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> ANCEL AL-PB50 Automotive Circuit Tester Instruction Manual

ANCEL AL-PB50

ANCEL AL-PB50 Automotive Circuit Tester Instruction Manual

Model: AL-PB50 | Brand: ANCEL

1. INTRODUCTION

The ANCEL AL-PB50 is a versatile automotive circuit tester designed for diagnosing electrical systems in 12V and 24V vehicles. It combines multiple testing modes and features to help users efficiently identify and troubleshoot electrical issues, including AC/DC current, resistance, and component activation.

2. SAFETY INFORMATION

WARNING:

- Always wear appropriate personal protective equipment, including safety glasses, when working on vehicle electrical systems.
- Ensure the vehicle's ignition is off and the parking brake is engaged before performing any tests.
- Avoid direct contact with live electrical circuits. Use the probe tip carefully to prevent accidental short circuits.
- The tool has built-in overload protection. If the circuit breaker trips, allow it to cool for 15 seconds before resuming operation.
- Do not apply voltage to sensitive electronic components without consulting the vehicle's service manual.
- Keep the tool away from water, oil, and other liquids.

IMPORTANT NOTE:

The ANCEL AL-PB50's cable length is 13 feet. For larger vehicles or when the cable is insufficient, use an external 12V or 24V power supply (matching vehicle voltage) and connect the auxiliary clip to the vehicle's ground or the component's negative terminal.

Ensure the probe tip is firmly inserted until a "CLICK" sound is heard to prevent it from falling out during use. Remove the tip for storage after use.

3. PRODUCT COMPONENTS

The ANCEL AL-PB50 Power Circuit Probe Tester comes with the following components:

- Main Unit (AL-PB50 Power Circuit Probe)

- Probe Tip
- Battery Hookup Clips (Red for Positive, Black for Negative)
- Auxiliary Ground Lead
- User Manual



Figure 3.1: ANCEL AL-PB50 Power Circuit Probe Tester and included accessories.

Revolutionary Electrical Diagnostic Tool

Wider usage, quicker solutions!

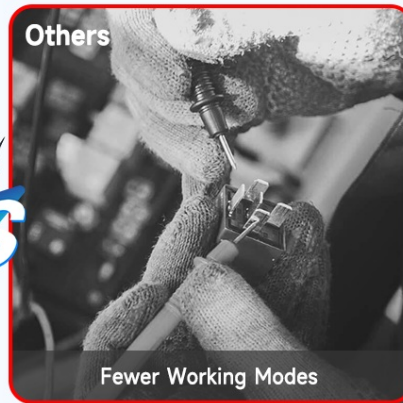
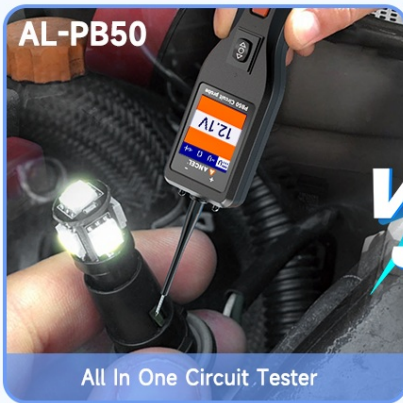


Figure 3.2: Detailed diagram of the ANCEL AL-PB50 Power Circuit Probe, showing the probe tip, power switch, mode button, red/green polarity indicator, battery hookup clips, and auxiliary ground lead.

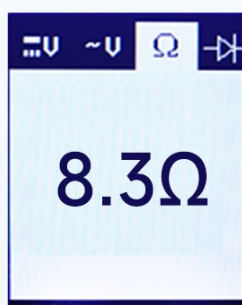
4. SETUP

- 1. Insert Probe Tip:** Firmly insert the metal probe tip into the top of the main unit until you hear a "CLICK" sound, ensuring it is securely seated.
- 2. Connect to Vehicle Battery:**
 - Connect the red battery hookup clip to the positive (+) terminal of the vehicle's 12V or 24V battery.
 - Connect the black battery hookup clip to the negative (-) terminal of the vehicle's battery or a suitable chassis ground point.

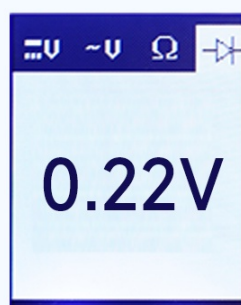
Once connected, the device will power on, and the LCD screen will display the current voltage.

