Battery Equalizer

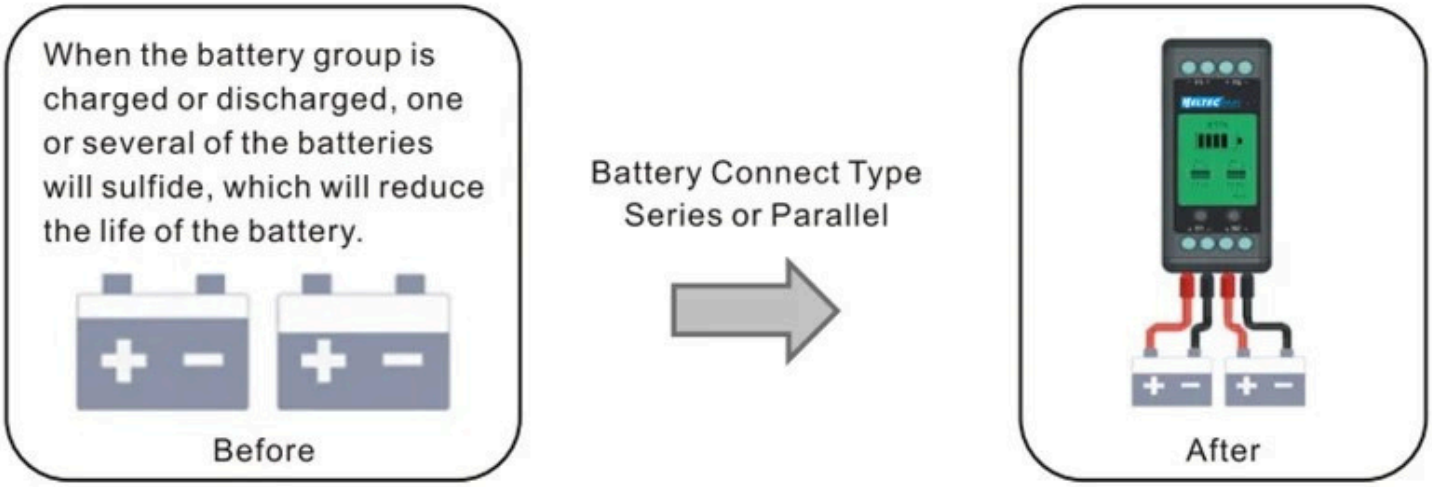
HT-10C User Manual

What is the Battery Equalizer?

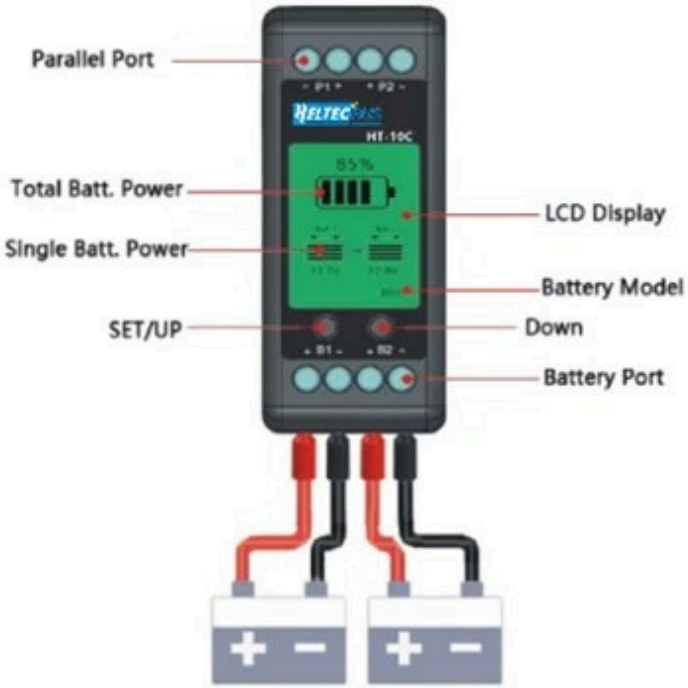
Battery equalizer is used to maintain the charge and discharge balance betweeneach battery in the battery pack connected in series or parallel. During the
operation of the battery connected in series or parallel, due to the difference inthe chemical composition and temperature of the battery cells, it will cause Thecharging and discharging of the two batteries will be different.Even when thebattery is idle, due to the different degree of self-discharge, it will cause animbalance between the batteries connected in series. During the chargingprocess,due to the difference, one battery will be overcharged Or discharge,while the other is not fully charged or discharged.As the charge and dischargeprocess is repeated, this difference will gradually intensify, eventually leadingto premature battery failure.

