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CMTOOL BC201

CMTOOL 24V 30A Forklift Battery Charger User Manual

Model: BC201

1. INTRODUCTION AND OVERVIEW

The CMTOOL 24V 30A 1250W Smart Charger is a fully automatic, 7-stage trickle charger designed for 24-volt lead-acid batteries. It is suitable for various battery-powered vehicles including forklifts, floor scrubbers, golf carts, and patrol cars. This charger features intelligent temperature compensation, multiple safety protections, and a durable IP67 waterproof design.

FULLY AUTOMATIC SMART CHARGER

**24V 30A
1250W**



7-Stage Smart Charging	With Temperature Sensor	3-Color Indicator Light	Six Charge Protections	Trickle Charging Mode
All Aluminum Body	With Cooling Fan	IP67 Waterproof and Shockproof	High/Low Temperature Resistance	FCC and ETL Certification

Image 1: CMTOOL 24V 30A Forklift Battery Charger with features such as 7-stage smart charging, temperature sensor, 3-color indicator light, six charge protections, trickle charging mode, all-aluminum body, cooling fan, IP67 waterproof and shockproof, high/low temperature resistance, and FCC/ETL certification.

2. SAFETY INFORMATION

Always prioritize safety when operating electrical equipment. This charger incorporates several safety features:

- **Overvoltage Protection:** Prevents charging at excessively high voltages.
- **Overcurrent Protection:** Safeguards against drawing too much current.
- **Overheating Protection:** The charger automatically shuts down if the temperature is too high and resumes when cooled.
- **No-Load Protection:** No output is provided without a battery connection.
- **Battery Reverse Polarity Protection:** Prevents damage from incorrect battery terminal connections.
- **Output Short Circuit Protection:** Cuts off internal circuits to avoid damage in case of a short circuit.

Ensure adequate ventilation during charging. Do not expose the charger to water, volatile gas, or open flame. Do not cover the charger during operation as it relies on its heat sink for cooling.

CHARGING PROTECTION

When the temperature is too high, the charger will automatically shut down, and the cooling fan can continue to work to cool the charger. It will automatically charge when the temperature becomes normal.

