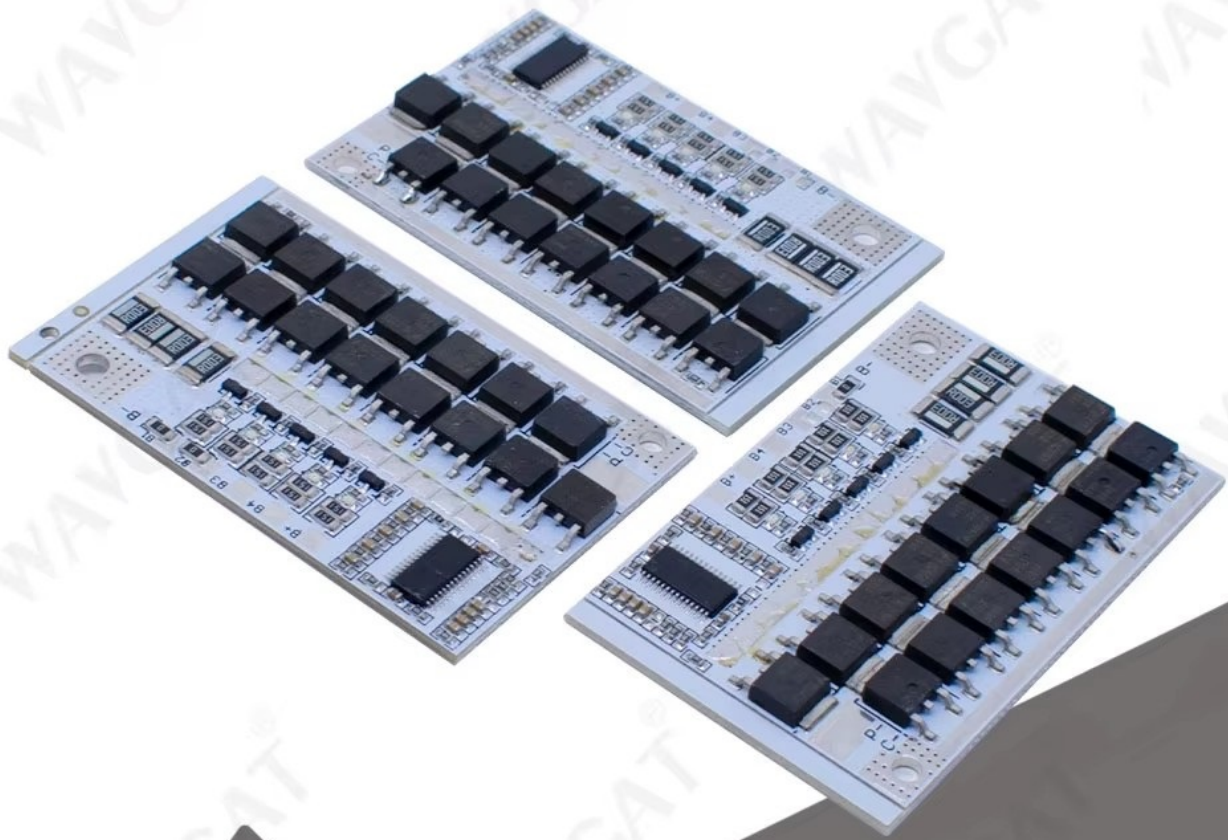


3-5 Series 12V Carp Battery Protector

- ✓ 3~5 Series 12V Carp Battery Protector
- ✓ 50~100A Large Current Band Equalization



Product introduction

Product structure: Carp battery protection plate

Scope of application: Phosphate iron carp, ternary electricity, diamond acid, acid battery pack for phosphate carp, ternary carp electricity, diamond acid carp, manganese acid carp battery pack specifically designed carp battery protection plate. This protective board consists of 3 series, 4 series and 5 series of battery protection boards (universal version adjusts corresponding components according to actual requirements), uses mature protection circuit, dedicated IC and supports disconnection protection for imported high current ultra low internal resistance MOS (single MOS internal resistance is as low as 3mOhm), has perfect and stable charging and discharging protection functions, conductor hardware balancing treatment, balanced current balancing and heating reasonable, does not affect battery pack performance

