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# CMTOOL 18 AMP 48 Volt Golf Cart Battery Charger User Manual

Brand: **CMTOOL** | Model: **BC 101**

## 1. INTRODUCTION AND OVERVIEW

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The CMTOOL 18 AMP 48 Volt Golf Cart Battery Charger is designed to provide fast and efficient charging for 48V lead-acid batteries in Club Car golf carts. This fully automatic charger features advanced technology, robust construction, and multiple safety protections to ensure reliable performance and extended battery life.

It is compatible with all Club Car golf carts manufactured from 1995 to the present, including DS, Precedent, and Tempo models. The package includes two OBC (On-Board Computer) bypass cables for specific Club Car DS (1995-2010) and Club Car Precedent (2004-2014) models.



Figure 1: CMTOOL 48V 18A Golf Cart Battery Charger with included accessories.

## 2. SETUP INSTRUCTIONS

### 2.1 Unpacking and Inspection

Carefully remove the charger and all accessories from the packaging. Inspect all components for any signs of damage. Ensure the following items are present:

- 1 x CMTOOL 48V Golf Cart Charger
- 1 x 3-Pin Round Plug Cable
- 2 x OBC Bypass Cables (one for Club Car DS 1995-2010, one for Club Car Precedent 2004-2014)
- 1 x AC Power Cord



Figure 2: Overview of charger components and included cables.

## 2.2 Connecting the Charger

- 1. Bypass OBC (if necessary):** For Club Car DS (1995-2010) and Club Car Precedent (2004-2014) models, it is necessary to bypass the On-Board Computer (OBC) for proper charging. Use the appropriate OBC bypass cable provided. Refer to your golf cart's manual for specific instructions on bypassing the OBC.
- 2. Connect to Golf Cart:** Insert the 3-pin round plug of the charger into the charging port of your golf cart. Ensure a secure connection.
- 3. Connect to Power Outlet:** Plug the AC power cord into the charger's input port, then plug the other end into a standard 100-240V AC power outlet.

# FITS ALL CLUB CAR MODELS 1995+



3 Pin Round Plug



2 DIFFERENT OBC BYPASS WIRES



Club Car DS 1995-2010 and Club Car Precedent 2004-2014 require an OBC bypass wire.

How to bypass, please check the manual in the "Product guides and documents" section of the product detail page.

Figure 3: The 3-pin round plug and OBC bypass cables for Club Car models.

## 3. OPERATING INSTRUCTIONS

### 3.1 Automatic Charging Process

The CMTOOL charger features advanced 7-stage smart charging technology. Once connected, it will automatically detect the battery status and adjust the charging voltage and current accordingly. The charger will automatically stop output and enter trickle mode charging once the battery is fully charged, preventing overcharging and prolonging battery life.

### 3.2 LED Indicator Light Status

The charger is equipped with a 3-color LED indicator light to display the charging status:

- **Red and Green Flash:** Waiting mode or no-load (charger is on but not connected to a battery or battery is not detected).
- **Red Flash:** Low Charging (battery charge is less than 80%).
- **Yellow Flash:** Normal Charging (battery charge is greater than 80%).
- **Green Flash:** Trickle Mode (battery is nearly full, charger is maintaining charge).

- **Green On:** Fully Charged (battery is 100% charged).



Figure 4: LED Indicator Light and Temperature Sensor.

### 3.3 Intelligent Temperature Compensation

A special temperature sensor is integrated into the charger. This sensor adjusts the charging voltage based on the ambient temperature, optimizing the charging effect and protecting the battery in various environmental conditions.



Figure 5: Charger's durability features including temperature resistance.

### 3.4 Charging Time Control

This smart charger is suitable for all 48V lead-acid batteries. It is set with a maximum charging time of 15 hours to prevent damage to the battery caused by prolonged overcharging. The actual charging time will vary depending on the capacity and current state of charge of your lead-acid battery.

# CHARGING TIME CONTROL

This smart charger is suitable for all 48v lead-acid batteries and cannot be used for lithium batteries.

It is set with a maximum charging time (15 hours) to avoid damage to the battery caused by overcharging.



Figure 6: Charging Time Control feature.

## 4. MAINTENANCE

### 4.1 General Care

To ensure the longevity and optimal performance of your CMTOOL charger, follow these general maintenance guidelines:

- Keep the charger clean and free from dust and debris.
- Store the charger in a cool, dry place when not in use.
- Avoid dropping the charger or subjecting it to severe impacts.
- Ensure adequate ventilation around the charger during operation. The integrated cooling fan helps dissipate heat, but proper airflow is still important.

### 4.2 Waterproof and Shockproof Design

The charger features an IP67 waterproof rating and an automotive-grade shockproof rating. This robust design protects the charger from water, dust, and vibration, making it suitable for outdoor use. While it is highly resistant, avoid intentionally submerging the charger or exposing it to extreme conditions beyond its specified ratings.

Your browser does not support the video tag.

Video 1: Demonstration of the CMTOOL charger's IP67 waterproof capability.

