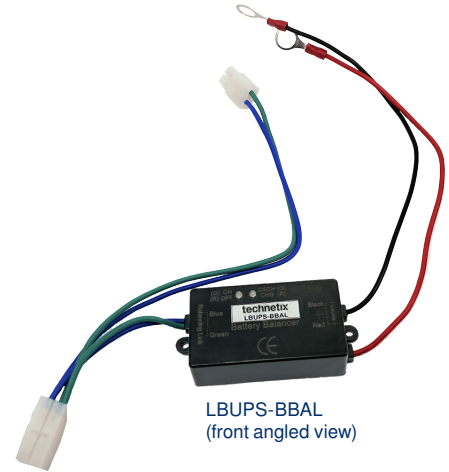


# 12V 3A LiFePO4, VRLA, AGM, GEL battery balancer/equalizer

## LEON<sup>®</sup><sub>SB</sub> LBUPS-BBAL

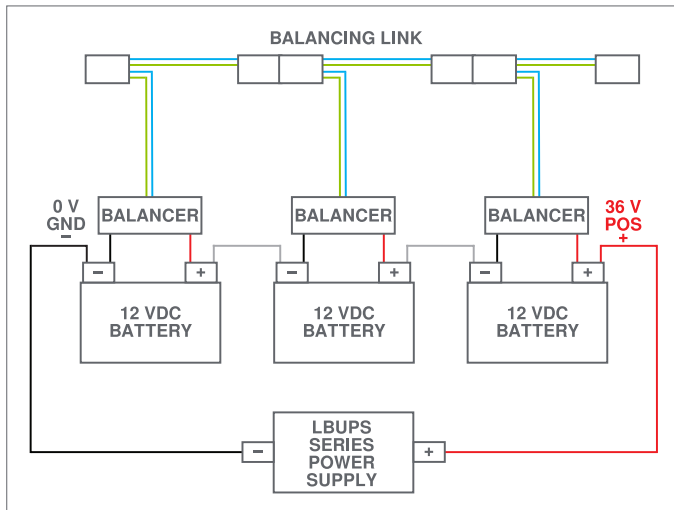
The Technetix modular battery balancer/equalizer works with series connected 12 V broadband batteries to ensure proper balancing in the string. It is compatible with lead-acid, AGM, GEL and LiFePO4 battery chemistries and can be used with all existing battery management systems (BMS). Designed to actively transfer energy from the highest charged battery to the lowest charged battery, the LBUPS-BBAL allows batteries to equalize. A voltage differential of 1 V will draw a current of 3 A whereas, a 300 mV differential will draw 1 A. Using these balancers in a string with slight battery capacity differences allows more usable energy capacity out of the string by transferring energy into the lower charged batteries from other higher charged batteries. LEDs indicate whether the balancers are in balance, charging other modules, or are receiving a charge from other modules.



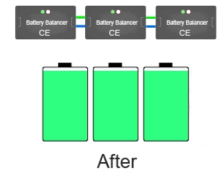
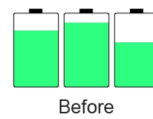
### FEATURES

- Eliminates battery voltage drift during charge and discharge cycles
- Increases usable power output and system efficiency
- Ensures batteries stay healthy
- Status LEDs indicate battery status

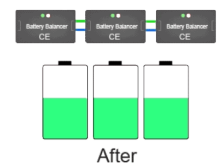
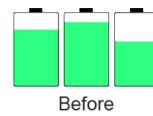
### CONNECTION DIAGRAM



#### Charging



#### Discharging



### LED STATUS

Status LED		Battery Condition	Notes
Left	Right		
○	○	Disconnected	Connect to battery
●	○	Battery Balanced	Battery is balanced/equalized - normal condition
○	●	Battery Equalizing - Discharging	Cell equalization - discharging
○	●	Battery Equalizing - Charging	Cell equalization - charging
●	○	Overbalanced, Current Protection, Short Circuit Protection	Balance current > 2.8 A - release in 10 seconds

# 12V 3A LiFePO<sub>4</sub>, VRLA, AGM, GEL battery balancer/equalizer



## LEON<sup>®</sup><sub>SB</sub> LBUPS-BBAL

### SPECIFICATIONS

Parameter	Specification
<b>Electrical</b>	
Energy Transfer	Dynamic
Balance Current	0.3:1.0 (300 mV = 1 A, 1 V = 3 A)
Compatible Battery Chemistries	LiFePO <sub>4</sub> , AGM, GEL, lead-acid
Working Voltage	9-15 VDC per battery
Power Consumption	< 50 mW
Battery String Configuration (Voltage)	3S (36 VDC)
<b>Physical</b>	
Case Material	ABS
Dimensions (H x W x D)	1.0"H x 3.2"W x 1.5"D (2.5H x 8.1W x 3.8D cm)
Weight	0.2 lb (0.1 kg)

### ORDERING INFORMATION

Part #	Description
LBUPS-BBAL	12 VDC, 3 A battery balancer/equalizer for lead-acid, AGM, GEL or LiFePO <sub>4</sub> batteries