Functional introduction

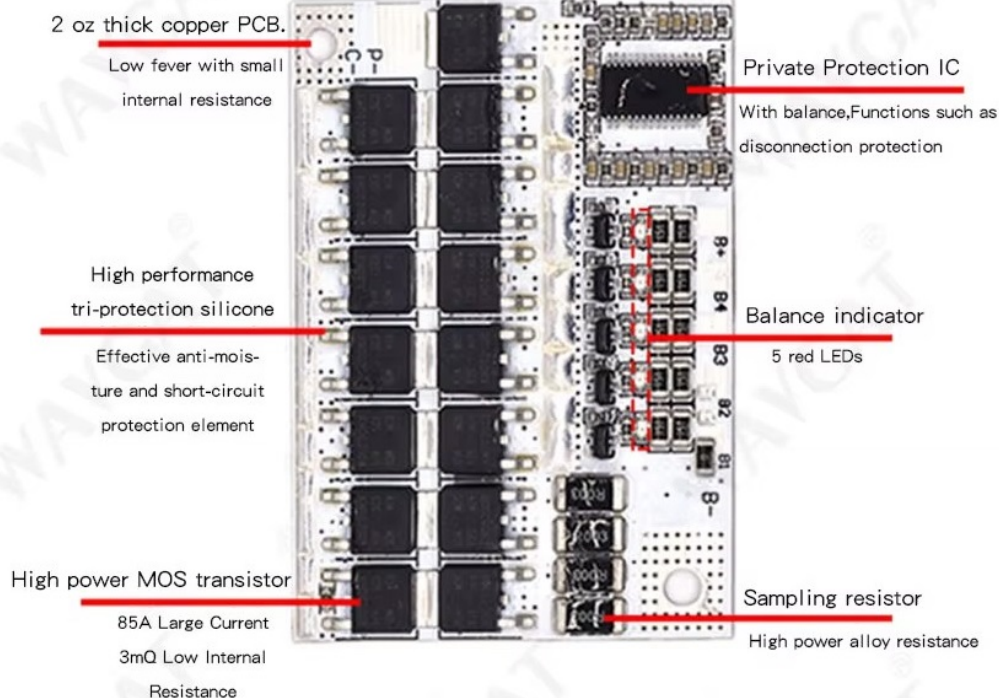
1. The user can set 3, 4, or 5 strings freely. The default number of strings taken when the shipment is ordered by the customer. When the customer receives the goods, the customer can connect with the wiring diagram of the corresponding number of strings without changing the board. If you need another number of strings, you can adjust to the number of strings you want after receiving the goods according to the operation guide that follows us.
2. Universal at the same port and split port, our protective panel uses 15 high-power ultra-low internal resistance MOS tubes (8 discharges and 7 charges) at any cost. It supports 60A charging current in the same port mode, 80A discharging current in the split mode and 60A charging current. It is by no means a low power MOS on the market. Our single MOS tube is blocked down to 3mOH.

Technical Parameter

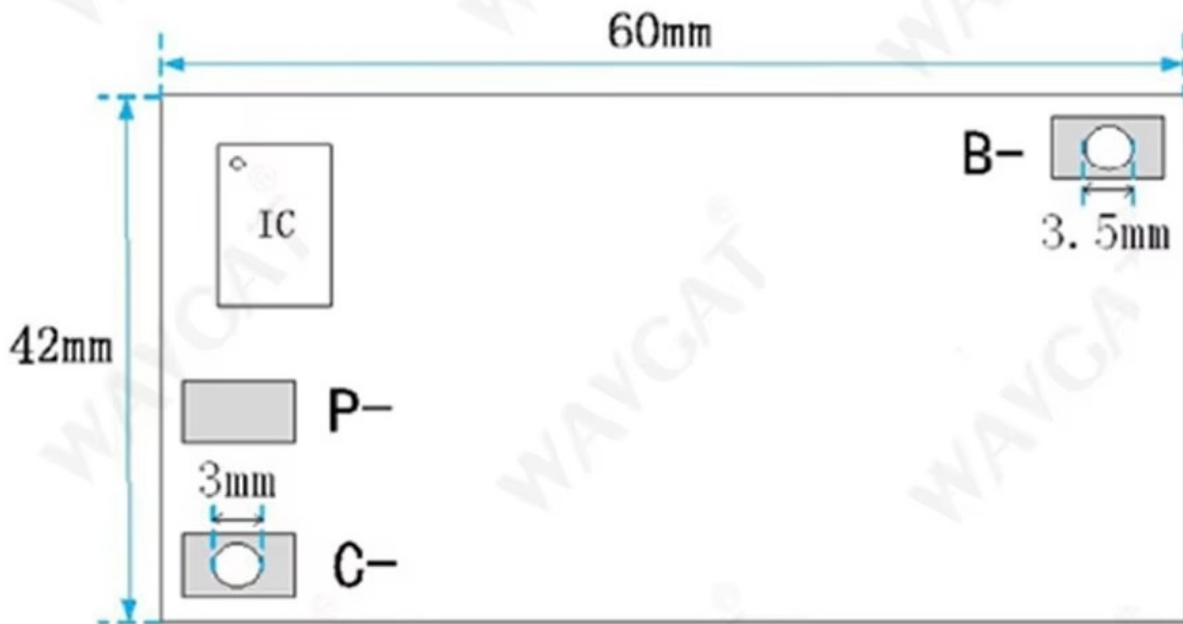
Polymer Ternary Manganic Acid Protective Plate Parameters (3.6V/3.7V)				
Protection project	Min	Typ	Max	单位
Overcharge Voltage	4.21	4.25	4.29	V
Overcharge as Complex Voltage	4.14	4.19	4.24	V
Overcharge Voltage Protection Delay	500	1000	1500	ms
Overdischarge voltage	2.72	2.8	2.88	V
Over-discharge recovery voltage	2.9	3	3.1	V
Overdischarge Voltage Protection Delay	500	1000	1500	ms
Over-current protection		100		A
Partial Discharge Current (Continuous)		50	80	A
Coport Discharge Current (Continuous)		40	60	A
Overdischarge Current Protection Delay	100	200	300	ms
Overcharge protection current		100		A
Charging Current (Continuous)		40	60	A
Overcharge Current Protection Delay	10	20	30	ms
quiescent current		17	25	μA
temperature protection	With temperature control interface			
Disconnection protection		have		
Short circuit protection		have		
Short Circuit Delay	100	300	600	μs
Overcurrent Protection Recovery Mode	Disconnect Load Lightweight			
Balance function		have		
Balanced Voltage		4.18		V
equalizing current		60		mA
Body size		62*42*4		mm
body color		White (PCB)		
Electromechanical weight		17		g
Standard accessories		circuit board		
standard packaging		Electrostatic plate		
Wire Specification		not have		
Number Line Length		not have		cm
operation temperature		-20℃~+65℃		℃
storage temperature		-40℃~+85℃		℃