4 IN 1 Advanced Automotive Circuit Probe Tester

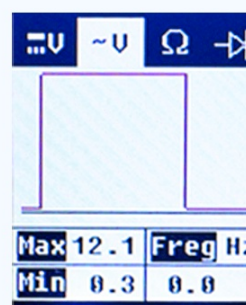
One-click fast switch working mode and diagnose circuit problem



Resistance Test



Diode Test



AC Voltage Test



DC Voltage Test

Figure 4.1: Proper connection of the ANCEL AL-PB50 to a vehicle's 12V battery for power.

5. OPERATING MODES AND FUNCTIONS

The ANCEL AL-PB50 offers four primary working modes, accessible via the Mode Button:

5.1 DC Voltage Mode

This mode measures direct current voltage with a resolution of 0.1V. The screen displays the voltage at the probe tip.

Activating Components W/Ground

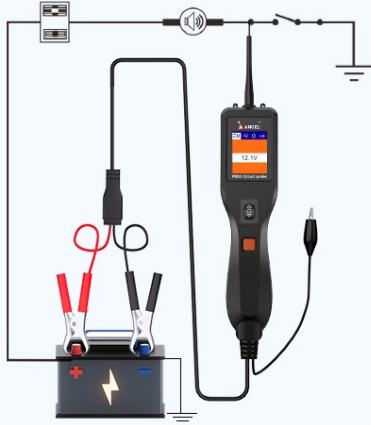


Figure 5.1: Display showing DC Voltage Test mode with a reading of 12.1V.

Polarity Test: When probing a circuit, the red/green LED indicator will illuminate to show polarity:

- **Red LED:** Indicates positive voltage.
- **Green LED:** Indicates negative voltage (ground).
- **No LED:** Indicates an open circuit or no voltage present.

IDENTIFY POLARITY & OVERLOAD



Figure 5.2: The device indicating positive (red light) and negative (green light) polarity, along with an overload protection warning.

5.2 AC Voltage Mode

This mode measures alternating current voltage, displaying maximum voltage, minimum voltage, and frequency.

Voltage & Polarity Testing

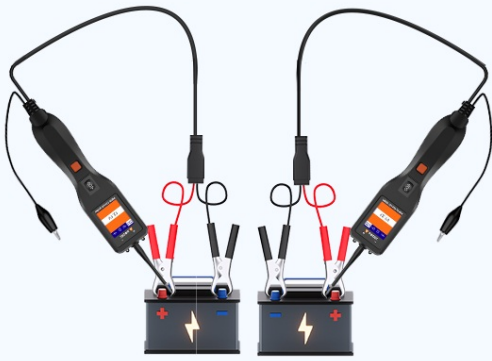


Figure 5.3: Display showing AC Voltage Test mode with Max, Min, and Frequency readings.

5.3 Resistance Mode

This mode determines whether an electrical circuit is complete or broken by measuring resistance in Ohms (Ω).

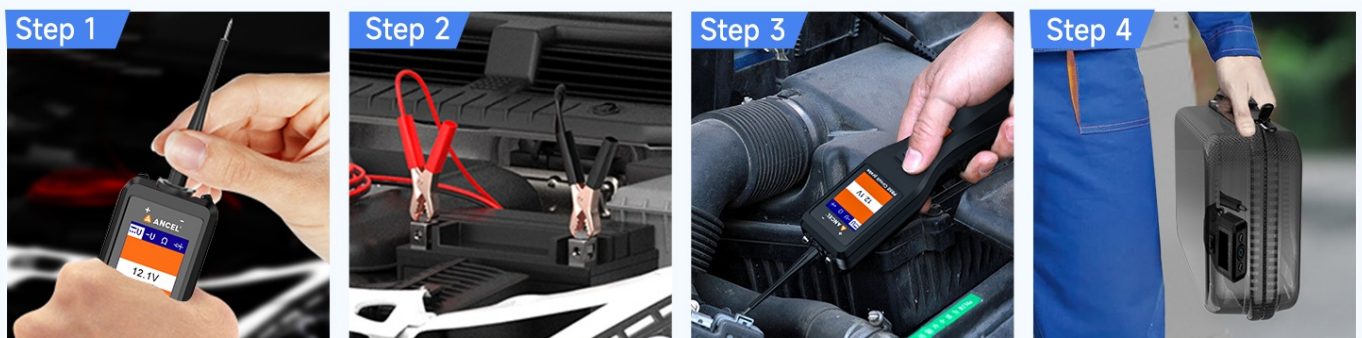


Figure 5.4: Display showing Resistance Test mode with a reading of 8.3 Ω .

