

## CTEK MXS25EC

# CTEK MXS25EC Battery Charger User Manual

Comprehensive guide for operating and maintaining your CTEK MXS25EC battery charger.



## 1. PRODUCT OVERVIEW

The CTEK MXS25EC is an advanced 12V lead-acid battery charger designed for professional use. It features patented 8-step charging for fully automatic and efficient battery maintenance. With a maximum output of 25A, it charges batteries quickly and can be left connected indefinitely as it automatically transitions to maintenance mode after full charge.

This charger is compatible with all 12V lead-acid batteries and offers specialized modes like SUPPLY for programming or powering display vehicles, and RECOND for restoring over-discharged WET batteries. Its design prioritizes safety, preventing high temperatures, short circuits, and sparks. LED indicators provide clear information on charge level and operating status. It boasts an IP44 protection class, making it resistant to water splashes.



Figure 1: The CTEK MXS25EC battery charger with its included battery clamps.

## Key Features:

- SUPPLY mode for use as a power source during programming or for display vehicles.
- RECOND mode to restore the condition of over-discharged WET batteries.
- Automatic transition to maintenance mode after full charge, allowing for continuous connection.
- Patented 8-step charging for easy, fully automatic battery charging, even while the battery is in the vehicle.
- Compatible with all 12V lead-acid batteries.
- Protection class IP44, resistant to water splashes.

## 2. SETUP

Before connecting the charger, ensure the area is well-ventilated and free from flammable materials. Always read the safety instructions provided in the full manual.

1. **Identify Battery Type:** Ensure your battery is a 12V lead-acid type. The MXS25EC is compatible with capacities from 40Ah to 500Ah.
2. **Connect Clamps:**
  - Connect the red positive (+) clamp to the positive battery terminal.
  - Connect the black negative (-) clamp to the negative battery terminal.
  - Ensure a secure connection.
3. **Connect to Power:** Plug the charger's power cord into a suitable wall outlet.



Figure 2: The positive (red) and negative (black) battery clamps for connection.

The charger is designed to be safe even when connected to the battery while it is still in the vehicle.

## 3. OPERATING INSTRUCTIONS

The CTEK MXS25EC features an intuitive interface with LED indicators and a MODE button to select charging programs.

