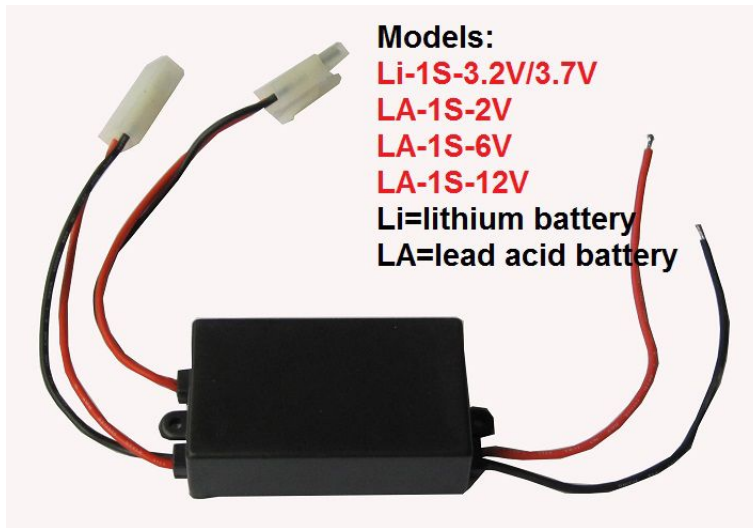


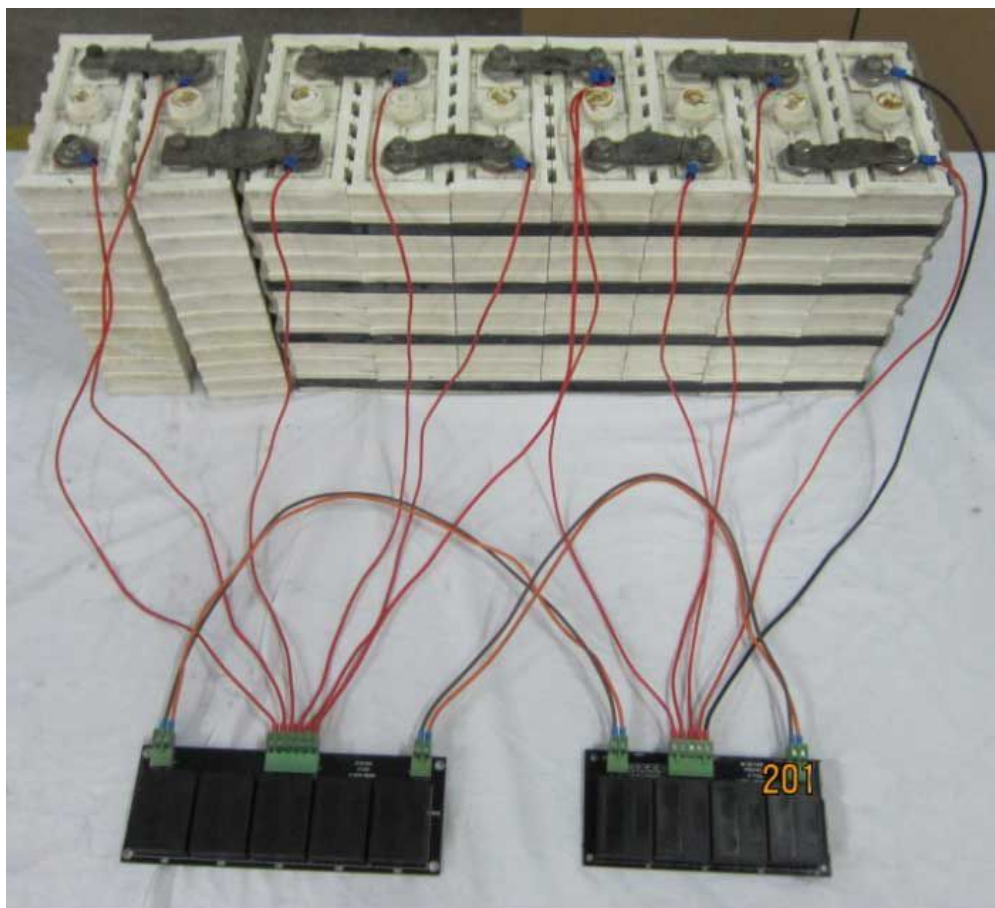
😊 Specification of battery balancer

Product Photo



😊 This is the balancer for one single cell(1S).
For example,a 12V Lifepo4 pack of 4cells in series.
Can use 4pcs of Li-1s-3.2v/3.7V balancers.





