

MACHSWON TEA-0237

MACHSWON 12V/5A Smart Automatic Battery Charger Instruction Manual

Model: TEA-0237

1. INTRODUCTION

Thank you for choosing the MACHSWON 12V/5A Smart Automatic Battery Charger. This device is designed to charge and maintain 12V lead-acid batteries, including Calcium, GEL, AGM, and Wet types. It features a 4-stage automatic charging process to ensure optimal battery health and prevent overcharging. This manual provides essential information for safe and effective use of your charger.

2. SAFETY INFORMATION

- Read all instructions before using the charger.
- This charger is designed for 12V lead-acid batteries only. Do not use it with lithium batteries or any other battery types.
- Ensure proper ventilation during charging. Do not operate in a confined area.
- Avoid open flames or sparks near the battery during charging, as batteries can produce explosive gases.
- Wear eye protection and protective clothing when working with batteries.
- Keep out of reach of children.
- Do not expose the charger to rain or excessive moisture.
- Disconnect the AC power before making or breaking connections to the battery.
- If the battery is damaged or frozen, do not attempt to charge it.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x MACHSWON 12V/5A Automatic Smart Battery Charger (Model TEA-0237)
- 1 x Set of Alligator Clips (for battery connection)
- 1 x Set of Ring Terminal Connectors (for permanent battery connection)



Image 1: The MACHSWON 12V/5A Smart Automatic Battery Charger, including the main unit, alligator clips, and ring terminal connectors.

4. PRODUCT FEATURES

- **4-Stage Automatic Charging:** Provides a comprehensive and accurate charging process (desulfation, bulk charge, absorption, float charge) to extend battery life and performance.
- **Wide Battery Compatibility:** Suitable for most 12V lead-acid battery types, including Calcium, GEL, AGM, and Wet batteries (6-150Ah). *Note: Not compatible with lithium batteries.*
- **Effective Repair Mode:** Features automatic sulfation and acid stratification detection. The pulse repair function can help restore drained and sulfated batteries. *Note: This function cannot activate a completely dead battery or repair severely damaged batteries to 100% new condition.*
- **Automatic Charging Control:** Microprocessor-controlled program automatically monitors and adjusts charging current. The charger stops automatically when the battery is fully charged, preventing overcharging.
- **Comprehensive Safety Protections:** Built-in safeguards against reverse polarity, sparks, overcharging, over-current, open-circuits, short-circuits, and overheating. The charger features an ABS flame-retardant shell for fire, electric shock, and corrosion resistance.
- **Smart LCD Display:** Provides clear indication of charging status and battery condition for user assurance.



Image 2: Close-up view of the MACHSWON charger unit, highlighting the indicator lights for power/charged and charging status.

5. SETUP

1. **Prepare the Battery:** Ensure the battery terminals are clean and free of corrosion. If the battery has removable caps, check the electrolyte level and top up with distilled water if necessary (for Wet batteries).
2. **Choose Connection Method:** Select either the alligator clips or the ring terminal connectors based on your application.
3. **Connect to Battery:**
 - Connect the **RED (+)** charger lead to the **POSITIVE (+)** battery terminal.
 - Connect the **BLACK (-)** charger lead to the **NEGATIVE (-)** battery terminal.

Ensure a secure connection.

4. **Connect to AC Power:** Plug the charger's AC power cord into a standard 100-240V AC electrical outlet.

6. OPERATING INSTRUCTIONS

Once connected, the charger will automatically begin the charging process. The smart LCD display will show the charging status.

Charging Process (4 Stages):

1. **Desulfation:** If detected, the charger applies a high-frequency pulse charge to break down lead sulfate crystals that may have built up on the battery plates.
2. **Bulk Charge:** The charger delivers maximum current until the battery reaches approximately 80% of its capacity.
3. **Absorption Charge:** The charging voltage is held constant while the current gradually decreases, bringing the battery to 100% charge.
4. **Float Charge:** Once fully charged, the charger maintains the battery at a safe voltage, preventing self-

discharge and keeping it ready for use. You can leave the charger connected indefinitely in this stage.

Repair Mode:

The charger automatically detects sulfation and acid stratification. If a battery requires repair, the charger will attempt to use its pulse repair function. This mode is indicated on the display. For optimal results, ensure the battery is disconnected from the vehicle's electrical system during repair mode.

7. MAINTENANCE

- Keep the charger clean and dry. Wipe with a soft, damp cloth if necessary.
- Inspect cables and connectors regularly for any damage. Do not use the charger if cables are frayed or damaged.
- Store the charger in a cool, dry place when not in use.
- Ensure battery terminals are clean before connecting the charger for efficient charging.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Charger not turning on/no display	No AC power; faulty connection	Check AC outlet; ensure power cord is securely plugged in.
Charger not charging battery	Incorrect battery connection; battery severely damaged/dead; wrong battery type	Verify correct polarity (+ to +, - to -); ensure connections are secure. This charger cannot activate a completely dead battery. Confirm battery is 12V lead-acid.
Repair mode not effective	Battery too severely damaged	The repair function has limitations and cannot restore all damaged batteries. Consider professional battery assessment or replacement.
Overheating	Poor ventilation; internal fault	Ensure charger is in a well-ventilated area. If overheating persists, discontinue use and contact support.

9. SPECIFICATIONS

Specification	Value
Model	TEA-0237
Input Voltage	100-240V AC
Output Voltage	12V DC
Rated Output Current	0.75-1.25A (Max 750mA)
Rated Power	15W
Battery Types	12V Lead-Acid (Calcium, GEL, AGM, Wet)

Specification	Value
Battery Capacity Range	6-150Ah (12V)
Cooling	Natural convection
Material	ABS + Metal
Dimensions (L×W×H)	8 x 5 x 3 CM (approx. 3.15 x 1.97 x 1.18 inches)
Cable Length	148 cm (approx. 58 inches)
Item Weight	9.9 ounces
Certifications	CE

10. WARRANTY AND SUPPORT

MACHSWON is committed to providing robust quality products and dedicated customer support. If you encounter any issues or have questions regarding your 12V/5A Smart Automatic Battery Charger, please do not hesitate to contact our support team. We are always ready to assist you.

For support, please refer to the contact information provided with your purchase or visit the official MACHSWON website.