

INSTRUCTION MANUAL EOBD-FACILE FOR PC WINDOWS



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1 Installation

Important: In order to use the software, you must first install the interface driver. If you are using a USB interface, download the driver the installation procedure from our website in the download section: <http://www.outilsobdfacile.fr/telechargement-logiciel-elm327.html>

Installation: Download the latest version of **EOBD-Facile** from our website and run the installer called **Install EOBD-Facile.exe**.

The software requires no special installation and will not modify your registry. It is important to note that the software does not use:

- Registry key
- Hidden files
- Does not create any files or directories outside its installation directories
- Does not modify your Windows parameters (resolution, settings...)

Update: After downloading the new version, re-install the software in the directory already containing it. All the old files will be replaced with the new ones. Above all, do not delete the EOBD-Facile directory in “My Documents” containing your settings and your saved data.

Uninstallation: If you wish to uninstall the software, just delete the files and directories in the directory containing the application.

Your personal connection and data files are in the directory “My documents\EOBD-Facile”. You may delete them if you will no longer need them.

2 Electronic interface

EOBD-Facile need an electronic device to be able to communicate with vehicles. Two kind of interface can be used:

- KLAVKARR interface
- ELM327 interface or compatible

If you do not have interface, visit our shop on the following link:

<https://www.boutiqueobdfacile.com/>

3 Overview

The software is comprised of several principal zones described below

Menus: contain the various main menus for the software:

- *File* containing the menu Parameters and PID Decoder.
- *Language* to choose the language used by the software
- *Interface* to view the interface parameters
- *Calculators* to select the calculator on which to run the diagnostics.
- *Additional functions* containing shortcuts to the graphic functions, dashboard and CAN bus analyser
- *Register* to create an activation file to activate the software.
- *Help* to run this help file and know the software version

Tabs: represent the various tabs in the main window. The functions in these tabs are described in more detail in the following pages.

Status bar: It displays the current status of the software.

Displayed from left to right are

- The status of the connection with the interface
- The status of the connection with the vehicle
- The interface communication (Tx/Rx) status
- The make of vehicle selected
- The ECU currently being used

Vehicle make selection window

In order to obtain as much data as possible on connection, the software will ask you to enter the make of vehicle on which you are doing a diagnosis.