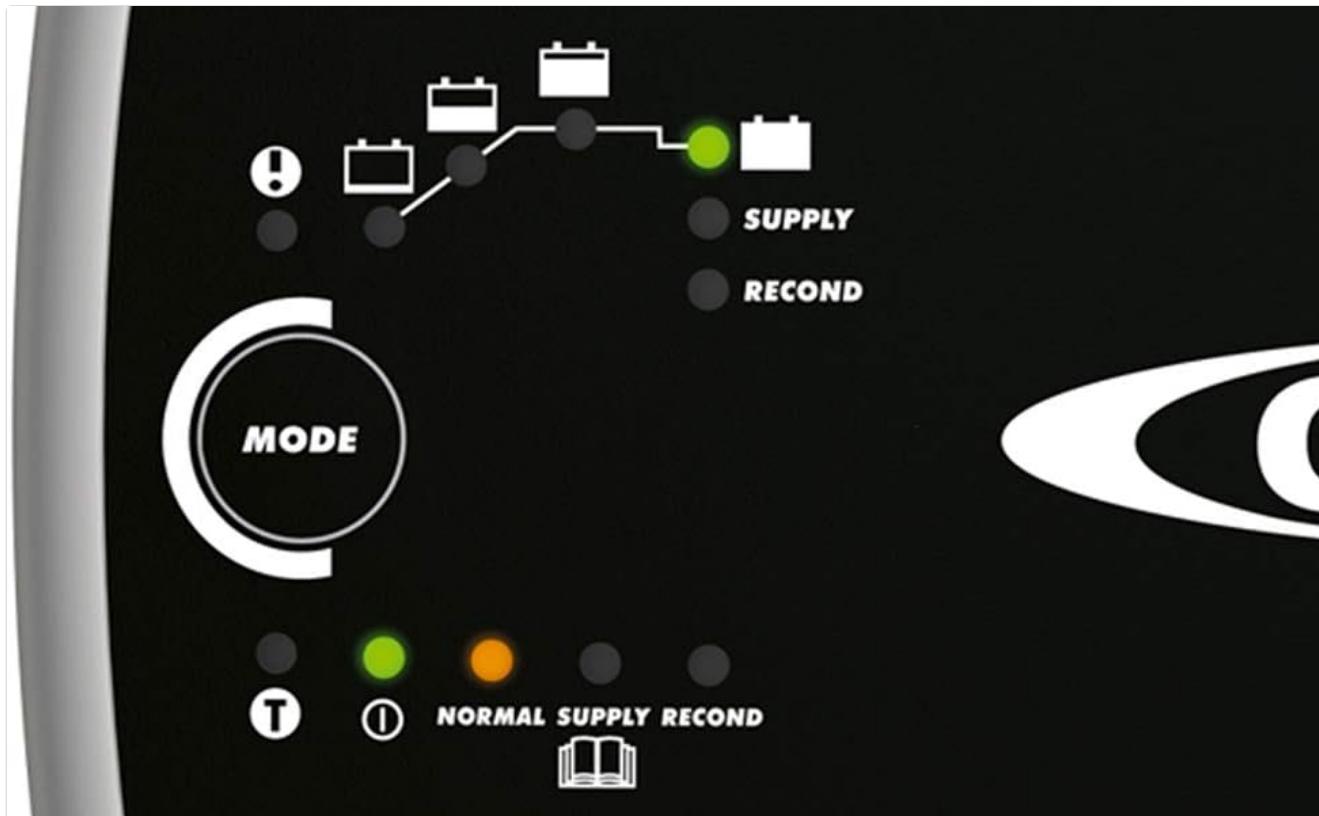


Figure 3: Close-up view of the charger's control panel, showing the MODE button and various LED indicators for charging status and selected programs.

## Charging Process (8 Steps):

The charger automatically progresses through 8 steps to optimize battery performance and lifespan.



Figure 4: Diagram showing the 8-step charging process, including desulphation, soft start, bulk, absorption, analysis, recond, float, and pulse maintenance stages.

- Desulphation:** Removes sulphate from the lead plates of the battery to restore battery capacity.
- Soft Start:** Tests the battery condition to determine if it can accept charge.
- Bulk:** Main charging stage where 80% of the charge is delivered.
- Absorption:** Completes the charge up to 100% with a decreasing current.
- Analysis:** Tests if the battery can retain charge.
- Recond (Recondition):** Special program for deeply discharged WET batteries to restore capacity. Select this mode using the MODE button if needed.
- Float:** Maintains the battery at maximum capacity by providing a constant voltage charge.
- Pulse:** Maintains the battery at 95–100% capacity during long-term storage by pulsing the charge.

## Special Modes:

- **SUPPLY Mode:** Provides constant voltage for programming or as a power supply for display vehicles. Activate by pressing the MODE button until the SUPPLY indicator lights up.
- **RECOND Mode:** For reconditioning deeply discharged WET batteries. Activate by pressing the MODE button until the RECOND indicator lights up.

Monitor the LED indicators on the charger to observe the current charging stage and battery status.

## 4. MAINTENANCE

The CTEK MXS25EC is designed for minimal maintenance. Its automatic maintenance mode ensures the battery remains optimally charged even when left connected for extended periods.

- **Charger Cleaning:** Keep the charger clean and dry. Wipe with a soft, damp cloth. Do not use harsh chemicals or abrasive materials.
- **Cable Inspection:** Regularly inspect the charging cables and clamps for any signs of damage, wear, or corrosion. Replace if necessary.
- **Storage:** When not in use, store the charger in a cool, dry place, away from direct sunlight and extreme temperatures.



Figure 5: The CTEK MXS25EC charger positioned in an engine bay, demonstrating its compact size and ease of placement during charging.

## 5. TROUBLESHOOTING

This section provides general guidance for common issues. For detailed troubleshooting, refer to the complete product manual or contact customer support.

- **Charger Not Starting:**
  - Ensure the power cord is securely plugged into the wall outlet and the battery clamps are correctly

connected to the battery terminals (red to positive, black to negative).

- Check if the battery voltage is extremely low. The charger may require a minimum voltage to initiate charging.

- Charging Not Progressing:**

- Verify that the battery is not severely damaged or sulphated beyond recovery.
- Ensure the battery capacity is within the charger's supported range (40-500Ah).

- Error Indicators:** Refer to the full manual for specific meanings of any flashing or solid error LEDs.

## 6. SPECIFICATIONS

Feature	Detail
Brand	CTEK
Model Name	MXS25EC
Product Dimensions (L x W x H)	23.5 x 12.5 x 6.3 cm
Item Weight	3.5 Kilograms
Color	Silver
Output Voltage	14.4 Volts
Compatible Battery Capacity	40-500Ah
Protection Class	IP44

## 7. WARRANTY AND IMPORTANT INFORMATION

### Warranty:

The CTEK MXS25EC comes with a **2-year certification/warranty** from the date of purchase. Please retain your proof of purchase for warranty claims.

### Important Notes:

- Parallel imports are not covered by product warranty or support.
- Parallel imports may have different specifications from genuine domestic products and may have restrictions on use in Japan.
- The manufacturer cannot provide any quality assurance or service for parallel imports.
- Our products are genuine domestic imports.

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For further assistance, please visit the official CTEK website or contact your local distributor.

