Etrogo ET-168C

Etrogo ET-168C 12V/6V 10A Automatic Intelligent Pulse Lead-Acid Battery Charger User Manual

Model: ET-168C | Brand: Etrogo

1. Introduction

Thank you for choosing the Etrogo ET-168C Automatic Intelligent Pulse Lead-Acid Battery Charger. This device is designed for efficient and safe charging of 6V and 12V lead-acid batteries, including AGM, GEL, MF, and SLA types. Featuring automatic voltage recognition, intelligent charging modes, and multiple protection functions, this charger ensures optimal battery performance and longevity. Please read this manual thoroughly before use to ensure proper operation and safety.

2. Safety Instructions

Always prioritize safety when operating electrical equipment. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Avoid Overcharging:** Do not overcharge lead-acid batteries, as this can lead to low battery voltage and charging failure. Excessive discharge can also damage the battery.
- **Battery Type Compatibility:** This charger is designed exclusively for lead-acid batteries (AGM, GEL, MF, SLA).**DO NOT** attempt to charge lithium batteries or any other battery types, as this can cause severe damage to the battery and charger, and pose a fire hazard.
- **Power Connection:** The charger does not have a storage function and must be connected to an AC power supply to operate. Ensure the power outlet is compatible with the charger's input requirements.
- **Ventilation:** Ensure adequate ventilation during charging. Do not cover the charger or operate it in an enclosed space. The integrated fan provides efficient heat dissipation.
- **Protection Features:** The charger is equipped with multiple protection features including short circuit protection, reverse connection protection, overcurrent protection, overheating protection, low voltage protection, and overvoltage protection. If any protection is activated, the charger will stop operation.
- **Connection Polarity:** Always connect the red (+) clamp to the positive terminal of the battery and the black (-) clamp to the negative terminal. Reverse connection protection is built-in, but correct connection is crucial.
- **Children and Pets:** Keep the charger and batteries out of reach of children and pets.
- **Environmental Conditions:** Do not expose the charger to rain, moisture, or extreme temperatures. Use in a dry, well-ventilated area.

3. Product Overview

The Etrogo ET-168C charger features a compact design with an intelligent LED display and robust construction. It incorporates a 5-stage charging process for optimal battery care.

3.1. Key Features

- **Automatic Voltage Recognition:** Automatically detects 6V or 12V batteries.
- **Intelligent Charging:** CPU precise temperature control and smart charging algorithm.
- **Two Charging Modes:** Dedicated modes for motorcycles (6Ah-20Ah) and cars (20Ah-200Ah).
- **Automatic Stop Charge:** Prevents overcharging by stopping when the battery is fully charged.
- **Real-time LED Display:** Shows charging progress and battery status.
- **Multi-Protection System:** Comprehensive safety features for secure operation.
- **Efficient Cooling:** Integrated fan for effective heat dissipation.

3.2. Product Dimensions and Components

Image 1: Etrogo ET-168C Battery Charger showing its dimensions (17cm length, 13cm width, 7cm height), weight (700g), and cable lengths (AC power cable 130cm, battery clamps cable 50cm). A diagram illustrates the 5-stage charging process: No-load Mode,

Constant Current Mode, Constant Voltage Mode, Floating Charge Mode, and Turbulence Mode.

4. Setup

Follow these steps to correctly set up your Etrogo ET-168C battery charger.

1. **Prepare the Battery:** Ensure the battery terminals are clean and free of corrosion.
2. **Connect Battery Clamps:** Connect the red (+) positive clamp to the positive terminal of the battery. Connect the black (-) negative clamp to the negative terminal of the battery. Ensure a secure connection.
3. **Connect to AC Power:** Plug the charger's AC power cord into a standard wall outlet. The charger will power on and begin its automatic detection process.

Image 2: Connection diagram illustrating how to connect the Etrogo ET-168C charger to an AC power supply and a 3Ah-200Ah lead-acid battery. The diagram shows the AC plug connected to the charger, and the charger's red and black clamps connected to the corresponding battery terminals.

5. Operating Instructions

The Etrogo ET-168C charger is designed for ease of use with intelligent automatic functions.

5.1. Automatic 6V/12V Recognition

Upon connection to a battery and AC power, the charger will automatically detect whether it is a 6V or 12V battery based on its real-time voltage. The corresponding 6V or 12V indicator on the charger will illuminate.

