

TOPDON

If you have any questions or doubts, please contact us via

Hotline +86-755-21612590
+1-833-629-4832 (North America)

Email support@topdon.com

Website www.topdon.com

Facebook @TopdonOfficial

Twitter @TopdonOfficial

MADE IN CHINA

FCC Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference received, including interference that may cause undesired operation.



TOPDON



ArtiDiag500 S

Professional Diagnostic Tool

USER MANUAL

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Welcome

Thank you for purchasing TOPDON automotive diagnostic tool ArtiDiag500 S. Please patiently read and understand this User Manual before operating this product.

About

TOPDON ArtiDiag500 S is designed with technicians in mind. This 5" Android tablet-style scanner boasts high-quality features with easy workflow to tackle the common and complex vehicle diagnostic issues for most modern vehicles worldwide.

Package List

- ArtiDiag500 S
- TYPE-C Charging Cable
- Quick User Guide
- User Manual

Compatibility

TOPDON ArtiDiag500 S is compatible with the following protocols:

- KWP2000
- ISO9141
- J1850 VPW
- J1850 PWM
- CAN (Controller Area Network)
- And more

Notice

ArtiDiag500 S may automatically reset while being disturbed by strong static electricity. THIS IS A NORMAL REACTION.

This Product Manual is subject to change without written notice.

Read the instruction carefully and use the unit properly before operating. Failure to do so may cause damage and/or personal injury, which will void the product warranty.

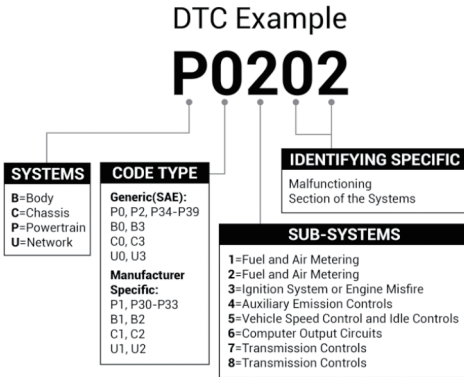
*Visit www.topdon.com/products/artidiag500s to download the multilingual user manual.

General Information of OBDII (On-Board Diagnostics II)

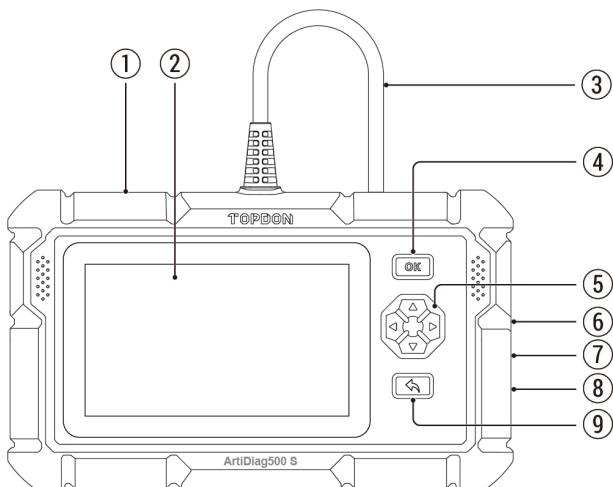
The OBDII system is designed to monitor emission control systems and key engine components by performing either continuous or periodic tests of specific components and vehicle conditions, which will offer three pieces of such valuable information:

- Whether the Malfunction Indicator Light (MIL) is commanded “on” or “off”;
- Which, if any, Diagnostic Trouble Codes (DTCs) are stored;
- Readiness Monitor status.

Diagnostic Trouble Codes (DTCs)



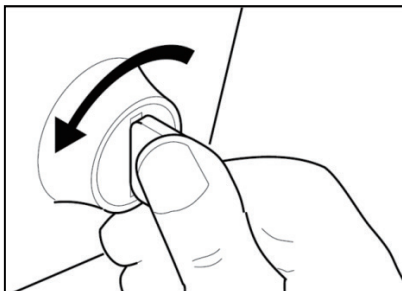
Product Descriptions



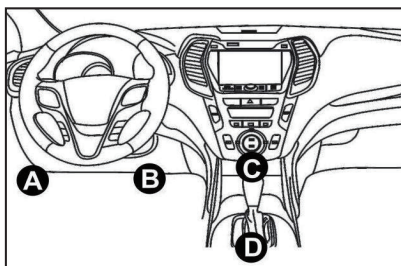
NO.	Name	Description
1	Power/Screen Lock Button	Long press for 5 seconds to turn on or off
2	5" Touchable Screen	Display 480 x 854 resolution
3	Diagnostic Cable	Used to connect car OBD connector
4	OK Button	Confirm button
5	Selection Buttons	Up, down, left and right direction selection
6	TF Card Slot	Support expandable SD memory card (please purchase by yourself)
7	TYPE-C Interface (5V-1.2A)	TYPE-C port supports voltage 5V-1.2A, please do not exceed the range!
8	Reset Button	Power on and off reset
9	Return Button	Return to the previous step