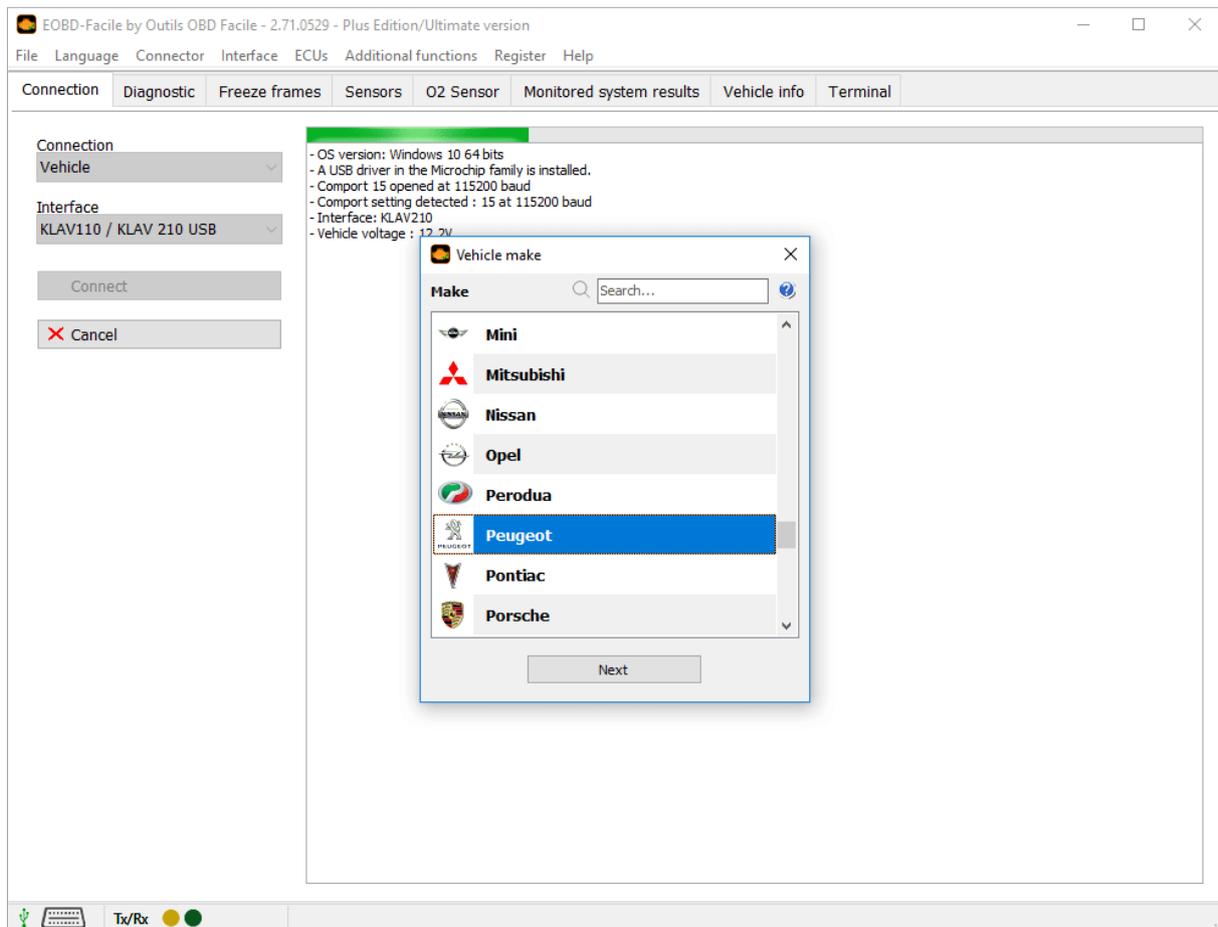
This choice will display the corresponding description of the manufacturer's specific DTCs.

If the make you want is not available, select Generic / Other

Special cases: If your make does not appear but your vehicle is fitted with the engine of one of the makes listed, select this make.

ECU to diagnose window

When connecting to the vehicle, software will prompt to select ECU to diagnose. Following your vehicle options and the fault you want to read, please select the ECU you wish connect. This window allow to the software to connect faster. For example, uncheck the TCM if your vehicle have a manual gear box.



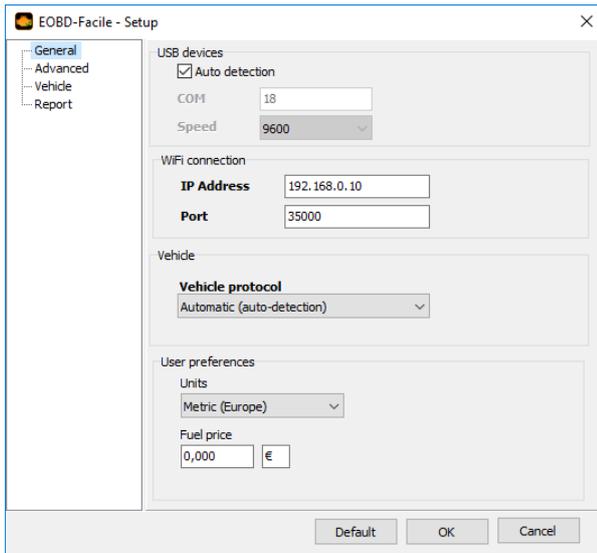
4 Connecting to the vehicle (USB and RS232)

First, when you open the application, connect to the vehicle using the interface. You can connect in several ways:

- **Automatically:** The software automatically detects the port number and communication speed of your ELM. Auto-detection is checked by default.

Important: This option is only possible with USB ELMs. The USB driver for the interface must first be installed.

- **Manually:** The software tries to connect using the parameters you entered in the Setup window – accessible from the File menu. (see image below).



