

## OptiMate TM400A

# OptiMate 1 VoltMatic TM-400a Automatic Battery Charger Maintainer

Model: TM400A | Brand: OptiMate

## INTRODUCTION

The OptiMate 1 VoltMatic is a fully automatic 4-phase battery charger and maintainer designed for 6V and 12V lead-acid batteries, including STD (wet cell), AGM (absorbed glass mat), and GEL types. This device ensures optimal battery performance and extends battery life by providing precise charging and long-term maintenance without the need for supervision.

Key features include:

- Automatic voltage detection for 6V or 12V batteries.
- 0.6 Amp charging current, ideal for maintaining smaller batteries.
- Advanced 4-phase charging program for efficient and safe battery care.
- Long-term maintenance mode to keep batteries fully charged and healthy.

## SAFETY INSTRUCTIONS

Please read and understand all safety instructions before operating the OptiMate 1 VoltMatic. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Ventilation:** Always use the charger in a well-ventilated area.
- **Sparks and Flames:** Keep sparks, flames, and smoking materials away from the battery and charger. Batteries can produce explosive gases.
- **Eye Protection:** Always wear eye protection and protective clothing when working with batteries.
- **Connection Order:** Connect the charger to the battery first, then plug the charger into the AC power outlet. Disconnect in reverse order.
- **Battery Type:** Do not attempt to charge non-rechargeable batteries. This charger is designed for 6V and 12V lead-acid batteries only.
- **Damaged Batteries:** Do not charge frozen, damaged, or leaking batteries.
- **Children and Pets:** Keep the charger and battery out of reach of children and pets.

- **Moisture:** Do not expose the charger to rain or excessive moisture.

## SETUP

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Follow these steps to set up your OptiMate 1 VoltMatic charger:

1. **Identify Battery Voltage:** The OptiMate 1 VoltMatic automatically detects whether the connected battery is 6V or 12V. No manual selection is required.
2. **Connect to Battery:**
  - Ensure the charger is unplugged from the AC power outlet.
  - Connect the red (positive) clamp or ring terminal to the positive (+) battery terminal.
  - Connect the black (negative) clamp or ring terminal to the negative (-) battery terminal.
  - Ensure connections are secure.
3. **Connect to AC Power:** Plug the charger's AC power cord into a standard wall outlet. The charger will automatically begin its program.



Image: OptiMate 1 VoltMatic charger with included battery connection accessories (clamps and ring terminals).

## OPERATING INSTRUCTIONS

The OptiMate 1 VoltMatic operates automatically once connected. The charging process is indicated by a series of LEDs on the unit.



**OPTIMATE 1**

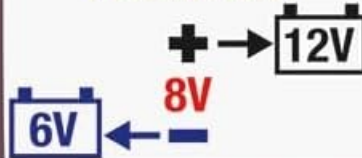
**(VoltMatic)**

**AUTOMATIC LEAD-ACID  
BATTERY CHARGER**

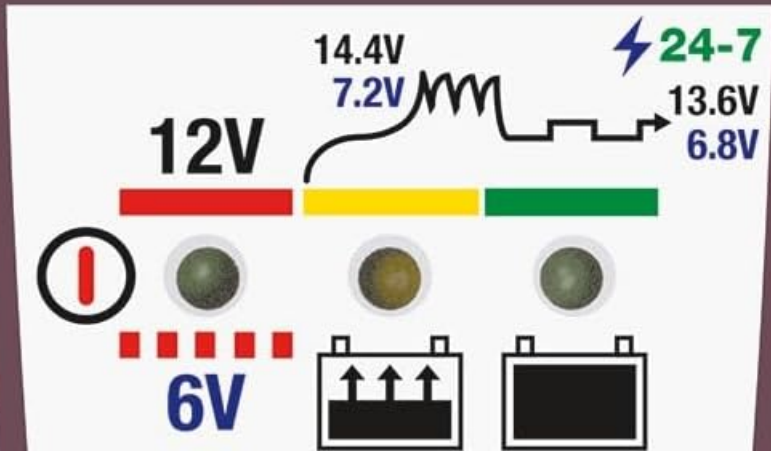
6V **AGM** **GEL** **STD** 12V



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**Safe 24-7 Maintenance**



6V

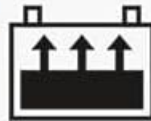


Image: Close-up view of the OptiMate 1 VoltMatic unit, highlighting the LED indicators for voltage and charging status.

