FNIRSI BTM-24

FNIRSI BTM-24 Car Battery Tester User Manual

Model: BTM-24

1. Introduction

Thank you for choosing the FNIRSI BTM-24 Car Battery Tester. This device is designed to accurately measure the health, voltage, and internal resistance of 12V and 24V automotive batteries. It performs comprehensive diagnostics including cranking, load, and charging tests to ensure optimal battery performance and vehicle operation. This manual provides detailed instructions for safe and effective use of your BTM-24 tester.

2. Safety Information

Please read all safety warnings and instructions before using this product to prevent injury or damage to the device or vehicle.

- Always wear eye protection when working near batteries.
- Ensure proper ventilation when testing batteries, as they can emit explosive gases.
- Avoid sparks or open flames near the battery.
- The FNIRSI BTM-24 features reverse polarity and overvoltage protection. However, always ensure correct connection of the clamps: **red clamp to positive (+) terminal** and **black clamp to negative (-) terminal**.
- Do not touch conductive metal parts of the clamps during operation to prevent electric shock.
- Keep the device dry and clean. Do not expose it to rain or moisture.
- Do not attempt to disassemble or modify the tester. Refer all servicing to qualified personnel.

3. Product Overview

The FNIRSI BTM-24 is a compact and user-friendly battery tester equipped with a 2.4-inch color screen and intuitive controls.

Image 1: FNIRSI BTM-24 Car Battery Tester. The device features a blue and black casing, a color display, and integrated red (positive) and black (negative) battery clamps. The screen shows icons for Battery, Start, Load, Charge, and System functions, along with navigation buttons (OK, Up, Down, Left, Right).

3.1. Components and Controls

- **2.4-inch Color Screen:** Displays test results, menus, and settings.
- **Navigation Buttons:**
  - **OK Button:** Confirms selections or enters menus.
  - **Up/Down/Left/Right Buttons:** Navigate through menus and options.
- **Integrated Test Cables:** Durable cables with insulated red (positive) and black (negative) clamps.
- **Type-C Port:** For firmware updates.
- **Foldable Stand:** For stable support during use.
- **Rear Wall-Mounting Option:** For convenient storage.

4. Setup

1. **Prepare the Battery:** Ensure the battery terminals are clean and free of corrosion. If necessary, clean

them with a wire brush.

2. **Connect the Tester:**
    - Connect the **red positive (+) clamp** to the positive terminal of the battery.
    - Connect the **black negative (-) clamp** to the negative terminal of the battery.

    The tester will power on automatically once connected correctly.
3. **Initial Screen:** The device will display the main menu, offering various test options.

5. Operating Instructions

Navigate through the menus using the Up/Down/Left/Right buttons and confirm selections with the OK button.

5.1. Battery Test

This test measures battery health (%), voltage, and internal resistance.

1. From the main menu, select "Battery" and press OK.
2. Select the battery type (e.g., Regular Flooded, AGM Spiral/Flat, GEL, EFB, LAB/EV LAB).
3. Select the battery standard (e.g., CCA, IEC, EN, DIN, JIS#, GB) and input the rated CCA value.
4. The tester will perform the analysis and display results such as voltage, internal resistance, and battery health (%). The health status will be indicated as "Good," "Fair," or "Low."

5.2. Cranking Test (Start Test)

This test checks the engine's starting performance by analyzing the battery's ability to deliver current during ignition.

1. From the main menu, select "Start" and press OK.
2. Follow the on-screen prompts to start the vehicle's engine.
3. The tester will record the minimum cranking voltage and the time taken to start the engine.
4. Results will indicate the cranking status, helping to diagnose potential starter or battery issues.

5.3. Charging Test

This test evaluates the vehicle's charging system, including the alternator and regulator.

1. From the main menu, select "Charge" and press OK.
2. Follow the on-screen instructions, which typically involve starting the engine and revving it to a specified RPM.
3. The tester will monitor the charging voltage, displaying minimum, maximum, and dynamic voltage readings, often with a waveform view for detailed analysis.
4. The results will indicate if the charging system is functioning correctly or if there are issues like overcharging or undercharging.

5.4. Load Test

This test assesses the battery's ability to maintain voltage under a simulated load.

1. From the main menu, select "Load" and press OK.
2. The tester will guide you through applying a load (e.g., turning on headlights or other accessories).

3. It will monitor the minimum and dynamic voltage under load, often with a waveform view.
4. The results help determine if the battery can adequately support the vehicle's electrical demands.

5.5. System Settings

Access system settings to customize the device.

1. From the main menu, select "System" and press OK.
2. Options may include language selection, display brightness, day/night UI themes, and viewing device information.