Important: In manual (Auto-detection unchecked), you can use ELM32x RS232 or Bluetooth interfaces by correctly configuring the port parameters and by connecting with an (ELM327 USB) interface in the connection tab.

Configuring the initialisation time:

The ELM requires time to initialise the connection with the vehicle. By default, the waiting time is set to 14 seconds. If you are having connection problems, it may be helpful to increase this parameter.

Configuring the vehicle protocol:

The ELM can automatically detect your vehicle's protocol. Unless you are an expert, leave the option on automatic. It may happen that protocol auto-detection does not work for several reasons. Most often it is because there are several valid protocols for your vehicle. In this case, you can force the ELM to connect with the desired protocol.

Confirm your parameters by clicking on OK, and proceed as follows:

- Connect your interface to the vehicle
- Switch on the vehicle's ignition (the engine indicator should be lit)
- Start the connection using the *Connection* button on the application

EOBD-Facile will scan all the computers in your vehicle, and all the functions supported by them. The result of this scan will be displayed in the text area of the connection tab.

Important: If you are having problems connecting to your vehicle, read the information in the text area. Indications are displayed to help you diagnose the problem. **Note: Connection problems are never due to the fact that your software version is not registered!**

When the message *"The interface is connected and initialised"* appears, the software is ready to communicate with the vehicle

Note 1: The status bar at the bottom of the main window permanently displays the connection status.

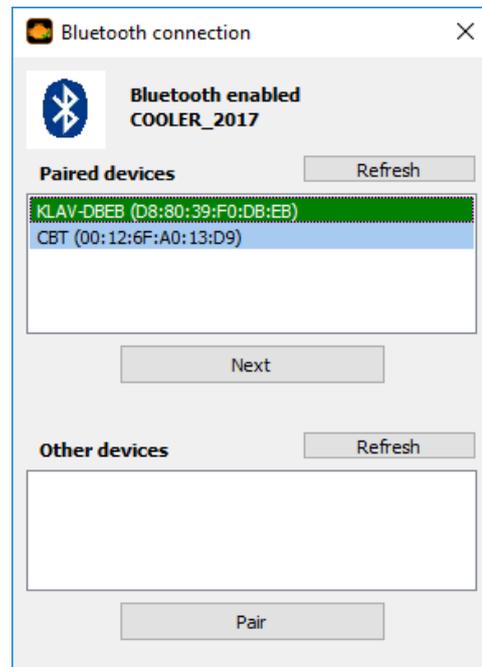
Note 2: If you are having problems connecting, consult the chapter **Problems connecting to the vehicle**.

Configuring the regional settings:

- Units: metric to use the international system of units (meter, grams, °C, etc.) or imperial (miles, pound, °F, etc.).
- Fuel price: Specify the price of the fuel (used by the dashboard function) and the currency unit.

5 Connecting using a Bluetooth interface

Method 1:



The windows above allow you to manage directly your Bluetooth connection with the ELM327 device.

Step 1- Pair the device:

If you have never paired the device to your computer, please refresh the "Other device" area. Click on refresh to update the list of device. Select your device and click on Pair button. Windows will pop up to ask the PIN. The code is 1234 in most cases.

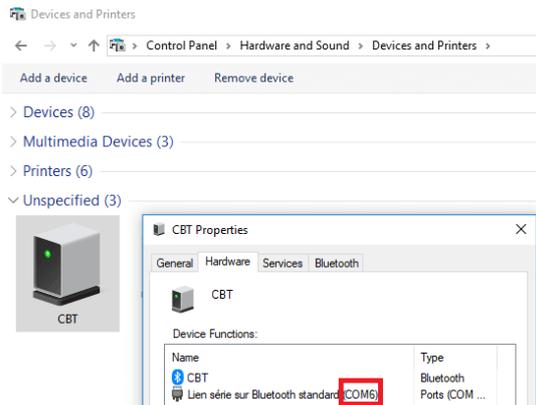
Step 2 - Connection:

Paired/associated device will be available in the first part of the windows. To start the connection, select the device and click on "Next" button.

