

The state-of-the-art
LiFePO4
battery charger



NEW
with BMS
reset

- safet^o** precise charge control
- ampmaticTM** adjusts to battery size
- Optimises battery power and life
- TESTs before and after charging
- Low voltage battery SAVE mode

OptiMateTM lithium, 5A, the best OptiMate to charge and protect your LiFePO4 battery in a way no other charger does!

OptiMate lithium 5A now includes a BMS reset program, to enable recharging of a LiFePO4 battery protected against deep discharge.

The new **OptiMate lithium 5A** will protect your investment and guarantee your Lithium Iron Phosphate (LiFePO4 / LFP) battery will perform as advertised for a very long time.

With 5 Amps of charge current available **OptiMate lithium 5A** unique multi step **ampmaticTM** program recharges and balances cells within the battery quickly and efficiently.

OptiMate lithium 5A's maintenance program delivers current to the vehicle circuitry, protecting and keeping the battery at 100% charge.

OptiMate lithium 5A – Battery Performance Guaranteed!

- 1 Low Volt Start (0.5V)
- 2 TEST before charge
- 3 Temperature check
- 4 Ultra LOW VOLT SAVE
- 5 LOW VOLT SAVE / cell monitoring
- 6 TEST - cell damage
- 7 Cell-balancing CHARGE
- 8 OPTIMIZE
- 9 TEST after CHARGE
- 10 OptiMate maintenance

How it works

- 1. Pre-qualification test:** OptiMateLithium 5A displays the condition of the battery before charging and measures environment temperature. The **ampmatic™** charge program is selected according to temperature and battery condition.
- 2. Low Volts recovery:** The **safet^o** protection 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:** the **ampmatic™** processor actively adjusts charge current to match battery capacity and condition, achieving a complete charge in the shortest time. Progress is tracked against the ideal charge curve for LiFePO4 batteries.
- 4. Short-circuited / dead cell check:** Charge progress is tracked against the ideal LiFePO4 charge curve, internal damage will be detected and unnecessary charging is prevented of a battery that cannot be recovered.
- 5. Absorption and equalisation:** for 10 minutes 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. Charge verification:** the voltage is limited at 13.6V while the **ampmatic™** processor monitors the current absorbed by the battery. If this reveals a less than optimal charge, the program reverts to absorption for a further 10 minutes.
- 7. Voltage retention test:** is conducted for 30 minutes during which no charge current is delivered, with 5 possible test results indicating the battery's general state of health. A green (voltage > 12.7V) result extends the test up to 12 hours, to check for excessive self discharge or higher than expected power loss through the vehicle's electrical system.
- 8. Charge maintenance:** The 12 hour 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 voltage retention test and maintenance charge cycle will repeat 24 hours after the start of the very first test and continue to repeat for as long as the charger remains connected.

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 LiFePO4 / LFP batteries	up to 100Ah
Program control	ampmatic™ microprocessor
Output current (bulk charge)	0.4A – 5.0A
Charge time limit	24 hours (maintenance time: unlimited)
Maintain / test cycles	30 min/30 min (alternating hourly)
Charge retention test	Range: 10.1 - 13.3V. GOOD (green) = battery voltage > 13.3V
Size	199 x 71 x 61mm / 7.8 x 2.8 x 2.4 inch
Weight	740g / 1 1/2 lbs
Enclosure type	Fully sealed (IP54), 4 x wall mount tabs
Input cable length	2m / 6ft
Output cable length	2m / 6ft
Included Accessories	O-1 fused eyelet set, weather protected O-4 clamps set for bench charging
Operation temperature range	From -40°C <-> 40°C / -40°F <-> 104°F
Warranty	3 years
AC supply	1.5A @ 100Vac / 0.85A @ 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).