Ferric Phosphate Protector Parameter (3.2v)

Protection project	Min	Typ	MAX	单位
Overcharge Voltage	3.61	3.65	3.69	v
Overcharge as Complex Voltage	3.5	3.55	3.6	v
Overcharge as Complex Voltage	500	1000	1500	mS
Overcharge Voltage Protection Delay	2.27	2.35	2.43	v
Overdischarge voltage	2.45	2.55	2.65	v
Over-discharge recovery voltage	500	1000	1500	mS
Over-current protection		100		A
Partial Discharge Current (Continuous)		50	80	A
Coport Discharge Current (Continuous)		40	60	A
Overdischarge Current Protection Delay	100	200	300	mS
Overcharge protection current		100		A
Charging Current (Continuous)		40	60	A
When the court is overcharged	10	20	30	Ms
quiescent current		17	25	μ A
temperature protection		temperature protection		
Disconnection protection		have		
Short circuit protection		not have		
Overcurrent Protection Recovery Mode		Disconnect Load Release		
Balance function		have		
Balanced Voltage		3.405		v
equalizing current		60		mA
Body size		62*42*4		mm
body color		White (PCB)		
Weight		17		g
Standard accessories		circuit board		
standard packaging		Static Bag		
Wire Specification		not have		
Wire length		not have		cm
operation temperature		-20℃ ~+65℃		℃
storage temperature		-40℃~+85℃		℃



Product dimensions



instruction

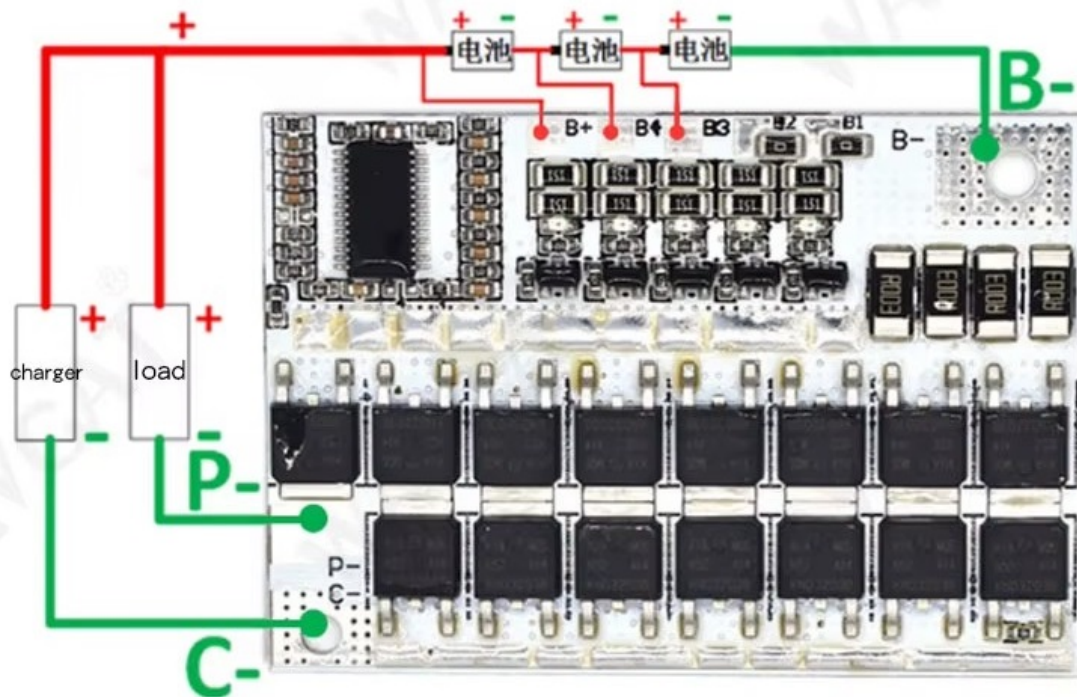
Output current: split 80A; Same port 60A

Note: Lithium batteries should be charged with a special charger for lithium batteries. Do not use a lead-acid battery charger. Lead-acid charging may cause high voltage to break through the protective plate MOS tube, causing the protective plate to be overcharged and unprotected.

