

Mastfuyi FY8912B

Mastfuyi FY8912B 12V/24V Car Battery Tester User Manual

Model: FY8912B

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective operation of your Mastfuyi FY8912B 12V/24V Car Battery Tester. This device is designed to analyze the health of 12V and 24V lead-acid batteries, including regular flooded, AGM flat plate, AGM spiral, GEL, and EFB types. It also performs cranking and charging system tests for various vehicles such as cars, trucks, vans, boats, motorcycles, ATVs, and SUVs.

2. SAFETY INFORMATION

Always observe the following safety precautions when using the battery tester to prevent injury or damage to the device or vehicle.

- **Eye Protection:** Always wear appropriate eye protection when working near batteries.
- **Ventilation:** Ensure adequate ventilation when testing batteries, as they can emit explosive gases.
- **Avoid Sparks:** Do not smoke or allow sparks or flames near the battery or engine during testing.
- **Battery Acid:** Battery acid is corrosive. Avoid contact with skin, eyes, or clothing. In case of contact, flush immediately with water and seek medical attention.
- **Polarity:** Connect the red clamp to the positive (+) terminal and the black clamp to the negative (-) terminal. Incorrect connection can damage the tester or battery. The device includes reverse polarity protection.
- **Secure Connections:** Ensure clamps are securely attached to battery terminals to avoid poor contact and inaccurate readings.
- **Device Power:** The tester is powered directly by the 12V/24V battery being tested. No internal batteries are required.

3. PRODUCT OVERVIEW

3.1 Key Features

- **Wide Compatibility:** Supports 12V and 24V lead-acid batteries (Flooded, AGM Flat Plate, AGM Spiral, GEL, EFB).
- **Broad Test Range:** 100-2000 CCA.
- **High Accuracy:** Provides 99.5% accuracy for reliable results.
- **Multiple Standards:** Adheres to CCA, DIN, EN, SAE, IEC, AH standards.
- **Comprehensive Tests:** Performs Battery Health Check, Cranking System Test, Charging System Test, and Maximum Load Test.
- **User-Friendly Interface:** Features a large LCD display and intuitive button controls.
- **Safety Protections:** Includes anti-reverse wiring, anti-over-voltage, and short circuit protection.

3.2 Package Contents

- Mastfuyi FY8912B Car Battery Tester
- Copper Terminal Bolts (for improved contact)
- Storage Bag

3.3 Device Layout

The image below illustrates the main components of the Mastfuyi FY8912B battery tester, including the display, control buttons, and connection clamps.



Image 1: Mastfuyi FY8912B Car Battery Tester, showing the main unit, red and black alligator clamps, a storage bag, and two copper terminal bolts.

The device features a clear LCD screen and ergonomic design for ease of use. Its compact dimensions are suitable for various applications.



Image 2: Mastfuyi FY8912B Car Battery Tester displaying its dimensions (163mm/6.42in height, 88mm/3.46in width) and icons representing various test capabilities like State of Charge, State of Health, Reverse Polarity Protection, Voltage Test, Discharging Test, Resistance Test, Cranking Test, Load Test, and Charging Test.

4. SETUP

4.1 Connecting the Tester

To ensure accurate readings and proper operation, follow these steps to connect the battery tester:

1. Ensure the vehicle's ignition is off and all accessories are turned off.
2. Connect the **red** positive (+) clamp to the positive (+) terminal of the battery.
3. Connect the **black** negative (-) clamp to the negative (-) terminal of the battery.
4. The tester will power on automatically once connected correctly.
5. If battery terminals are corroded or too short for a secure connection, use the included copper terminal bolts. Attach them to the battery terminals first, then connect the tester clamps to the bolts for optimal contact.

