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› GEARELEC AT500 Car OBD2 Scanner Diagnostic Tool User Manual

GEARELEC AT500

GEARELEC AT500 Car OBD2 Scanner Diagnostic Tool User Manual

Model: AT500

INTRODUCTION

This manual provides comprehensive instructions for the operation, maintenance, and troubleshooting of your GEARELEC AT500 Car OBD2 Scanner Diagnostic Tool. Please read this manual thoroughly before using the device to ensure proper and safe operation.



Image: The GEARELEC AT500 OBD2 Scanner, showing its main menu screen and connected OBD-II cable.

WHAT'S IN THE BOX

Upon opening the package, please verify that all components are present and in good condition:

- GEARELEC AT500 OBD2 Scanner Unit
- User Manual (this document)

KEY FEATURES

The GEARELEC AT500 OBD2 Scanner is equipped with a range of features designed for comprehensive vehicle diagnostics:

- **Multi-Language Support:** Supports 11 languages including English, German, Spanish, French, Italian, Dutch, Portuguese, Russian, Polish, Finnish, and Turkish.
- **DTC Lookup & I/M Readiness:** Features over 30,000 built-in Diagnostic Trouble Codes (DTCs) with descriptions, and a one-click I/M readiness function for emissions testing.
- **Wide Vehicle Compatibility:** Compatible with most vehicles manufactured after 1996 (US), 2002 (EU), and 2008 (Asia) that adhere to the OBD2 protocol.
- **Battery Testing Capabilities:** Includes voltage measurement, battery level display, charging status, diode ripple testing, and starter testing.
- **Comprehensive Diagnostic Functions:** Read and clear engine codes, view freeze frame data, live data streams, O2 sensor test, onboard monitor test, EVAP system test, component test, data logging, and vehicle information.
- **User-Friendly Display:** Equipped with a 2.8-inch color LCD screen for clear data presentation and an intuitive fault detection light.

Professional **OBD2** Scanner Tool with Mode 6/8



Full OBD2 Modes



Read Codes



EVAP Leak Test (Mode 8)



I/M Readiness



Battery Level Indicator



11 Kind Languages



Clear Codes



O2 Sensor Test



Vehicle Info



On-Board Monitoring (Mode 6)