- **12V Recognition Range:** 10.8V - 14.5V
- **6V Recognition Range:** 1V - 7.5V

Note: If the battery capacity is severely depleted and its voltage is very low (below the recognition range), the charger may not be able to identify it correctly. In such cases, allow the battery to charge for a short period. If the battery voltage returns to the appropriate range, the charger will then correctly recognize it.

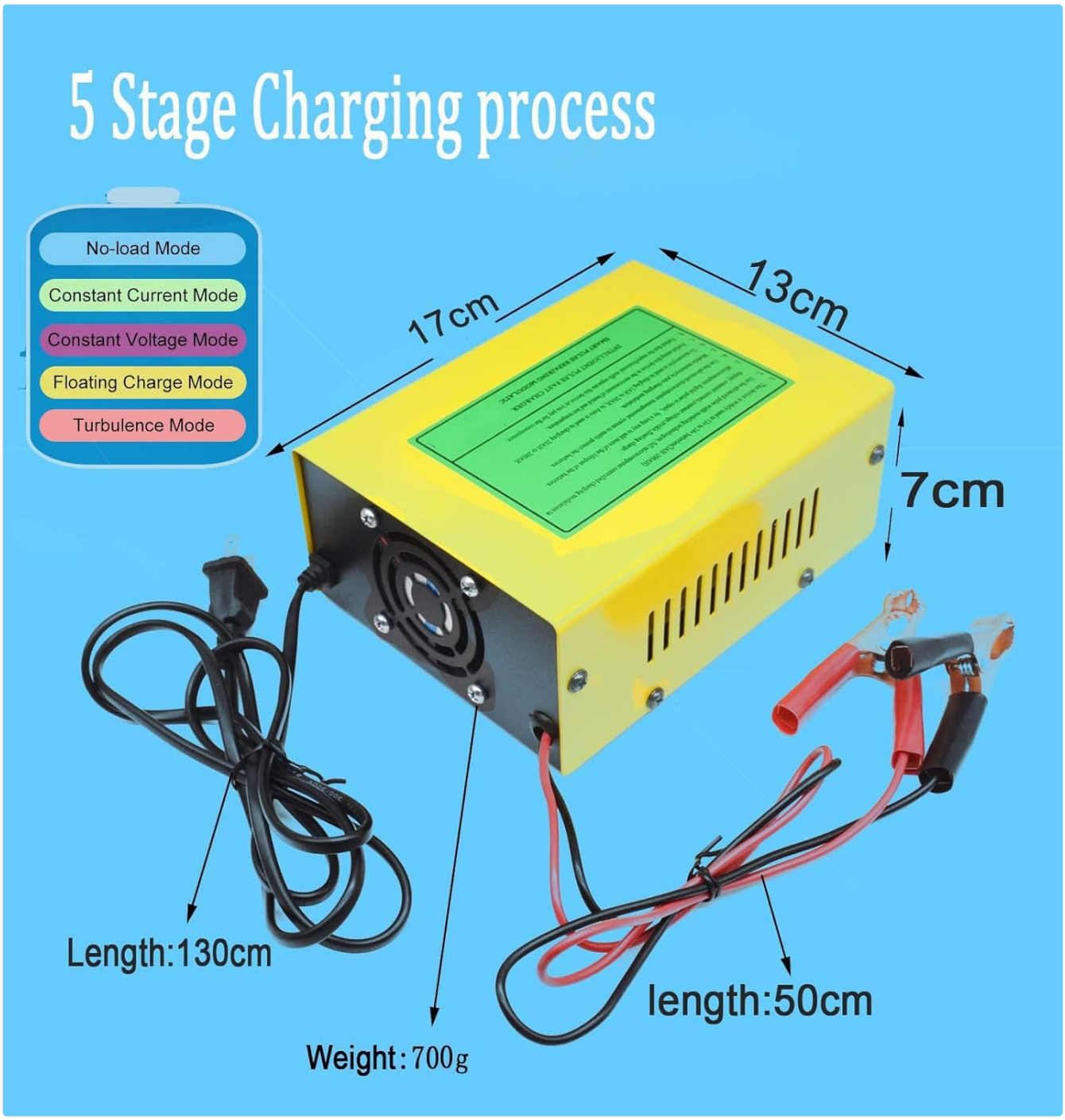

Image 3: The Etrogo ET-168C charger displaying its automatic 6V and 12V recognition capabilities. It highlights the principle of recognition based on actual battery voltage and specifies the recognition ranges for both 6V (1V-7.5V) and 12V (10.8V-14.5V) batteries.

