

# OptiMATE<sup>2</sup>



## Fully automatic battery maintainer

Extends battery life

Safe long term battery care

Sealed weatherproof enclosure



**OptiMate™ 2**, extends life and improves performance of a 12V battery of a vehicle / water craft or 12V battery operated system that is not in daily use.

Use the included SAE-71 accessory to easily connect **OptiMate 2** to the battery when-ever the vehicle / water craft is parked, for safe long term maintenance even in temperatures below freezing.

**OptiMate 2** senses the battery condition, recharges and then keeps the battery 100% ready, never overcharging, and provides power to the anti-theft alarm, display, on board computer, etc.

**OptiMate 2** is ideal for standby power applications, the interactive standby mode during long term maintenance reverts to full charge mode if it senses high current drain from the battery.

**OptiMate 2**, a true 'connect & forget' charger and maintainer for all 12V batteries.

**OptiMate 2. Battery performance guaranteed!**

1

Low Volt  
Start (2V)

2

Controlled  
CHARGE

3

OPTIMIZE

4

OptiMate  
maintenance



## How it works

- 1. Safety check:** OptiMate 2 must be connected to a battery (retaining minimum 2V) to activate its output.
- 2. Bulk charge:** a constant current of 0.8A efficiently brings the battery up to 14.3V.
- 3. Charge verification:** immediately follows bulk charge mode during which the battery's ability to accept a charge and there-after it's charged status is verified. A battery in poor health unable to hold a charge is indicated by the yellow charge LED alternating with the the green maintain LED every 3 seconds. For a battery that appears healthy the voltage is limited at 13.6V for 30 minutes while the circuit monitors the actual voltage and the current absorbed by the battery, during which the green maintain LED remains on. If during the 30 minutes the automatic circuit senses the battery requires further charging, the program reverts to bulk charge in-frequently until a full charge is achieved.
- 4. Maintenance charge & rest cycle:** consists of 30 minute float charge periods followed by and alternating with a 30 minute 'rest' periods, during which there is no charge current. This "50% duty cycle" prevents loss of electrolyte in sealed batteries and minimizes gradual loss of water from the electrolyte in batteries with filler caps, and thereby contributes significantly to optimizing the service life of irregularly or seasonally used batteries.

During the 30 minute charge period the circuit offers current to the battery within a safe 13.6V voltage limit ("float charge"), allowing it to draw whatever small current is necessary to sustain it at (or close to) full charge and compensate for any small electrical loads imposed by connected circuitry, or the natural gradual self-discharge of the battery itself.

During the 30 minute rest period the battery voltage is monitored. For a good battery the green maintain LED should remain on. The program will return to bulk charge if the battery voltage cannot remain above the test level during the rest period.
- 5. Interactive standby** - A load that causes the battery voltage to suddenly reduce will return the program to Bulk charge mode. After the battery has been recharged the program returns to the Maintenance charge & rest cycle.

**OptiMate 2 can remain connected to the battery indefinitely, the battery will remain cool and safe. And optimally charged. Of course.**

## Technical Specifications

Ideal for 12V lead-acid batteries	3 to 96Ah, AGM (MF), Standard, GEL and AGM spiral cell
Program control	fully automatic (multi stage controller)
Output current (bulk charge)	0.8A
Charge time limit	maintenance time: unlimited
Maintain / rest cycles	30 min/30 min (alternating hourly)
Charge retention test	Level: 12.4V. GOOD (green) = battery voltage > 12.4V
Size	167 x 65 x 46 mm / 6 1/2 x 2 1/2 x 1 3/4 inches
Weight (packaging included)	0.6 kg / 1 1/3 lb
Enclosure	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 @ 100V – 0.15A @ 240V
Reverse drain current	less than 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), PSE (Japan) approved by TUV Sud. BC (California Energy Compliant).