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## YONHAN

# YONHAN Battery Charger 10-Amp 12V and 24V Fully-Automatic Smart Car Battery Charger, Battery Maintainer Trickle Charger, and Battery Desulfator with Temperature Compensation

Brand: [YONHAN](#)

## PRODUCT OVERVIEW

The YONHAN 10-Amp 12V and 24V Fully-Automatic Smart Car Battery Charger is a versatile all-in-one solution designed to keep your battery charged and your vehicle ready. It functions as a charger, maintainer, trickle charger, and desulfator. This unit is compatible with all 12V and 24V lead-acid batteries, including AGM, GEL, SLA, and Flooded types, making it suitable for a wide range of vehicles such as cars, trucks, SUVs, motorcycles, lawnmowers, and boats.

Key features include intelligent temperature compensation with distinct winter and summer modes, a backlit LCD for clear display of charging information, and an advanced repair mode to rejuvenate old or idle batteries. The charger is equipped with multiple safety protections to ensure safe and reliable operation.



Image: The YONHAN 10-Amp Smart Battery Charger, featuring a red and black casing with attached red positive and black negative battery clamps. The front panel includes an LCD display and mode selection button.

## SETUP INSTRUCTIONS

- Preparation:** Ensure the battery charger is placed on a stable, non-flammable surface. Verify that the input line length is 90cm and the output line length is 65cm, providing adequate reach for your application.
- Check Battery Voltage:** Before connecting the charger, always check your battery's current voltage. This helps in selecting the appropriate charging mode.
- Connect to Battery:**
  - First, connect the **red positive (+) clamp** to the positive terminal of the battery.
  - Next, connect the **black negative (-) clamp** to the negative terminal of the battery.
- Power Connection:** Once the clamps are securely connected to the battery, plug the charger's AC power cord into a standard power outlet. The charger requires connection to a power outlet for operation.
- Initial Display:** The charger's backlit LCD will activate and display battery information after approximately 20 seconds if the battery has any charge.

# 30% FASTER THAN 12V/8A, BATTERES BACK TO LIFE

## 12V/10A, 24V/5A High Speed Quick Charge



Image: The YONHAN 10-Amp Smart Battery Charger with its clamps connected to a car battery, illustrating the setup process. The display shows '13.8V' and charging icons.

## OPERATING INSTRUCTIONS

The YONHAN battery charger features a fully-automatic smart charging process. It will automatically detect the battery type and condition to initiate the appropriate charging stage. Always read the product manual carefully and select the appropriate charging mode for your battery before use.

### Mode Selection

Use the **MODE** button on the front panel to cycle through the available charging modes. The charger will remember your last selected mode and default to it after a power outage.

# TOUCH BUTTON FOR PRECISE SWITCHING



Standard



Start/stop



Water battery



Motorcycle



Repair



MODE SELECTION

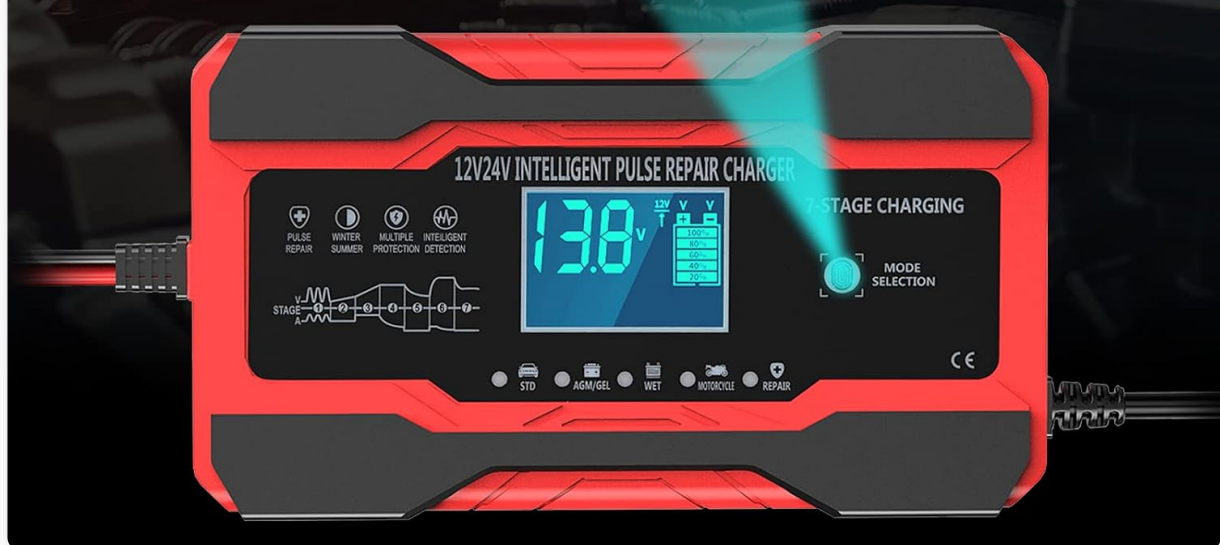


Image: Close-up of the YONHAN 10-Amp Smart Battery Charger's control panel, highlighting the 'MODE SELECTION' touch button and icons for Standard, Start/Stop, Water Battery, Motorcycle, and Repair modes.

- **Standard (STD):** For general lead-acid batteries.
- **AGM/GEL:** Specific modes for AGM and GEL batteries.
- **WET:** For traditional wet cell batteries.
- **Motorcycle:** This mode is suitable for motorcycle batteries and also functions as a trickle charge mode. After a battery is fully charged, switching to Motorcycle mode will auto-enter trickle charging to maintain the battery voltage at least 12V for extended periods.
- **Repair:** An advanced mode designed to revive old or idle batteries and extend their lifespan. This mode uses high and low-frequency pulse technology to restore and activate batteries. Use this mode if the battery won't charge normally. Note that this mode will not work on completely dead, damaged, or lithium batteries.

