

# EXOTRONIC

Electronics for the Great Outdoors

## LiFePO4 Smart Batteries



### Notes & Limitations

- The State of Charge monitor cannot read current below ~1A and can drift out of several weeks of no use. Complete a full charge cycle to re-calibrate
- After a trip, either press the On/Off/Reset Button twice to reset, or connect to a suitable power supply or charger to restart the BMS.
- After long periods of no use, or if continuously fast charging, the cells may get out of balance. The active balancer will correct this issue, to allow the balancer time to work, trickle/slow charge the battery to 14.2-14.4V and allow to hold that voltage until balanced.
- Charge at least once every 3 months
- If the battery trips on low voltage, and is left unattended for several weeks, the cells will continue to drop voltage and the battery may become unrecoverable – the battery must be charged within 72 hours after a low voltage trip.
- To extend the service life, it is recommended to use the battery between 10 and 90% State of Charge.
- Over-current trips will automatically reset after 30s.

### Warning

To maximise the longevity and safety of your new lithium batteries, please ensure you follow stay within the specified parameters. Ensure terminals are torqued and bolts are not bottomed out. Failure to do so could result in shortened lifespan and void your warranty.

### Risk of Fire / Explosion

- do not short circuit the battery or allow excess dust/moisture between terminals
- Always check polarity before powering equipment on
- Do not expose to direct sun light or sea water
- Do not install near heat sources
- Always fuse the output positive of the battery with a fuse no greater than 2C

**Before connection/disconnection, turn off the battery via the On/Off/Reset button  
Button position - up**

### Smart Bluetooth

Use the app to check the real-time status of the battery data

### On / Off / Reset Button

- Don't have a dark-start charger handy? Just press the reset button twice to reset.
- Avoid the need of an isolation switch by simply turning off at the button

### Pre-trip Alarm

The battery will provide an audible/visual alarm for 60s at approximately 10% state of charge

### Water / Dustproof

IP66 provide protection against high pressure water and complete dust protection thanks to the machine sealing of the battery

### Safe and Reliable

- JBD BMS with full protections
- Prismatic aluminium cased GFB cells with rupture vent
- Vibration tested

## Specifications

Battery Capacity	100Ah	200Ah
Battery Nominal Voltage	12.8V	
Continuous Current	100A	200A
Peak Current (1s)	170A	310A
Trip Current (10s)	110A	220A
Maximum Inverter Size	1000W	2000W
Maximum Number of Parallel Batteries <i>Must be wired as per Figure 1</i>	4 of the same model <i>No longer than 12 months difference in age</i>	
Maximum Number of Series Batteries <i>Must be wired as per Figure 2</i>	4 of the same model <i>No longer than 12 months difference in age</i>	
Low Voltage Trip	10V	
High Voltage Trip	14.6V	
Balance Current	1.2A	
Length	330mm	406mm
Width	175mm	175mm
Height	225mm	228mm
Weight	12.4kg	20.2kg
Mounting Orientation	Upright	
Nominal Continuous Charge Current	30A	60A
Maximum Continuous Charge Current	50A	100A
Absorption Voltage	14.0 - 14.2V	
Float Voltage	13.5V	
Cycle Life (0.3C)	>3000 100% cycles at 25C to 70% Capacity within 5 years	
Case Material	ABS	
Terminal	M8 Bolt - 10mm depth	
Terminal Torque	14Nm Max (12Nm Recommended)	
Capacity Measurement	14.6V to 10V at 0.3C at 25C	
Operating Temperature Charging	5C – 45C	
Operating Temperature Discharging	-20C – 55C	
Operating Temperature Storage	-20C – 60C	
Ideal Storage Conditions	25C, 40% SoC (approx. 13V)	
Battery Ventilation Required	10mm Clearance on all sides	

### Caution

- To be installed by a competent person
- Not for cranking / starting
- Do not dispose of in fire
- Do not open case
- Do not drop, impact or pierce