5.2. Charging Modes

The charger offers two distinct charging modes:

- **Motorcycle Charging Mode:** Suitable for batteries with capacities from 6Ah to 20Ah.
- **Car Charging Mode:** Suitable for batteries with capacities from 20Ah to 200Ah.

Use the 'MODE SWITCH' button on the charger to select the appropriate charging mode for your battery. The working current automatically adjusts from 1A to 15A, providing up to 250W of power for fast and safe charging.

5.3. Automatic Stop Charge Function

The advanced microcomputer management system ensures that the charger automatically stops charging once the battery is fully charged. This prevents overcharging and protects the battery from damage.

- **During Charging:** The LED display will show the charging percentage, and the 'Charging' indicator will be lit. The battery type indicator (6V or 12V) will remain lit.
- **When Fully Charged:** The LED display will show 100%, and the 'Charging' indicator will turn off. The battery type indicator will remain lit, indicating the battery is connected and fully charged.

Image 4: Comparison of the Etrogo ET-168C charger's display during 'Charging Status' and 'Fully Charged Status'. In charging status, the LED shows percentage values and the 'Charging' indicator is on. In fully charged status, the LED shows 100% and the 'Charging' indicator is off, while the battery type indicator remains on in both states.

6. Maintenance

Proper maintenance ensures the longevity and reliable operation of your charger.

- **Cleaning:** Disconnect the charger from both AC power and the battery before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Storage:** Store the charger in a cool, dry place away from direct sunlight and moisture when not in use. Ensure cables are neatly coiled and not kinked.
- **Cable Inspection:** Periodically inspect the AC power cord and battery clamp cables for any signs of damage, fraying, or exposed wires. Do not use the charger if any cables are damaged.
- **Ventilation:** Keep the charger's ventilation openings clear of dust and debris to ensure proper airflow for the internal cooling fan.

7. Troubleshooting

If you encounter issues with your Etrogo ET-168C charger, refer to the following common problems and solutions.

- **Charger Not Turning On:**
  - Ensure the AC power cord is securely plugged into a live outlet.
  - Check if the outlet is functioning by plugging in another device.
- **Charger Not Recognizing Battery (Incorrect Voltage Indication):**
  - This can occur if the battery voltage is extremely low. Allow the charger to remain connected for a short period. If the battery voltage rises into the correct recognition range (1V-7.5V for 6V, 10.8V-14.5V for 12V), the charger should then correctly identify it.
  - Ensure battery clamps are securely connected to the correct terminals.
- **Charging Indicator Not Lighting Up:**
  - Verify that the battery clamps are correctly connected (red to positive, black to negative).
  - The battery might already be fully charged, in which case the charging indicator will be off. Check the LED display for 100%.
- **Charger Stops Unexpectedly / Protection Activated:**
  - The charger has multiple built-in protections (short circuit, reverse connection, overcurrent, overheating, low voltage, overvoltage). If any of these conditions are detected, the charger will stop operation for safety.
  - Check for short circuits or incorrect connections.
  - Ensure the charger is not overheating; check for blocked ventilation.
- **Fan Noise:**
  - A slight fan noise during operation is normal as it indicates the cooling system is active.

8. Specifications

Feature	Specification

Feature	Specification
Brand	Etrogo
Model Number	ET-168C
Color	Yellow
Output Voltage	12 Volts (DC)
Amperage	15 A (Max)
Power	250 W
Battery Compatibility	6V / 12V Lead-Acid Batteries (AGM, GEL, MF, SLA)
Motorcycle Mode Capacity	6Ah - 20Ah
Car Mode Capacity	20Ah - 200Ah
Weight	700 Grams
Number of Ports	1
UPC	782899912625
Safety Standards	UL Compliant