Continuity Test: In Resistance mode, you can test for continuity by contacting the probe tip to a wire and the auxiliary ground lead to the vehicle's chassis or another point in the circuit. A beep tone will sound if continuity is detected.

Easy To Use & Storage

Make sure that the probe is firmly insert into the device before use.



5.4 Diode Mode

This mode displays the forward voltage of a diode, useful for checking diode functionality.



Figure 5.6: Display showing Diode Test mode with a reading of 0.22V.

5.5 Component Activation

The AL-PB50 can apply positive or negative battery voltage to a component to test its functionality. This is useful for verifying if a component (e.g., motor, light, fan) is working correctly before replacing it.

- **Applying Positive Voltage:** Press the power switch forward (towards the probe tip) to apply positive voltage. The red LED will light up.
- **Applying Negative Voltage (Ground):** Press the power switch backward (away from the probe tip) to apply ground. The green LED will light up.

12 24V CIRCUIT TESTER

13FT cable, perfect length for use.



Figure 5.7: Examples of activating various vehicle components such as car lights, motors, windshield wipers, and radiator fans using the AL-PB50.

Video: Activate Component Function

Your browser does not support the video tag.

This video demonstrates how to use the ANCEL AL-PB50 to activate components by applying power, showing a light bulb illuminating when power is supplied.

5.6 Short Circuit Finder

The AL-PB50 can help locate short circuits. When the probe tip contacts a short to ground, the device will indicate "0.0Ω" and the green LED will be on, accompanied by a beep tone. The built-in circuit breaker will trip to protect the tool and the circuit from overload.

PINPOINT CIRCUIT BREAK

When the probe tip is contacting a good ground, the LCD will indicate "0.0Ω" and green LED will be on. A beep tone will sound.



Figure 5.8: The AL-PB50 displaying "OL" for an open circuit and "0.0Ω" with a green LED for a short to ground, indicating a circuit break.

5.7 Signal Circuit Test

This function allows testing of signal circuits, such as those from MAP sensors, by observing the voltage readings on the LCD. Abnormal readings may indicate a problem with the sensor.

5.8 Quick Self-Test

The device performs a quick self-test upon power-up to ensure proper functionality.

6. MAINTENANCE

- Keep the tool clean and dry. Wipe with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Store the tool in its carrying case when not in use to protect it from damage.

- Regularly inspect the cables and clips for any signs of wear or damage. Replace if necessary.
- Ensure the probe tip is clean and sharp for accurate readings.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Incorrect battery connection; Vehicle battery is dead; Loose cable connections.	Ensure red clip is on positive, black on negative. Check vehicle battery voltage. Secure all connections.
Circuit breaker trips frequently.	Overload; Short circuit in the tested component/circuit.	Allow 15 seconds for the breaker to reset. Check the component/circuit for shorts before retesting.
Inaccurate voltage/resistance readings.	Poor probe contact; Dirty probe tip; Damaged cables.	Ensure firm contact with the circuit. Clean the probe tip. Inspect and replace damaged cables.
No LED indication during polarity test.	Open circuit; No voltage present.	Verify the circuit is live. Check for breaks in the wiring.

8. SPECIFICATIONS

- **Operating Voltage:** 12V - 24V DC (Vehicle battery power supply or external 12/24V battery)
- **Display:** LCD Screen
- **Cable Length:** 13 feet
- **Overload Protection:** Built-in Circuit Breaker
- **Testing Modes:** DC Voltage, AC Voltage, Resistance, Diode
- **Additional Functions:** Polarity Test, Continuity Test, Component Activation, Short Finder, Signal Circuit Test, LED Flashlight
- **Dimensions (L x W x H):** 1.97 x 2.76 x 3.94 inches
- **Weight:** 15.5 ounces

9. WARRANTY AND SUPPORT

ANCEL provides a worry-free experience for its products. If you encounter any product problems, their technical support team is available to assist promptly and effectively.

- **Return & Replace:** 30-Day Return & Replace policy.
- **Lifetime Upgrades:** Free lifetime software upgrades.
- **Technical Support:** 24/7 technical support available.
- **Languages Supported:** 3 languages supported for technical assistance.

PROFESSIONAL CUSTOMER TEAM SUPPORT



Figure 9.1: ANCEL's commitment to customer support, including quality, risk-free purchase, lifetime upgrades, and 24/7 tech support.

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For further assistance, please visit www.anceltech.com

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

<https://manuals.plus/asin/B0D91WDRJN>

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