

Tecmate TM-341

TecMate Optimate 4 Dual Program Battery Charger and Maintainer User Manual

Brand: TecMate | Model: TM-341

1. INTRODUCTION

The TecMate Optimate 4 Dual Program is an advanced 9-step 12V 1A battery saving charger, tester, and maintainer designed for 12V lead-acid batteries, including AGM, GEL, STD, Starter, and Deep Cycle types. This device is engineered to optimize battery performance and extend battery life by providing automatic charging, testing, and long-term maintenance. It features two distinct programs for direct battery connection and CAN-bus systems, making it suitable for a wide range of vehicles such as motorcycles, ATVs, side-by-sides, and personal watercraft.

2. IMPORTANT SAFETY INSTRUCTIONS

Please read and understand all safety instructions before operating the TecMate Optimate 4. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Battery Acid:** Batteries contain sulfuric acid, which is corrosive. Avoid contact with skin, eyes, or clothing. In case of contact, flush immediately with water and seek medical attention.
- **Explosive Gases:** Batteries generate explosive hydrogen gas during charging. Ensure adequate ventilation and avoid open flames or sparks near the battery.
- **Eye Protection:** Always wear eye protection when working with batteries.
- **Electrical Shock:** Do not touch uninsulated battery terminals or wiring. Ensure the charger is disconnected from the AC power supply before making or breaking connections to the battery.
- **Indoor Use:** This charger is designed for indoor use. Do not expose it to rain or excessive moisture.
- **Damaged Equipment:** Do not operate the charger if it has been dropped, damaged, or if the power cord or connectors are compromised.
- **Children:** Keep the charger and battery out of reach of children.
- **Compatibility:** Use this charger only for 12V lead-acid batteries (AGM, GEL, STD, Deep Cycle). Do not attempt to charge non-rechargeable batteries or batteries of different voltages.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- TecMate Optimate 4 Dual Program Battery Charger
- Battery Lead (ring terminal connectors with inline fuse)
- Battery Clips (alligator clips)

4. PRODUCT OVERVIEW

The Optimate 4 unit features a robust casing and an intuitive LED display panel. It includes detachable battery connection cables for versatility.



Figure 1: TecMate Optimate 4 Dual Program Battery Charger with included ring terminal and alligator clip connectors.

The image displays the main Optimate 4 charger unit, which is dark blue with a silver-grey control panel. The control panel features various LED indicators for test, save, charge, and maintain functions, along with battery type selection (AGM, STD, GEL, Deep Cycle) and an AMPS display. Also shown are the two types of battery connectors: a set of red and black ring terminal connectors with an inline fuse, and a set of red and black alligator clips. These accessories provide flexible connection options to different battery terminals.

Key Features:

- **Dual Program Modes:** Program 1 for direct battery connection, Program 2 for CAN-bus systems.
- **9-Step Charging:** Comprehensive process including desulfation, bulk charge, absorption, and maintenance.
- **Battery Saving:** Capable of recovering deeply discharged batteries from as low as 0.5V.
- **Automatic Testing:** Performs battery health tests before and after charging.

- **Long-Term Maintenance:** Provides continuous, safe maintenance charging to prevent self-discharge.
- **Sealed Case:** Protects against spills and light rain.

5. SETUP AND CONNECTION

Before connecting the charger, ensure the battery terminals are clean and free of corrosion. Select the appropriate connection method for your battery.

5.1 Connecting to the Battery

1. **Choose Connectors:** Select either the ring terminal connectors for permanent installation or the alligator clips for temporary connection.
2. **Connect Positive:** Connect the red (+) connector to the positive (+) battery terminal.
3. **Connect Negative:** Connect the black (-) connector to the negative (-) battery terminal.
4. **Connect to Charger:** Plug the chosen battery connector into the output port of the Optimate 4 charger.
5. **Power On:** Plug the Optimate 4 into a standard AC power outlet (100-240V, 50-60Hz).

