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› PerGar BT900 12V/24V Car Battery Tester User Manual

PerGar BT900

PerGar BT900 12V/24V Car Battery Tester User Manual

Model: BT900

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective operation of your PerGar BT900 12V/24V Car Battery Tester. The BT900 is designed to analyze the health of 12V and 24V automotive batteries, as well as test the vehicle's start-up and charging systems. It utilizes a conductivity method for testing, ensuring no high current discharge, heat, or damage to the battery during analysis. Please read this manual thoroughly before using the device.

2. SAFETY INFORMATION

- Always wear appropriate eye protection and gloves when working with batteries.
- Ensure the vehicle is in a well-ventilated area.
- Avoid contact with battery acid. If contact occurs, flush immediately with water and seek medical attention.
- Do not smoke or allow sparks or flames near the battery.
- Ensure the tester clamps are connected correctly: **red clamp to positive (+) terminal** and **black clamp to negative (-) terminal**. Incorrect connection can damage the device or battery.
- Keep the device dry and clean. Do not expose it to rain or moisture.
- Do not attempt to disassemble or repair the device yourself. Contact qualified personnel for service.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- 1 x PerGar BT900 12V/24V Battery Tester
- 1 x Standby Printing Paper Roll
- 1 x User Manual (this document)
- 1 x Storage Tool Box



Figure 3.1: Package Contents. This image displays the PerGar BT900 Battery Tester, its attached test leads with red and black clamps, a roll of thermal printing paper, and a blue storage case. These are the items typically included in the product package.

4. PRODUCT OVERVIEW

Familiarize yourself with the components and controls of the BT900 Battery Tester.



Figure 4.1: BT900 Component Diagram. This diagram labels the key parts of the PerGar BT900 Battery Tester. From top to bottom, it shows the Paper Cover, Prying Plate, Protective Sleeve, LCD Screen, Back/Exit button, Up button, Down button, Enter button, and Test Wire with clamps.

- **LCD Screen:** Displays test results and menu options.
- **Keypad:** Includes UP, DOWN, ENTER, and BACK/EXIT buttons for navigation and selection.
- **Printer:** Integrated thermal printer for instant result printouts.
- **Test Wires:** Durable TPE rubber sheathed wires with red (positive) and black (negative) clamps for connecting to the battery.
- **Protective Sleeve:** Provides additional durability and grip.

5. SPECIFICATIONS

Feature	Specification
Model	BT900
Applications	12V/24V automotive batteries (Regular, AGM, GEL), automotive start system, charging system test. Supports CCA, DIN, IEC, EN, JIS Standard batteries and unknown standard batteries.

Feature	Specification
Voltage Range	DC 9 - 30V
Working Temperature	0°C - 40°C
Working Humidity	20% - 80%
Language	English (US), Chinese (Simplified)
Screen Parameter	LCD, LED backlight, Resolution: 128 x 64
Printer Paper	Thermal printing paper, approx. 57mm (wide) x 40mm (diameter)
Case Material	Germany PC, ABS plastic material
Test Wire Characteristics	Very fine copper wire, silicone insulation, particularly soft, prevents breakage, length approx. 1000mm (39.4in)

6. SETUP

6.1. Unpacking and Initial Inspection

Carefully remove the BT900 tester and all accessories from the storage box. Inspect the device for any visible damage. If any damage is found, do not use the device and contact customer support.

6.2. Loading Printer Paper

The BT900 comes with an integrated thermal printer. To load or replace the paper:

1. Gently open the paper cover located at the top of the device (refer to Figure 4.1).
2. Insert a new roll of thermal printing paper (57mm wide x 40mm diameter) into the compartment, ensuring the paper feeds from the bottom and the leading edge extends slightly out of the slot.
3. Close the paper cover securely.

6.3. Connecting to the Battery

Before connecting, ensure the vehicle's ignition is off and the area is safe.

1. Connect the **red clamp** of the tester to the **positive (+) terminal** of the battery.
2. Connect the **black clamp** of the tester to the **negative (-) terminal** of the battery.
3. The tester will automatically power on and display the battery voltage once connected correctly. If the analyzer does not power on, check the clamp connections to ensure they are secure and on the correct terminals.



