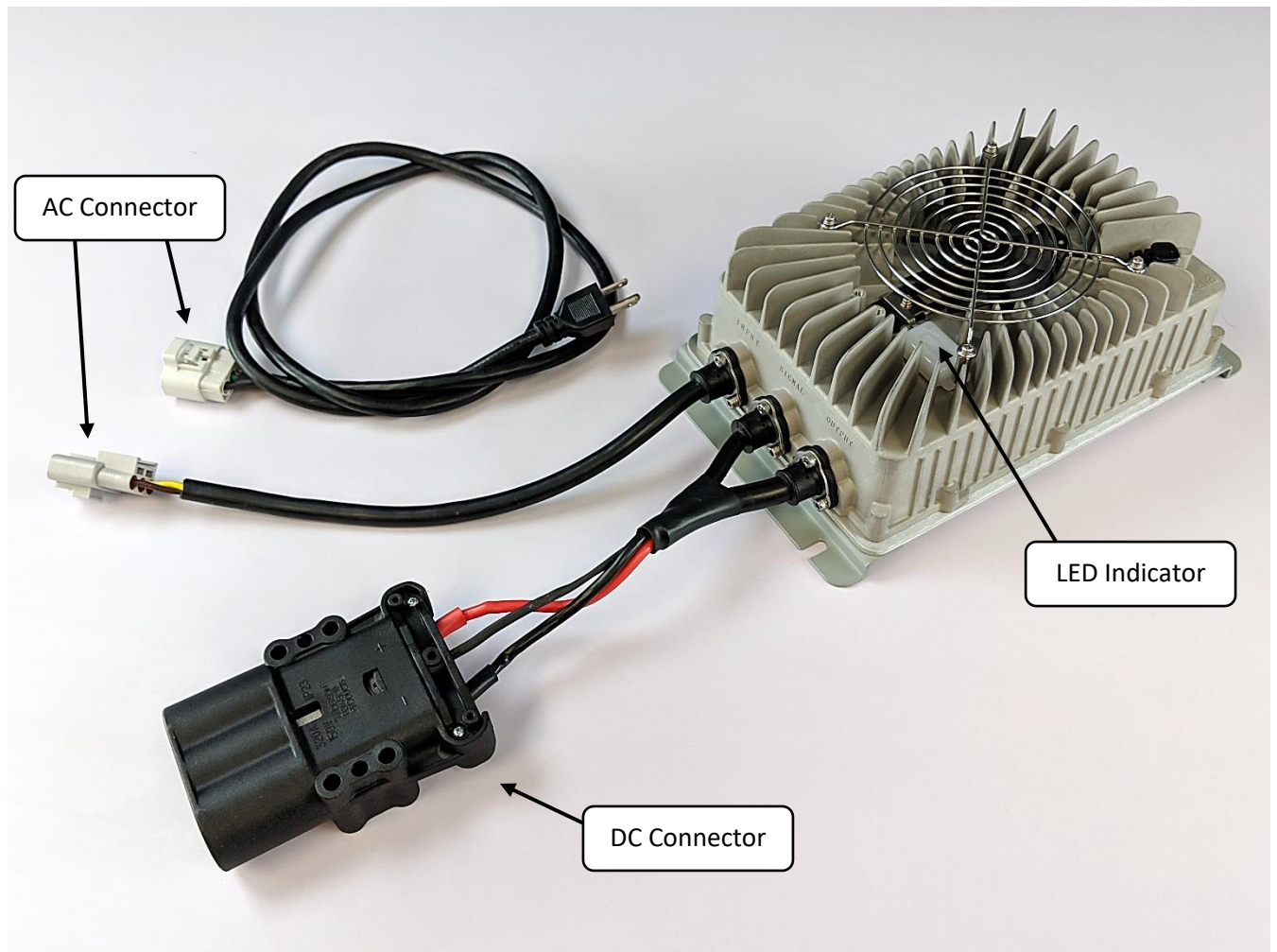




Lithionics Battery®

Service Balance Charger – User Guide



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Safety Precautions

- All electrical work should be performed in accordance with local and national electrical codes.
- Voltage is present at the battery terminals, use insulated tools and gloves while working on the system.
- Always turn off equipment connected to the system in addition to turning OFF the Power switch provided on the system to isolate the batteries from other electrical circuits, before performing any repairs or maintenance on the system.
- Always use proper wire sizes to connect the system to inverters, chargers or other equipment.
- Always use crimped connections to connect to the battery terminals.
- Read and follow the inverter, charger or other equipment manufacturers safety precautions prior to connecting the system to that equipment.

Overview






The Service Balance Charger (SBC) will attempt to restore an overly discharged module by applying a low current while monitoring the OptoLoop® circuit to ensure safe recovery of the module. At the end of charge, where balancing occurs, the SBC will systematically promote balancing of cells that require it, and signal it is complete via its LED indicator.

NOTE: Do NOT attempt to bypass the BMS or tap any loads directly from any battery modules, as it could lead to permanent damage and voids your battery warranty!!

SBC Operation

The main purpose of the SBC is to charge and balance a single module which is either grossly out of balance and/or is at too low of a State-of-Charge to charge with typical charging equipment. The SBC can also be used as a normal charger to fully charge a battery module to 100% SoC. The SBC operates by monitoring the voltage, amperage and OptoLoop® data from the battery module it is connected to. The SBC will throttle the charge amperage accordingly to promote cell balancing. Once the battery module has reached a healthy charged voltage, the SBC indicates that it is finished by its LED indicator changing to solid green. Other charging states are also communicated with different color and flashing combinations as defined below.

1. Connect the SBC DC Connector to the Battery Module’s DC Connector.
2. Connect the SBC AC Power Connector to Grid AC Receptacle.
NOTE: For subsequent battery modules, the AC Power must be disconnected and reconnected to reset the SBC. Allow sufficient time for the SBC to fully power down before reconnecting.
3. The following is the incremental operation of the SBC from start to finish:

START 				
Stage	Trickle	Bulk	Final	Float
LED Color	RED Flashing	RED Solid	YELLOW Solid	GREEN Solid
Visual				

NOTE: Trickle charge only activates if the battery module is deeply discharged.

During the Bulk and Final stages the following balancing stages may activate as necessary:

Stage	Balance	Balance Pause
LED Color	GREEN Flashing	RED-GREEN Flashing
Visual	