USER GUIDE FOR

EOBD-Facile

Android

www.outilsobdfacile.com
Introduction:

EOBD-Facile is a diagnostic application for cars. It will allow you to read the engine and transmission defects of all vehicles complying with the following OBD standards

- EOBD (Europe)
- OBDII (USA and Canada)
- JOBD (Japan)

To learn more about these standards, please visit this page on our website

www.outilsobdfacile.com/obd-presentation.php

Requirements:

To use EOBD-Easy you must have:

- 1x Bluetooth or WiFi ELM327 interface or a klavkarr device: www.boutiqueobdfacile.com
- 1x phone / tablet with Android version 3.1 or above, with Bluetooth or WiFi capability

Plugging in your ELM327 interface:

First, locate your OBD 16 channel diagnostic connector. This must be in the passenger compartment.

Plug your ELM327 interface on the connector. The red indicator light of the ELM327 and the flickering of the other indicators confirm that the interface is ready to be used.

Struggling to find your OBD connector? Download our OBD location application:


Or visit our website

www.outilsobdfacile.com/location-plug-connector-obd.php
To establish Bluetooth connection:

After downloading EOBD-Facile to the Play Store, launch it and tap the "Connect" icon from the home screen.

A window appears listing all the devices already associated (paired) to your device.

If you are using your ELM327 for the first time, click the "Scan" button to start a search for new devices.

According to the interface you have, the device name may vary. In the example shown, the name is: OBDII

Click the name of the device to start the connection to it.

For unpaired devices, a PIN code may be requested: type 1234.
To establish WiFi connection:

By default the application will use Bluetooth. To use a WiFi connection, go to the application settings menu and change the "Connection Type".

ELM327 WiFi uses a specific configuration of the wireless network. To do this go to Android Settings and select the network named

- WiFiOBD

Tap on the line corresponding to WiFiOBD network and enter the following settings

- Password: **12345678**
- Select "Show Advanced Options":
  - IP settings: **static**
  - IP address: **192.168.0.11**
  - Gateway: **192.168.0.1**

Then go back into the application and launch the connection

**Note:** The setting will be saved by your apparatus; this operation is only necessary at the first connection

**Important:** When connected to WiFiOBD network, you cannot access the Internet if you do not have a GSM signal (Edge, 2G, 3G or 4G)
To establish USB connection:

From the 3.1 version of Android it is possible, on some devices, to connect a ELM327 USB to your Android phone/tablet using an adapter.

**Warning:** To operate with a USB, ELM327 requires that the USB is capable of powering the interface through the micro-USB output of the device. Most manufacturers do not allow this type of function on phones. Tablets are generally compatible with this type of operation. But as for the phones, some manufacturers have not activated this option.

Go to the application settings to set the "Connection Type". Choose USB.

Exit the application (exit by pressing the back button from the home screen), then plug your ELM327 USB to your Android device. If the ELM327 is recognised, a window prompting you to launch the EOBD-Easy application will be displayed.

![ EOBD Easy Application Launch Window ]

**Diagnostic - Status:**

Status are useful to know the current state of electronic diagnostics done in the vehicle. It will report the number of trouble codes, the distance and time made since the DTC is present.

A list of main systems used and their status are displayed:

- Completed: no problem detected
- Not completed: a problem has been detected or the ECU has not been able to perform test on the current system since the last erase of DTC
- Not supported: System is not fitted on the vehicle or the electronic device do not monitor it
Data trouble codes are classified into 3 types:

- **Trouble Code**: DTC has been detected and confirmed by the ECU several times and is declared as relevant.
- **Last Trouble Code**: DTC has been detected once and is not yet relevant.
- **Permanent Trouble Code**: DTC has been detected on the vehicle but is not present anymore. Permanent Trouble Code cannot be erased. They are useful to know the history of the vehicle.

**Tip**: The list of faults will be displayed according to the chronological order. Please focus your attention on the first fault, other faults may be the consequence of the first one.

It is possible to save diagnostic results with the tool bar button. Saved diagnostic will be available through the History menu.

**Notice**: The application has a database which contains many DTC descriptions (more than 5000) but this list is not exhaustive. If the description is not present inside the application database, the following text will be displayed "Description not available". In this case, make a research on the internet to find the description associated to the PCode displayed.

For each trouble codes read by the application, details can be available, tap on the DTC to display the associated screen.

On the left picture, we can see details for DTC P0670. Engine state when the fault has appeared is the same data that can be found with Freeze frame (see next chapter).

You can also share or save this data with the help of the button on the top right of screen.

**Notice**: Following vehicle, information can be more or less precise. Engine State when the fault has appeared is only available with Basic Edition.
Diagnostic – Freeze frames:

Freeze frames are a « picture » of the engine state when the default has been detected. It can be very useful.

By default EOBD-Facile will display information linked to the first frame (frame 0). If currently you have 3 defaults recorded inside the ECU, scan frame 0; 1 and 2 to see associated freeze datas for each defaults.

Select the frame to display with the « Frame » button at the top right of the screen.

Diagnostic – Oxygen sensor:

On gasoline vehicle Oxygen sensors are in charge of calculating the fuel trim adjustment (air-fuel ration). They are very important for a correct engine performance.

Those are monitored by the electronic unit and it is possible to know if they work in the range defined by the manufacturer.

Select the sensor you wish to display with the top right button called “Sensor”. Most of the recent vehicles have at least 2 sensors fitted on the exhaust pipe.
Diagnostic – Monitoring:

This screen with display all systems monitored by the electronic unit.
Following the vehicle's configuration you can access to data concerning: Fuel, EGR, PM, Air, EVAP...

You can check that each system work inside the range defined by the manufacturer. If the value is inside the tolerance it will be displayed in green. Value displayed in red are out of range.

