OBDMATE®

OM301

USER'S MANUAL

7/24 Service: obdmate@autophix.com

Table of Contents

1. Safety Precautions and Warnings

To avoid injury or damage to the vehicle and/or scan tool, please read this manual at first and observe the following safety precautions when working on a vehicle:

- Always perform vehicle tests in a safe environment.
- Do not attempt to operate or observe the unit while driving a vehicle. Operating or observing the device while driving can cause distraction and may lead to a fatal accident.
- Wear safety glasses that meet the standards of ANSI.
- Keep your hair, hands, clothing, tools, and test equipment away from all moving or hot engine parts.
- Operate the vehicle in a well-ventilated area: Exhaust fumes are toxic.
- Place blocks in front of the drive wheels and never leave the vehicle unattended while performing tests.
- Use extreme caution when working near the ignition coil, distributor cap, ignition wires and spark plugs. These components generate dangerous voltages when the engine is running.
- Keep a fire extinguisher nearby that is suitable for gasoline, chemical, and electrical fires.
- Keep the scan tool dry, clean, and free of oil/water or grease. If necessary, use a mild detergent on a clean cloth to wipe the exterior of the scan tool.

2. General Information

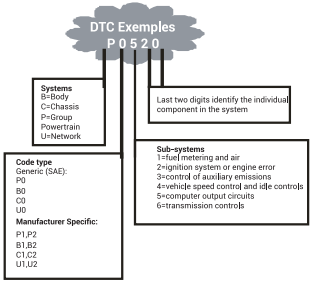
2.1 On-Board Diagnostics (OBD) II

The first generation of on-board diagnostics (called OBD I) was developed by the California Air Resources Board (CARB) and introduced in 1988 to monitor some components of vehicle emission control. As technology advanced, a new generation of on-board diagnostic system was introduced. This second generation is called "OBD II".
The OBD II system is designed to monitor emission control and major engine components by performing either continuous or periodic tests of specific components and vehicle conditions. When a problem is detected, the OBD II system turns on a warning light (MIL) on the vehicle's instrument panel to alert the driver, typically with the words "Check Engine" or "Service Engine Soon." The system also stores important information about the detected malfunction so that a technician can accurately identify and resolve the problem. Here are three such valuable pieces of information:

1) Whether the malfunction indicator lamp (MIL) is "On" or "Off";
2) Whether diagnostic trouble codes (DTCs) are stored and if so, which ones;
3) The status of the standby monitor.

2.2 Diagnostic Trouble Codes (DTCs)

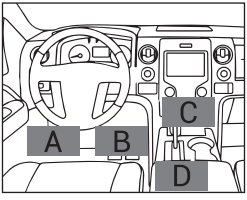
OBD II Diagnostic Trouble Codes(DTCs) are standardized fault codes stored by the on-board computer diagnostic system when a malfunction is detected. These codes identify a specific problem area and help pinpoint where a fault may be occurring. OBD II DTCs consist of a five-character alphanumeric code. The first character, a letter, indicates which control system sets the code. The other four characters, all numbers, provide additional information about where the DTC originated and the operating conditions triggered it. The following example demonstrates the structure of the digits:



Explanation of a diagnostic trouble code.

2.3 Location of the Data Link Connector (DLC)

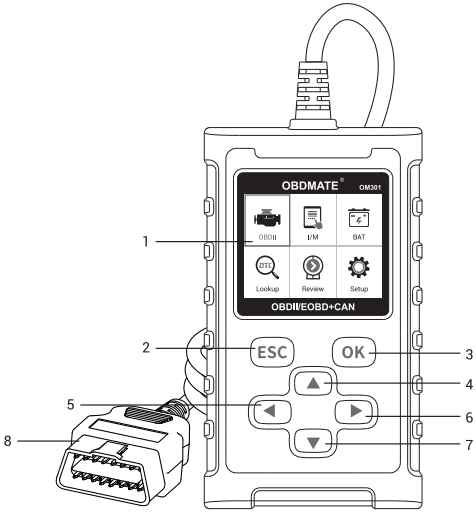
The DLC (Data Link Connector or Diagnostic Link Connector) is the standardized 16-pin connector used to connect diagnostic tools to the vehicle's on-board computer. The DLC is typically located 12 inches from the center of the instrument panel (dashboard), under or on the driver's side of most vehicles. If the DLC is not located under the dashboard, there should be a sticker indicating its location. On some Asian and European vehicles, the DLC is located behind the ashtray and the ashtray must be removed to access the connector. If you can not find the DLC, check the vehicle's service manual to see where it is.



