bit



## 十、Install the BMS bracket into the top cover:

1. Install the BMS bracket into the top cover. Install the BMS bracket in the direction as shown in Figure 1. Use 4 M4\*10 hexagon screws to fix the BMS bracket. (Locking torque: 3Nm)

2. The red box in the figure indicates the installation position of the balanced power supply line. The B+ line and the positive end of the balanced power supply line are fixed at the same position;

3. As shown in the figure, there is a reserved position for cable tying on the sheet metal. Refer to the figure for wiring and tie it up with cable ties;

4. Insert the data line at the corresponding position

### Material:

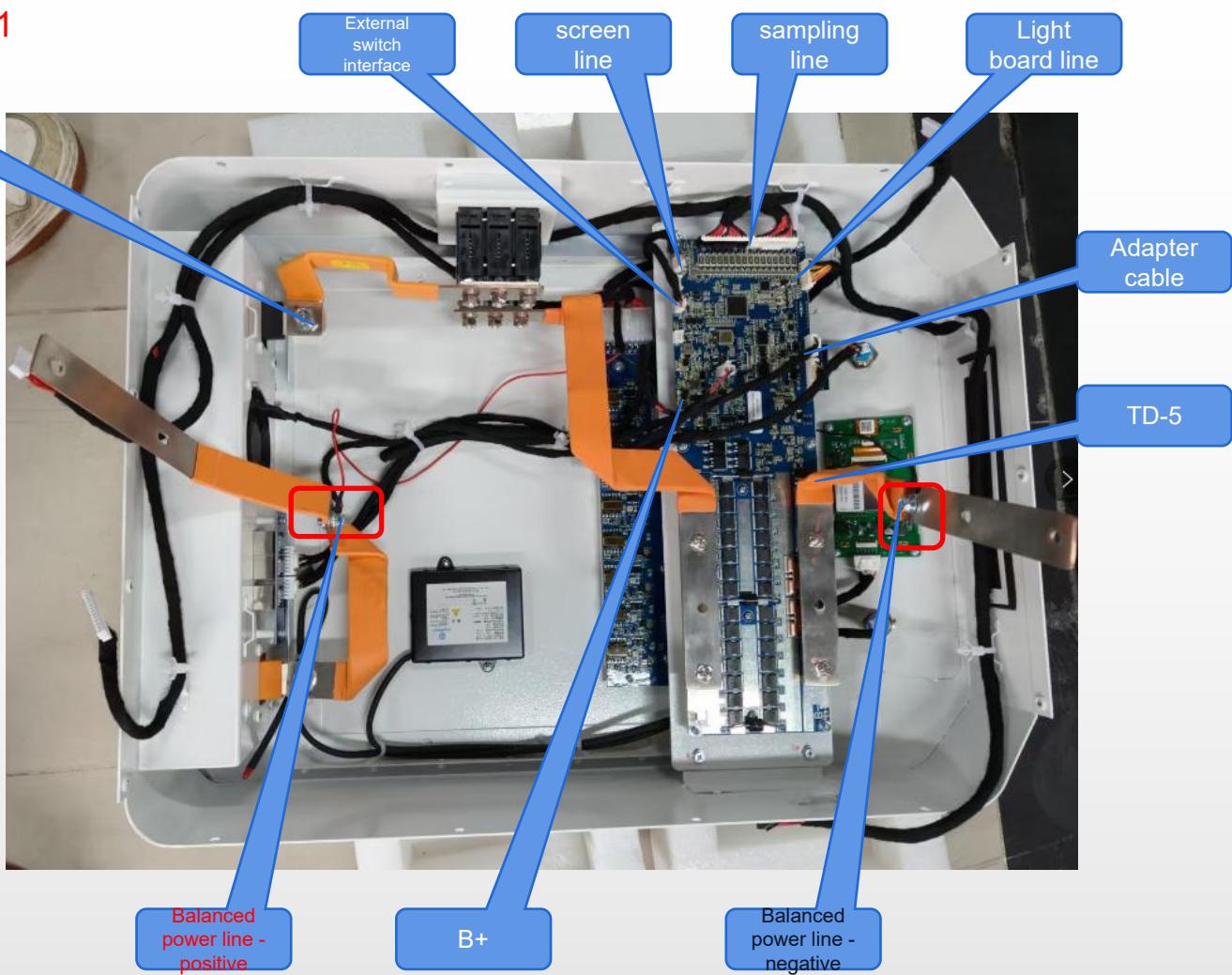
M4\*10Phillips hex screw with spring washer

\*4PCS Ties

Tool: Electric batch, PH2 cross bit

Figure 1

After tightening the electrical connection screws, check with a torque wrench and mark them.



## 十一、Install the top plate into the cabinet:

1. As shown in Figure 1, before installing the top cover, wrap the copper busbar on either side with insulating tape.

2. Install the top plate as shown in "Figure 2" and "Figure 3". Install the top plate into the cabinet and fix it with M4\*10 Hex socket countersunk screw. (Locking torque: 3Nm)

4. After tightening the electrical connection screws, check with a torque wrench and mark them.

Note: Before installing the top cover, reconfirm the front and back sides. After adjusting the holes, use screws to position the left and right sides. First fix the end that is not wrapped with insulating tape, and then fix the end that has been torn off the wrapping.