8.1. Multi-Protection Features

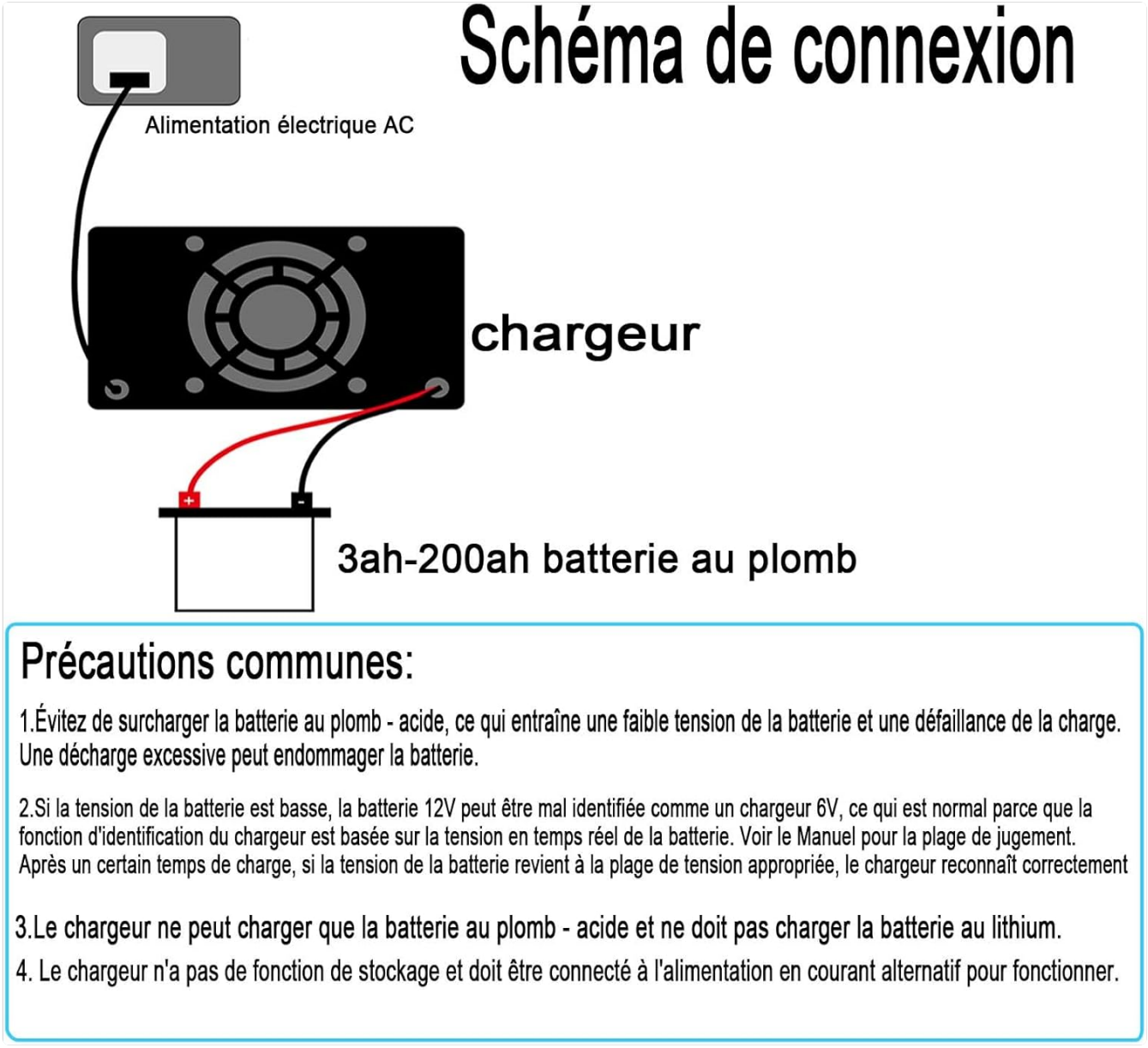

Image 5: Visual representation of the Etrogo ET-168C charger's multi-protection system, including icons for Short Circuit Protection, Reverse Connection Protection, Overcurrent Protection, Overheating Protection, Low Voltage Protection, and Overvoltage Protection.

8.2. Suitable Applications

Image 6: A collage of various vehicles, including cars, motorcycles, vans, and children's ride-on toys, demonstrating the wide range of applications for the Etrogo ET-168C 6V/12V lead-acid battery charger.

9. Warranty and Support

Etrogo provides a **12-month warranty** for this battery charger, covering manufacturing defects and malfunctions under normal use.

For any questions, technical assistance, or warranty claims, please contact our customer support. Refer to your purchase documentation or the retailer's website for specific contact details. We are committed to providing excellent service and support for our products.