## Visual Display of Battery Information

The backlit LCD provides comprehensive real-time information about the charging process:

- **Temperature:** Displays the ambient temperature, which influences the charging process.
- **Voltage:** Shows the current battery voltage.

- **Current:** Indicates the charging current in Amperes.
- **Power Percentage:** A visual indicator of the battery's charge level (e.g., 20%, 40%, 60%, 80%, 100%).
- **Mode Settings:** Shows the currently selected charging mode.
- **Finish (FUL):** Indicates when the battery is fully charged.
- **Repair (PUL):** Displayed when the repair mode is active.
- **OFF:** Indicates the charger is off or in standby.
- **Reverse Connection Abnormal (EH-):** Error message for incorrect polarity connection.
- **Desulfurization (dFS):** Indicates the desulfation process is active.



Image: The LCD display of the YONHAN 10-Amp Smart Battery Charger, showing examples of various readouts such as temperature, voltage, current, charge completion, repair mode, off state, reverse connection error, and desulfurization.

## Thermal Compensation

The charger features a thermal sensor that automatically adjusts the charging process based on ambient temperature. This prevents overcharging in hot conditions (Summer mode: >28°C for safety charging) and undercharging in cold conditions (Winter mode: 0-10°C for powerful charging), optimizing battery health and lifespan.

# THERMAL COMPENSATION, OPTIMIZED FOR ANY CLIMATE



Image: The YONHAN 10-Amp Smart Battery Charger with a split background showing a sunny summer road and a snowy winter road, illustrating its thermal compensation feature for optimal charging in different climates.

## MAINTENANCE

Proper maintenance of your YONHAN battery charger and the batteries it charges will ensure longevity and optimal performance.

- **Regular Cleaning:** Keep the charger clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use harsh chemicals or abrasives.
- **Storage:** Store the charger in a cool, dry place when not in use. Ensure the cables are neatly coiled and not kinked.
- **Battery Maintenance:** For vehicles stored for long periods, especially during cold winters, use the charger's trickle charge (Motorcycle) mode to maintain the battery's charge and prevent drain. This helps in extending the battery's overall lifespan.
- **Battery Rejuvenation:** Utilize the advanced repair mode periodically for old or idle batteries that show signs of reduced performance or difficulty holding a charge. This can help restore and activate the battery, potentially extending its service life.

## TROUBLESHOOTING

If you encounter issues with your YONHAN battery charger, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Charger display is off or not showing information.	Not connected to power outlet; battery voltage too low; battery not detected.	Ensure the charger is plugged into a live AC outlet. If the battery indicator icon on the display is flashing empty, it means no battery has been detected or the battery voltage is below 0.3V, and charging will not be possible.
Battery not charging.	Incorrect mode selected; battery is completely dead or damaged; reverse polarity connection.	Select the appropriate charging mode for your battery type. The charger cannot charge batteries with voltage below 0.3V or those that are already damaged. Check clamp connections for correct polarity (red to positive, black to negative). The display will show 'EH-' for reverse connection.
Charger stops charging prematurely.	Battery is fully charged; safety protection activated (overcharge, overheating, short circuit).	If the display shows 'FUL', the battery is fully charged. If not, check for signs of overheating or short circuits. The charger has built-in protections against overcharge, overheating, and short circuits.
Repair mode not working.	Battery is completely dead, damaged, or a lithium battery.	The repair mode is designed for old or idle lead-acid batteries that won't charge normally, but it cannot revive completely dead, physically damaged, or lithium batteries.

## Safety Protections

The YONHAN charger is equipped with multiple safety features:

- **Reverse Polarity Protection:** Prevents damage if clamps are connected incorrectly.
- **Overcharge Protection:** Stops charging once the battery is full to prevent damage.
- **Short Circuit Prevention:** Protects against short circuits.
- **Overcurrent Protection:** Safeguards against excessive current flow.
- **Overvoltage Protection:** Protects against voltage spikes.
- **Overheating Protection:** Prevents the unit from overheating during operation.
- **Misconnection Protection:** Alerts or prevents operation if connections are improper.
- **Induction Protection:** Additional safety measure.



Image: The YONHAN 10-Amp Smart Battery Charger with icons representing its multiple protection features, including overcurrent, fire protection/low voltage, overvoltage, overheating, misconnection, and induction protection. Also visible are the all-wrapped alligator clips, cooling fan, and thicken cable.

## SPECIFICATIONS

Feature	Detail
Brand	YONHAN
Model Number	RJ-C121001A
Product Dimensions	2.4 x 6.2 x 3.7 inches (6.1cm D x 15.7cm W x 9.4cm H)
Item Weight	1.3 pounds (0.59 kg)
Input Voltage	110 Volts (AC)
Output Voltage	12 Volts, 24 Volts

Feature	Detail
Amperage	10 Amps
Compatible Battery Types	12V and 24V Lead-Acid (AGM, GEL, SLA, Flooded)
Input Line Length	90cm
Output Line Length	65cm
Country of Origin	China

## WARRANTY AND SUPPORT

YONHAN products are designed for reliability and performance. For specific warranty details and support, please refer to the documentation included with your product or visit the official YONHAN website.

Typically, products come with a manufacturer's warranty covering defects in materials and workmanship.

For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact YONHAN customer support through their official channels. Keep your purchase receipt as proof of purchase for any warranty-related inquiries.

You can visit the YONHAN Store for more information and products: [YONHAN Store on Amazon](#)

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