Preparation & Connection

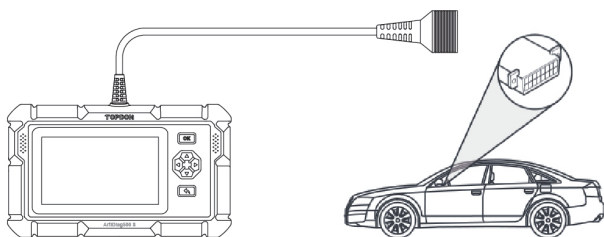
1. Turn the ignition off.



2. Locate the vehicle's DLC socket.



3. Plug the TOPDON ArtiDiag500 S diagnostic cable into the vehicle's DLC socket.



4. Turn the ignition on. The engine can be off or running.

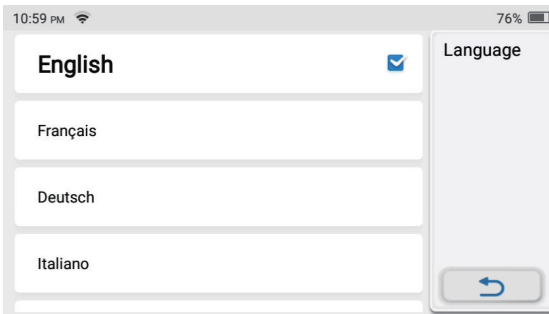
5. Hold the Power button for 5 seconds to turn the TOPDON ArtiDiag500 S on. The tablet will start initializing and enter the following interface.



- * **Note:** Don't connect or disconnect any test equipment with the ignition on or engine running.

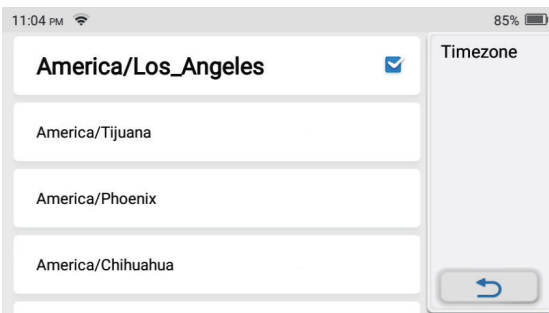
6. Language Setting

Select the tool language in the following interface:



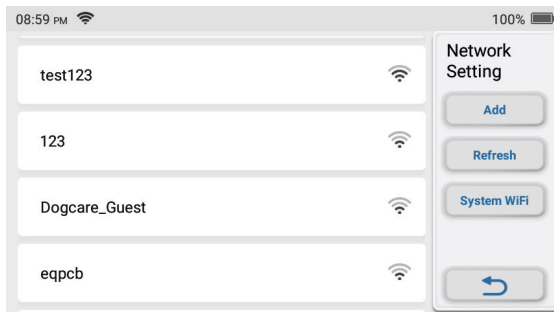
7. Choose Time

Choose the time zone where you are in. The system will automatically configure the time according to the time zone you selected.



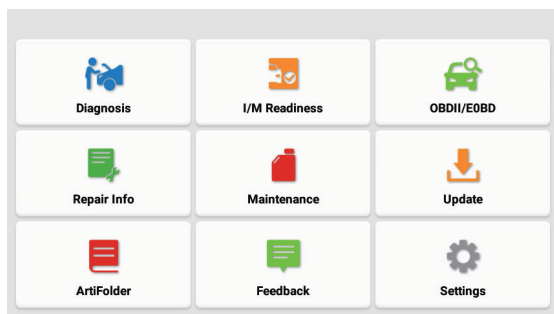
8. Connect Wi-Fi

The system will automatically search all available Wi-Fi networks. You can choose the Wi-Fi needed. Tap "Next". It will automatically jump to the Home Menu.



Operation Introduction

TOPDON ArtiDiag500 S has 9 major modules, Dadgnosis, I/ M Readiness, OBDII/EOBD, Repair Info, Maintenance, Update, ArtiFolder, Feedback, settings.