(1) 3 Serial Port Connection Method (refer to 3 Serial Port Connection Diagram)

- 1 - Connect the three battery packs in series according to the connection of the batteries in the 3-Serial Port Connection Diagram.
- 2 - Connect the negative pole of the charger to the C-connection of the protective plate, the negative pole of the load to the P-connection.
- 3 - Connect the positive poles of the charger and the load to the positive poles of the 3 series of batteries
- 4 - Use 3 wires to sequentially sum the positive poles of the 3 battery packs with reference to the 3-Series junction diagram B+ B4, B3 connection.
- 5 - Connect the negative electrodes of the 3 batteries to the B-connection. B1, B2 and B-Short Joins
- 6 - After all wires are connected according to the 3-Series junction wiring diagram, check that they are correct and confirm that none Use only after mistake.
- 7 - During use, when the indicator on the protective panel is on, the corresponding battery pack is in Balanced operation (that is, the battery is not balanced at this time)

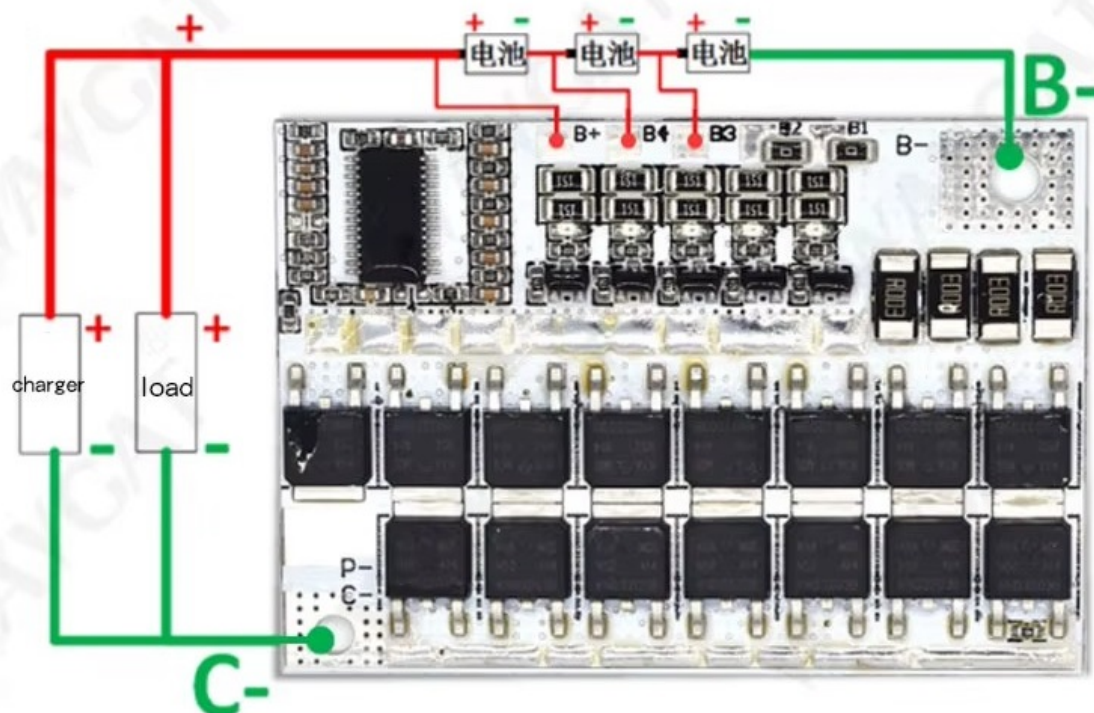
3 Serial Port Connection Diagram



(2) 3-Series connection method (refer to 3-Series connection diagram)