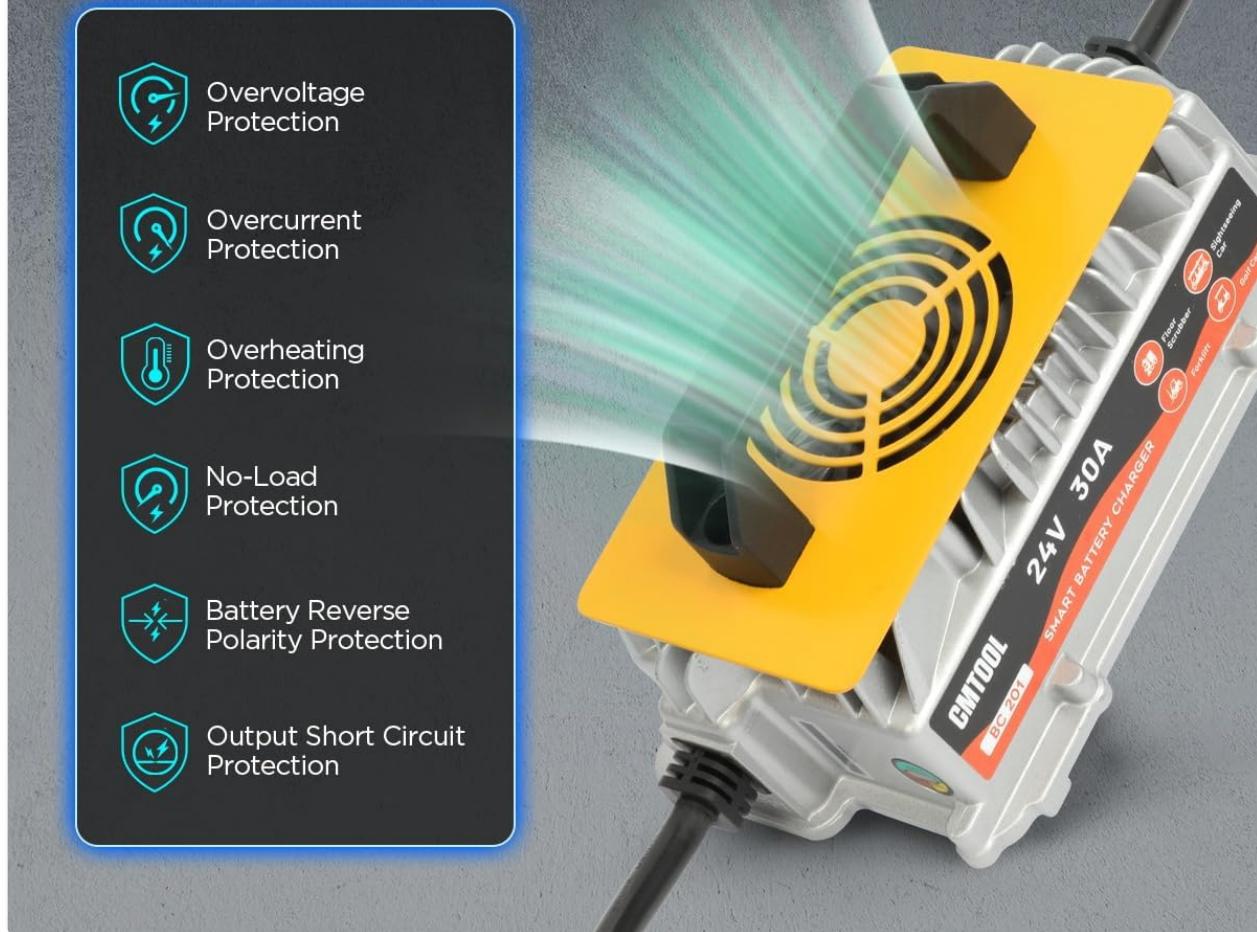


Image 2: Visual representation of the charger's six safety protections, including overvoltage, overcurrent, overheating, no-load, battery reverse polarity, and output short circuit protection. A cooling fan is also depicted.

3. SETUP

Follow these steps to set up your CMTOOL battery charger:

- 1. Prepare the Battery:** Ensure the 24V lead-acid battery is clean and free from corrosion on its terminals.
- 2. Connect Battery Terminals:** Attach the provided terminal pins to your battery's positive and negative posts. Ensure a secure connection.
- 3. Connect Anderson Plug:** Connect the Anderson plug from the charger to the battery's Anderson connector. The charger comes with a spare plug connector and terminal pins for wider use.
- 4. Connect AC Power:** Insert the 110V plug into a standard power outlet.

The charger will perform a 3-second self-test before initiating the charging process.

