VDIAGTOOL V500

VDIAGTOOL V500 Automotive Power Circuit Probe Tester Kit User Manual

Model: V500

Brand: VDIAGTOOL

1. Introduction

The VDIAGTOOL V500 is a full-featured intelligent power circuit probe tester designed for troubleshooting DC 9-30V automotive electrical issues. It integrates functions of a circuit tester, relay tester, oscilloscope, and multimeter, offering comprehensive diagnostic capabilities for various vehicle components. This manual provides detailed instructions for setup, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your device.

2. What's in the Box

Upon opening the package, verify that all components listed below are present and in good condition. If any items are missing or damaged, please contact VDIAGTOOL customer support.

- V500 Main Unit
- Fine Tip
- Relay Cable
- Tip Extension Wire
- Wire Piercing Probe (x2)
- Fuse (x3)
- Manual
- Alligator Battery Clip
- Type-C Data Cable
- Banana To Banana Plug Test Lead (x2)
- Banana Plug to Alligator Clip



Figure 2.1: The VDIAGTOOL V500 kit, including the main unit, cables, probes, and carrying case.



Figure 2.2: Detailed diagram illustrating all components included in the V500 package.

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Video 2.1: An unboxing video demonstrating the contents of the VDIAGTOOL V500 package.

3. Setup

The VDIAGTOOL V500 is designed for easy setup. Connect the device to a DC 9-30V power source, typically your vehicle's battery, using the provided Alligator Battery Clip. Ensure a secure connection for stable operation.

1. Connect the red alligator clip to the positive (+) terminal of the vehicle battery.
2. Connect the black alligator clip to the negative (-) terminal of the vehicle battery or a good chassis ground.
3. Ensure the connections are firm and free from corrosion.
4. The device will power on automatically once a stable power supply is detected.



Figure 3.1: Proper connection of the V500 to a vehicle battery for power supply.

4. Operating Modes & Functions

The V500 offers a variety of testing modes to diagnose automotive electrical systems. Navigate through the modes using the device's buttons as described in the user manual.

4.1. 6-in-1 Multimeter & Oscilloscope Function

The multimeter mode allows for precise measurement of various electrical properties, including DC voltage (VDC), resistance (OHM), diode (DIO), current (AMP), frequency, and polarity (P-N). The oscilloscope function provides clear, real-time waveform diagrams to test various voltage signals, displaying AC/DC voltage, resistance value, and frequency duty cycle. This is crucial for detecting sensors and actuators, checking circuit connectivity, and identifying poor grounds.



Figure 4.1: The V500 displaying measurements in multimeter mode.



Figure 4.2: The V500's oscilloscope function displaying electrical waveforms.

4.2. Fuel Injector Test

This function provides four types of pulse signals (once or multiple times) to the injector for quick and easy diagnosis of the injector circuit. It supports tests ranging from 0-110V to 260V for most injector models, allowing for regular detection of fuel injector conditions and maximizing cleaning effects with car cleaner.



Figure 4.3: The V500 performing a fuel injector test.

4.3. Component Activation

The V500 supports activating components to efficiently judge their condition. It generates activation signals in three modes: MOMENT, LACH, and PULSE. This allows for dynamic testing of electrical components such as car lights, motors, windshield wipers, radiator fans, relays, fuel injectors, and other on-board electrical equipment to pinpoint the root cause of electrical issues.



Figure 4.4: The V500 activating a component for testing.

4.4. Relay/Fuse/Trailer Light Test & Bad Fuses Location

The V500 functions as a relay tester, assessing cables, ground wires, and probes to quickly detect whether relays are normal. It is suitable for most common 4-pin and 5-pin relays found in vehicles. Additionally, it helps locate blown fuses in seconds and checks the condition of trailer lights, preventing frustrating situations during road trips.



Figure 4.5: The V500 performing a relay test.

4.5. One-Click Smart Test & Quick Polarity Test

Without switching between different test modes, this intelligent power circuit probe tester can measure voltage, resistance, and positive/negative polarity automatically. If the probe tip connects to the negative terminal, a green LED lights up with a buzzing sound. A red LED lights up when it detects positive polarity.



Figure 4.6: The V500's smart test and quick polarity identification feature.

5. Maintenance

Proper maintenance ensures the longevity and accuracy of your VDIAGTOOL V500. Keep the device clean and dry. Store it in its durable carrying case when not in use to protect it from dust and physical damage. Regularly inspect cables and connectors for wear and tear. The kit includes spare fuses for easy replacement if needed. Refer to the user manual for specific instructions on replacing fuses.

6. Troubleshooting

If you encounter issues with your VDIAGTOOL V500, consider the following common troubleshooting steps:

- **Device Not Powering On:** Ensure the device is securely connected to a stable DC 9-30V power source. Check the vehicle battery voltage.
- **Inaccurate Readings:** Verify that all probe connections are secure and clean. Ensure the correct test mode is selected for the measurement you are attempting.

- **No Response from Components:** When activating components, ensure the component is properly connected and receiving power. Check for blown fuses in the circuit.
- **Screen Issues:** If the screen is unresponsive or displaying errors, try restarting the device by disconnecting and reconnecting the power.

For more detailed troubleshooting or persistent issues, please refer to the comprehensive user manual included with your product or contact VDIAGTOOL customer support.

7. Specifications

Feature	Specification
Model Number	V500
Power Source	Powered By Vehicle Battery Or Cigarette Lighter
Min. Operating Voltage	9 Volts
Max. Operating Voltage	30 Volts
Color	Blue
Package Dimensions	13.78 x 12.32 x 3.58 inches
Item Weight	4.67 Pounds
Batteries	1 9V batteries required (included)
Manufacturer	VDIAGTOOL

8. Warranty and Support

VDIAGTOOL stands behind the quality of its products. The V500 intelligent automotive electrical tester comes with a **3-year warranty** and **lifetime technical assistance**. We also offer a **60-day no-questions-asked new replacement or refund** policy.

For any questions, concerns, or support needs, please reach out to us via email:

vdiagtool2@outlook.com

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