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## Wiring Notes

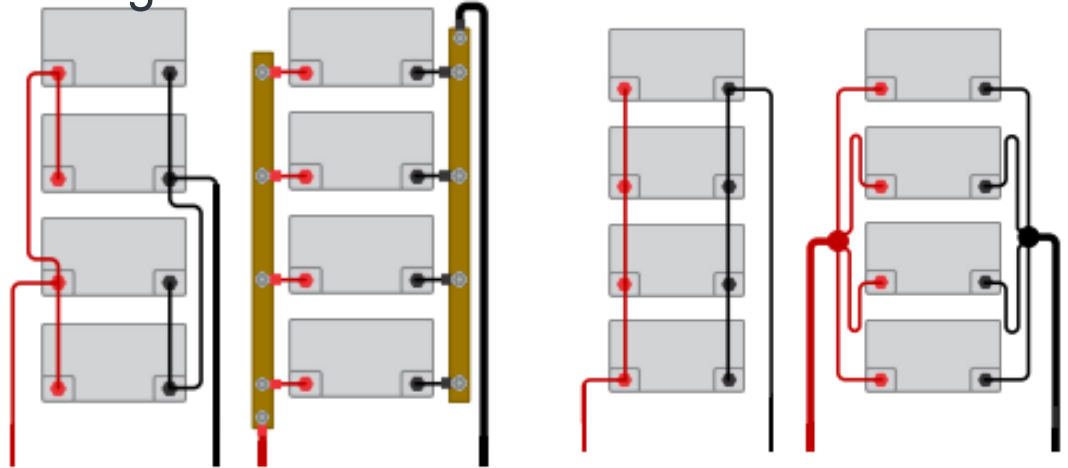


Figure 1 – Parallel Wiring

It is essential that all loads and chargers from the batteries evenly distribute current through the batteries, otherwise the batteries will not wear evenly, and excessive differences may cause a battery to fail under heavy loads, such as a large inverter loading one battery most. If using an inverter or charger greater than a single battery is rated for, it is recommended that a third battery is installed, reducing the risk of a cascading failure mode.

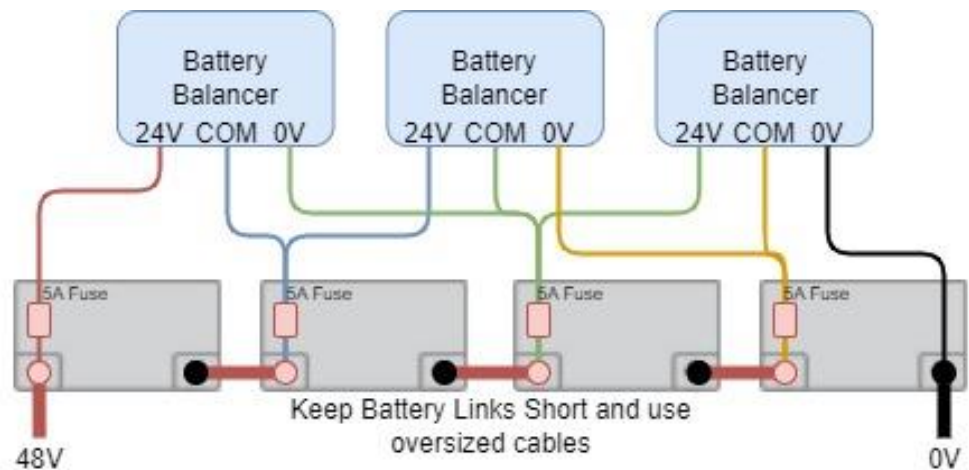


Figure 2 – Series Wiring

NEVER wire ANY loads from the 12V, 24V or 36V terminals, if other voltages are required, you must use a converter, i.e. a 48/36, 48/24 or 48/12 converter across the string of batteries.

Battery balancers serve two purposes:

1. Keep batteries balanced: Each two sets of batteries will be monitored and if a voltage difference appears, the balancer will move the charge from one battery to the other
2. Alarm if out of balance: If the voltage difference is too great, battery balancers will make an audible alarm to allow you to intervene before damage to the batteries occurs.