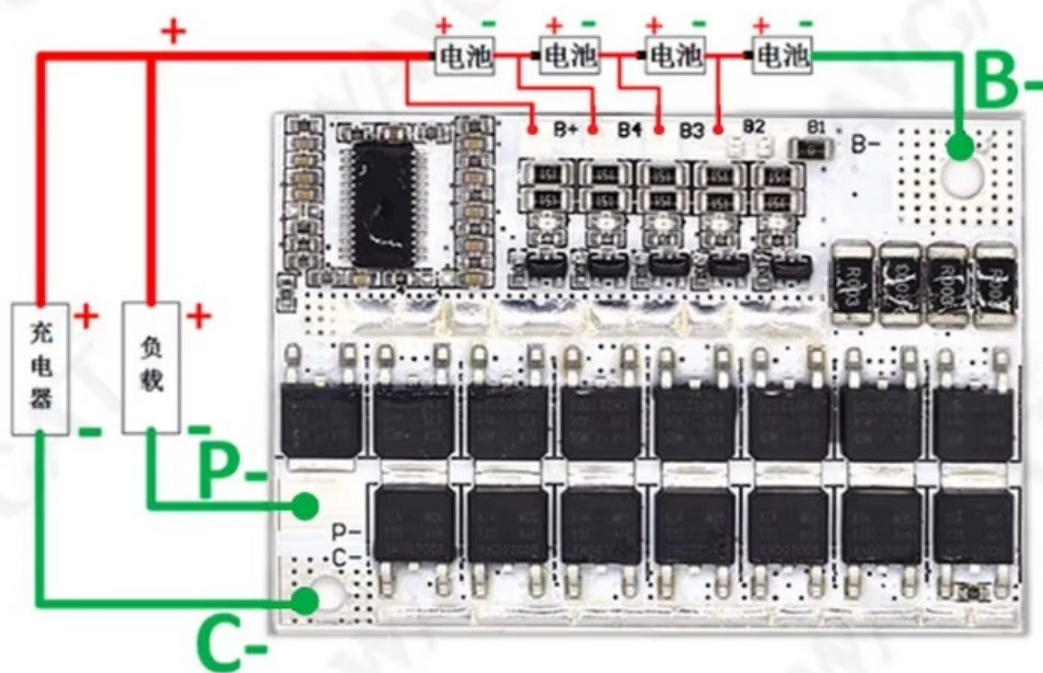
- 1 - Connect the three battery packs in series according to the connection of the batteries in the 3 series connection diagram.
- 2 - Connect the negative pole of the charger with the negative pole of the load and C-link, P-hang off
- 3 - Connect the positive poles of the charger and the load with the positive poles of the 3 series of batteries.
- 4 - Refer to the 3 Series same port wiring diagram, use 3 wires to sequentially separate the positive poles of the 3 battery packs Connect to B+, B4, B3
- 5 - Connect the negative electrodes of the 3 batteries to the B-connection. B1, B2 and B-Short Joins
- 6 - After all the wires are connected according to the 3 series connection diagram, check if it is correct and confirm that none Use after error
- 7 - During use, when the indicator on the protective panel is on, the corresponding battery pack is in Balanced operation (that is, the battery is not balanced at this time)

3 Series Connection Diagram with Same Port

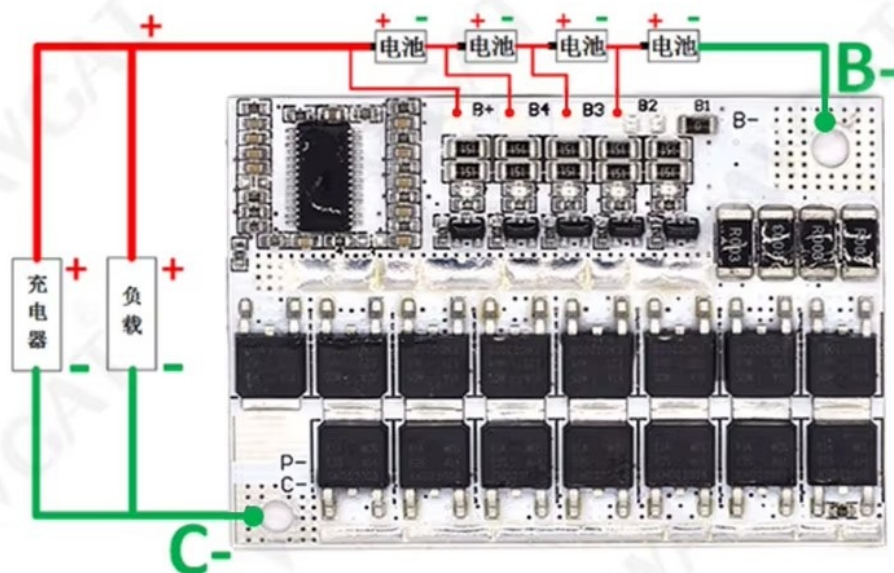


Four-port, five-port and three-port methods are similar to the corresponding wiring diagrams.