PURE COPPER TERMINAL BOLTS

For extending battery terminals to achieve the best contact

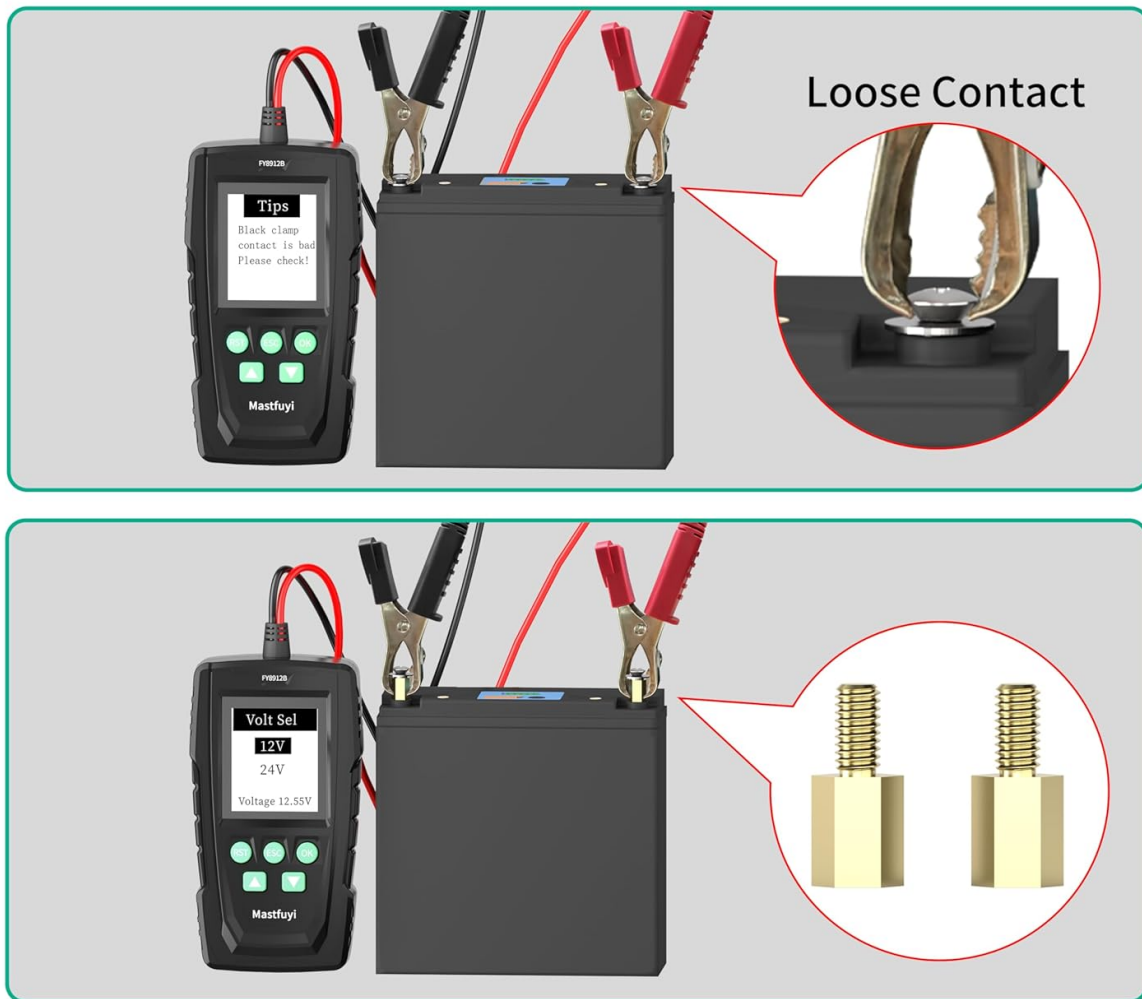


Image 3: Illustration demonstrating the use of pure copper terminal bolts to extend battery terminals for a better connection, preventing issues caused by loose contact.

5. OPERATING INSTRUCTIONS

5.1 Navigating the Menu

Once powered on, the main menu will appear on the LCD screen. Use the following buttons to navigate:

- **Up/Down Arrows:** Scroll through menu options.
- **OK Button:** Select a highlighted option or confirm an action.
- **ESC Button:** Go back to the previous screen or cancel an operation.
- **RST Button:** Reset the device or restart a test.

5.2 Selecting a Test Mode

From the main menu, you can select different test modes. The device offers both quick and precise testing options.

Quick test by inputting battery capacity
Precise test by inputting
CCA/IEC/EN/DIN/SAE/JIS

99.6%
High Accuracy



Image 4: The tester's screen displaying the 'Mode' selection, offering '1. Quick Test' and '2. Precise Test' options.

For a quick test, you may only need to input the battery capacity. For a precise test, you will input specific battery standards like CCA, IEC, EN, DIN, SAE, or JIS.

6. TESTING MODES

The Mastfuyi FY8912B offers several testing functions to comprehensively assess your vehicle's battery and electrical system.

6.1 Battery Test

This test evaluates the overall health of the battery, providing information on its State of Health (SOH), State of Charge (SOC), Internal Resistance (IR), and a general testing conclusion. It supports various 12V/24V lead-acid battery types.