## LED Indicators:

- **6V / 12V LEDs:** One of these will illuminate to indicate the detected battery voltage.
- **Charging Status LEDs (Red, Yellow, Green):**
  - **Red LED:** Indicates the initial charging phase or a deeply discharged battery.
  - **Yellow LED:** Indicates the bulk charge phase, where the battery is receiving most of its charge.
  - **Green LED:** Indicates the battery is fully charged and the charger has entered long-term maintenance mode.
- **Battery Type LEDs (AGM, GEL, STD):** These LEDs indicate the type of lead-acid battery the charger is optimized for. The VoltMatic automatically adapts to the battery type.

## 4-Phase Charging Program:

1. **Initialization & Voltage Check:** The charger first checks the battery voltage and automatically selects 6V or 12V operation. It also checks for severe discharge.
2. **Bulk Charge:** Delivers a constant current (0.6A) to bring the battery to approximately 80% charge. The Yellow LED will be active.
3. **Absorption Charge:** The voltage is held constant while the current decreases, bringing the battery to 100% charge. The Green LED will start to illuminate.
4. **Float / Long-Term Maintenance:** Once fully charged, the charger switches to a maintenance mode, delivering small pulses of current to keep the battery at optimal charge without overcharging. The Green LED remains active. This mode is safe for indefinite connection.

## MAINTENANCE

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To ensure the longevity and proper functioning of your OptiMate 1 VoltMatic, follow these maintenance guidelines:

- **Cleaning:** Keep the charger unit clean and free from dust and debris. Use a dry cloth for cleaning. Do not use solvents or abrasive cleaners.
- **Cable Inspection:** Regularly inspect the AC power cord and battery connection cables for any signs of damage, such as cuts, fraying, or exposed wires. Replace damaged cables immediately.
- **Storage:** When not in use, store the charger in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Connections:** Ensure battery connections are clean and free of corrosion for optimal charging efficiency.

## TROUBLESHOOTING

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If you encounter issues with your OptiMate 1 VoltMatic, refer to the table below for common problems and solutions.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Charger not turning on (no LEDs)	No AC power; Faulty connection to battery.	Check AC outlet and power cord. Ensure battery connections are secure and correct polarity.
Red LED stays on for a very long time	Deeply discharged battery; Battery fault.	Allow more time for charging. If it persists, the battery may be sulfated or faulty. Consult a battery specialist.
Green LED does not illuminate	Battery not fully charged; Battery fault.	Ensure the charger has been connected for sufficient time. If the battery never reaches full charge, it may be faulty.
Incorrect voltage detected (e.g., 12V battery detected as 6V)	Severely discharged 12V battery.	The charger may initially detect a very low 12V battery as 6V. Allow the charger to attempt to recover it. If it remains at 6V, the battery may be beyond recovery.

## SPECIFICATIONS

Specification	Detail
Brand	OptiMate
Model	TM400A
Manufacturer	TecMate International NV/SA
Input Voltage	100-240V AC (Standard Mains)
Output Voltage	6V / 12V DC (Automatic Selection)
Charging Current	0.6 Amps
Battery Types	6V & 12V Lead-Acid (STD, AGM, GEL)
Charging Phases	4-Phase Automatic Program
Product Dimensions	12 x 12 x 5 cm
Product Weight	498 g
Connector Type	SAE
Compliance	CE

## WARRANTY & SUPPORT

For warranty information, please refer to the documentation included with your product or visit the official OptiMate website. Warranty terms and conditions may vary by region and retailer.

For further support, technical assistance, or to view additional product resources, please visit the official OptiMate website:

[www.optimize1.com/om1vm](http://www.optimize1.com/om1vm)