The DLC connector is typically located on the driver's side.

3. Method of Use

3.1 Tool Description - OM301



1. LCD DISPLAY - Indicates test results. 2.4" TFT 262K true color, 320*240 QVGA LCD display.
2. [ESC] BUTTON - Cancels the current selection/action or returns to the previous menu.
3. [OK] BUTTON - Confirms the current selection or executes the current command.
4. [▲ UP] BUTTON - Scrolls upward through menu items (one item per press).
5. [◀ LEFT] BUTTON - Moves cursor left or selects the left menu item.
6. [▶ RIGHT] BUTTON - Moves cursor right or selects the right menu item.

7. [▼DOWN] BUTTON - Scrolls downward through menu items (one item per press).
8. OBDII CONNECTOR - Connects the scan tool to the vehicle's DLC.

3.2 Specifications

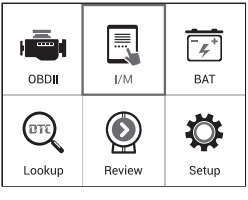
1) Display: 2.4" TFT 262K true color
2) Operating temperature: 0 to 50ºC (32 to 140 ºF)
3) Storage temperature: -20 to 70ºC (-4 to 158 ºF)
4) External power supply: 8.0 to 18.0 V
(Vehicle battery-powered)
5) Dimensions: 140x80x25 mm (L × W × H)
6) Weight: 0.239 kg

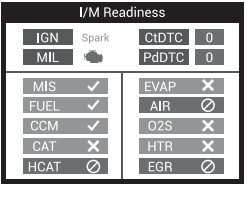
3.3 Accessories List

1) User manual - Instructions on how to operate the device.
2) USB cable - Connects to PC to upgrade the device.

3.4 Quick Access to I/M Readiness

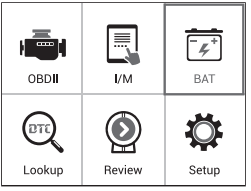
Select "I/M" and the display shows as following:





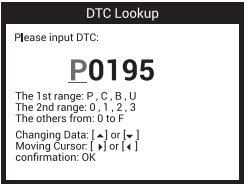
3.5 Battery Test

Select "BAT" to perform a battery test. This monitors the vehicle's battery voltage in real time.



3.6 DTC Lookup

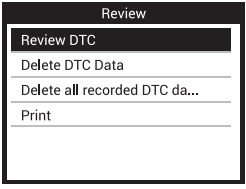
The DTC Lookup feature enables searching for definitions of fault codes from the built-in code library.
1) Select "Lookup" from the main menu and press [OK] to enter. Use [LEFT] or [RIGHT] to move cursor left or right. Use [UP] or [DOWN] to enter a letter or number.
2) Press [OK] to make a query.
3) Press [ESC] key to return to the main menu
If the code definition is not found (SAE or manufacturer specific), the scan tool will display "DTC definition not found!". In such cases, please consult the vehicle's service manual for further reference..

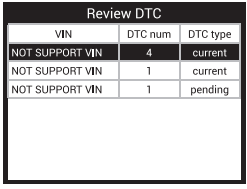


3.7 DTC Review & QR-code Reports Printing

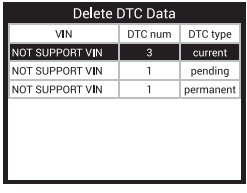
3.7.1 Review and Delete DTCs

1) From "Review" menu select "Review DTC" to view all stored codes. Select a fault code and press [OK] to get its definition.