Figure 6.1: Connecting the Tester. This image shows the PerGar BT900 Battery Tester with its red clamp connected to the positive terminal and the black clamp connected to the negative terminal of a car battery. This is the correct procedure for establishing a connection for testing.

7. OPERATING INSTRUCTIONS

The BT900 offers three primary testing functions: Battery Test, Start-up System Test, and Charging System Test.

7.1. Navigation

- Use the **UP** and **DOWN** buttons to scroll through menu options.
- Press the **ENTER** button to select an option or confirm an action.
- Press the **BACK/EXIT** button to return to the previous menu or exit a function.

7.2. Battery Test

This function assesses the overall health and capacity of the battery.

1. From the main menu, select "Battery Test" and press **ENTER**.
2. Select the battery type (e.g., Regular, AGM, GEL, EFB) using the UP/DOWN buttons and press **ENTER**.
3. Select the battery standard (e.g., CCA, DIN, IEC, EN, JIS) and input the rated value (e.g., 600 CCA) as prompted. Press **ENTER**.

4. The tester will perform the analysis using the conductivity method. This method avoids high current discharge, preventing heat and damage to the battery.
5. The results will be displayed on the LCD screen, showing battery voltage, measured CCA, internal resistance, and overall battery health status (e.g., Good, Recharge, Replace).

7.3. Start-up System Test

This test evaluates the performance of the vehicle's starter motor.

1. From the main menu, select "Start-up System Test" and press **ENTER**.
2. Follow the on-screen prompts to start the vehicle's engine.
3. The tester will monitor the battery voltage during cranking.
4. Results will indicate the cranking voltage and the starter's performance.

7.4. Charging System Test

This function checks the alternator and voltage regulator to ensure proper charging of the battery.

1. From the main menu, select "Charging System Test" and press **ENTER**.
2. Follow the on-screen prompts to start the vehicle's engine and potentially rev it to a specified RPM.
3. The tester will measure the charging voltage under various conditions.
4. Results will display the charging voltage, ripple voltage, and overall charging system status.



Figure 7.1: Tester in Operation. This image shows the PerGar BT900 Battery Tester connected to a car battery, with the device resting on the engine bay. A person is visible in the background, suggesting the tester is being used during vehicle maintenance or diagnosis.

8. PRINTING RESULTS

After completing any test, the BT900 allows you to print the results for record-keeping or further analysis.

- Once test results are displayed, an option to "Print" will typically appear on the screen.
- Select "Print" and press **ENTER**.
- The integrated thermal printer will print a detailed report of the test.
- Tear off the printed paper carefully.

9. MAINTENANCE

9.1. Cleaning the Device

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the clamps are clean and free of corrosion for optimal contact.

9.2. Printer Paper Replacement

Refer to Section 6.2 for instructions on how to replace the thermal printing paper when it runs out.

9.3. Storage

When not in use, store the BT900 in its provided storage box in a cool, dry place, away from direct sunlight and extreme temperatures.

10. TROUBLESHOOTING

- **Device does not power on:**
 - Ensure the red clamp is securely connected to the positive (+) battery terminal.
 - Ensure the black clamp is securely connected to the negative (-) battery terminal.
 - Verify the battery voltage is within the operating range (DC 9-30V).
- **Inaccurate readings:**
 - Check for clean and secure connections between the clamps and battery terminals. Corrosion can affect readings.
 - Ensure the correct battery type and standard (e.g., CCA, GEL) are selected in the tester's menu.
- **Printer not printing or printing blank:**
 - Check if the thermal paper is loaded correctly and not upside down. Thermal paper prints on one side only.
 - Ensure there is enough paper in the roll. Replace if empty.
 - Check for any paper jams.
- **Device freezes or becomes unresponsive:**
 - Disconnect the tester from the battery for a few seconds, then reconnect to reset the device.

11. WARRANTY AND SUPPORT

PerGar products are manufactured to high-quality standards. For warranty information, technical support, or service inquiries, please refer to the warranty card included with your product or contact PerGar customer service through the retailer where the product was purchased. Please have your model number (BT900) and purchase date available when contacting support.