5.2 Program Selection

The Optimate 4 offers two programs, indicated by LEDs on the control panel:

- **Program 1 (Direct):** For direct connection to a 12V lead-acid battery using the provided battery clips or ring terminals. This is the default program.
- **Program 2 (CAN-bus):** For charging 12V batteries through a CAN-bus system, typically found on some motorcycles. Refer to your vehicle's manual for specific CAN-bus charging instructions. To select Program 2, press and hold the program selection button (usually indicated by a circular arrow icon) for 3 seconds after connecting to the battery and AC power.

6. OPERATING INSTRUCTIONS

Once connected and powered, the Optimate 4 will automatically begin its 9-step program. The LEDs on the control panel provide real-time status updates.

6.1 LED Indicators and Program Stages

Indicator	Description
TEST (10s)	Initial battery voltage and health test. Determines the battery's state of charge and condition.
SAVE (15m-2h)	Recovery mode for deeply discharged batteries (as low as 0.5V). Applies a low current to safely bring the voltage up.
CHARGE (48h max)	Bulk charge phase, delivering maximum current (up to 1A) to bring the battery to full capacity.
MAINTAIN (365)	Long-term maintenance mode. The charger periodically tests the battery and delivers a precise charge to counteract self-discharge, keeping the battery optimally charged without overcharging.
AMPS Display	Indicates the current (in Amps) being delivered to the battery during charging.
Battery Type LEDs	Indicates the detected or selected battery type: AGM, STD (Standard), GEL, or Deep Cycle.

The Optimate 4 is fully automatic. Once connected, it will proceed through the necessary steps to charge and maintain your battery. You do not need to manually intervene unless you wish to change the program mode.

7. MAINTENANCE

Proper care of your Optimate 4 charger and battery will ensure long-lasting performance.

- **Charger Cleaning:** Disconnect the charger from AC power and the battery before cleaning. Wipe the casing with a soft, damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Connector Inspection:** Regularly inspect the battery connectors and cables for any signs of damage, corrosion, or wear. Replace if necessary.
- **Battery Terminals:** Keep battery terminals clean and tight for optimal connection.
- **Storage:** Store the charger in a cool, dry place when not in use.

8. TROUBLESHOOTING

If you encounter issues with your Optimate 4, refer to the following common problems and solutions:

Problem	Possible Cause / Solution
Charger not turning on / No LEDs lit.	Ensure the charger is properly plugged into a live AC outlet. Check the inline fuse on the battery lead (if using ring terminals). Replace if blown. Verify connections to the battery are secure.
Charger remains in TEST or SAVE mode for an extended period.	The battery may be deeply discharged or heavily sulfated. The SAVE mode can take several hours. If the battery does not progress past SAVE after 24 hours, the battery may be unrecoverable. Ensure the battery is a 12V lead-acid type.
Charger indicates a fault (specific LED pattern, refer to full manual).	A fault indication typically means the battery is severely damaged, short-circuited, or the connection is incorrect. Disconnect and re-connect the charger. If the fault persists, have the battery professionally tested.
Battery not charging or holding a charge.	The battery may be at the end of its service life and needs replacement. Ensure the correct program (Program 1 or 2) is selected for your application. Check for parasitic drains on the vehicle's electrical system.

For detailed fault codes or specific LED patterns, please consult the comprehensive manual provided with your product or visit the official TecMate support website.

9. TECHNICAL SPECIFICATIONS

Feature	Detail
Brand	TecMate
Model	TM-341
Input Voltage	100-240V AC, 50-60Hz
Output Voltage	12V DC

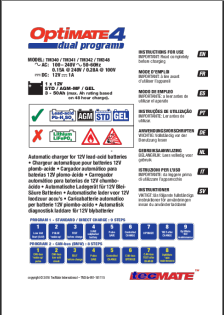
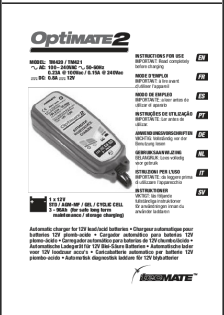