How Does the Heltec battery equalizer works?

Heltec battery equalizer is an energy transfer equalizer that can compensatethe battery in both directions. When the voltage difference between the batteriesconnected in series exceeds 50 millivolts, the battery equalizer starts to work,and the current will flow from the higher voltage battery to the lower voltage.Thelow battery will eventually balance the battery. It can be connected to the batteryconnected in series for a long time to automatically maintain the battery balancewithout maintenance.



Heltec battery equalizer is suitable for lead-acid batteries,Li-ion Batterybatteries, Lithium iron phosphate Batteries,nickel-cadmium or nickel-hydrogenbatteries. It can work when the voltage is higher than 7V, that is, the batteryequalizer can be used for batteries with a single battery in the range of 7V-18V,and any number of batteries can be connected in parallel or series. The battery equalizer can be installed in multiple parallel connections,and canbe used with 48v 6ov 72v 96V 110V 220V 240V batteries.Each battery equalizer corresponds to 2 batteries.Rail-type buckle installation,can easilyinstall the module in the distribution box.
Two pairs of battery connection terminal wires and one pair of parallel wiringare included in the product package, which is convenient for customers toinstall quickly.



Before installing the Battery euqalizer, please read the installation steps carefully to avoid damage to the device.

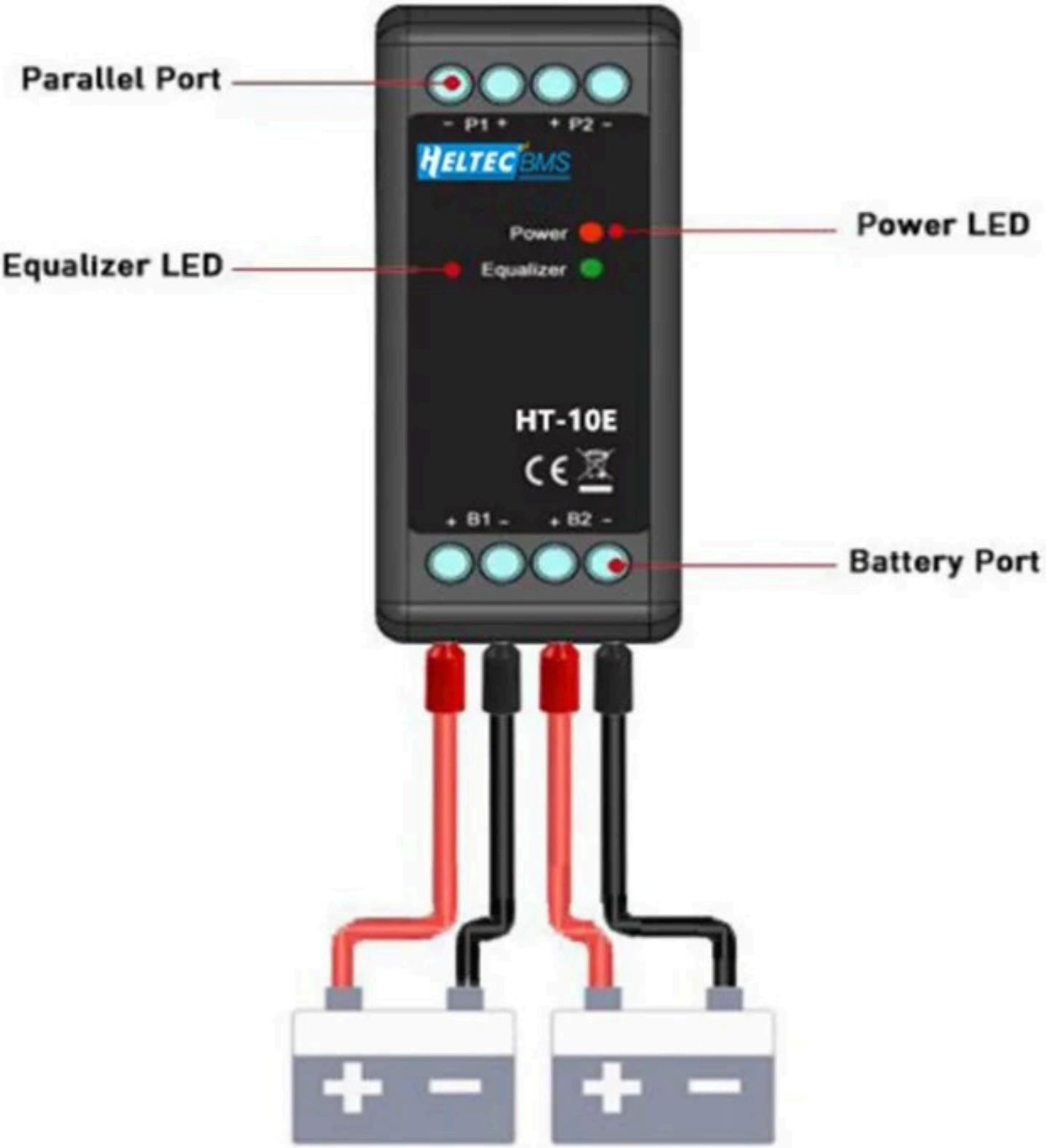
Why the Battery equalizer could not display normal?