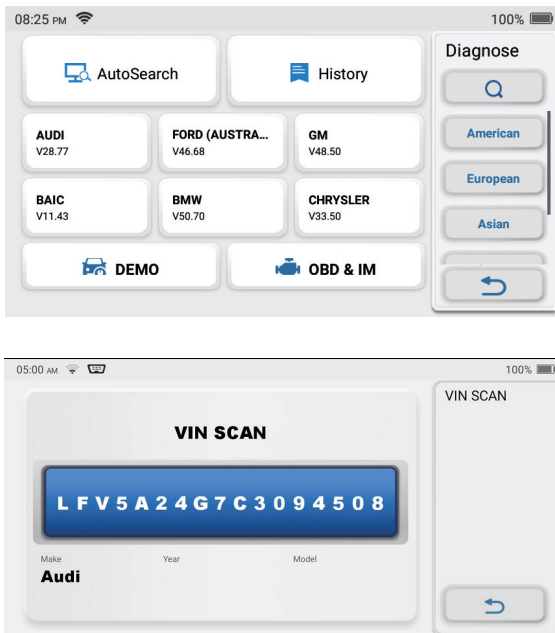
1. Diagnosis

TOPDON ArtiDiag500 S supports Smart Diagnosis and Manual Diagnosis for Engine, Transmission, ABS, and SRS systems of most modern vehicles across the global.

A diagnostic report will be automatically generated after the diagnosis.

1.1 Smart Diagnosis

Connect the unit to the DLC's port via OBDII cable. Turn the ignition key on. Tap "Diagnosis" in the main interface, and then tap "AutoSearch". The system will automatically start scanning the vehicle's VIN data.



***Note:** Follow the prompts to proceed if the communication failure occurs.

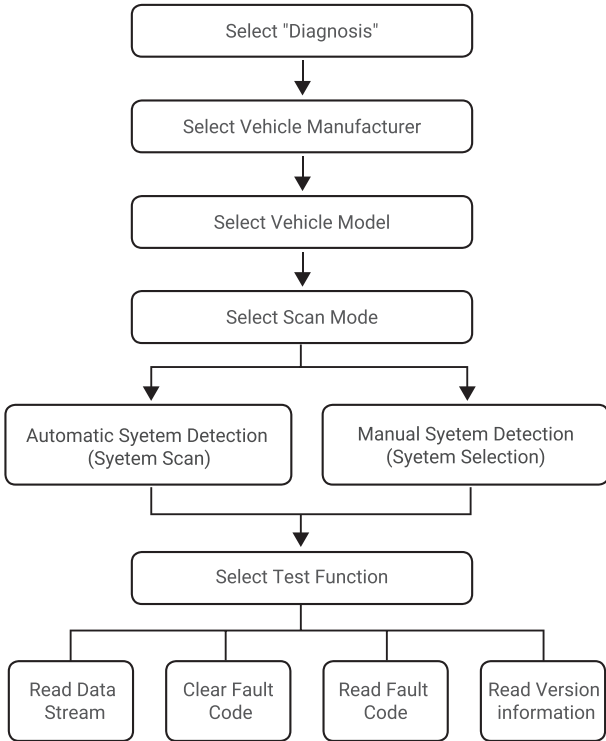
1.2 Manual Diagnosis

If the tool cannot obtain or analyze the VIN information, you can also perform Manual Diagnosis. In this mode, you need to execute the menu-driven command and follow the on-screen instruction to proceed.

Refer to the flowchart illustrated as below to run the manual system diagnostics.

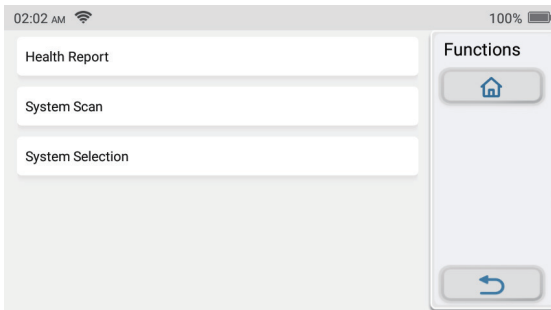
***Note:**

- Before diagnosing, please make sure the corresponding vehicle manufacturer software has been installed in the scanner.
- The diagnostic menu may vary by the vehicle's make, model and year.



Take "Demo" as an example to demonstrate how to manually diagnose a vehicle.