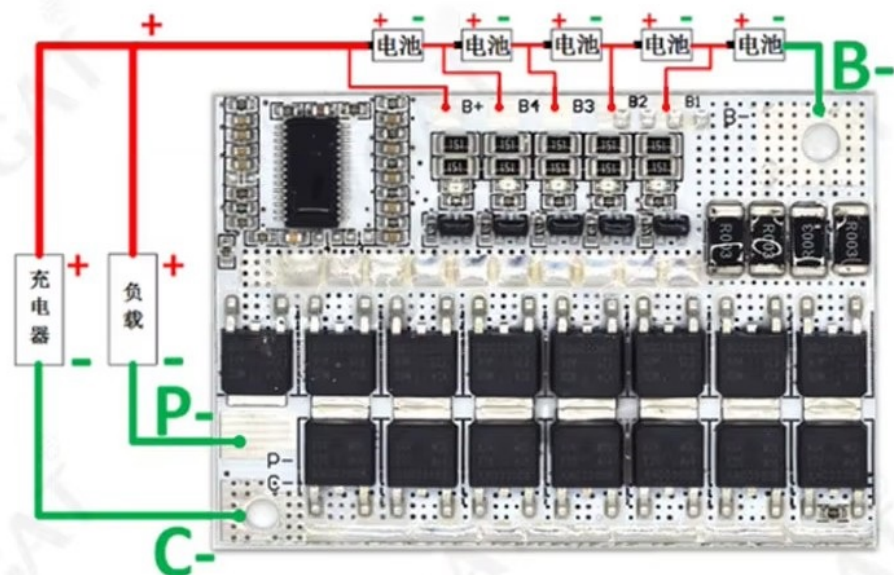
4 Serial Port Connection Diagram



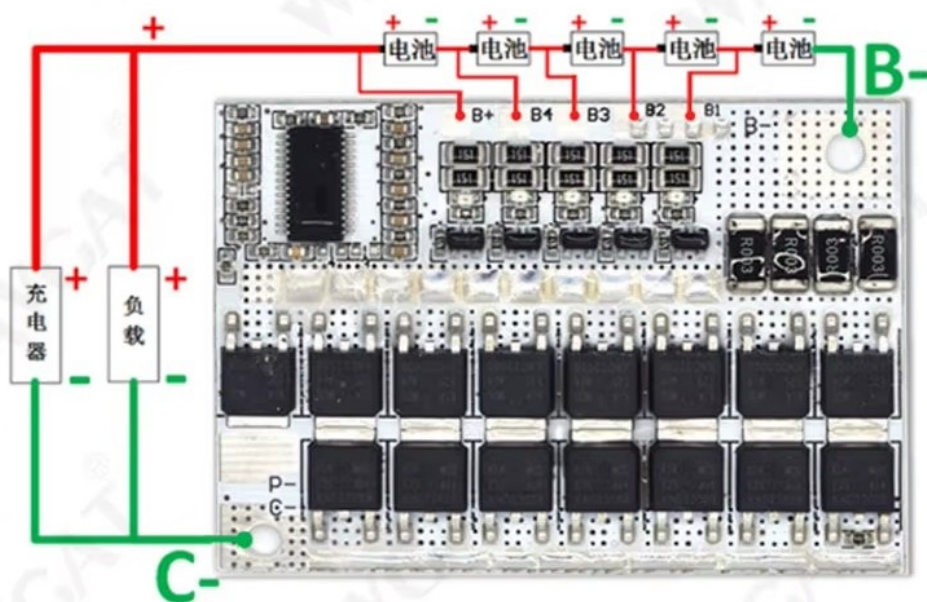
4 Serial Same Port Connection Diagram



5 Serial Port Connection Diagram



5 Series Same Port Connection Diagram



Protective Panel Strings Differentiation Map

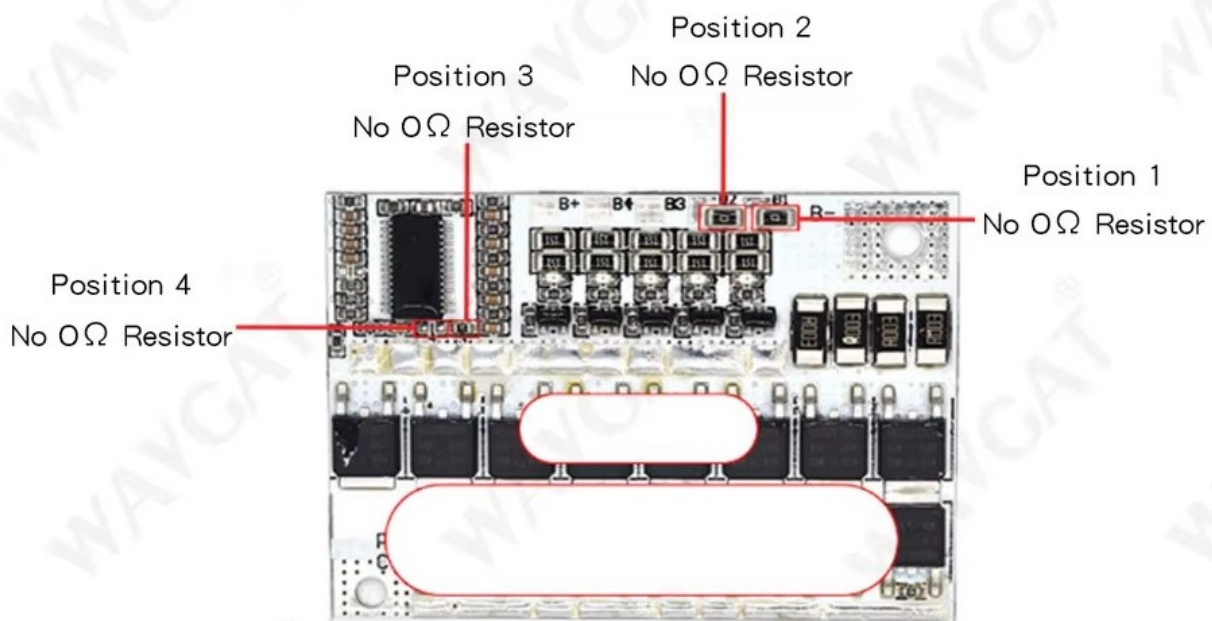
Modify Number of Strings Operations Guide:

This protective panel is 3, 4, 5 series universal, but the conversion between different numbers of strings requires the customer to manually change the components on the board before connecting according to the wiring diagram of the corresponding number of strings. For example, if a customer buys 3 strings of boards to use on 4 strings of batteries, I can change them manually (that is, 3 strings to 4 strings).

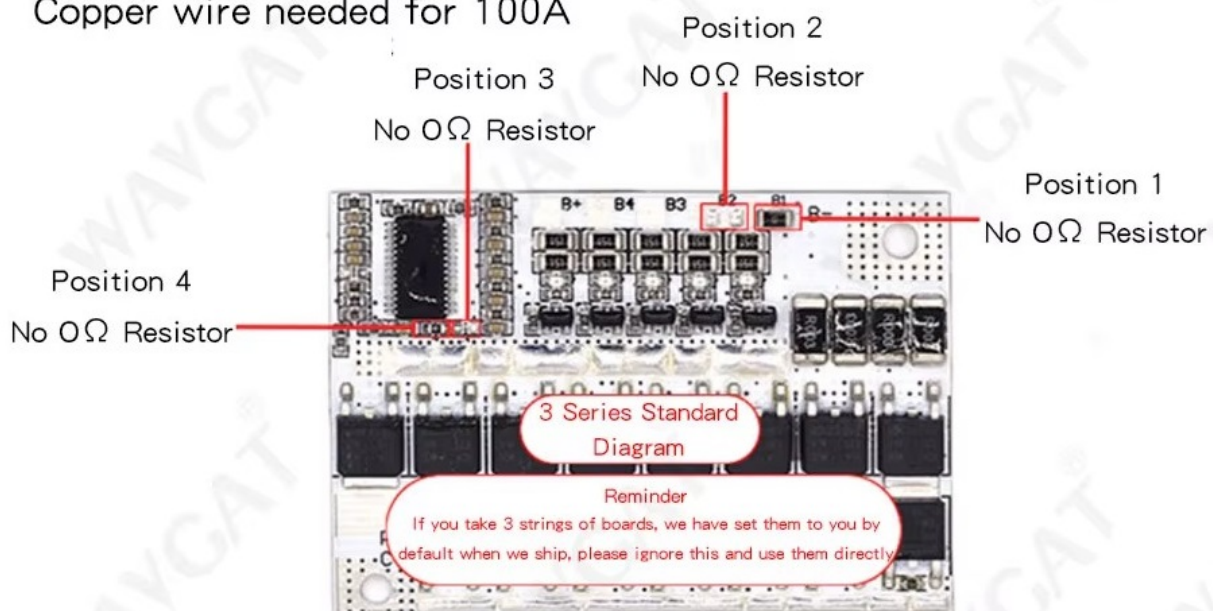
For example, if a customer buys 3 strings of boards to use on 4 strings of batteries, I can change them manually (that is, 3 strings to 4 strings).

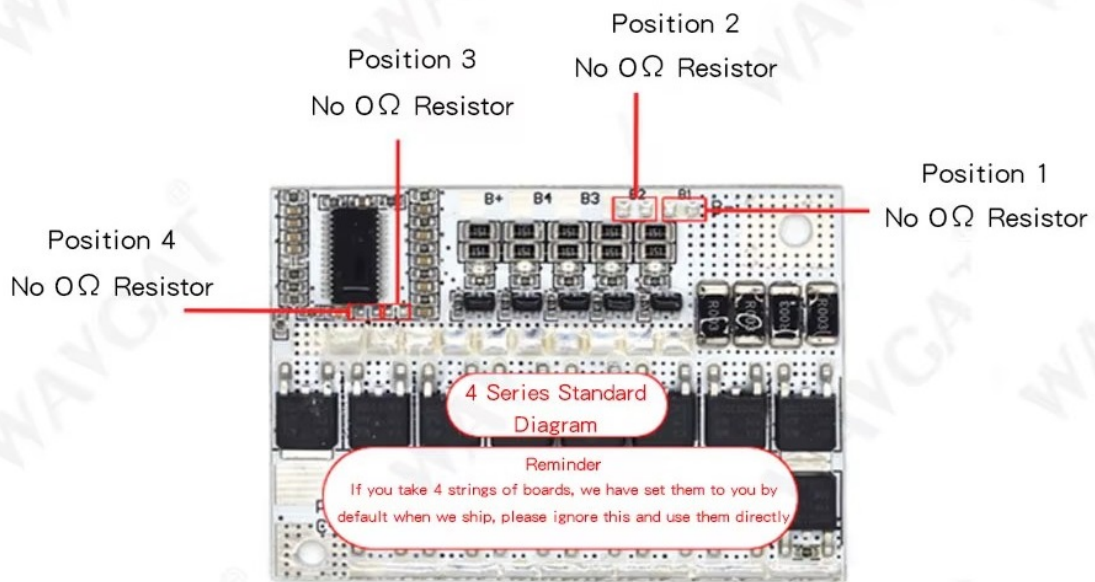
Step 1: First remove the OR resistance of "Position 3" and "Position B2". Step 2: Change "Position 4" to use OR resistance or short circuit solder (the corrected element position should be the same as "4 series standard drawing"), then refer to the 4 series wiring diagram connection.