please check the battery equalizer B1 B2 Polarity relationship is + -, + -. and the Standard battery Group voltage Polarity relationship is the same as + -,+-.Please Connect as Picture 1.

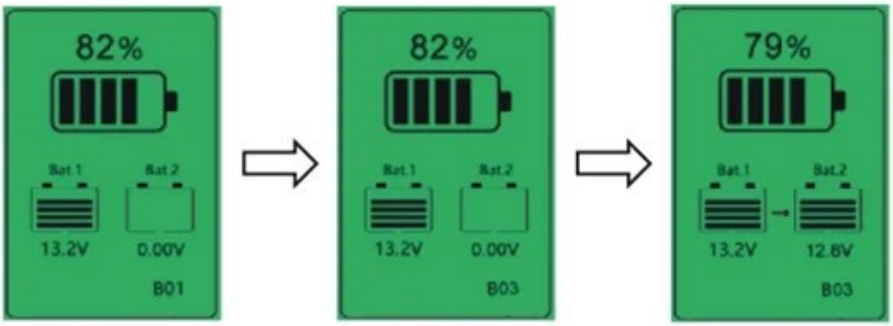
if your battery group voltage Polarity relationship is - +, - +,please connect the battery equalizer as picture 2.

PIC.1

PIC.2


Parallel Port
- P1 +
+ P2 -
HELTEC BMS
Power
Power LED
Equalizer LED
Equalizer
HT-10E
+ B1 -
+ B2 -
Battery Port

1.Before connecting the battery equalizer, please confirm the positive andnegative poles of each battery to avoid short circuit and reverse connectionbetween the battery equalizer terminals.
2.Please measure the voltages of the two batteries① separately to ensure thatthe voltages of the two batteries are within the normal operating range.
3.Connect the battery equalizer B1+ and B1- terminal to Bat-1,and set thebattery type.Long press SET button 5s(pic1), then the B00 will flash.Press theset or dowm button and choose correct battery model No(Default mode B03).After the button is not operated for 5 seconds, the system automatically savesand the battery voltage setting is completed,then connect the battery equalizerB2+ and B2- terminal to Bat-2②.(pic.2)



Pic.1

4.If need connect more battery,you could make connect several batteryequalizer(pic3).please connect P1 and P2 terminals of two adjacent batteryequalizers in parallel3.After completing the connection of multiple batteryequalizer modules, you need to wait for several hours to achieve completevoltage balance among the battery equalizers.

Pic.2

Pic.3

Note:
①Two batteries must be of the same type.The capacity or the new old of thebattery is different, which will affect the effect of the battery equalizer.
②Each equalizer corresponds to two batteries.
③Multiple battery equalizers can be used in parallel to solve the voltage balance of multiple batteries in the battery pack.In theory, countless batteriescan be connected in parallel.