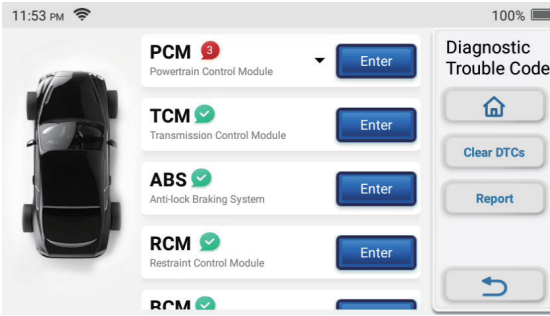
After selecting the vehicle manufacturer, the following screen may appear:



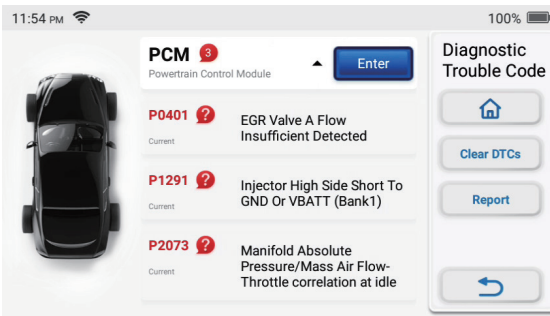
1.3 Health Report

This function can quickly reveal the vehicle's health status.

Tap "Health Report". The system will start scanning DTCs and show the test results.



The DTC will be displayed on the screen in red font, with a specific definition.



***Note:** This function will be available only when the diagnostic software supports it.

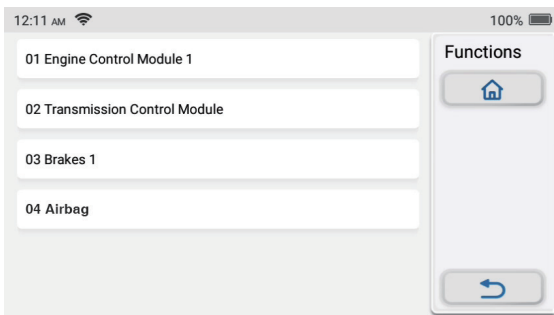
1.4 System Scan

This function will automatically scan all systems of the vehicle.

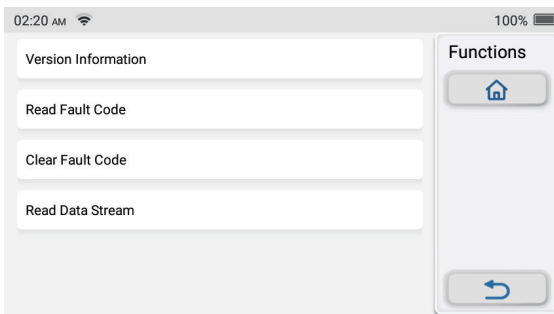
1.5 System Selection

This function allows you to manually choose the automotive electronic control system.

Tap "ECM" (e.g.). The screen will show the selection interface.



Choose the system to be tested. The following screen may vary by vehicle's make, model, and year.



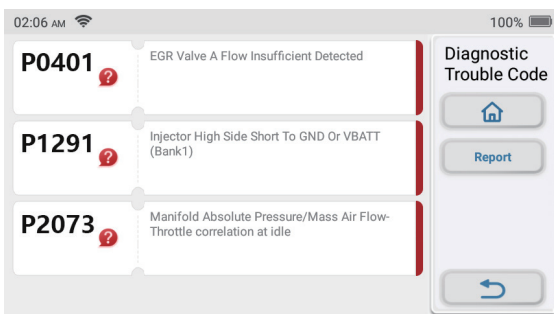
1.5.1 Version Information

This function reads the current version information of ECU.

1.5.2 Read Fault Code

This function can read the Diagnostic Trouble Codes (DTCs) in the ECU memory, helping quickly identify the cause of the vehicle breakdown.

Tap "Read Fault Code". The screen will display diagnostic results.



*Explanation of terms:

- Freeze Frame: Records specific data streams for verification when the car breaks down.
- Report: Saves the current diagnosis result as a diagnosis report, which can be sent to a specific E-Mail address.

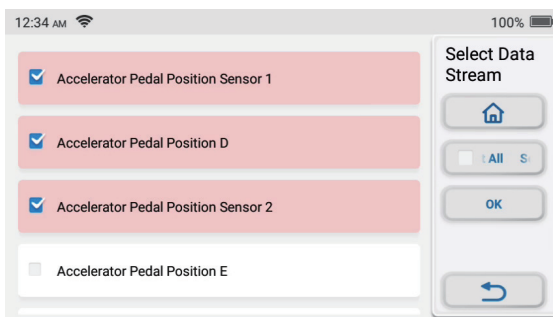
1.5.3 Clear Fault Code

This function can clear the DTC of the ECU memory of the tested system.

