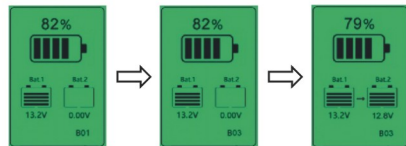




## Battery Equalizer FS-KBX102S User Manual

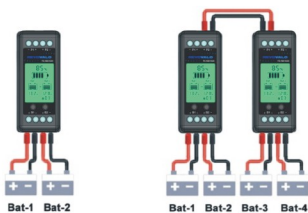


3. Connect the battery equalizer B1+ and B1- terminal to Bat-1, and set the battery type. Long press SET button 5s (pic1), then the B00 will flash. Press the set or down button and choose correct battery model No (Default mode B03). After the button is not operated for 5 seconds, the system automatically saves and the battery voltage setting is completed, then connect the battery equalizer B2+ and B2- terminal to Bat-2 (pic.2)



Pic.1

4. If need connect more battery, you could make connect several battery equalizer (pic3). please connect P1 and P2 terminals of two adjacent battery equalizers in parallel (3). After completing the connection of multiple battery equalizer modules, you need to wait for several hours to achieve complete voltage balance among the battery equalizers.



Pic.2



Pic.3



## What is the Battery Equalizer?

Battery equalizer is used to maintain the charge and discharge balance between each 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 in the chemical composition and temperature of the battery cells, it will cause the charging and discharging of the two batteries will be different. Even when the battery is idle, due to the different degree of self-discharge, it will cause an imbalance between the batteries connected in series. During the charging process, due to the difference, one battery will be overcharged or discharge, while the other is not fully charged or discharged. As the charge and discharge process is repeated, this difference will gradually intensify, eventually leading to premature battery failure.

## How Does the FS-KBX102S battery equalizer works?

FS-KBX102S battery equalizer is an energy transfer equalizer that can compensate the battery in both directions. When the voltage difference between the batteries connected in series exceeds 50 millivolts, the battery equalizer starts to work, and the current will flow from the high voltage battery to the lower voltage. The low battery will eventually balance the battery. It can be connected to the battery connected in series for a long time to automatically maintain the battery balance without maintenance.

When the battery groups are charged or discharged, one or several of the batteries will sulfide, which will reduce the life of the battery.



Before

Battery Connect Type  
Series or Parallel

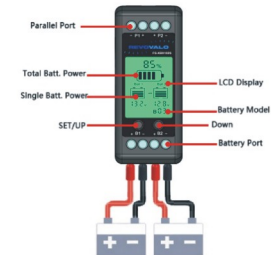


After



FS-KBX102S battery equalizer is suitable for lead-acid batteries, Li-ion Battery batteries, Lithium iron phosphate Batteries, nickel-cadmium or nickel-hydrogen batteries. It can work when the voltage is higher than 7V, that is, the battery equalizer 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 can be used with 48V 60V 72V 96V 110V 220V 240V batteries. Each battery equalizer corresponds to 2 batteries. Rail-type buckle installation, can easily install the module in the distribution box.

Two pairs of battery connection terminal wires and one pair of parallel wiring are included in the product package, which is convenient for customers to install quickly.



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

1. Before connecting the battery equalizer, please confirm the positive and negative poles of each battery to avoid short circuit and reverse connection between the battery equalizer terminals.
2. Please measure the voltages of the two batteries separately to ensure that the voltages of the two batteries are within the normal operating range.



## Note:

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

## \*Default mode B03

## Installation Wiring Diagram

① 2PCS Batteries Connect



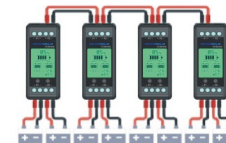
② 4PCS Batteries Connect



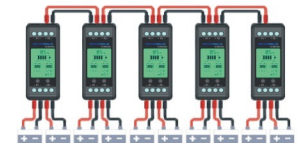
③ 6PCS Batteries Connect



④ 8PCS Batteries Connect



⑤ 10PCS Batteries Connect



⑥ 12PCS Batteries Connect



## Specification

Model No	FS-KBX102S
LCD Display	Yes
Rated Voltage Scope	7-18V
Optimizing Current	0-10A
Quiescent Current	10mA
Connection method	Parallel Connect or Series Connect
Multi-module parallel connection	Support
Product Size	85*75*30mm
Product Weight	160g
Packing Quantity	50pcs/Ctn
Carton Size	56*35*27cm