Battery Type Table

Model No	Quantity of the cells	Rated Voltage	Battery Type	Max charge voltage
B01	2S x 3.7V	7.4V	Lithium Ion Battery	8.4V
B02	3S x 3.7V	11.1V	Lithium Ion Battery	12.6V
B03	/	12V	Lead-acid battery	14.8V
B04	4S x 3.2V	12.8V	LiFePO4 Battery	14.4V
B05	4S x 3.7V	14.8V	Lithium Ion Battery	16.8V

Model No	HT-10N/HT-10E-HT-10C
Display method	No Indicator/Led Indicator/LCD
Rated Voltage Scope	2-18V/7-18V/7-18V
Optimizing Current	0-10A
Quiescent Current	5mA/6mA/10mA
Connection method	Parallel Connect or Series Connect
Multi-module parallel connection	Support
Product Size	85*75*30mm
Product Weight	245g/200g/160g
Packing Quantity	50pcs/Ctn
Carton Size	56*35*27cm

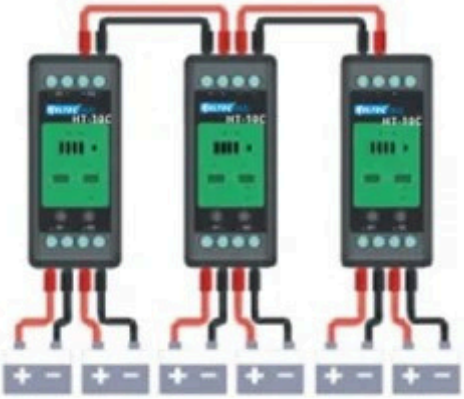
*Default mode B03

Installation Wiring Diagram HT-10C

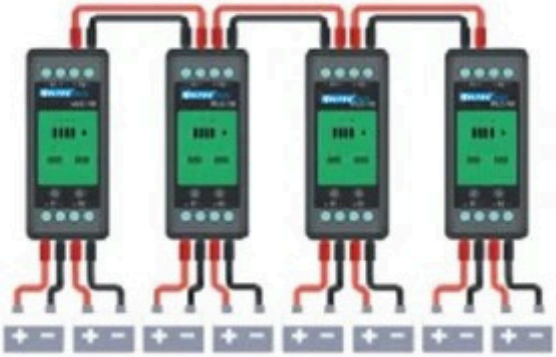
① 2PCS Batteries Connect

② 4PCS Batteries Connect

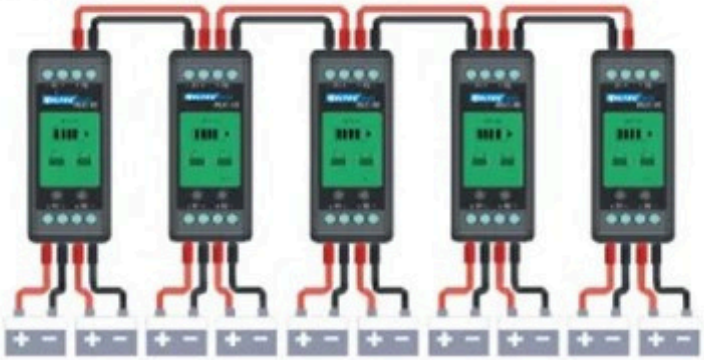
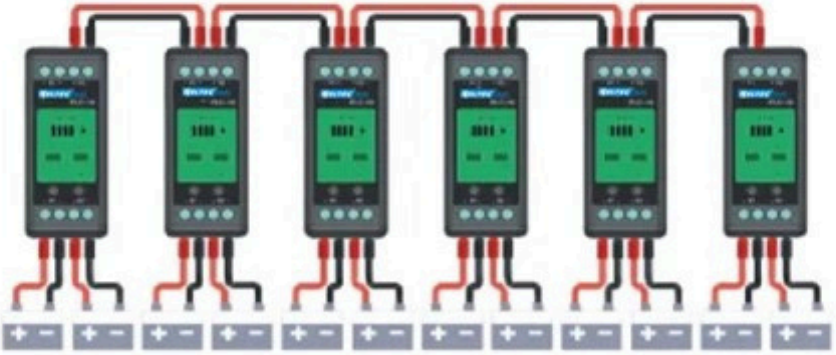
③ 6PCS Batteries Connect



④ 8PCS Batteries Connect



⑤ 10PCS Batteries Connect



⑥ 12PCS Batteries Connect