1.5.4 Read Data Stream

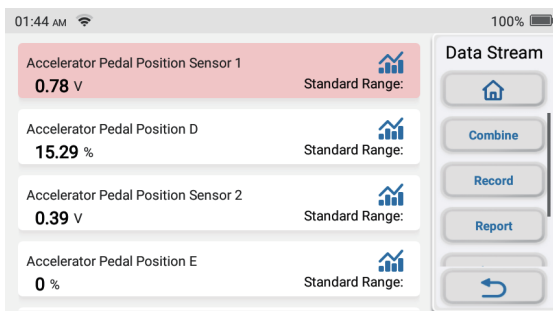
This function can read and display the real-time data and parameters of ECU.

To view the specific data stream, check the box next to its name, and then tap "OK".





The system will display a maximum of four dynamic data streams in three modes:

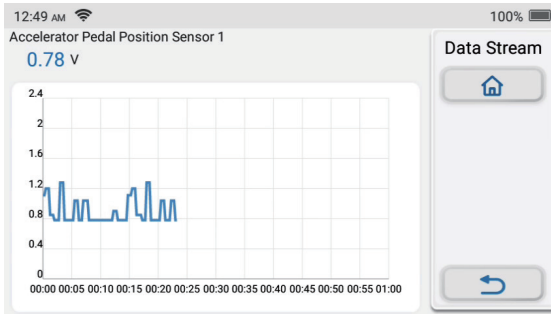
- 1) Value (default): Shows parameters with numbers and lists.
- 2) Figure: Displays parameters with wave patterns.
- 3) Combine: The graphs can be merged for easier comparisons.



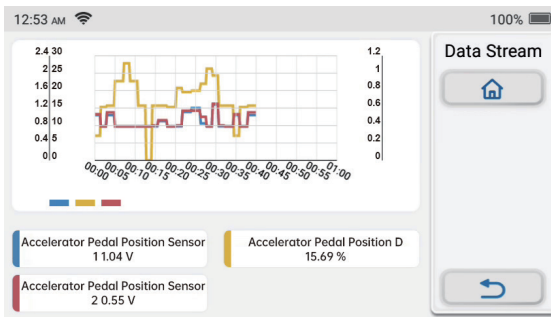
*Explanation of terms:

- : To have the data streams displayed in wave patterns.
- Report: To save the number of current data streams.
- Record: To record the diagnostic data for further analysis.
- Help: To check the help information.

Tap  to have the data streams displayed in wave patterns.



Tap “Combine”: The system will display the merged parameters of the selected data streams with wave patterns.

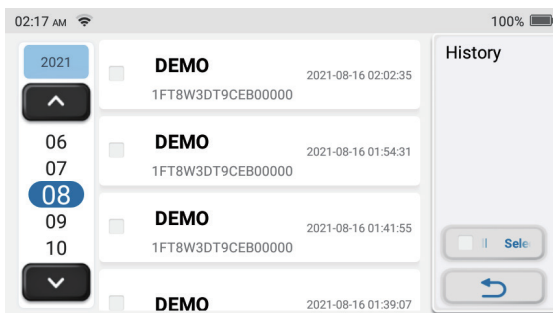


1.6 Diagnostic History

The tablet will record the details of every diagnostic session.

The History function provides direct access to the previously tested vehicles. Users can resume from the last operation, without the necessity of starting from scratch.

Tap “HISTORY” in the “Scan” module. All diagnostic records will be listed on the screen in a date sequence.



2. I/M Readiness

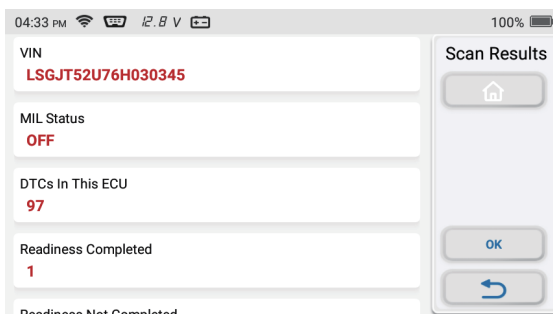
This function checks whether or not the various emissions-related systems on the vehicle are operating properly, and are ready for Inspection and Maintenance testing.

