

KiloVault® BE48 Battery Equalizer Instructions

APPLICATION

The BE48 battery equalizer is connected to a series of batteries to maintain equal voltage levels while charging or discharging. When batteries are connected in series, voltage may vary due to differences in cell chemical composition, temperature, or self-discharge rates. These voltage differences increase with each charge/discharge process, resulting in premature battery failure. It is suitable for use with a variety of batteries including:

- lead-acid batteries (VRLA)
- lithium iron phosphate batteries (LFP)
- nickel-cadmium secondary batteries (Ni/CD)
- nickel-metal hydride secondary batteries (Ni/MH)

OPERATION

The BE48 is an energy transfer equalizer that compensates for voltage variables. When a 10mV difference between batteries is detected it will shunt current from the higher voltage battery to the lower voltage battery until equilibrium is achieved. The BE48 equalizer can stay connected continuously and does not require manual maintenance.

The equalizer begins operation when the voltage exceeds 2.4V and can be used in single cell batteries ranging from 2.4V to 12V. Each equalizer can connect to a maximum of eight batteries at a time. If connected to less than eight batteries, the extra cable can be left unused; simply leave the protective tubes in place and arrange the positive and negative connectors to avoid contact with other systems. This does not affect the equilibrium.

TECHNICAL DATA

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Battery Nominal Voltage	4 X (2.4V / 3.6V / 6V / 9V / 12V)
Optimizing Current	0-10A
Quiescent Current	5mA (12V) 1.2mA (2.4V)
Dimensions	62x124x27 mm
Protection	Reverse polarity protection
Low Battery Disconnect	10V

INSTALLATION

Simply connect the red cables to the positive (+) terminals and the black cables to the negative (–) terminals. Be sure to connect all positive (+) connections before the negative (–) connections to avoid short circuits. Batteries may be connected in series or in parallel.

Note:

- If there are unused cables, leave the protective terminal tubes in place to avoid short circuits.
- Do not allow any of the eight terminals touch each other.
- Connect no more than four strings of four batteries each (for a total of 16 batteries) to one BE48.
- The more strings in parallel for each BE48, the less efficiently the BE48 will perform.

CONNECTION EXAMPLES

Connect the battery equalizer BE48 as shown in the following figures:

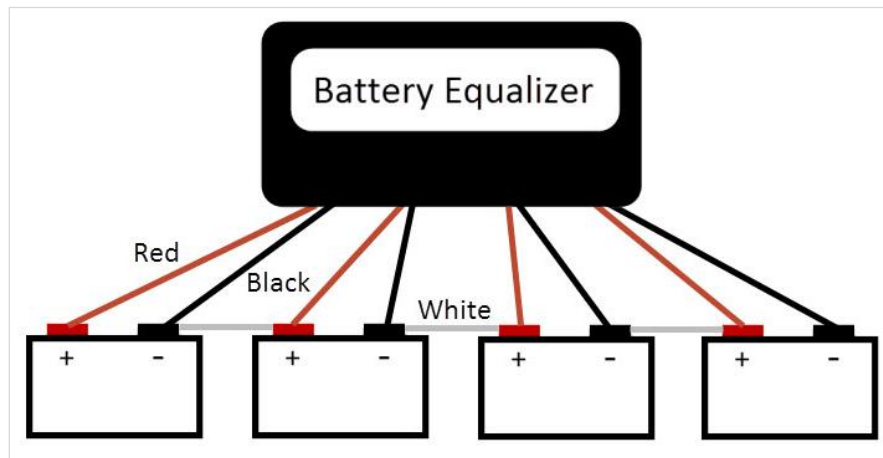


Figure 1: 4 X 12V Battery Bank Arrangement

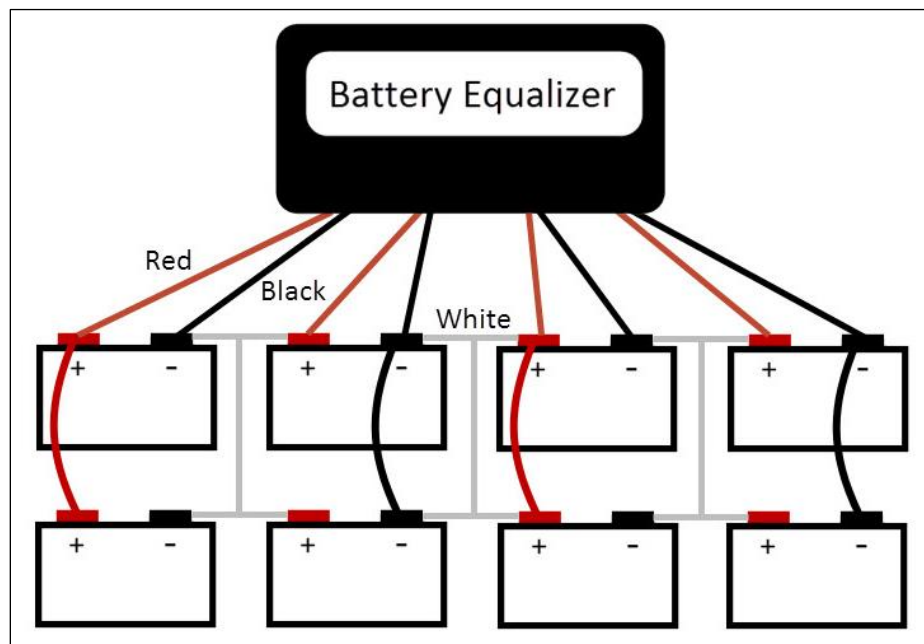


Figure 2: Multiple Battery Banks

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