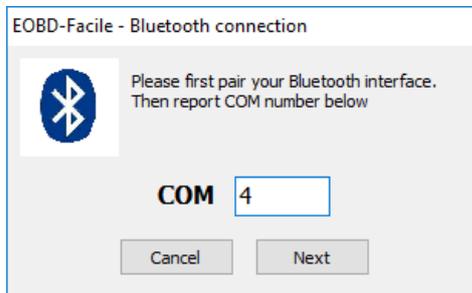
Method 2 (with COM number):

Before connecting using a Bluetooth interface, you must first pair the interface with the computer. To do so, run the Bluetooth connection manager

If your interface has never been paired, you must first pair it. To do, click on “add the device” to your list of known devices. For the pairing option, select “Enter the device pairing code”, you will be asked for a code. The code is 1234 in most cases.



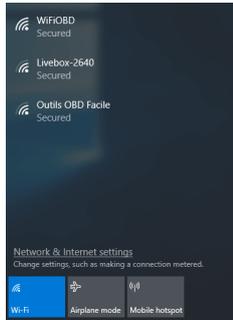
Once the interface has been paired, display the devices and connect the interface. The properties of the interface will give you the COM port number to be used when connecting with Bluetooth from the EOBD-Facile software (Interface ELM327 Bluetooth)



6 Connecting using a WiFi interface

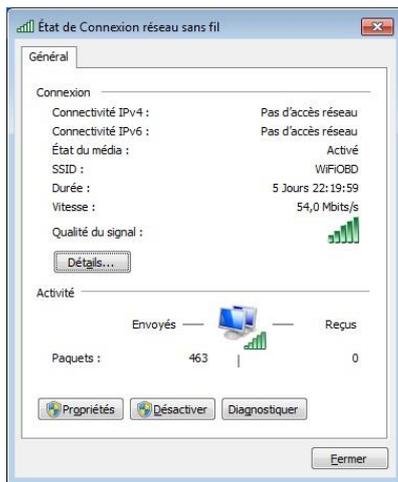
In order to work, the ELM327 WiFi interfaces need to change the parameters of your wireless connection network. Note, by changing these parameters, you will no longer have access to your internet connection, so the old settings will need to be restored when you have finished using your ELM327. Proceed as follows.

Step 1: Go to your connection manager and connect to the WiFiOBD network

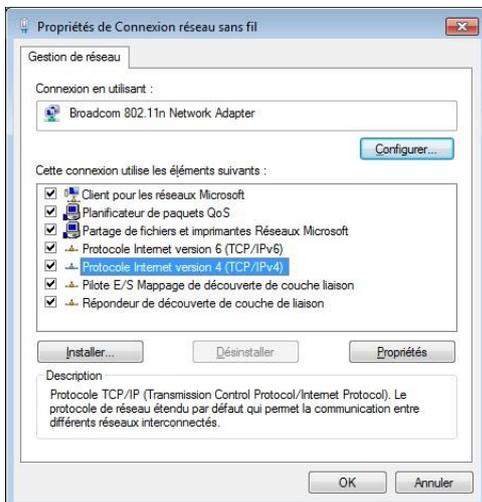


Step 2: If you have a recent version of the interface (AP mode) go directly to the step 3. If you have an interface working in Ad Hoc, do the following change.

Right click on it, a menu will appear, select “Status”. The following window will appear

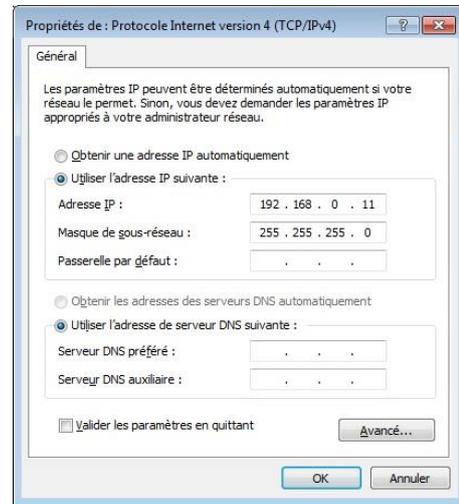


Click on “Properties”



Change the connection’s TCP/IP setting by entering a static IP address.