It can also be used to check the Monitor Run Status and to confirm if the repair of a car fault has been performed correctly.

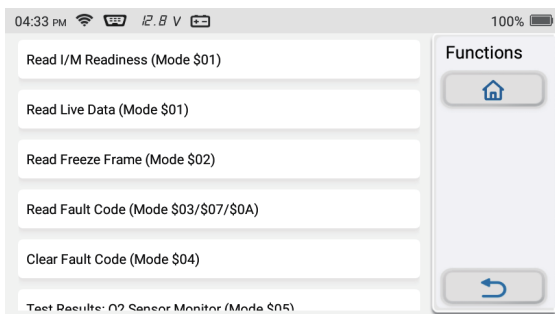
3. OBDII/EOBD Diagnostics

This function presents a quick way to check for DTCs, isolate the cause of the illuminated Malfunction Indicator Lamp (MIL), check monitor status prior to emissions certification testing, verify repairs, and perform other services that are emission-related.

Tap "OBDII/EOBD" in the Home Menu after the tablet is properly connected to the vehicle's DLC port. The tablet will start an automatic check of the vehicle's computer to determine which type of communication protocol it is using, then display the Monitor Status as follows:



Tap "OK", the following OBDII function list appears.



3.1 Read Codes

This function can identify which section of the emission control system has malfunctioned.

3.2 Erase Codes

This function erases the codes from the vehicle, after retrieving codes from the vehicle and certain repairs have been carried out.

Make sure the vehicle's ignition key is in the ON position with the engine being off before the operation.

3.3 Data Stream

This function retrieves and displays live data and parameters from the vehicle's ECU.

3.4 View Freeze Frame

This function takes a snapshot of the operating conditions when an emission-related fault occurs.

3.5 O2 Sensor Test

This function retrieves O2 sensor monitor test results of the most recently completed tests from the vehicle's on-board computer.

3.6 On-Board Monitor Test

This function retrieves test results for emission-related powertrain components and systems that are not continuously monitored. The test's availability is determined by the vehicle manufacturer.

3.7 EVAP System Test

This function initiates a leak test for the vehicle's EVAP system.

Refer to the vehicle's service repair manual to determine the procedures necessary to stop the test.

3.8 Vehicle Info

This function retrieves a list of information (provided by the vehicle manufacturer) from the vehicle's on-board computer.

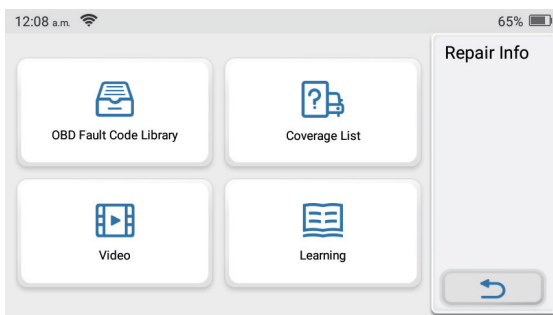
This information may include:

- VIN (Vehicle Identification Number).
- CID (Calibration ID).
- CVN (Calibration Verification Number).

4. Repair Info

This module includes four sections:

- 1) OBD Fault Code Library: The detailed explanation of the fault codes.
- 2) Coverage List: The supported vehicles' information.
- 3) Videos: Contains table usage tips, maintenance, and diagnostic guides.
- 4) Learning Course: Demonstrates how to operate the tool.



5. Maintenance & Reset

TOPDON ArtiDiag500 S features 5 most commonly used maintenance and reset functions.

5.1 BLEED (ABS Bleeding)

This function enables you to perform tests to check the operating conditions of the Anti-lock Braking System (ABS).

It needs to be performed in the following cases:

When the ABS contains air.

When the ABS computer, ABS pump, brake master cylinder, brake cylinder, brake line, or brake fluid is replaced.

5.2 BMS (Battery Matching)

This function can reset the monitoring unit of the car battery, by clearing the original breakdown information about the lack of battery power to rematch the battery.

It needs to be performed in the following cases:

- Replacement of the main battery needs to utilize battery matching to clear the former information about the lack of power, thus avoiding false information detected by the relevant control module which may cause the failure of some electronic auxiliary functions. For example, the vehicle automatically stops; the sunroof can't work by one key; electric windows can't open and close automatically.
- The battery monitoring sensor uses the battery matching function to re-match the control module with the monitoring sensor, so as to detect the use of the battery power more accurately, and avoid receiving wrong information from instrument prompts which will cause false alarms.