These are the **balance modules**.

we have 3S,4S,5S,6S,7S,8S,9S,12S modules.they can be mixed in one pack. For example,if we have a 144v pack of 48cells.20cells in one case,28cells in other case.then we can use $4*5S+4*7S$ modules.










Main technical parameters

Battery capacity limited	20ah~1000ah lithium battery:Lifepo4,LiMnO4 etc AGM,Gell,Flooded battery and so on
Working voltage	2V~5V
Battery count limited	2~unlimited
Power consumption	<50mW
Balance method	Energy transfer &Dynamic
Acceptable Constant balance current	6A
Peak balance current	10A

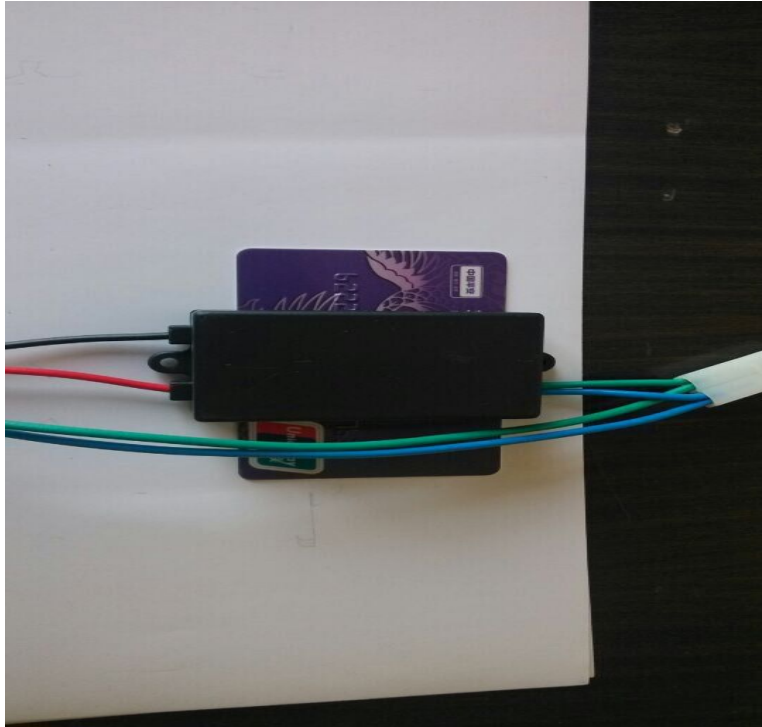
Voltage difference after using the balancer	<10mv
Working efficiency when balance current is 1A	>94%
working temperature	-40~+80°C ;
storage temperature	-40~+100°C

Key features

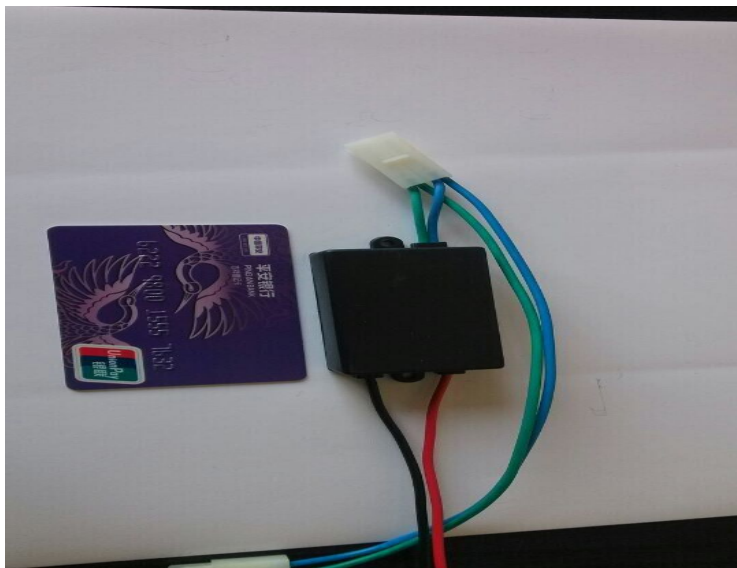
-  Power Sharing:
All the batteries share the power together. Maximum utilize the power of the whole pack
-  Many batteries are balanced at the same time:
All batteries with higher power will transfer power to all the lower batteries at the same time.
Other BMS can only balance 2 or 3 batteries each time. Other batteries need to wait in line.
-  Dynamic balance:
Batteries are balanced automatically during charging, discharging and storage.
-  High balance current:
Constant balance current can be 6A, peak current 10A
Most other BMS balance currents are no more than 1.5A.
-  High accuracy of balancing:
The battery voltage difference will be less than 10mV
-  The balancers are connected to the battery in parallel not in serial.
So it won't affect charging or discharging.
And no matter how high the charge or discharge current is, this is no problem for the balancers.
-  Prevent lead acid battery vulcanization