Set the IP as **192.168.0.11**
and the subnet mask as **255.255.255.0**



The new settings are complete. Close all windows.

Step 3: Return to the EOBD-Facile application. Select the connection with an ELM327 WiFi interface, the following window is displayed when you click on *connect*

Set the IP as **192.168.0.10**
and the port number as **35000**

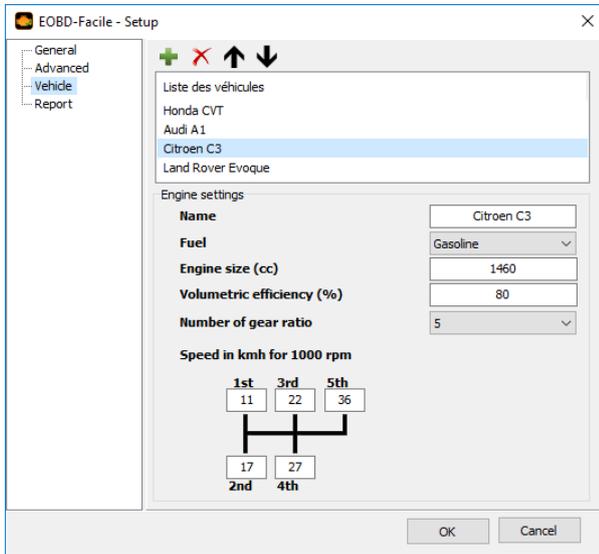


Click on Next, the software will connect to the interface

Note: Depending on the WiFi interface manufacturer/merchant, the IP settings will not necessarily be the same. If this is the case, check the technical manual to find the IP address of the interface

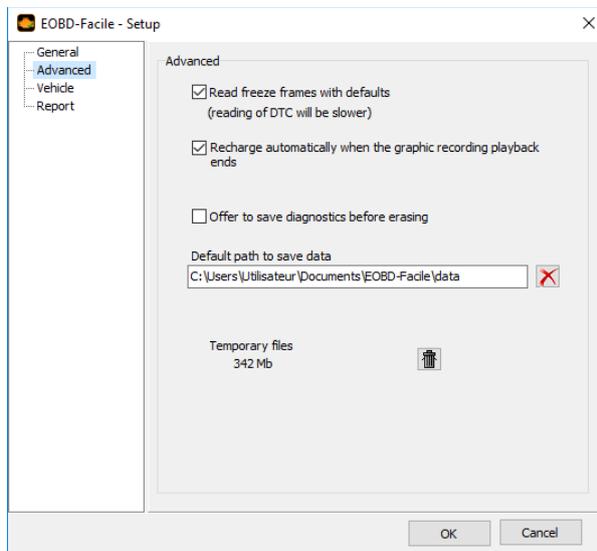
7 Configuring a new vehicle

The dashboard function is highly efficient once the vehicle settings have been entered in the software. See window below:



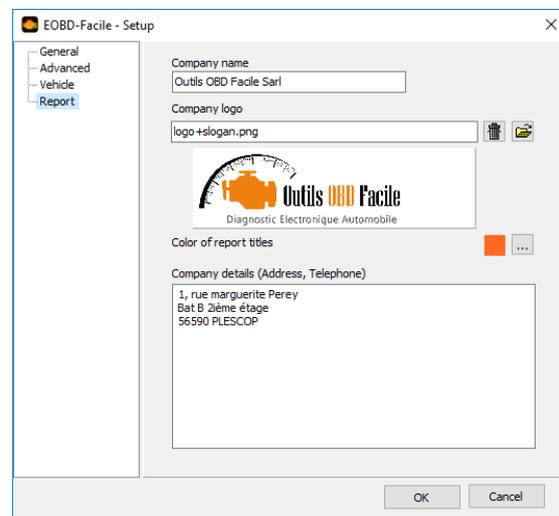
- **Name** : give a name i.e. make and model
- **Fuel**: select the fuel type for the vehicle
- **Engine size**: in cc (note: a 1.6 engine corresponds to 1600 cc)
- **Volumetric efficiency**: intake efficiency (used to calculate the engine consumption). A standard vehicle is 80% efficient. If you note too high a difference between the vehicle's consumption and that displayed by the software, change this setting.
- **Number of gear**: enter the number of gear from 1 to 9
- **Speed in kmh for 1000 rpm**: enter the speeds at 1000 rpm for each gear. To get this data, consult the technical data sheet for your vehicle or use the software's graphic window to determine them.