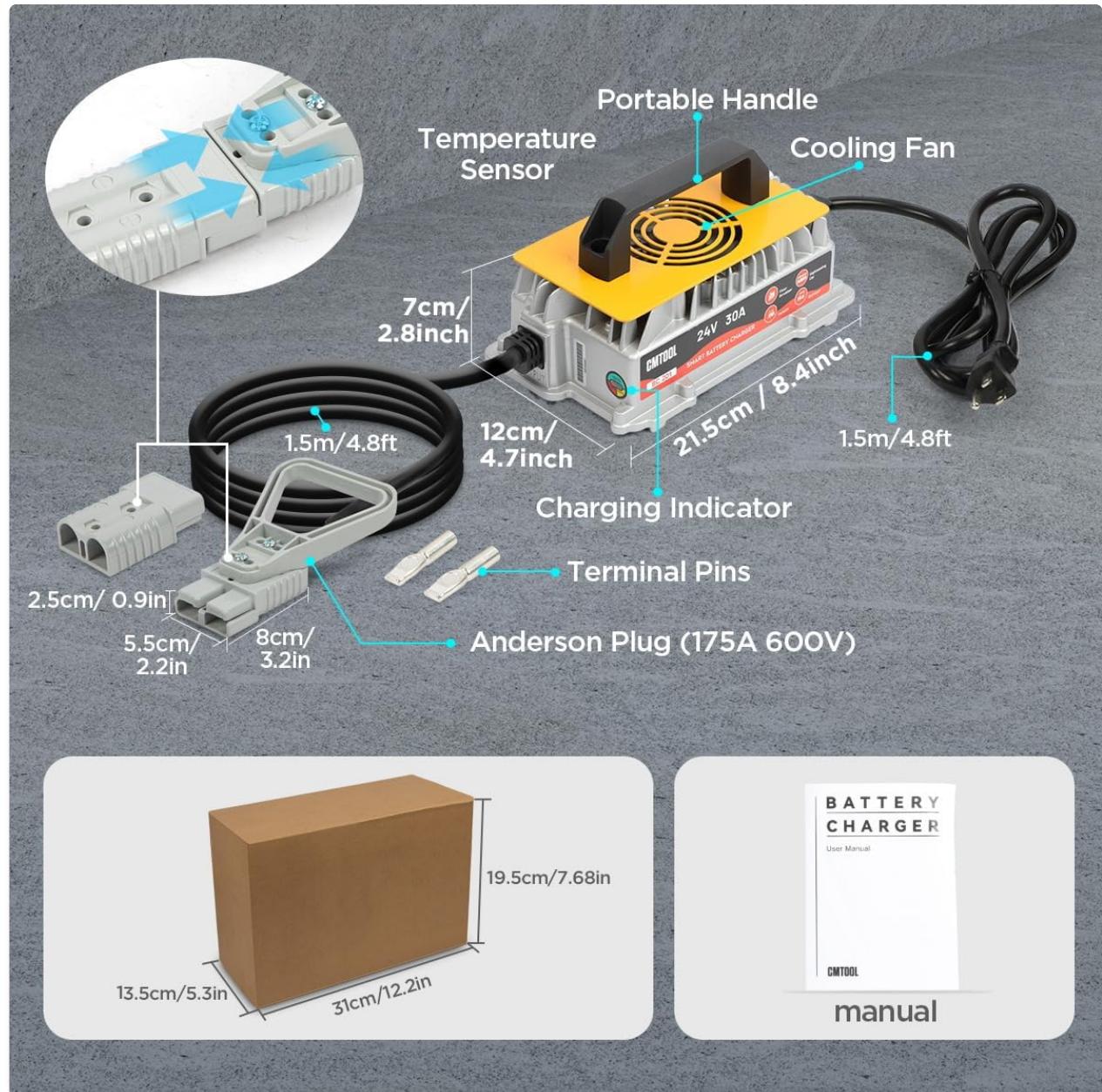


Image 3: Detailed view of the charger's components, including the Anderson plug (175A 600V) and terminal pins, essential for connecting to the battery.

Your browser does not support the video tag. Please update your browser to view this content.

Video 1: This video demonstrates the connection process for the CMTOOL Forklift Battery Charger, showing how to connect the Anderson plug and power cable.

4. OPERATING INSTRUCTIONS

The CMTOOL charger operates with a 7-stage smart charging process, automatically adjusting voltage and current to optimize charging and prevent overcharging. It includes a 3-color indicator light for easy status monitoring.

4.1. Indicator Light Status

- **Red and Green Flash:** Waiting mode or no-load condition.
- **Red Flash:** Low charging (battery charge < 80%).
- **Yellow Flash:** Normal charging (battery charge > 80%).

- **Green Flash:** Trickle mode (maintaining charge).
- **Green On:** Fully charged (100%).