12V&24V Battery Tester

100-2000 CCA

Regular-Flooded

AGM Flat Plate

AGM Spiral

GEL

EFB



Image 5: The tester displaying battery test results, including Voltage (12.54V), SOC (75%), CCA (462), SOH (100%), and Internal Resistance (6.03mΩ), with a conclusion of 'talented'. The image also highlights compatibility with Regular-Flooded, AGM Flat Plate, AGM Spiral, GEL, and EFB battery types.

6.2 Cranking System Test (Starter Test)

This test analyzes the actual cranking voltage of the engine to determine if the starter motor is functioning weakly or normally. It helps diagnose issues with the starting system.

1. Select 'Starter Test' from the main menu.
2. Follow the on-screen prompts to start the engine.
3. The tester will display the cranking voltage and a conclusion.

CRANKING/STARTER TEST

Analyzes the actual cranking voltage and give the conclusion directly to help you quickly figure out the whole state of the starting system



Image 6: The tester's screen during a 'Cranking/Starter Test', prompting the user to 'Please start the engine!' and showing a static voltage of 12.54V.

6.3 Charging System Test

This test checks the alternator's continuous output while the engine is running to ensure it provides proper power to the battery and the vehicle's electrical system. It assesses different parts of the charging system, including the alternator, starter, generator, and rectifier diode.

1. Select 'Charging SYS' from the main menu.
2. Follow the on-screen instructions, which typically involve starting the engine and possibly revving it to a certain RPM.
3. The tester will display the maximum and minimum voltages, indicating the charging system's performance.

CHARGING TEST



Image 7: The tester's screen displaying results from a 'Charging Test', showing Max Voltage (12.51V < 30.0V), Current Volt (12.51V), and Min Voltage (12.6V < 26.6V), indicating the health of the charging system.

6.4 Maximum Load Test

This test detects the output voltage under maximum load conditions, including the battery, alternator, and power station, providing accurate data in seconds.

1. Select 'Maximum load' from the main menu.
2. Follow any specific prompts on the screen.
3. The tester will display the current and minimum voltages under load, along with a conclusion.

MAXIMUM LOAD

Detect the output voltage including Battery, Alternator, Power Station and more, provide the accurate data in seconds



Image 8: The tester's screen displaying results from a 'Maximum Load' test, showing Current Volt (12.53V) and Min Voltage (12.62V < 25.6V), with a conclusion of 'Too low'.

7. MULTIPLE PROTECTIONS

The Mastfuyi FY8912B is designed with multiple safety features to ensure reliable and secure operation during testing.

- **Reverse Polarity Protection:** Prevents damage if the clamps are connected incorrectly (positive to negative, or vice versa).
- **Overvoltage Protection:** Safeguards the device from excessively high input voltages.
- **Short Circuit Protection:** Protects against damage in case of a short circuit during testing.
- **Poor Contact Protection:** Enhanced internal input protection measures address issues like poor contact of the test chuck.

MULTIPLE PROTECTIONS

Peace of Mind in Every Test



Reverse Polarity Protection



Overvoltage Protection



Short Circuit Protection



Image 9: The tester's screen showing the main menu, alongside icons representing 'Reverse Polarity Protection', 'Overvoltage Protection', and 'Short Circuit Protection', emphasizing the device's safety features.

8. TROUBLESHOOTING

If you encounter issues while using the Mastfuyi FY8912B, refer to the following common problems and solutions:

- **Device Does Not Power On:**

- Ensure the clamps are securely connected to the battery terminals. The device draws power directly from the battery.
- Check if the battery has sufficient charge (above 8V for 12V systems) for the tester to power on. If the battery is completely dead, the tester may not activate.
- Verify correct polarity: Red to positive (+), Black to negative (-).

- **Inaccurate Readings or "Poor Connection" Message:**

- Clean battery terminals to remove dirt, corrosion, or oxidation.
- Ensure the clamps are firmly attached to the battery terminals. Wiggle them slightly to establish better contact.

- Use the provided copper terminal bolts if the battery terminals are difficult to connect to directly.

- **Buttons Seem Unresponsive or Stuck:**

- Press buttons firmly and ensure they return to their original position.
- If a button remains physically stuck, gently try to free it. Avoid excessive force.
- Disconnect and reconnect the tester to reset the device.