Feature	Detail
Charging Current	1A (max)
Battery Types	12V Lead-Acid (AGM, GEL, STD, Deep Cycle)
Item Weight	1.9 pounds (approx.)
Package Dimensions	11.14 x 6.46 x 2.76 inches (approx.)
Safety Rating	CE
Date First Available	August 13, 2008



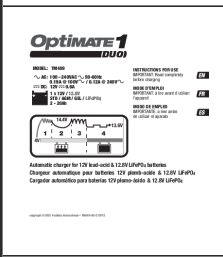
10. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official TecMate website. For technical support, product registration, or further inquiries, please contact TecMate customer service or visit their online support resources.

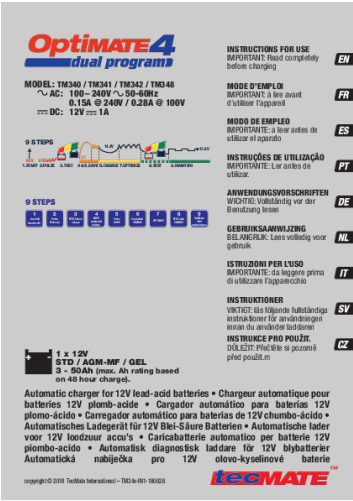
You can find more information and support on the [TecMate Brand Store](#).

Related Documents - TM-341

	<p>OptiMATE 4 Dual Program Battery Charger User Manual</p> <p>Comprehensive user manual for the TecMate OptiMATE 4 Dual Program battery charger, detailing operation, safety instructions, and diagnostics for 12V lead-acid batteries. Supports STD, AGM, MF, and GEL types.</p>
	<p>OptiMATE 2 Automatic Maintenance Charger User Manual</p> <p>Comprehensive user manual for the OptiMATE 2 automatic battery charger (Models TM420/TM421). Includes safety instructions, charging procedures, LED indicators, maintenance, and warranty information for 12V lead-acid batteries.</p>
	<p>OptiMATE4 Dual Program Battery Charger: User Manual and Safety Instructions</p> <p>Comprehensive user manual and safety guide for the TecMate OptiMATE4 Dual Program automatic diagnostic battery charger. Covers charging, testing, and maintenance for 12V lead-acid batteries, with multi-language support.</p>

	<p>OptiMATE 7 12V 10A Automatic Battery Charger - User Manual</p> <p>Comprehensive user manual and safety instructions for the TecMate OptiMATE 7 automatic battery charger. Covers operation, maintenance, and safety precautions for 12V lead-acid batteries.</p>
	<p>TecMate OptiMATE 4 Automatic Battery Charger User Manual</p> <p>Comprehensive guide to using the TecMate OptiMATE 4 automatic diagnostic battery charger for 12V lead-acid batteries. Includes instructions, safety precautions, program details, and warranty information.</p>
	<p>OptiMate 1 DUO Automatic Battery Charger - Model TM409 User Manual</p> <p>Comprehensive user manual for the OptiMate 1 DUO (Model TM409), an automatic maintenance charger for 12V lead-acid and 12.8V LiFePO4 batteries (2Ah-20Ah). Covers safety, operation, charging stages, LED indicators, troubleshooting, and warranty.</p>

Documents - Tecmate – TM-341



[pdf] User Manual Instructions

TM340 TM341 TM342 TM348 OptiMate 4 Dual Program Safety Instructions Operating Manual QR Creative Product ManualOptiMATE TM 341 9 step 12V 1A Battery Saving Charger — RiseTM34x IN1 WEBcdn shopify s files 1 0513 0564 4209 TM34x WEB v 1679589031 ||| MODEL : TM340 / TM341 / TM342 / TM348 AC: 100 240V 50-60Hz 0.15A 240V / 0.28A 100V DC: 12V 1A 9 STEPS 14.4V 2V 0.5V 0.5V 1.START 2.PULSE 3.TEST 4 5.SAVE 6.CHARGE 7.OPTIMIZE 8.TEST 13.6V 9.MAINTAIN INSTRUCTIONS FOR USE IMPORTANT: Read completely before charging MODE D EMPLOI IMPORTANT: ...

