

OptiMATE

lithium

The **FIRST**
dedicated **LiFePO₄**
battery charger



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, the first OptiMATE to protect your LiFePO₄ battery in a way no other charger did before!

The new **OptiMATE lithium** 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** unique multi step **ampmaticTM** program recharges and balances cells within the battery quickly and efficiently.

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

OptiMATE lithium - Battery Performance Guaranteed!

OptiMATE

**Battery Performance
Guaranteed!**

How it works

- 1. Pre-qualification test:** OptiMateLithium 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°** 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

Recommended for LiFePO ₄ / LFP batteries	up to 100Ah
Programme control	ampmatic™ microprocessor
Input current max.	0,55A @ 230V
Typical annual energy cost	< €1 (continuous maintenance)
Reverse drain current	less than 0,001A
Output current (bulk charge)	0,4A – 5,0A
Automatic desulphation	multistage (high voltage, turbo and pulsed mode)
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
Weight	740g
Enclosure classification	IP54
Mounting	easy direct wall mounting
Input cable length	2m
Output cable length	2m
Included Accessories	SAE-71 fused eyelet set, weather protected SAE-74 clamps set for bench charging
Operation temperature range	-40°C / +40°C
Warranty	3 years

