# Battery EQUALIZERS





CONNECTION DIAGRAM SHOWING FOUR BATTERIES BEING EQUALIZED BY BATTERY EQUALIZER

#### **SALIENT FEATURES**

- > Active equalization technique based on flash micro-controller.
- > Reduces the battery replacement which again greatly reduces the cost.
- > Easy to install with batteries connected in series.
- > Suitable for N numbers of batteries by utilizing multiple units together.
- > Operates in all three modes: battery charging, discharging or in idle mode.
- > Appropriate for Gel, Sealed and AGM Lead Acid batteries.
- > Works with conventional flooded lead acid batteries and SMF batteries.
- > Extends battery life and run time.
- > Prevents over and under charge due to battery imbalance.

### **EQUALIZER SPECIFICATIONS**

Nominal Battery Voltage	12V
Maximum Equalization Current	4A
Current Limit	< Max Equalization Current
Quiescent Current Draw	< 25mA @ 48V DC (1.2W)
Operating Temperature	$-5^{\circ}\text{C} \sim +50^{\circ}\text{C}$
Storage Temperature	-5°C ~ +85°C
Safety	Reverse Polarity Protection (through fuse)
Dimensions	135mm x 115mm x 60mm
Weight	0.46 Kg
Patents	Patents Filed

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- > Series strings of storage batteries are used quite commonly with UPS, Inverter, Telecom SMPS Power Plants etc.
- > When this series string is charged as a unit, slight mismatches or temperature differences cause charge imbalance in the form of unequal voltages amongst the batteries.
- Once imbalance occurs, it tends to grow with time. Low voltage batteries charge less effectively and high voltage batteries charge relatively faster.
- > Battery equalization is to correct this imbalance.
- > One needs to ensure that if different batteries are at different voltage/power levels, then balancing needs to be done to get maximum power, better efficiency & longer life from batteries.
- > The Equalizer is a bi-directional circuit which balances the voltage between two or more individual batteries connected in series during charge, discharge and idle periods.
- The Equalizer prevents severe under and over voltage, common in series connections, which can compromise the performance, reliability, and life of the battery system.
- > Equalized batteries are able to receive a full, clean charge, increasing battery capacity and life, therefore supporting your mission much better.
- Single equalizer can be used for at least 2 numbers of batteries and maximum for 4 numbers of batteries connected in series.
- > Two equalizer units can be used for a maximum 7 numbers of batteries connected in series.
- > Three equalizer units can be used for a maximum 10 numbers of batteries connected in series.
- > N equalizer units can be used for a maximum (3N+1) numbers of batteries connected in series.

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