Diagnostic – Erase trouble codes:

Erasure should be done once the reparation has been made. A warning message will be displayed asking to confirm that operation. This operation will erase all datas link to diagnostic.

This operation is not to be undertaken lightly; once the deletion has been done, all diagnostic data will have been deleted and it will not be possible to view them anymore. The vehicle will have to have completed new driving cycles before you can rebuild the information. So do the deletion only if you have actually made repairs.

Important notice: Erasure of data trouble code must be done with the engine stopped. If the engine is running the application will display an error message and the erasure will fail.
**Consistency**

This function allows checking if the vehicle sensor's values are inside a “plausible” range. This function should be used with engine started. Software will scan all the sensors to report sensors which can be damaged. For example: a temperature sensor reporting -40°C is due to a short circuit to the ground of the sensor itself or a default of harness.

**Diagnosis report**

This function allows making a complete diagnosis of the vehicle. The report can be saved and/or print to see it later.

To generate a report, please follow the below steps:

1. Fill the vehicle informations
2. Select ECU to include to the report
3. Select diagnostic's data to include to the report

This screen show a report generated with a vehicle which have faults. It is possible with the tool bar to perform actions like:

1. Print the report
2. Add a comment
3. Save the report

Reports generated are available inside the History menu.

**Notice:** Printing report need to have a printer compatible and Android version 4.4 or above

**Tip:** If your printer is not available during the diagnosis, it is possible to save the report to print it later.
Measures with table:

It's possible to read vehicle sensor in real time.

Following the vehicle configuration (Fuel type, model year), the below list of sensor will be more or less important.

Select which one you want to display and start reading by taping on the “play” button on the top right of the screen.

Notice: Reading is done sequentially (one by one), so more you select sensor less the refresh period will be.

The second screen show the 4 previously selected values displayed. Data will be refresh continuously until you leave the screen by taping on the back button.

Measures with graphic mode:

It's also possible to see real time data with a graph.

First select sensor you wish to display on the chart. 3 ways can be simultaneity displayed.

At the same time our application will record data's value inside a csv file. This file can be reviewed later with a spreadsheet or with our software EOBD-Facile for PC Windows.

When you will stop the record a popup will be showed to ask you if you want to save this record into a file. Cancel or give a name to the file. This function can be disabled into the application's settings.
Performance measurement:

Performance measurement will allow you to check your vehicle acceleration time like you can find in automotive magazine.

Here you can see the 4 measurements available for metric units. If you change the application settings, measure test will be:

- 0-60 mph
- 30-70 mph
- 1/8 mile
- 1/4 mile

The second screenshot shows a measure done with 0-100 km/h

During the test, chronometer will start and stop by itself automatically. Once you have finished, a summary table will be displayed to see intermediate time at different moment of the test.

You can record this result by tapping on the folder icon at the top right of the screen. A file will be generated with a csv format (like once graphical function). This file can be upload or share (See next chapter).

Notice: The measure resolution will depend of your car, it will start at about 0.10s to 0.25s (From 4 to 10 measures per second).

Share records done:

From application, you can use the “Records” screen to manage your records done with the application.

With the action button at the top right of the screen, you will be able

1. Review your records
2. Share your records
3. Rename them
4. Erase records
Select Electronic Unit:

Depending on the vehicle you have you can make a diagnostic on several ECUs. You can change the current ECUs you are working on with this icon. Most of the time 2 ECUs are available: PCM (Powertrain Control Module) and TCM (Transmission Control Module).

Vehicle’s information:

To obtain information about the vehicle and the ECU like protocol, OBD standard, VIN (Vehicle Identification Number).

IPT (In Use Performance Tracking):

Display all the results of monitoring done during driving cycles.
**Basic Edition:** (previously called Premium access)

Free version of the app allows you to test the compatibility of your vehicle and to read your data trouble codes stored inside Electronic units.

**Important Notice:** Connection, read and display DTC descriptions work the same way for the Free and the Basic version. If you do not reach to connect your vehicle or you are not able to read DTC, buy the Basic Edition will not solve your problem.

You can purchase the Basic Edition only from Google Play. Make sure that you have good access to internet before making your purchase.

Reminder: when connected to the ELM327 by WiFi you cannot access the internet by WiFi (GSM only).

The purchase of the Basic Edition provides access to all the functions listed above without any limitation of time or number of uses. Updates are free and will be made to follow the development of diagnostic standards on newer vehicles.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connect to vehicle with ELM327</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Check Electronic Unit (ECM, TCM, LPG)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Read status of diagnostic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Read DTC (Data Trouble Codes)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Display DTC description</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Read Freeze Frames</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Diagnose oxygen sensors</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Diagnose systems (EGR, PM, EVAP...)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Clear DTC</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Consistency</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Generate diagnostic report</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Save/Load diagnostic from history</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Display sensor values (Table)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Display sensor values (Graphic)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Record sensors values (csv files)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Review sensors values inside application</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Performance measurement</td>
<td>✓ (4 tests)</td>
<td>✓ (8 tests)</td>
<td>✓</td>
</tr>
<tr>
<td>Read vehicle identification number</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Read IPT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Terminal</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

If you have multiple devices running on Android, you can use your Basic Edition on all your devices. After buying for the first time, use the "Restore" button on the purchasing screen to activate your device. This process is also valid if you change your device.
Terminal:

This function allows to send custom commands to the interface for the ELM module (AT command) or to make specific OBD requests to the vehicle.

Example: Read the ELM version
- Enter ATI and tap on Send button
- The ELM will display its name “ELM327 v1.4”

For more details on the available commands, see the technical data sheet for the ELM327 interface.

Important notice: Be careful, using this function can create unexpected behavior of the application, please re-connect the vehicle after using it to recover correct synchronization of the application and the ELM327.