5.3 DPF (DPF Regeneration)

This function can help remove particulate matter from the trap by using combustion oxidation methods to keep the performance of the trap stable.

- Replace the exhaust back pressure sensor.
- Disassembly or replacement of the particle trap.
- Removal or replacement of fuel additive nozzles.
- Removal or replacement of catalytic oxidizer.
- The DPF regeneration fault lamp is lit and matched after maintenance.
- Repair and replace the DPF regeneration control module.

5.4 ETS (Throttle Matching)

This function can utilize the car decoder to initialize the throttle actuator so that the learning value of the ECU returns to the initial state. By doing so, the movement of the throttle (or idle motor) can be more accurately controlled, thus adjusting the intake volume.

It needs to be performed in the following cases:

- After replacing the electronic control unit, the relevant characteristics of the throttle operation have not been stored in the electronic control unit.
- After the electric control unit is powered off, the memory of the electric control unit's memory is lost.
- After replacing the throttle assembly, you need to match the throttle.
- After replacing or disassembling the intake port, the controlling of the idle speed by the coordination between the electronic control unit and the throttle body is affected.
- The intake volume and the idle control behavior has changed while staying at the same throttle opening position, although the idle throttle potentiometer behavior hasn't changed.

5.5 OIL(Oil Reset)

This function enables you to reset the oil service lamp for the engine oil life system, which calculates an optimal oil life change interval depending on the vehicle driving conditions and weather events.

It needs to be performed in the following cases:

- If the service lamp is on, run car diagnostics first for troubleshooting.

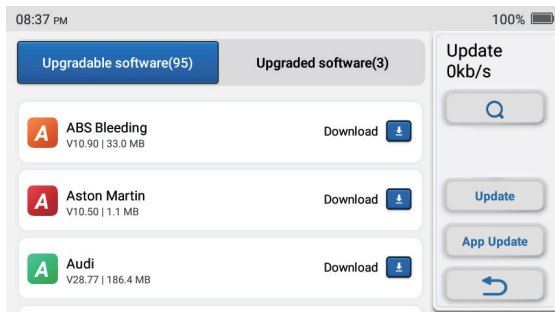
After that, reset the driving mileage or driving time, so as to turn off the service lamp, and enable a new driving cycle.

- If the service lamp is not on, but you have changed the engine oil or electric appliances that monitor oil life, you need to reset the service lamp.

6. Update

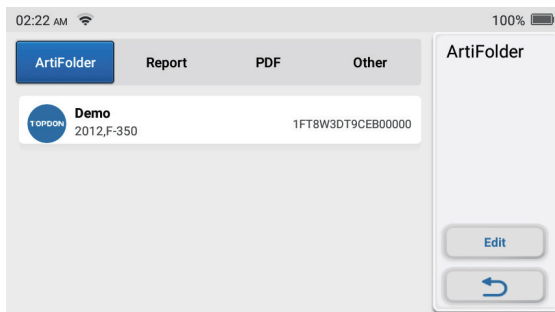
This module allows you to update the diagnostic software & App to the latest version.

A pop-up message will indicate newer software is available if you don't update the software in the process of registration.



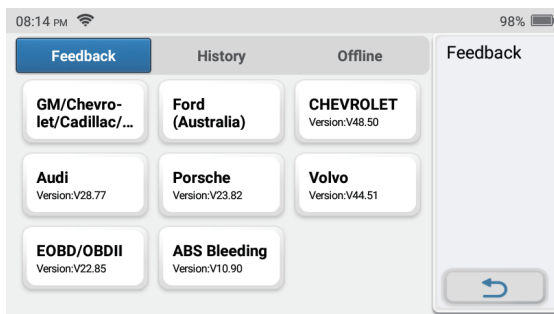
7. ArtiFolder

This module can record and establish the file of the diagnosed vehicles, including all diagnostic-related data such as diagnostic reports and data stream records.



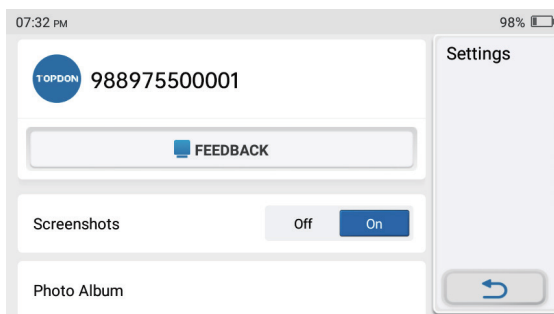
8.Feedback

Allows you to report diagnostic software/application errors to us.