(Warm Tip: If the customer buys 3 strings of boards and uses them on 3 strings of batteries, no change is required, please ignore this guide)

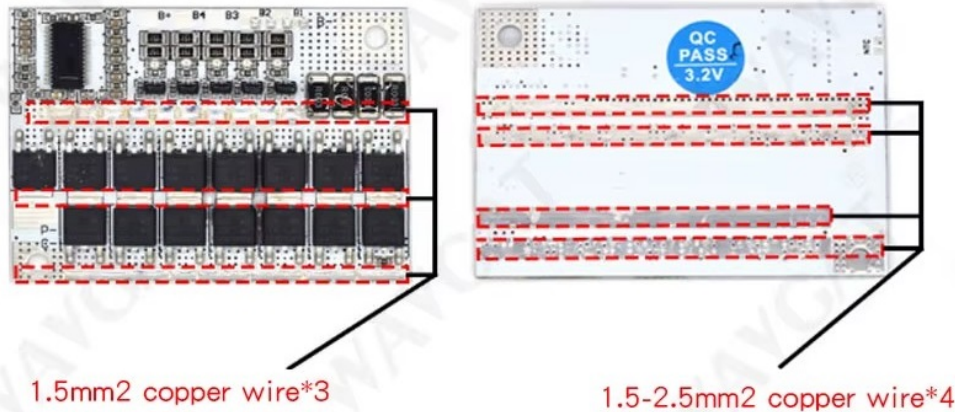


Copper wire needed for 100A





Continuous current exceeding 50A requires brazing wire as shown below



frequently asked question

1. Can I use this protective board for my battery?

Answer: There are two issues to consider when using this protective board; You need to buy a protective board corresponding to the number of strings of your battery. Secondly, what material is your battery made of? We have protection plates with two parameters: phosphate iron carp and polymer. If your battery is a phosphate iron carp single cell with a nominal voltage of 3.2V, please select the phosphate iron carp 3.2V in the classification. If it is a polymer (ternary, drilling acid, manganese acid battery) single cell with a nominal voltage of 3.6V (or 37V), please choose the polymer 3.7V classification.

2. How can I determine what material my battery is made of?

Answer: You can take a look at the nominal voltage of your battery. Iron phosphate batteries are usually labeled as 3.2V, while other batteries are usually labeled as 3.6V or 37V. You can also directly ask the seller of the battery what material the battery is made of. Many buyers say that my battery is made of 18650 or 26650 soft bags, etc. This is the appearance, not the material! We cannot determine your battery protection parameters based on this.

3. How many safety boards should I choose?

Answer: The choice of how many amperes of protection board depends on your load power. Our protection board, if you use split output, the output current is about 70A, and the power is about 800W. If you use the same output port, the output current is 50A, and the power is about 600W.

4. My battery is 20AH, can I use this protective board?

Answer: The size of your battery capacity is not directly related to the current of the board used. The larger the capacity, the more it depends on the continuous current. That is to say, the larger the load, the greater the continuous current of the protective board you choose, which is not directly related to the battery capacity.

5. How should the charger voltage be set?

Answer: Lithium batteries must be charged with a dedicated charger for carp batteries. Do not use a lead-acid battery charger. Charging with lead-acid may result in high voltage breakdown of the protective board MOS tube, causing the protective board to overcharge and not protect it

Charger voltage setting: Use your battery pack string number * 4.2V, which is the charging voltage of non ferrous batteries. The charging voltage of iron carp batteries is the battery string number * 3.60V, which is the charging voltage of ferrous batteries. The charging current standard is 0.2 times the capacity.

Meaning of equalization: The battery pack is connected in parallel and connected in series with many cells, and each cell cannot be identical. Therefore, the cells with similar performance can only be put into a group when they are matched. However, when charging, the inconsistent performance of each cell will lead to inconsistent voltage after charging. Equalization is to discharge the high voltage cell with a resistor when charging, and wait for the low voltage cell to charge up the voltage, To achieve consistent voltage across all battery cells and improve the performance of the entire battery pack.

Product Photograph