8 Configuring the software



- Read freeze frames with defaults: This function will enable you to see the engine status when faults appear directly from the diagnostic tab. This function will slow down reading of fault codes.
- Always reload the chart data when the record is over: will switch automatically the chart window into "review mode", when you stop the record.
- Ask for saving diagnostic before clearing DTC: This function will prevent you to lose diagnostic data when you want to perform clearing of DTC, a popup will ask you to save them.
- Default data path : configure the path used to store data created with graph and dashboard
- Temporary files are created during the software usage. You can delete it at any time with the trash button.

9 Configuring the diagnostic report



The report generation can be customized with our own contact information if you have a repair shop. You can configure:

- The name of the company
- The logo (png, jpg or bmp format)
- Color of the report title
- Postal address and phone number

10 The “Diagnostic” tab

This tab is used to diagnose the cause of the indicator light. The function is available in the unregistered version of the software.

Click **Read** to show the currently selected ECU and update the window with:

- Confirmed fault codes
- The current status of the indicator
- The distance and time since the indicator has been lit (not available for all vehicles)
- The monitored test tables

The monitor test shows the status of the various systems:

- **Not supported:** Shows if the system is not monitored electronically by the ECU
- **Completed** means that all system tests have been successfully completed.
- **Not Completed** means that the system tests failed or that the ECU has not completed all the system tests (after cancelling a fault for example)

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

Description of fault codes: Click on the default code to update the associated description. The software uses the vehicle make selected on connection to show the exact description.

Engine status when the fault appeared (Mode 2) completes the diagnostic data (visible only with the Basic/Classic Edition or Plus/Expert Edition). These data show the conditions when the fault was detected (engine hot, idling, at full load, etc.)

Clear resets all data concerning the fault(s) stored in the ECU to zero.