Data Record & Replay



Freeze Frame



DTC Lookup



Live Data Stream



VIN, CIN, CVN Information

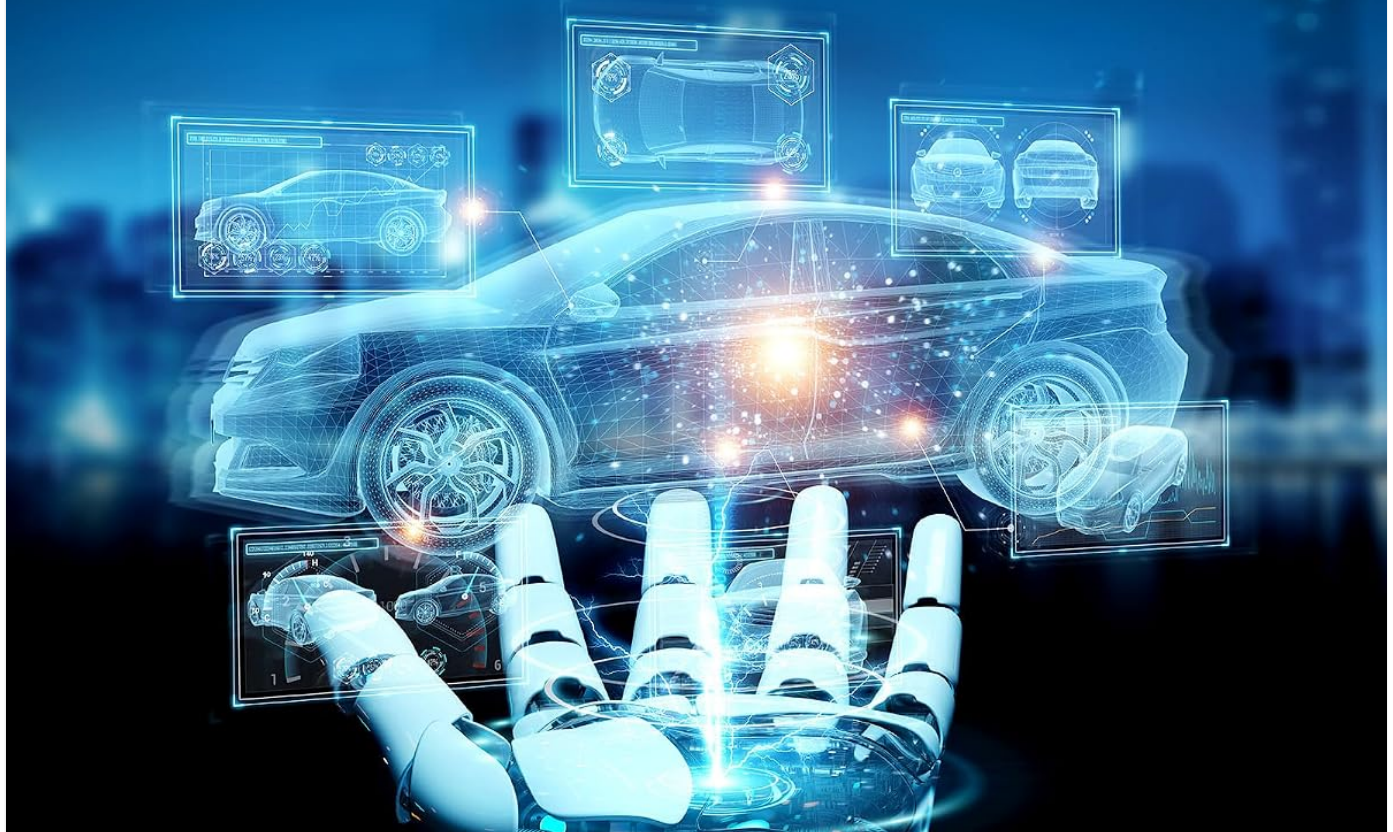


Image: An overview of the GEARELEC AT500's key features, including full OBD2 modes, read/clear codes, EVAP, I/M readiness, battery level, multi-language support, O2 sensor test, vehicle info, on-board monitoring, data record/replay, freeze frame, DTC lookup, and live data stream.

SETUP

Vehicle Compatibility

The AT500 scanner is designed to work with most OBD2/EOBD compliant vehicles. This generally includes:

- US-based cars manufactured after 1996
- EU-based cars manufactured after 2002
- Asia-based cars manufactured after 2008

It supports standard OBD2/EOBD protocols: ISO 9141, KWP2000, SAE J1850 CAN, J1850 VPW, and J1850 PWM.

Note: This tool is not compatible with new energy vehicles, hybrid vehicles, or vehicle models that do not adhere to the OBD2 protocol. It is also not compatible with diesel cars and some other trucks.

AT500 WORKS ON MOST

1996
US-based Cars



2002
EU-based Cars



2008
Asia-based Cars



Compatible with All OBD2/EOBD Protocols

ISO 9141

KWP2000

SAE J1850 CAN

J1850 VPW

J1850 PWM

11 Languages Support



English



German



Spanish



French



Italian



Dutch



Portugues



Russian



Polish



Finnish



Turkish

Note:

1. Not compatible with diesel cars and other trucks.
2. If the vehicle has been modified or the OBD interface is defective, the OBD function may be affected.

Image: Visual representation of the GEARELEC AT500's compatibility with US, EU, and Asia-based cars from specific years, along with supported OBD2/EOBD protocols and the 11 supported languages.

Connecting the Scanner

1. Locate the vehicle's 16-pin Data Link Connector (DLC). This is typically found under the dashboard on the driver's side.
2. Ensure the vehicle's ignition is in the "OFF" position.

3. Firmly plug the AT500's OBD-II connector into the vehicle's DLC.
4. Turn the vehicle's ignition to the "ON" position (engine can be off or running, depending on the test). The scanner will automatically power on.

OPERATING INSTRUCTIONS

Navigating the Menu

Use the directional arrows (Up, Down, Left, Right) to navigate through the menu options on the 2.8-inch LCD screen. Press the **OK** button to confirm a selection. The **ESC** button is used to return to the previous screen or exit a function.

