



By Lithionics



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## OPE-Li3 ND-DC BMS

### Battery Management System for use with Lithionics Batteries

#### What makes the OPE-Li3 with Lithionics the best battery system for marine applications?

**Dual Channel System-** "Dual-Channel" means that the charge side of your system can be isolated from the load side of your system by the BMS. In the uncommon case of a high voltage cutoff (HVC), the BMS will isolate the battery module from any charge sources so as to stop the battery from overcharging. At this point the loads will still be connected so the electrical system on board is still functional. When the loads bring the voltage down to a reasonable level, the BMS will automatically reengage the charge bus for future charging. Conversely, in the case of a low voltage cutoff, the BMS will only isolate the loads so that the charge sources can continue charging the battery as able. In any cases of extreme high or low voltage, the BMS will totally isolate the batteries until the problem can be rectified.

**Automatic System Recovery** even if unattended. As described above, in a situation where the BMS must isolate either the load or charge bus, the system programming paired with the dual bus will allow the system to recover from the event with no intervention.

**Multi-level protection system.** The BMS pack level computers are backed up by cell-level sensors, communicating via a rugged "cell loop" (vs. the fragile communication cables of other lithium systems). The result is continuous protection at both the cell and pack levels that is resistant to both water and physical damage. In addition to monitoring the individual voltage at the cell level, the electronics on each cell will shunt current in order to help maintain a proper balance between the cells.

**FCC (Field Circuit Control) Alternator protection:** All OPE-Li3 BMS units come with a simple alternator disconnect circuit. The BMS will automatically turn off the alternator before a high voltage cutoff, thus protecting your alternator(s) in an HVC situation. This is a simpler and more robust solution than having the BMS communicate with the alternator through the CANbus network.

**Reserve Capacity** The BMS is intelligently programmed for system management and is designed to initiate the first load cutoff at 80% discharge which leaves a 20% reserve capacity. It provides an early warning so that charging can be initiated but it is very easy to override the cutoff with a simple button push at the BMS.