Size

Small in size



85L*40W*25Hmm





Why should i use the balancer?

- 1, Keep your batteries voltage difference within 10mV!
- 2,Keep your batteries safe all the time. no overcharging or over discharging.
- 3,**Prolong your battery lifespan 2~3times**
- 4,Very simple installation
- 5, Low price. you pay a small amount of money to protect your battery.Compare to the cost of replacing your expensive lithium battery,the balancer is very cheap.
- 6, Fast delivery.1~2 business days after payment arrival

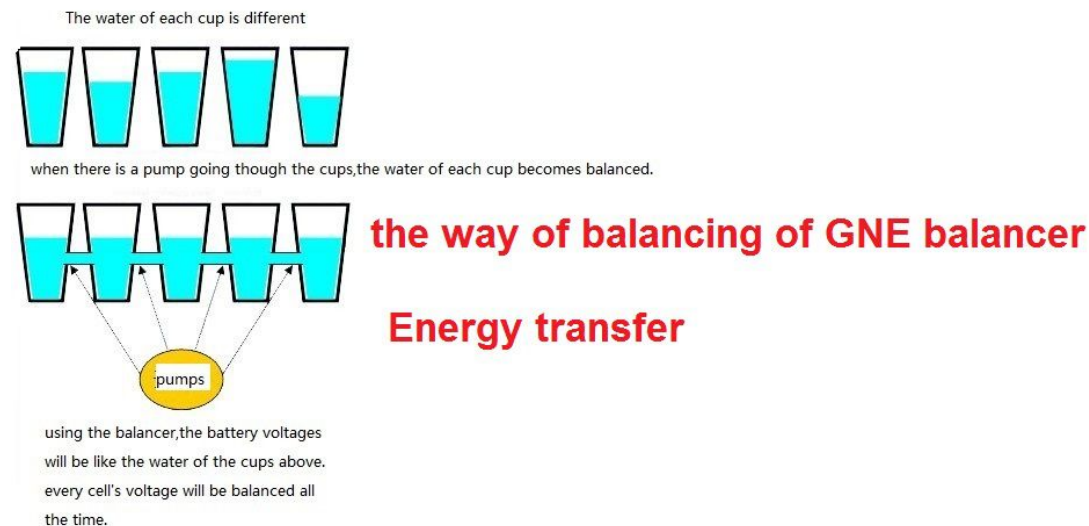


How is the balancer working? How can they protect batteries?

this diagram tell you how the balance work.
each battery is compared to a cup.

each balancer is like a pump.with the pumps,all the cups will have the same level of water.

the balancers are connected in parallel to the batteries.
they won't affect the charging or discharging of batteries.



What is similarity and difference between single cell (1S)balancer and balance module?

- 1.Size is different. Overall speaking,balance module is smaller in size and lighter in weight.
2. Balancer module use less wires for installation than 1S balancer.
- 3, When your pack is over 90V,we recommend balance module because of the reasons above.below 90V,both of them are fine.
- 4,Similarity: Function is the same. Performance is the same. Price is the same.
4S module price=4 *1S balancer price
- 5, We have 3S 5S 6S 8S 10S 12S for options.Please choose the proper model in terms of the layout of your battery pack.



I have a BMS already.Can i still use the balancers?

Yes sure.you can use your BMS and the balancers together. They won't affect each other.this is perfect.The balancers can make up the shortcoming of BMS and improve the consistency of your batteries.

Do they work automatically during all the time(charge, discharge, at rest)?

Yes, they work all the times automatically only if they are installed on batteries.