## 5. TROUBLESHOOTING

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### 5.1 Protection Functions

The CMTOOL charger is equipped with six protection functions to ensure safe operation:

- **Overvoltage Protection:** Prevents charging at excessively high voltages.
- **Overcurrent Protection:** Guards against excessive current flow.
- **Overheating Protection:** If the ambient temperature is too high, the charger will automatically shut down. Charging will resume when the temperature returns to normal. The cooling fan will continue to operate to cool the unit.
- **No-Load Protection:** No output is provided when the battery is not connected, preventing accidental discharge or damage.
- **Battery Reverse Polarity Protection:** The internal circuit disconnects from the battery if connected incorrectly, preventing damage to the charger.
- **Output Short Circuit Protection:** Protects the charger from damage in case of an output short circuit.

# 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.



-  Overvoltage Protection
-  Overcurrent Protection
-  Overheating Protection
-  No-Load Protection
-  Battery Reverse Polarity Protection
-  Output Short Circuit Protection

Figure 7: Six Protection Functions for Safe Charging.

## 5.2 Common Issues and Solutions

Problem	Possible Cause	Solution
Charger not turning on / No indicator light	No power from outlet; Loose connection; Faulty power cord.	Check power outlet; Ensure all connections are secure; Try a different power cord if available.
Red/Green Flash (Waiting mode) persists after connecting to battery	Battery not detected; Incorrect OBC bypass (for Club Car); Severely discharged battery.	Ensure battery is properly connected; Verify OBC bypass is correctly installed for compatible Club Car models; Battery may be too low to be detected, try a different charger or professional assessment.
Charger shuts off during charging	Overheating protection activated; Internal fault.	Ensure adequate ventilation around the charger; Allow charger to cool down; If problem persists, contact customer support.

Problem	Possible Cause	Solution
Battery not fully charging	Battery capacity too large for 15-hour cycle; Battery degradation; Incorrect connection.	Note that charging time depends on battery capacity; Check battery health; Ensure secure connections.

## 6. PRODUCT SPECIFICATIONS

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Feature	Detail
Applicable Batteries	All types of lead-acid batteries (not for lithium batteries)
Input Voltage	AC 100V-240V
Input Frequency	50Hz-60Hz
≤10A	
Output Voltage and Current	48V 18A
Output Power	1250W
Work Efficiency	≥92%
Power Factor	≥0.98
Waterproof Level	IP67
Certification	ETL, FCC
Working Temperature	-20°C ~ +45°C
Storage Temperature	-40°C ~ +90°C
Product Dimensions	9.1 x 4.8 x 4.5 inches (23.1 x 12.4 x 11.5 cm)
Item Weight	6.39 pounds (2.9 kg)

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Figure 8: Detailed Product Specifications.

## 7. WARRANTY AND SUPPORT

The CMTOOL 48V Golf Cart Battery Charger is FCC and ETL certified, ensuring high standards of quality and safety. For detailed warranty information and customer support, please refer to the official CMTOOL website or contact your retailer. Additional resources, including a comprehensive User Manual in PDF format, may be available from the manufacturer. You can often find these documents in the "Product guides and documents" section on the product's detail page where you purchased it.

For further assistance, please visit the [CMTOOL Store on Amazon](#).

 <p><b>BS CONNECTOR M12 Female/Male Back Mount Socket (Solder, Screw M16*1.5/PG9) Technical Specifications</b></p> <p>Comprehensive technical details for BS CONNECTOR M12 Female and Male Back Mount Sockets, covering product parameters, electrical specifications, dimensional drawings, and wire color definitions for M16*1.5/PG9 connectors.</p>	
 <p><b>Hydra Rinse HR Control Assembly Parts List and Diagram</b></p> <p>Detailed parts list and exploded view diagram for the Hydra Rinse HR Control Assembly, including part numbers, descriptions, quantities, and manufacturing/purchase types. This document also provides revision history and general assembly notes for the 999-0341 drawing.</p>	
 <p><b>ESAB Renegade VOLT ES 200i Quick Start Guide</b></p> <p>Concise quick start guide for the ESAB Renegade VOLT ES 200i welding machine, detailing setup, MMA, Live TIG, Battery Mode, and AMP+ Hybrid Mode operations.</p>	
 <p><b>GYS GYSFLASH PRO Battery Support Units: Advanced Charging Solutions for Professionals</b></p> <p>Discover the GYS GYSFLASH PRO range of smart battery support units and chargers. Designed for automotive and industrial professionals, these advanced units offer reliable power, connectivity, and comprehensive battery maintenance features. Explore models, specifications, and accessories.</p>	
 <p><b>FIBARO Wall Plug FGWPE/F-101 Operating Manual - Z-Wave Smart Home Device</b></p> <p>Comprehensive operating manual for the FIBARO Wall Plug FGWPE/F-101, a Z-Wave compatible smart plug with energy metering, LED status ring, and advanced configuration options for home automation.</p>	
 <p><b>CMTOOL Articulating Video Borescope User Manual</b></p> <p>User manual for the CMTOOL Articulating Video Borescope, detailing its features, specifications, operation, and warranty. Ideal for inspecting narrow and difficult-to-access spaces.</p>	