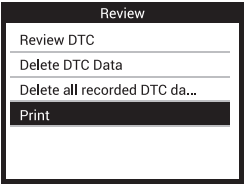
2) From "Delete DTC Data" menu, select one fault code and press [OK] to delete it. Select "Delete all recorded DTC Data" to erase all stored fault codes at once.



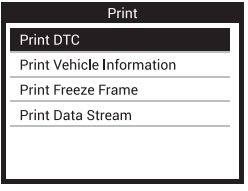
3.7.2 QR-code Reports Generation and Printing

This tool supports QR-code based diagnostic report generation and wireless printing. Note: a complete vehicle diagnosis must be performed first.

1) Select "Print" from "Review", then press [OK] to enter.

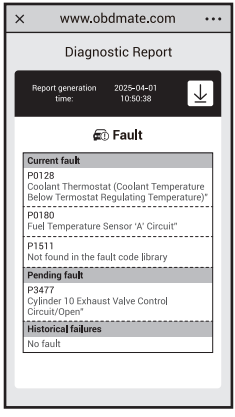


2) Select the data to print, then press [OK] to confirm.



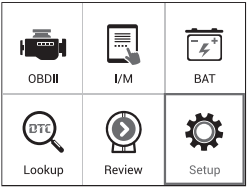
3) The tool displays a QR code. Scan it with a smartphone. A diagnostic report is automatically generated.

4) Download the report to your phone's storage for further reference. You can review it at anytime and send the report to a PC for printing. No USB connection required.



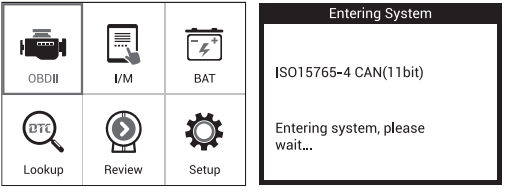
3.8 Tool Setup

The scan tool allows you to make the following settings and adjustments.
1) Language: Select your preferred language, then press [OK] to confirm.
2) Unit of measure: Choose between English (e.g., mph, °F) or Metric (e.g., km/h, °C) then press [OK] to confirm.
3) Beep: Turns ON/OFF the beep tone then press [OK] to confirm.
4) Record: Turns ON/OFF the recording then press [OK] to confirm.
5) Background: Select Day mode or Night mode then press [OK] to confirm.
6) Tool Information: Access version information for this tool.



4. OBD II Diagnostics

1) Turn off the ignition.
2) Plug the scan tool connector into the vehicle's 16-pin DLC.
3) Turn on the ignition.
4) Press any button to continue. It will display the device is connecting to OBDII protocols.
5) Press [ESC] to enter the main menu. Select "Diagnostics" and press [OK] to start a diagnosis.

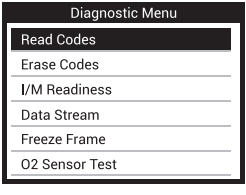


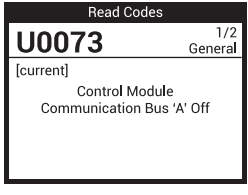
If it indicates "LINKING ERROR!",
- Check if the OBDII connector of the tool is firmly connected to the vehicle's DLC;
- Turn the ignition off and wait for about 10 seconds. Switch the ignition on again and repeat the test.

4.1 Read Codes

● Stored codes are also known as "hard codes" or "permanent codes". These codes cause the control module to illuminate the malfunction indicator lamp (MIL) when an emission-related fault occurs.
● Pending codes are also known as "mature codes" or "continuous monitor codes". They indicate the problem that the control module has detected during the current or last driving cycle, but are not considered serious yet. Pending codes will not turn on the malfunction indicator lamp (MIL). These codes will be cleared from memory after several driving cycles if no faults are detected.

1) Select "Read Codes" and press [OK] from the diagnostic menu. If there are any fault codes, it will display as follows.