How can the balancers realize the function of balancing for the batteries?

Via software and hardware via a Chip synchronous calibration via signal. We have international patent for this product.



DO the balancers need power? From where? How much power do they need? how about maintenance?

The balancers/balance modules need power from battery.

power consumption: <50mW

If the battery is not in use for a long time, should I disconnect the balancers? when the battery is not charged for about 1~4 months(depends on the capacity of your battery),the batteries might be in low voltage. please recharge them. Or disconnect the balancers if you can't recharge the batteries when their voltage is low.

Would the balancers all interact or just each balancer with the neighbouring balancer, eventually shuttling the energy to the lowest cell?

All interact. the balancers are like pumps. Batteries are like cups. Pumps let the water flow from higher ones to lower ones. Suppose there are 4cells,3.1V,3.2V,3.3V,3.4V. Power will be transferred from 3.4V to the other batteries. The lower batteries will be charged by the higher ones. Finally they will reach the same level.



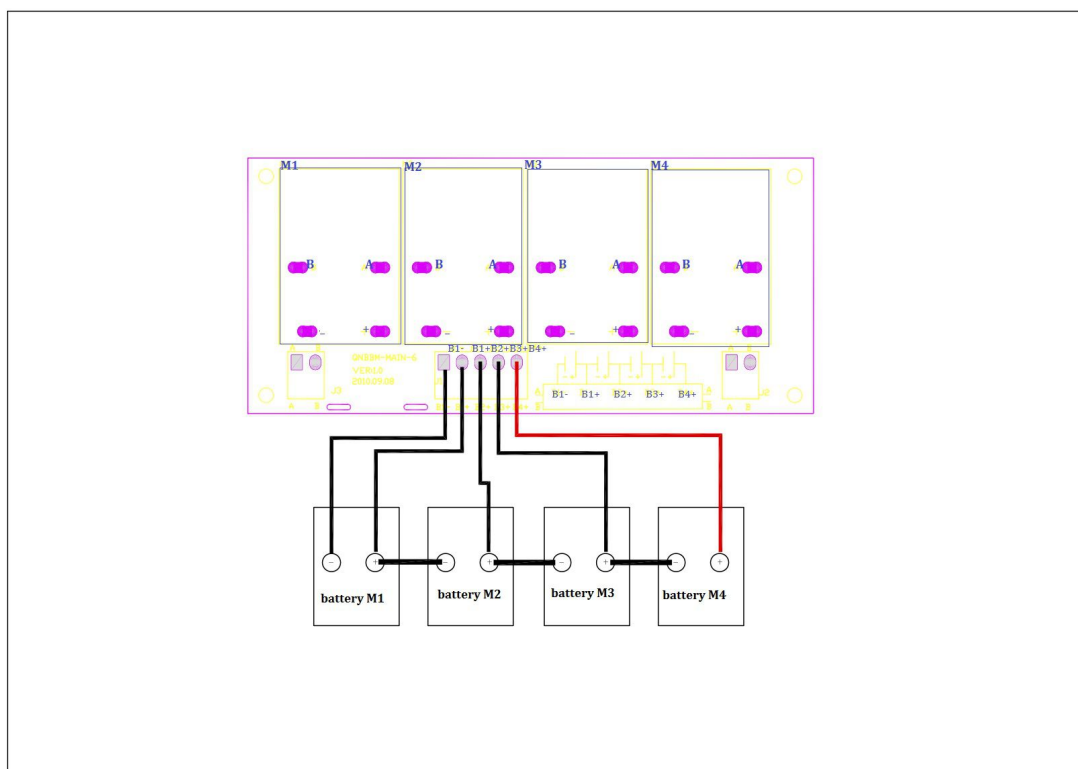
Application

- 1) Power battery: electric car,/bus/scooter/truck/golf cart /boat and so on
- 2) Storage battery: storage power station,wind power,solar power and so on
- 3) Communication power: communication base stations, substations, etc.