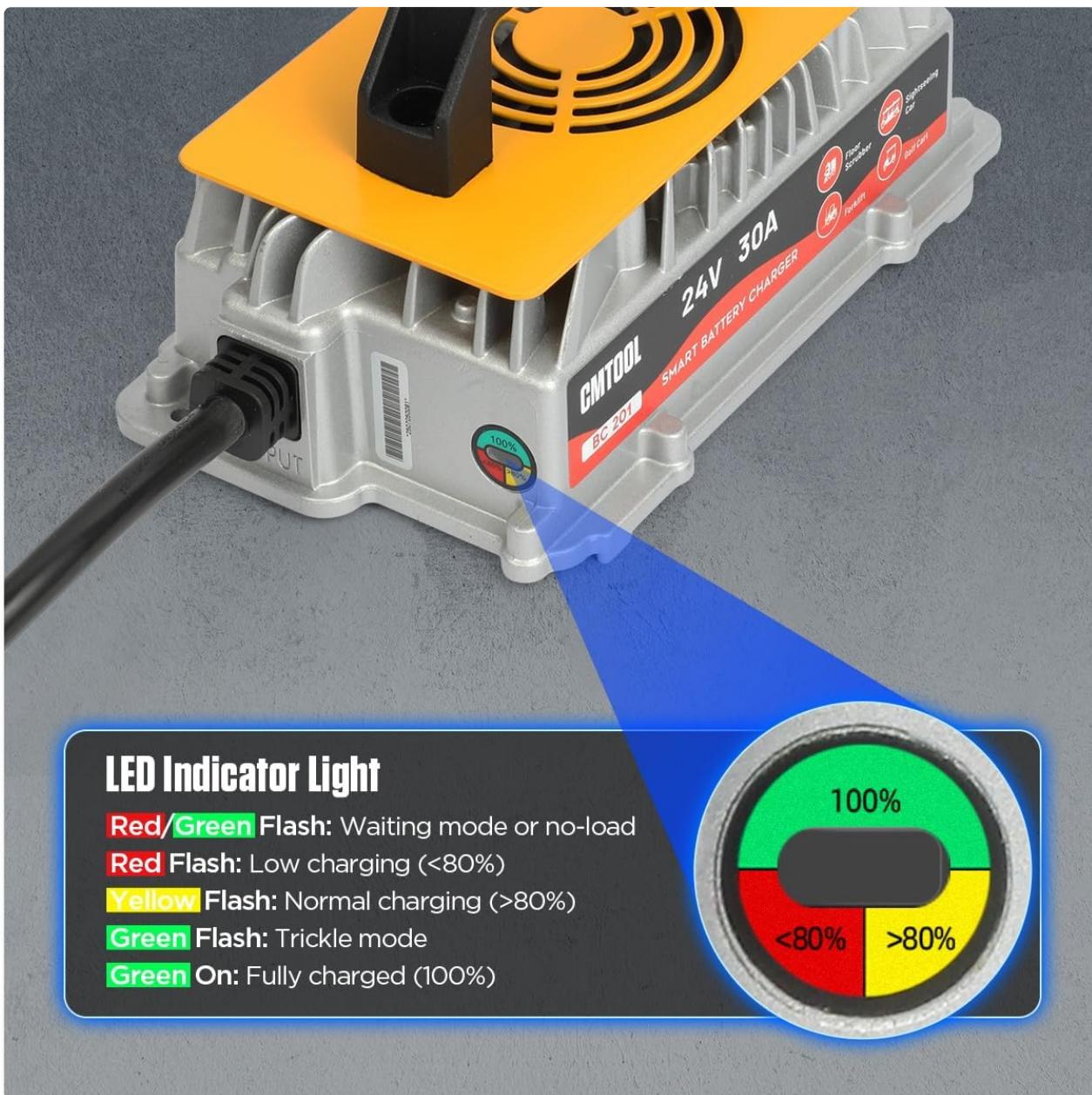


Image 4: The 3-color LED indicator light provides a clear visual status of the charging process.

4.2. 7-Stage Smart Charging

The charger employs a sophisticated 7-stage charging algorithm to ensure optimal battery health and longevity. This includes bulk charging, absorption, and float/trickle modes to prevent overcharging and maintain the battery at full capacity.

PLUG AND FORGET SMART CHARGING



Automatically adjust charging voltage and current, and automatically stop output when fully charged.



Trickle mode charging will not overcharge the battery and effectively extends battery life.