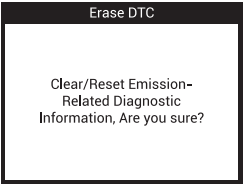




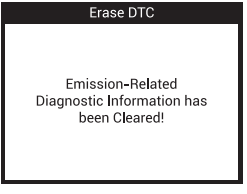
2) Press [DOWN] to view the next code. Press [ESC] to return to the previous menu.

4.2 Erase Codes

1) Select "Erase Codes" the screen will display as below:



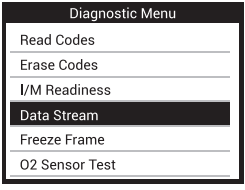
2) Press [OK] to clear the DTCs. The following message will appear if fault codes are successfully cleared.

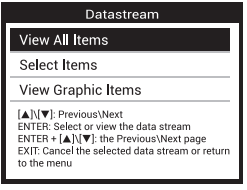


Notes:
Before performing this function, ensure all fault codes are retrieved and recorded.
After clearing, retrieve the fault codes again or turn on the ignition and retrieve the codes again. If fault codes persist, please troubleshoot using vehicle manufacturer diagnostic guide, then clear and recheck the codes.

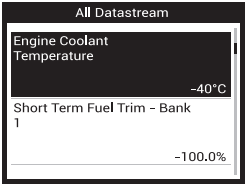
4.3 Data Stream

1) Select "Data Stream" in the diagnostic menu, then press [OK] to enter. Select "View All Items" then press [OK] to display all live data.

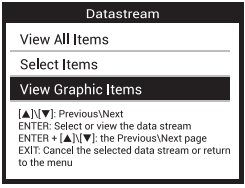


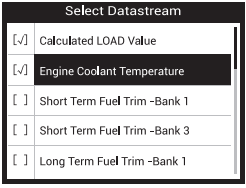


2) Use the [UP] or [DOWN] keys to scroll through items, or turn the pages. Press [ESC] to return to the previous menu.

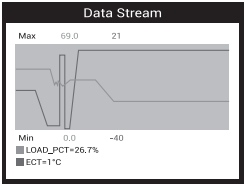


4) To view live data curve, return to the "Data Stream" menu first then select "View Graphic Items".





5) Select the desired item and press [OK] to access its dynamic graph.



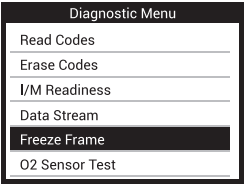
6) Press [ESC] to return to the previous menu.

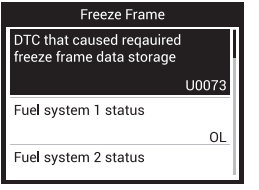
4.4 Freeze Frame

When an emission-related error occurs, the ECU (Electronic Control Unit) automatically records a snapshot of the current vehicle's parameters(Freeze Frame data).

Note: If DTCs have been deleted, the freeze frame data may no longer be available.

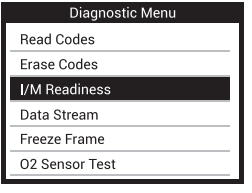
Select "Freeze Frame", the screen will display as follows:

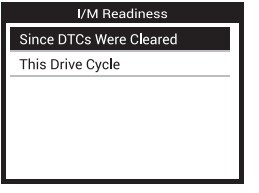




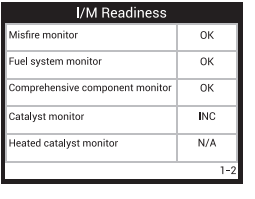
4.5 I/M Readiness

Select "I/M readiness" and press [OK]. It displays as below:





Note: I/M readiness is to test misfire/fuel system/ comprehensive component.



N/A means not available for this vehicle, INC means incomplete or not ready, OK means completed or monitor is ready.