Reading and Clearing Diagnostic Trouble Codes (DTCs)

1. From the main menu, select "Diagnose" or "DTC Lookup".
2. To read codes, select "Read Codes". The scanner will display current, pending, and permanent codes.
3. To clear codes, select "Clear Codes". **Warning: Clearing codes will erase all diagnostic trouble codes and freeze frame data from the vehicle's computer. Ensure you have recorded all necessary information before clearing codes.**

DTC Lookup & Erase Codes



Image: The GEARELEC AT500 displaying a DTC lookup result (P1100) and illustrating the effect of clearing a check engine light, showing a dashboard before and after the light is extinguished.

Viewing Live Data Stream

The Live Data Stream function allows you to view real-time sensor data from the vehicle's engine control unit (ECU). This can be displayed in numerical or graphical format.

1. From the main menu, select "Live Data".

2. Choose the parameters you wish to monitor.
3. Observe the real-time data to identify potential issues or verify sensor operation.

View **4 Kinds** Data Stream

Gain a better understanding of your car's condition

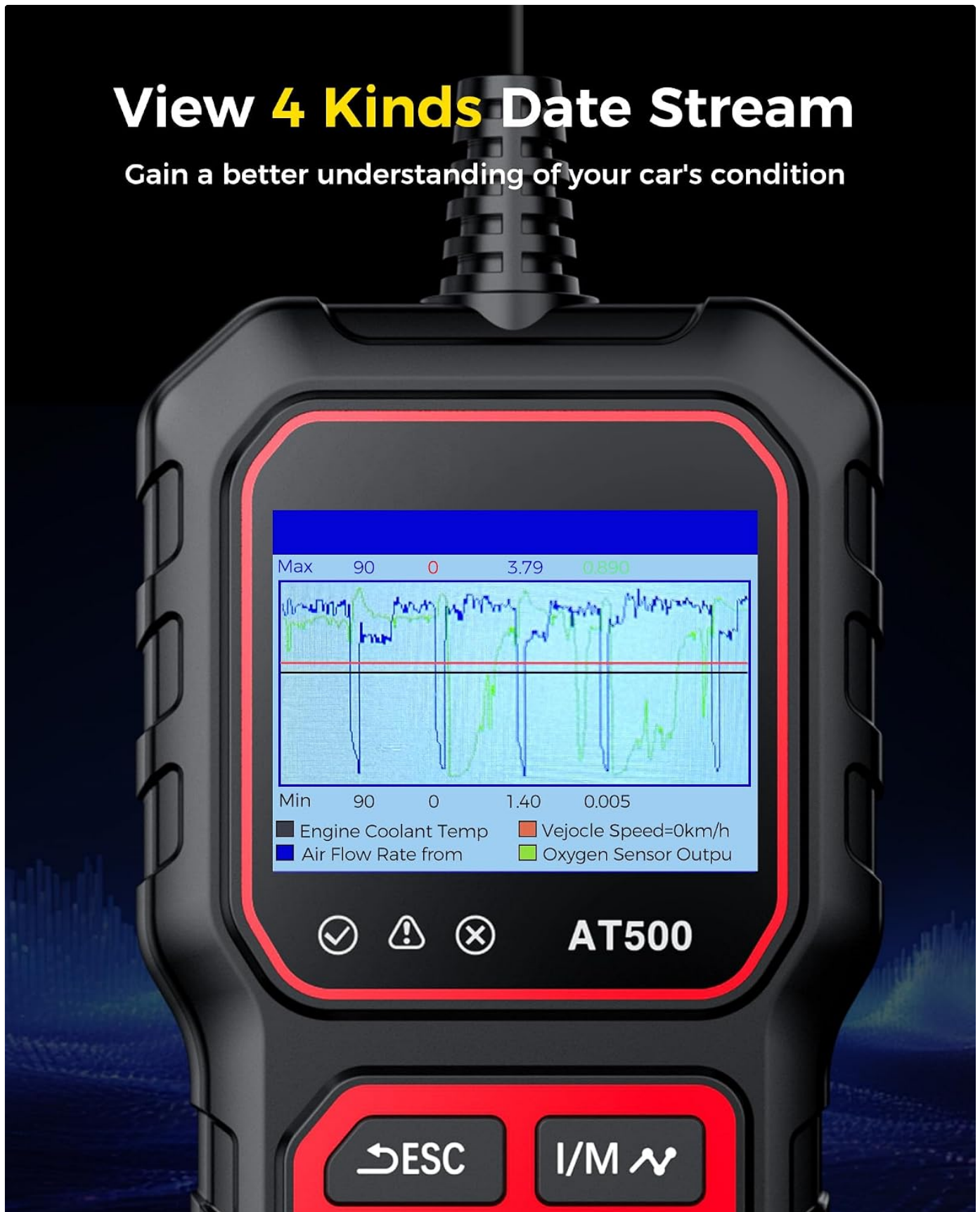


Image: The GEARELEC AT500 displaying a live data stream in a graphical format, showing parameters like Engine Coolant Temp, Air Flow Rate, Vehicle Speed, and Oxygen Sensor Output over time.

I/M Readiness & Smog Check

The I/M Readiness function checks the status of the emission-related monitoring systems on the vehicle. This is crucial

for passing emissions tests.

1. From the main menu, select "I/M Readiness".
2. The scanner will display the status of various monitors (e.g., Misfire Monitor, Fuel System Monitor, Comprehensive Component Monitor). "OK" or "Complete" indicates the monitor has run and passed; "INC" or "Incomplete" means the monitor has not yet run its diagnostic cycle.
3. Use this information to determine if your vehicle is ready for an emissions test.



Image: A hand operating the GEARELEC AT500, highlighting the I/M Readiness function on the screen, indicating its use for smog checks.

Battery System Testing

The AT500 includes advanced battery testing features to assess the health of your vehicle's battery and charging system.

- **Voltage Measurement:** Displays the current battery voltage.
- **Battery Level Display:** Indicates the battery's charge level.
- **Charging Status Indication:** Shows if the battery is charging correctly.
- **Diode Ripple Testing:** Checks for excessive AC ripple from the alternator.