6. Maintenance

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the tester in a cool, dry place away from direct sunlight and extreme temperatures.
- **Cable Care:** Inspect the test cables and clamps regularly for damage. Do not use if insulation is cracked or wires are exposed.
- **Firmware Updates:** Periodically check the manufacturer's website for firmware updates. Use the Type-C port to update the device as instructed.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Incorrect battery connection; battery completely dead.	Ensure clamps are securely connected to the correct battery terminals (+ to +, - to -). If the battery is completely discharged, the tester may not power on. Try charging the battery first.
Inaccurate test results.	Dirty battery terminals; incorrect battery type/standard selected.	Clean battery terminals. Verify that the correct battery type and standard (e.g., CCA) are selected in the tester's menu.
"Reverse Polarity" error.	Clamps connected to the wrong terminals.	Immediately disconnect the clamps and reconnect them correctly: red to positive (+), black to negative (-). The device has protection, but correct connection is essential.
Screen freezes or malfunctions.	Temporary software glitch.	Disconnect the tester from the battery for a few seconds, then reconnect. If the issue persists, check for firmware updates.

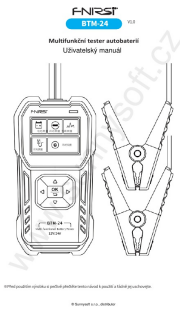
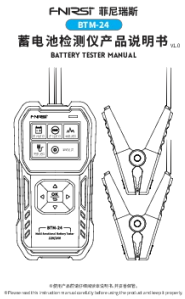
8. Specifications

Feature	Detail
Model	BTM-24
Voltage Range	12V / 24V
CCA Range	0-2000 CCA
Supported Battery Types	Regular Flooded, AGM Spiral/Flat, GEL, EFB, LAB/EV LAB
Supported Standards	CCA, IEC, EN, DIN, JIS#, GB
Display	2.4-inch Color Screen
Connectivity	Type-C port for firmware updates
Protection	Reverse polarity, overvoltage
Product Dimensions	6.22 x 3.27 x 1.06 inches
Item Weight	11.68 ounces
Manufacturer	FNIRSI

9. Warranty and Support

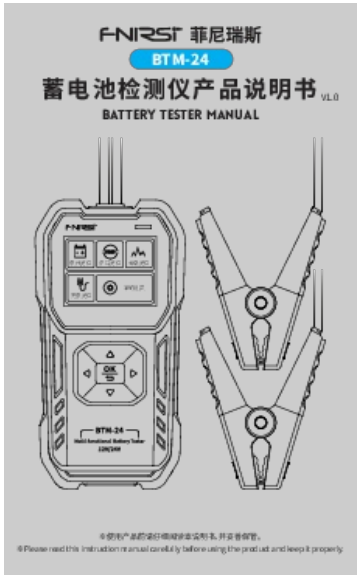
For warranty information, technical support, or service inquiries, please refer to the official FNIRSI website or contact their customer service department. Keep your purchase receipt for warranty claims.
Visit the official FNIRSI Store: FNIRSI Technology Store

Related Documents - BTM-24

	[FNIRSI BTM-24: Multifunkční tester autobaterií - Uživatelský manuál] Kompletní uživatelský manuál pro tester autobaterií FNIRSI BTM-24. Zjistěte informace o bezpečnosti, funkcích, provozu, specifikacích a řešení problémů pro přesnou diagnostiku baterií automobilů.
	[FNIRSI BTM-24 Multi-functional Battery Tester User Manual] Comprehensive user manual for the FNIRSI BTM-24 multi-functional battery tester. Learn about safety requirements, product overview, technical specifications, operation guide, troubleshooting, maintenance, and warranty information.
	[FNIRSI HRM-10 High-Precision Internal Resistance Tester User Manual] The FNIRSI HRM-10 is a handheld high-precision internal resistance tester designed for accurate battery analysis. This user manual provides detailed instructions on operation, features like sorting mode and data export, specifications, firmware updates, and safety precautions for optimal performance.
	[FNIRSI HRM-10 High-Precision Internal Resistance Tester User Manual] The FNIRSI HRM-10 is a handheld, high-precision four-wire internal resistance tester designed for batteries. It simultaneously measures internal resistance and voltage, features a sorting mode based on user-set thresholds, and supports historical data recording and export. This manual provides detailed operating instructions, specifications, and safety precautions for optimal performance.

	[FNIRSI HRM-10 High-Precision Internal Resistance Tester] The FNIRSI HRM-10 is a handheld, high-precision four-wire internal resistance meter designed for simultaneously testing internal resistance and voltage of batteries. It features a sorting mode for filtering batteries based on user-defined thresholds, supports historical data records, and allows data export, making it an ideal tool for battery analysis and management.
	[FNIRSI-C1 USB Type-C Tester User Manual] Comprehensive user manual for the FNIRSI-C1 USB Type-C tester, detailing its features, specifications, operation, fast charging protocol detection, PD monitoring, E-Marker reading, and settings.

Documents - FNIRSI – BTM-24



[FNIRSI BTM-24 Multi-functional Battery Tester User Manual]
Comprehensive user manual for the FNIRSI BTM-24 multi-functional battery tester. Learn about safety requirements, product overview, technical specifications, operation guide, troubleshooting, maintenance, and warranty information.
lang:i-klingon score:24 filesize: 3.03 M page_count: 40 document date: 2025-09-03