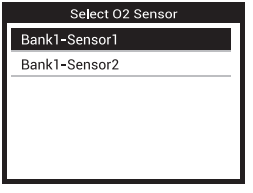
4.6 O2 Sensor Test

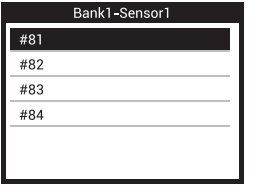
OBD II regulations established by SAE require that applicable vehicles monitor and test oxygen (O2) sensors to detect problems related to fuel efficiency and vehicle emissions. These tests are not demand tests and are performed automatically when engine operating conditions are within specified limits. These test results are stored in the ECU memory. The O2 Sensor Test function allows you to retrieve and display the O2 Sensor Monitor test results from the vehicle's ECU.

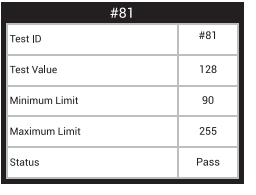
The O2 sensor test function is not supported by vehicles that communicate via a Controller Area Network (CAN). The results of the O2 sensor test for these vehicles with CAN can be found in the "On-Board Mon. Test".

1) Select "O2 Sensor Test" in the Diagnostic Menu and press [OK].

2) Press [OK], the screen will display as follows (data is different each time):

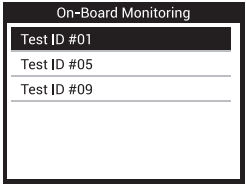




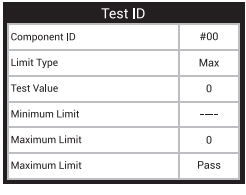


4.7 On-Board Monitor Test

This function enables you to access the results of the on-board diagnostic monitoring.
1) Select "On-Board Monitoring" in the diagnostics menu and press [OK]. The screen will display as follows (the data is different each time):



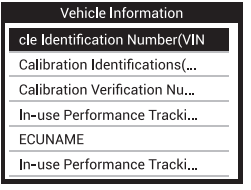
2) Use the [UP] or [DOWN] keys to select an item then press [OK]. The screen will then display as follows (the data is different each time):

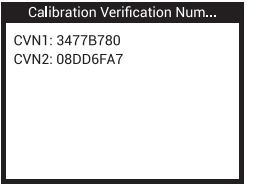


3) Press [ESC] to return to the previous menu.

4.8 Vehicle Information

1) Select "Vehicle Infor" and press [OK] to enter. The screen displays vehicle information such as VIN (vehicle identification number), CID (calibration identifications), and CVN (calibration verification number), as follows (different data displayed for different vehicles):

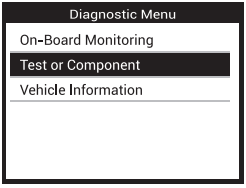


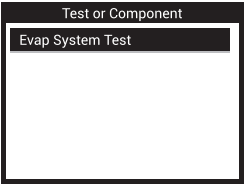


2) Press [ESC] to return to the previous menu.

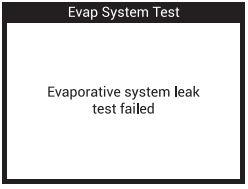
4.9 Evap Leak Test

The Evap function allows you to initiate a leak test for the vehicle's Evap system. Please note the scanner does not perform the leak test itself, but signals the vehicle's on-board computer to start the test. Before using this function, please refer to the vehicle's repair manual for instructions on how to halt the test.
Select "Evap System Test" and press [OK]. The screen will display the appropriate system information. Please note that some vehicle manufacturers do not allow external devices to control the vehicle system.
If the car supports this function, it will display as below:





If the car does not support the function, it will display as below:



5. Warranty

1. This warranty is valid solely for the original purchaser of OBDMATE products.
2. OBDMATE products are warranted against defects in materials and workmanship under normal use for one year (12 months) from the date of retail purchase.
3. For any product problems, we commit to providing a resolution within 24 hours.

Contact Us:
obdmate@autophix.com
www.obdmate.com/en/

AUTOPHIX TECH CO.,LTD

Address: Room 406, 403 and 402, Building 2, XiangRong Road No.8, Bujiuwo, Longping Community, Dalang Street, Longhua District, Shenzhen, Guangdong, China. 518000
E-mail: obdmate@autophix.com
Website: www.obdmate.com/en/

MADE IN CHINA