9. Settings

You can modify or add related information in this module, or make settings after the initial setting is completed.



9.1 Screenshots

This option can set the Screen Capture icon to be shown or not on the screen.

9.2 Photo Album

This module saves the screenshots.

9.3 Screen Floating Window

This option can set the Screen Recording icon to be shown or not on the screen.

9.4 Screen Recorder

This module saves the screen recordings.

9.5 Network

This module allows you to set the connectable Wi-Fi network.

9.6 Brightness

This option allows you to set the screen brightness.

9.7 Unit of Measure

This option sets the measurement unit. The Metric System and Imperial System are available.

9.8 Language

The tablet supports multiple languages. You can use this option to set the preferred language.

9.9 Time Zone

This option sets the time zone you are in.

9.10 Sleep Time

This option sets when the tablet will enter the sleep mode.

9.11 Firmware Fix

This module allows you to update or fix the firmware.

9.12 Diagnostic Software Clear

Can delete downloaded diagnostic software.

9.13 Clear the Cache

This option allows the user to clear some cache files and free up the storage space.

9.14 File Manager

File manager records related videos, diagnostic records, pictures, etc.

9.15 Clear data

The app will be restarted after clearing the app cache.

9.16 Factory data Reset

This option will clean your data and restart the tablet.

9.17 Help

This option includes Frequently Asked Questions, and official answers.

9.18 App Update

This option allows you to upgrade the ArtiDiag500 S software.

9.19 About

This option displays the hardware configuration information of the tool and license agreement.

Technical Specification

TOPDON ArtiDiag500 S Tablet

- Battery Capacity: 1500mAh/3.8V
- Screen Size: 5 inches
- Resolution: 480 x 854 Pixels
- Working Voltage: 5V
- Working Current: $\leq 1.2A$
- Working Environment: 32 °F ~122 °F (0°C ~50°C)
- Storage Environment: -4 °F ~140 °F (-20°C ~60°C)

Warnings

- ✔ Always perform automotive testing in a safe environment.
- ✔ DO NOT smoke near the vehicle during testing.
- ✔ DO NOT place the code reader near the engine or exhaust pipe to avoid damage from high temperatures.
- ✔ DO NOT wear loose clothing or jewelry when working on an engine.
- ✔ DO NOT connect or disconnect any test equipment while the ignition is on or the engine is running.
- ✔ DO NOT disassemble the code reader.
- ✔ Engine parts will become hot when the engine is running. To prevent severe burns, avoid contact with hot engine parts.
- ✔ When an engine is running, it produces carbon monoxide, a toxic and poisonous gas. Operate the vehicle ONLY in a well-ventilated area.
- ✔ Wear safety eye protection that meets ANSI standards.

Cautions

- ✔ Please ensure that the vehicle battery is fully charged and the scanner is firmly connected to the vehicle DLC to avoid erroneous data generated by the scanner and diagnostic systems.
- ✔ Please do not use the code reader during driving.
- ✔ Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- ✔ Keep the scanner dry, clean, free from oil/water, or grease. Use a mild detergent on a clean cloth to clean the outside of the scan tool, when necessary.
- ✔ Keep the scanner out of the reach of children.

FAQ

Q: Why does TOPDON ArtiDiag500 S have no responses when it is connected to a car?

A: Check if the connection with the vehicle diagnostic socket is solid, or check if the ignition switch is on, or if the tool supports the car.

Q: Why does the system stop when reading the data stream?

A: It may be caused by a slacked connector. Please turn off the scanner, firmly connect the connector, and switch it on again.

Q: Communication error with vehicle ECU?

A: Please confirm the following cases:

- Whether diagnostic connector is correctly connected.
- Whether ignition switch is ON.

Or, send your vehicle's year, make, model and VIN number to us using Feedback feature for timely technical assistance.

Q: Why does the screen flash when the engine ignition starts?

A: It is normal and caused by electromagnetic interference.

Q: How to upgrade the system software?

A: 1. Power on the tool and ensure a stable Internet connection.

2. Go to "Set up" -> "App Update", tap "OTA" and then tap "check version" to enter the system upgrade interface.

3. Complete the process by following the instructions on the screen step by step. It may take a few minutes depending on the status of your network.

After the upgrade is finished, the tool will automatically restart and display the main interface.

Q: How to capture the screenshot?

A: Tap the "Screenshot" icon on the screen to capture the current screen, which will be saved in the Photo Album module.