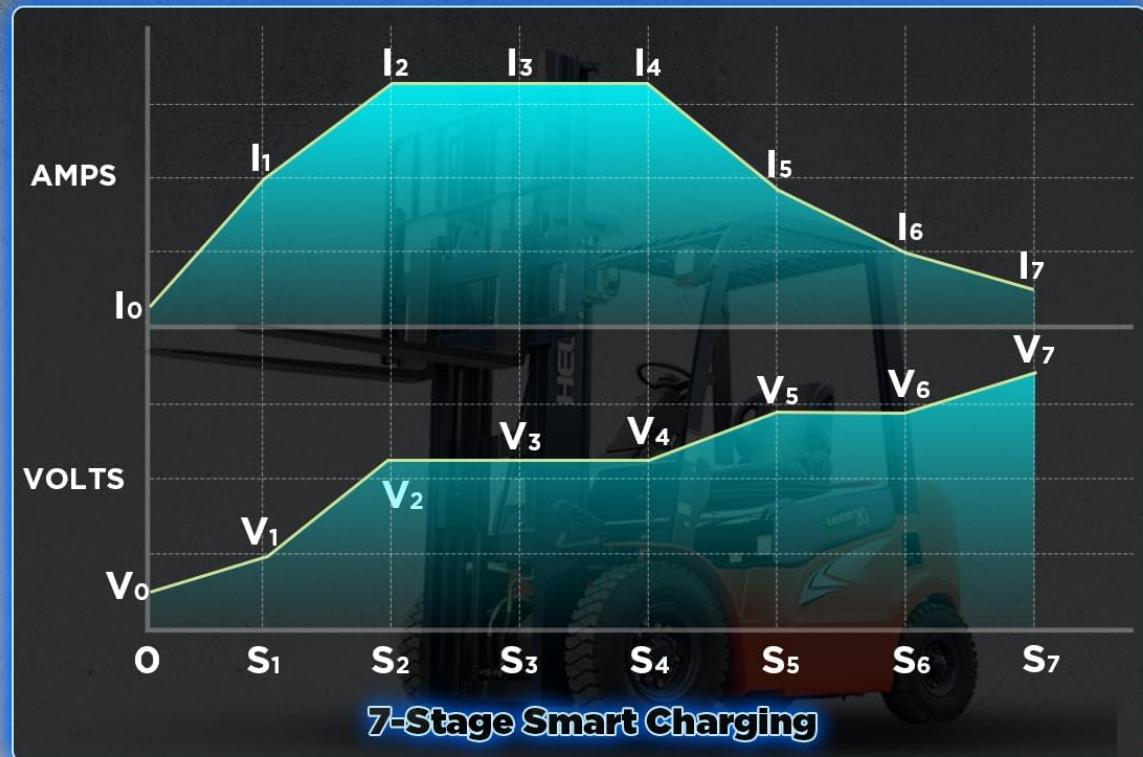


Image 5: A graph detailing the 7-stage smart charging process, showing how current and voltage are adjusted throughout the charging cycle.

5. MAINTENANCE

The CMTOOL charger is designed for durability and minimal maintenance:

- **Cooling Fan:** A built-in cooling fan ensures stable operation and prevents overheating. Keep the fan vents clear of obstructions.
- **IP67 Rating:** The IP67 waterproof and dustproof rating means the charger is protected against dust ingress and temporary immersion in water. This makes it suitable for outdoor use and various environments.
- **Temperature Resistance:** Designed to operate in a wide temperature range (-20°C to +45°C), adapting to diverse working conditions.
- **Durable Construction:** The aluminum body provides robust protection against daily wear and automotive-grade shock.



Image 6: The charger's robust design features IP67 waterproofing, shock resistance, and high/low temperature resistance for reliable performance in challenging conditions.

6. TROUBLESHOOTING

If you encounter issues with your charger, refer to the indicator light status and the following common troubleshooting tips:

- **Charger Not Activating (Red/Green Flash):** Ensure the battery is properly connected and has sufficient voltage for the charger to detect it. Check all cable connections.
- **No Charging Output:** Verify that the AC power cord is securely plugged into a live outlet. Check for any loose connections at the battery terminals or Anderson plug.
- **Overheating Shutdown:** If the charger shuts down due to high temperature, allow it to cool in a well-ventilated area. Ensure the cooling fan is not obstructed.
- **Slow Charging:** Confirm that the battery type is compatible with the charger. Ensure the battery is not severely discharged or damaged.

For persistent issues, contact CMTOOL customer support.

7. SPECIFICATIONS

Detailed technical specifications for the CMTOOL 24V 30A Forklift Battery Charger:

Feature	Specification
Applicable Batteries	All types of 24V lead-acid batteries
Input Voltage	AC 100V-240V
Input Frequency	50Hz-60Hz
Input Current	≤10A
Output Voltage and Current	24V 30A
Output Power	1250W
Work Efficiency	≥92%
Power Factor	≥0.98
Waterproof Level	IP67
Certification	FCC, ETL
Working Temperature	-20°C ~ +45°C
Storage Temperature	-40°C ~ +90°C
Product Dimensions	9 x 4.8 x 4.5 inches (23.1 x 12 x 11.4 cm)
Item Weight	6.1 pounds (2.77 kg)
Cable Length	9.8 FT (4.9ft power cord, 4.9ft charging cable)

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Image 7: A table summarizing the product specifications, including electrical parameters, environmental ratings, and physical dimensions.

8. WARRANTY AND SUPPORT

The CMTOOL 24V 30A Forklift Battery Charger is FCC and ETL certified, ensuring reliability and lower power consumption. For technical support, warranty information, or any inquiries, please refer to the official CMTOOL store or contact their customer service. CMTOOL is committed to providing professional pre-sales services and satisfactory after-sales solutions.

Visit the [CMTOOL Store](#) for more information.