- **Test Results Seem Incorrect:**

- Verify that the correct battery type (Flooded, AGM, GEL, EFB) and CCA rating (if applicable) have been entered into the tester.
- Ensure all vehicle accessories are off during testing to avoid parasitic draws affecting results.
- Repeat the test to confirm consistency of results.

9. SPECIFICATIONS

Below are the technical specifications for the Mastfuyi FY8912B Car Battery Tester:

Feature	Specification
Brand	Mastfuyi
Model Number	FY8912B
Power Source	Battery Powered (from tested battery)
Measurement Type	Voltmeter
Test Range	100-2000 CCA
Supported Battery Types	Regular Flooded, AGM Flat Plate, AGM Spiral, GEL, EFB
Supported Battery Standards	CCA, BCI, CA, MCA, JIS, DIN, SAE, EN, IEC, AH
Item Weight	431 g
Package Dimensions	23.39 x 15.8 x 5.41 cm
Batteries Included	No

10. MAINTENANCE


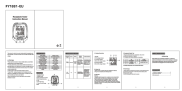


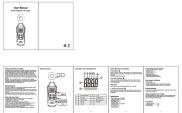
To ensure the longevity and optimal performance of your Mastfuyi FY8912B battery tester, follow these maintenance guidelines:

- **Cleaning:** Wipe the device with a soft, dry cloth after each use. Do not use abrasive cleaners or solvents.
- **Storage:** Store the tester in its provided storage bag in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Cable Care:** Inspect the cables and clamps regularly for any signs of damage, fraying, or corrosion. Replace if necessary.
- **Terminal Bolts:** Keep the copper terminal bolts clean and free of corrosion for consistent good contact.

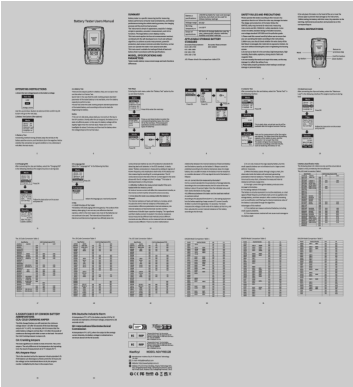
11. WARRANTY AND SUPPORT

Mastfuyi provides a **48-month unconditional warranty** for this product. This warranty covers manufacturing defects and ensures lifetime after-sales service. For any support inquiries, technical assistance, or warranty claims, please contact Mastfuyi customer service through your purchase platform or the official Mastfuyi support channels.

Related Documents - FY8912B

	<p>Mastfuyi FY8912B Battery Tester User Manual</p> <p>Comprehensive user manual for the Mastfuyi FY8912B battery tester, covering operating instructions, safety precautions, specifications, and test procedures for car and motorcycle batteries.</p>
	<p>Mastfuyi FY1881 Receptacle Tester Instruction Manual</p> <p>Comprehensive instruction manual for the Mastfuyi FY1881 Receptacle Tester, covering its features, operation, specifications, and safety guidelines for testing electrical outlets and RCD/GFCI protection.</p>
	<p>Mastfuyi FY8178 Cable Tester User Manual</p> <p>Comprehensive user manual for the Mastfuyi FY8178 cable tester, detailing its functions, operation, safety precautions, and technical specifications for locating underground wires and testing continuity. Includes model 50-16-0924 information.</p>
	<p>MASTFUYI FY8177 Network Cable Tester User Manual</p> <p>Comprehensive user manual for the MASTFUYI FY8177 Network Cable Tester, detailing its features, operation, and specifications for network line finding, wire tracking, and PoE checking.</p>
	<p>MASTFUYI FY18S Non-Contact Voltage Tester Pen User Manual</p> <p>User manual for the MASTFUYI FY18S Non-Contact Voltage Tester Pen, detailing its features, operation, safety guidelines, and specifications for electrical testing up to CAT III 1000V.</p>
	<p>Mastfuyi FY8809 EMF Meter User Manual - Electromagnetic Field Tester</p> <p>Comprehensive user manual for the Mastfuyi FY8809 EMF Meter. Learn how to operate this electromagnetic field detector, understand its specifications, and follow safety guidelines for accurate EMF measurements.</p>

Documents - Mastfuyi – FY8912B



[Mastfuyi FY8912B Battery Tester User Manual](#)

Comprehensive user manual for the Mastfuyi FY8912B battery tester, covering operating instructions, safety precautions, specifications, and test procedures for car and motorcycle batteries.

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