### Material:

M4\*10 Hex socket countersunk screw\*4PCS;  
M6 flange nut\*4PCS

### Tool:

Electric batch、10mm sleeve、13mmsleeve,PH2 cross bit

Figure 1

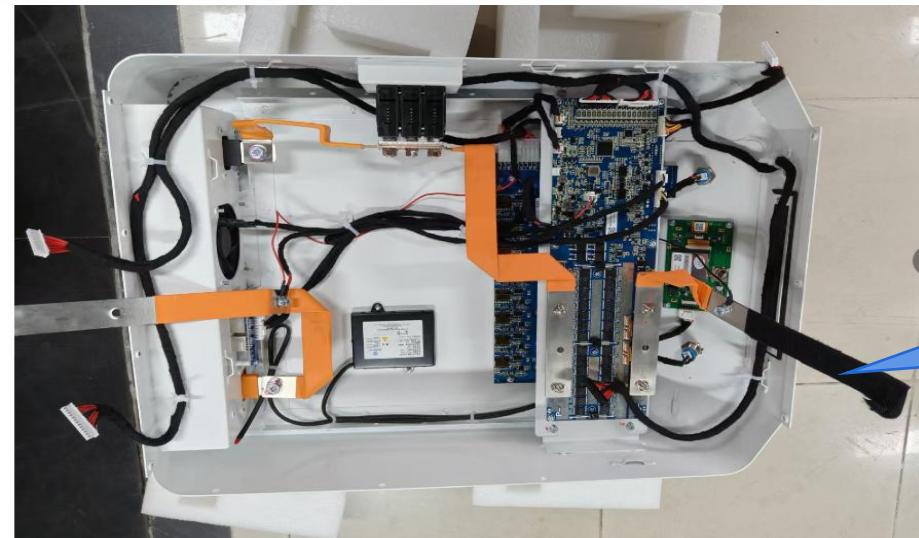


Figure 2



Figure 3



## 十二、 Connect the acquisition line and turn on the machine

1. Insert the adapter cable as shown in "Figure 1" and "Figure 2" to connect the acquisition board;
2. Insert the blackhead sampling line and whitehead sampling line as shown in "Figure 2";
3. Turn on the power and confirm whether the voltage acquisition is correct.

Material:

Adapter cable\*4PCS, M6 flange nut \*4PCS

Tool: cable、10mm sleeve、PH2 cross bit

Figure 1



Figure 2

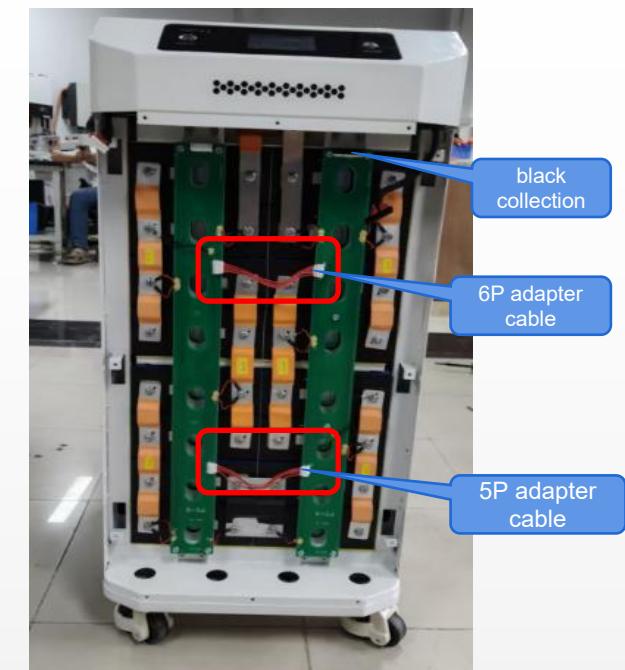


Figure 3



### 十三、 PC film on the cabinet cover, close the cover:

1. Install the PC membrane sample as shown in Figure 1. Tighten with M4\*10 Phillips hex screw with spring washer (Locking torque: 3Nm)
2. Finally, install the box cover, as shown in Figure 2 and Figure 3. Use M4\*10 Hex socket countersunk screw to fix it. (Locking torque: 3Nm)

Material:  
PC film\*2PCS; M4\*10 Hex socket countersunk screw\*34PCS

Figure 1



Figure 2



Figure 3



## 十四、 Internal resistance test, insulation test:

1. Test the voltage and internal resistance of the whole machine, as shown in "Figure 1". Use an internal resistance meter to detect the voltage and internal resistance of the finished battery pack; Voltage  $\geq 52.8$ , Internal resistance  $< 8m\Omega$ . That is qualified.

2. As shown in "Figure 2", use a safety instrument to test insulation and grounding; if it shows PASS, it is qualified.

Figure 1



Figure 2



### Material:

Cabinet cover\*1PCS, Display\*1PCS, LED light panel\*1, M3\*8 Phillips round head screw\*6PCS, M4\*10 Hex socket countersunk screw\*17PCS, PVC sticker\*1PCS

Tool: Electric batch, Hexagonal H2.5 bit, PH1 cross bit