- **Starter Testing:** Evaluates the starter motor's performance during engine cranking.

Access these functions from the "Battery System" or "Voltmeter" options on the main menu.

MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the scanner's casing and screen. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a clean, dry environment, away from extreme temperatures and direct sunlight.
- **Cable Care:** Avoid bending or twisting the OBD-II cable excessively. Always grasp the connector when plugging or unplugging, not the cable itself.
- **Software Updates:** Check the official GEARELEC website periodically for software updates to ensure optimal performance and compatibility with newer vehicle models.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Scanner does not power on.	Loose connection to vehicle DLC. Vehicle ignition not in "ON" position. Vehicle's DLC or fuse issue.	Ensure the OBD-II connector is firmly seated. Turn the ignition to "ON" (engine off or running). Check the vehicle's fuse box for blown fuses related to the OBD-II port. Consult your vehicle's manual.
"Link Error" or "Communication Error" message.	Vehicle not OBD2 compliant. Incorrect protocol detected. Faulty connection or cable.	Verify your vehicle's compatibility (year and type). Ensure the connection is secure. Try disconnecting and reconnecting. If possible, test the scanner on another OBD2 compliant vehicle.
Cannot clear codes.	Ignition not in "ON" position. Underlying fault still present.	Ensure ignition is "ON" and engine is off. Codes cannot be cleared if the underlying issue causing them has not been resolved. Address the fault first.

SPECIFICATIONS

Feature	Detail
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Feature	Detail
Model	AT500
Display	2.8-inch Color LCD
Operating Voltage	9-16V (from vehicle OBD-II port)
Supported Protocols	ISO 9141, KWP2000, SAE J1850 CAN, J1850 VPW, J1850 PWM
Supported Languages	English, German, Spanish, French, Italian, Dutch, Portuguese, Russian, Polish, Finnish, Turkish
Dimensions (L x W x H)	Approx. 5.79 x 3.03 x 0.94 inches (14.7 x 7.7 x 2.4 cm)
Weight	Approx. 9.5 ounces (269 grams)

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official GEARELEC website or contact their customer service directly. Keep your purchase receipt as proof of purchase for warranty claims.

GEARELEC Official Store: [Visit the GEARELEC Store on Amazon](#)

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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