

# OptiMATE lithium

**LFP**  
**4s 0.8A**

The affordable  
LiFePO<sub>4</sub>  
battery maintainer



Optimises battery power and life

Saves low voltage LiFePO<sub>4</sub> batteries

Specialized LiFePO<sub>4</sub> maintenance

Protects LiFePO<sub>4</sub> batteries

also available: x 4



**OptiMATE™ lithium 0.8A**, the **OptiMATE** maintainer to protect your LiFePO<sub>4</sub> battery in the most effective way.

The new **OptiMATE lithium 0.8A** will protect your investment and guarantee your Lithium Iron Phosphate (LiFePO<sub>4</sub> / LFP) battery will perform as advertised for a very long time.

**OptiMATE lithium 0.8A** unique LiFePO<sub>4</sub> specific program recharges and balances cells within the battery efficiently and safely.

**OptiMATE lithium 0.8A**'s maintenance program delivers current to the vehicle circuitry, protecting and keeping the battery at 100% charge.

**OptiMATE lithium 0.8A – Battery Performance Guaranteed!**

- 1 Low Volt Start (0.5V)
- 2 Ultra LOW VOLT SAVE
- 3 LOW VOLT SAVE / cell monitoring
- 4 TEST - cell damage
- 5 Cell-balancing CHARGE
- 6 OPTIMIZE
- 7 TEST after CHARGE
- 8 OptiMATE maintenance

## How it works

- 1. Pre-qualification / BMS reset:** The charge program is selected according to battery voltage. For a battery with internal BMS (battery management system) that includes a low voltage cut-out; with **OptiMate Lithium** connected to the battery, disconnect the AC supply cord from AC power and once again reconnect. The BMS reset program will attempt to reconnect the internal cells with the battery posts so that charging can commence.
- 2. Low Volts recovery:** The **OptiMate** SAVE mode controls charging during this sensitive battery SAVE stage, to ensure that an over discharged battery will be correctly and safely recovered. Tests are conducted through-out the SAVE program to determine if the battery has successfully recovered and can advance to BULK CHARGE.
- 3. Bulk charge:** Constant current of 800mA is delivered until the voltage has risen to 14.3V.
- 4. Short-circuited / dead cell check:** Charge progress is tracked against the ideal LiFePO<sub>4</sub> charge curve, internal damage will be detected and unnecessary charging is prevented of a battery that cannot be recovered.
- 5. Absorption and equalisation:** for up to 4 hours the current is delivered in pulses with voltage controlled between 14.0 and 14.3V, aiding cell voltage equalisation and improving the battery's overall power delivery.
- 6. Voltage retention test:** is conducted for up to 12 hours during which no charge current is delivered, with 3 possible test results indicating the battery's general state of health or excessive self discharge or higher than expected power loss through the vehicle's electrical system.
- 7. Charge maintenance:** The MAINTENANCE CHARGE CYCLE consists of 30 minute float charge periods at a voltage of 13.6V followed by and alternating with a 30 minute 'rest' (no charge current) periods. During the float charge period current is delivered only if the battery has lost charge due to connected vehicle circuitry. A refresh cycle may be performed if the charge level has dropped significantly.

The alternating charge and 'rest' maintenance program protects the battery against over discharge by connected vehicle circuitry, making it ideal for indefinite and 100% safe long term maintenance charging.

## Technical Specifications

Ideal for LiFePO <sub>4</sub> /LFP batteries	up to 50Ah
Program	LiFePO <sub>4</sub> microprocessor
Output current (bulk charge)	0.8A
Charge time limit	48 hours (maintenance time: unlimited)
Maintain / test cycles	30 min/30 min (alternating hourly)
Charge retention test	Range: 10.1 - 13.2V. GOOD (green) = battery voltage > 13.2V
Size	167 x 65 x 46 mm / 6 1/2 x 2 1/2 x 1 3/4 inches
Weight	0.6 kg / 1 1/3 lb
Enclosure type	fully sealed (IP54), 4 x wall mount tabs
Input cable length	2m / 6ft
Output cable length	2m / 6ft
Included Accessories	O-01: weatherproof permanent lead O-04: alligator/battery clips
Operation temperature range	From -20°C <-> 40°C / -4°F <-> 104°F
Warranty	3 years
AC supply	100-240V 50-60Hz 0.23A @ 100Vac - 0.15A @ 240Vac
Reverse drain current	less than 0.1mA
Power usage (no battery connected)	0.0089kWh / day
Ratings / approvals : Safety, EMC, Energy efficiency, enclosure seal rating	IP54, CE, NRTL (UL & CSA), SAA (AU & NZ), approved by TUV Sud. BC (California Energy Compliant).