Wiring

An example of 4S balance module wiring diagram

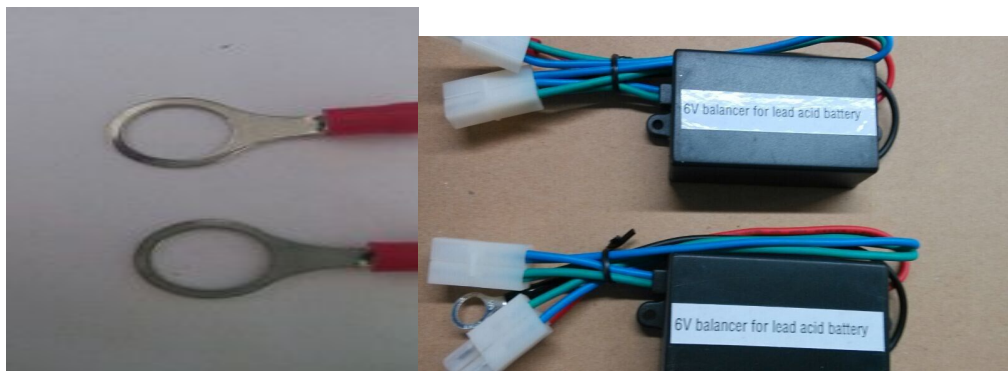


All the balancers are connected to the batteries **in parallel**.
If you are not sure how to connect them,please contact us.



Attention

First,if you order 1S balancers,we have **20cm** wires on the balancers with **M8** terminals as default like the picture below..



If you need other size of terminals and different length of wires, please tell us. If you order balance modules, **no terminals or wires**.

Second, The balance power consumption is less than 50mW. If you don't use the battery for a long time, please either disconnect the balancers, or recharge the battery once a month or once two months. Recharging the batteries occasionally is better for your batteries as well.

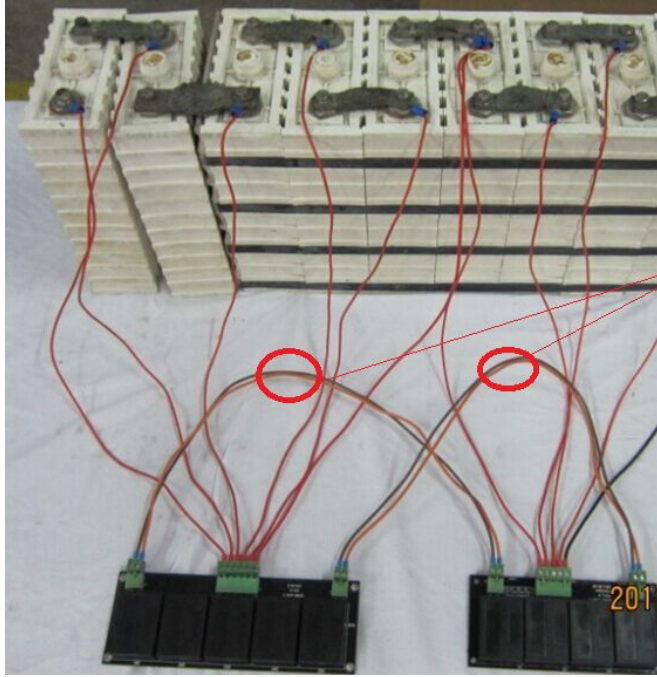
Third, we have wiring diagram on the balance modules. Don't make any mistakes. If you are unsure of installation, please contact our sales person. we will be glad to help you.

Here are several ways of making a judgment where you install them correctly or not.

- 1, **Measure** voltage of the batteries with a multi-meter after you finish installation. See if all the batteries voltage is normal or not.
- 2, **Touch** the batteries. if any battery get hot quickly, disconnect the balancers soon. this means you install them in the wrong way. If you find the mistake in a few minutes, the battery won't be broken.
- 3, **Listen**. If the balancers are connected correctly, they will produce a high-frequency voice. the voice is small. you need to get close to the balancers. The more balanced the batteries are, the smaller the balance current it will have, and the smaller voice there will be. and vice versa. if you connect them in wrong way, you can't hear any voice.

Fourth, you must **connect the balance wires (see picture below) first, and then connect other wires to the batteries. Don't do it oppositely.** After you finish installation for a pack, **don't remove any one of the module. they are a whole system.**

Fifth, if your batteries are out of balance and weren't installed with balancers before, please **be patient** when you start using the balancers. The balancers will help improve the battery consistency gradually but not immediately. if any one of your battery is defective, the balancer can't save it. If you start using the balancer when your battery is new, the performance is the best.



the wires between each balance modules are called "balance wires".