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PARTS UNLIMITED **DRAG Specialties**

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[\[pdf\]](#) Price List

High Performance Battery Chargers PRO DEALER OptiMate ITEM PRODUCT No MSRP EXTENDER SAE to O 03 180cm 6ft 3807 0163 \$10 39 13 460cm 15ft 0172 \$12 89 23 40° rated 10A 0336\$22 TS 110 CarbMATE 2 cylinder 3804 0023 \$144 90 Updated incl soft holster 223 Soft Holster for CarbMate 0019 tecmate dealer site OM LeMans PRICE LIST 200219 optimate1 2020 02 |||

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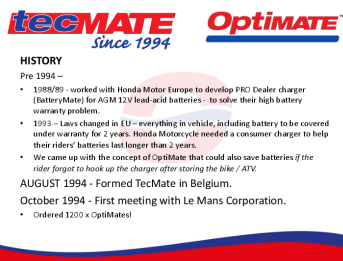
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HISTORY Pre 1994 1988/89 - worked with Honda Motor Europe to develop PRO Dealer charger BatteryMa ... 3807-0265 0.8A Choose the right charger BEST Save 0.5V 1A Charge Test Pb 365 Maintain **TM-341** 3807-0429 TM-351 3807-0430 4 dual program Save 0.5V 5A Charge Test Li 365 Maintain TM...

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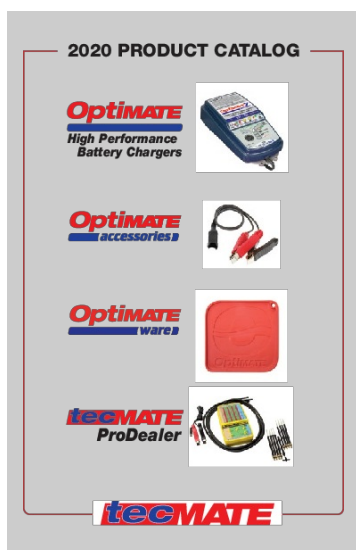
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PRO DEALER OptiMate TA 550 Handlebar Hang Tags 9905 0094 FREE TS 251 Kickstand puck 3804 0017 SAE 3807 0175 \$11 89 O 16 BIKE DIN 0176 OM LeMans PRICE LIST 200127 optimate1 2020 02 |||

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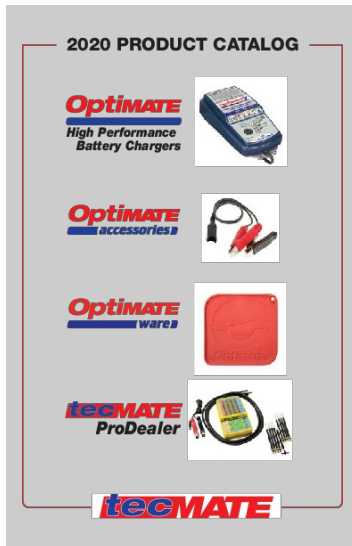


[pdf] Accessories Borchure Catalog

OptiMate 4s 5A Product Brochure Optimate 4S Tm 290 10 Step 12 8V 13 2V Lithium Battery Charger 2 100Ah Maintainer Recovery catalog autosupply co za 2021 02 |||

2020 PRODUCT CATALOG High Performance Battery Chargers ProDealer Table of Contents OptiMate Batter ... : -40F / -40C Low Volt start 0.5V 2 Step desulfation recovery 3 - 50Ah PART No. 10 EU TM-340 US **TM-341** UK TM-342 JP TM-347 AU TM-348 optimate1.com CHARGERS POWER SPORT dual program 12V 1A O...

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