

Battery Equalizer HA03

User Manual

APPLICATION

HA03 battery equalizer is used for the batteries which are connected in series to keep the voltage of batteries are equal when the batteries are charging or discharging. When the batteries work in series connection, the batteries voltage maybe will be not same due to the difference of each cell chemical composition and temperature. And each battery's self-discharge rate also different. So even the batteries not work, their voltage of series batteries will be also different. These differences will cause battery lost balance, this means maybe one battery is overloaded and the other is insufficiently charged. The voltage difference will be increased with the battery repeated charge-discharge process. This will result in premature

failure of the batteries.

HA03 battery equalizer is energy transfer type equalizer, it can compensate for batteries with two sides. The equalizer starts to work when there are 10mV between two batteries. The current will flow from a higher voltage to low voltage, eventually reach equilibrium. It can connect with battery system with 24 hours, to keep the system energy balance automatically, no need manual maintenance.

HA03 battery equalizer is suitable for 5 x 12V batteries, classic design, Ultra-low standby power consumption, 80cm wiring with M8 battery terminals, easy for customers to install.

APPLICATION

HA03 battery equalizer is suitable for lead-acid batteries(VRLA), lithium iron phosphate batteries(LFP), nickel-cadmium secondary batteries(Ni/CD), and nickel-metal hydride secondary batteries(Ni/MH). It starts work when the voltage higher than 2.4V, it means that this equalizer can be used in a single cell battery range from 2.4V to 12V. One equalizer can connect 5 batteries once a time, if battery less than the 5, the extra cable can be vacant (positive and negative terminal should be avoided), does not affect the equilibrium effects. The equalizer is not affected with battery connection way, no matter in Series or in parallel, both can work.

TECHNICAL DATA

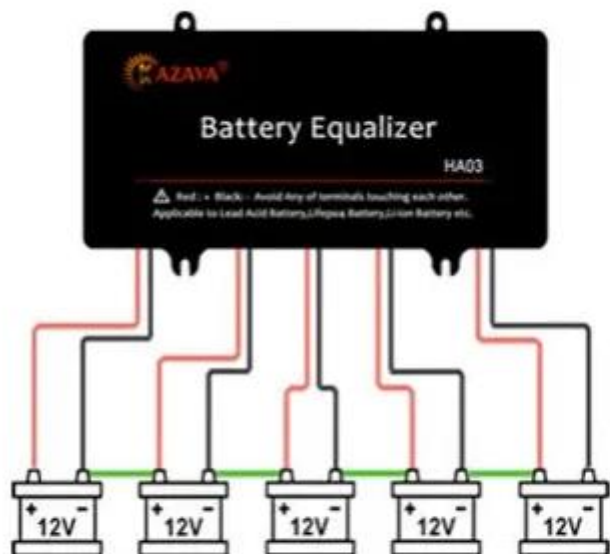
Battery nominal voltage	5 × (2.4V/3.6V/6V/9V/12V)
Optimizing current	0–10A
Quiescent current	8mA(12V) 1.5mA(2.4V)
Dimensions	62 × 153 × 27 mm
Protection	Reverse polarity protection
Under voltage lock out	1.8V

INSTALLATION

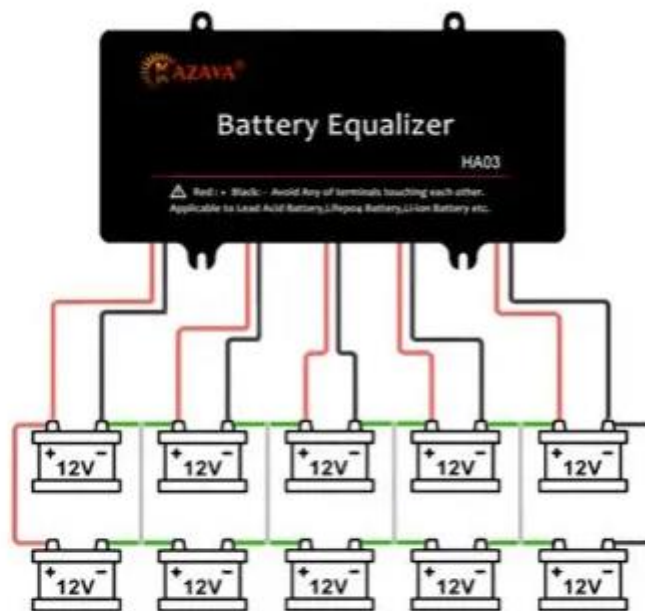
1. The red wire connects the positive electrode of the battery. The black wire connects the negative electrode of the battery.
2. Connect multiple batteries in the above manner (unlimited connection order).
3. Dispose unused battery wires to avoid short circuits.



Please read the instruction manual before installing the device! Before connecting the equalizer, please confirm the positive and negative poles of each set of batteries to avoid the short circuit and reverse connection between the terminals of the battery equalizer.



5x12V Battery



10x12V Battery