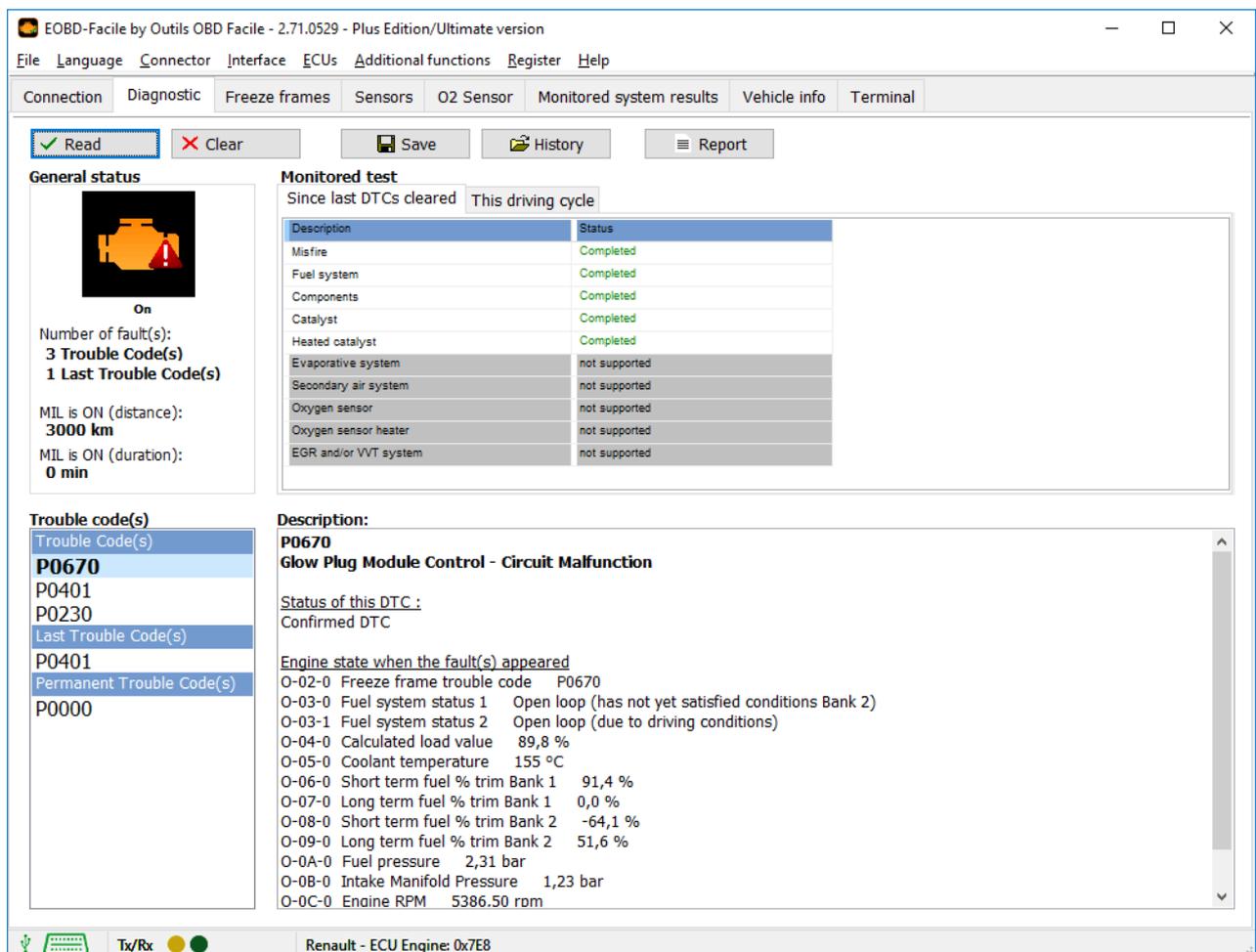
Very important:

- Only use this function when you have found the cause of the failure and after having repaired it. A fault may sometimes reappear after several hundreds of kilometres.
- This operation will cancel all the fault codes and also the whole internal diagnostic history of the code(s) present:
- Reset monitor tests, mileage when the fault appeared, freeze frames, etc.

After clearing, a message will confirm whether or not the operation was successful.

Last Trouble Code: Faults detected on the vehicle need several driving cycles before the indicator lights. During this confirmation phase, the faults are recorded as last trouble code.

Permanent Trouble Code: Permanent faults cannot be deleted. They are very rarely used.



The screenshot shows the EODB-Facile software interface. The 'Diagnostic' tab is active, displaying the following information:

- General status:** MIL is ON (distance): 3000 km, MIL is ON (duration): 0 min.
- Monitored test:** A table showing the status of various systems:

Description	Status
Misfire	Completed
Fuel system	Completed
Components	Completed
Catalyst	Completed
Heated catalyst	Completed
Evaporative system	not supported
Secondary air system	not supported
Oxygen sensor	not supported
Oxygen sensor heater	not supported
EGR and/or VVT system	not supported
- Trouble code(s):**
 - Trouble Code(s): P0670
 - P0401
 - P0230
 - Last Trouble Code(s): P0401
 - Permanent Trouble Code(s): P0000
- Description:**

P0670
Glow Plug Module Control - Circuit Malfunction

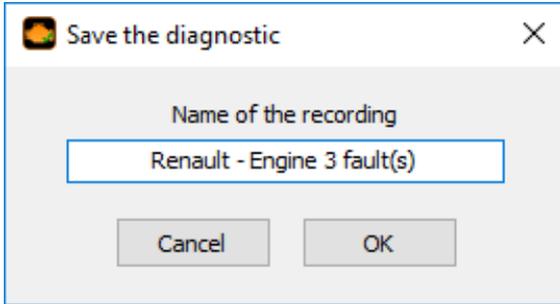
Status of this DTC :
Confirmed DTC

Engine state when the fault(s) appeared

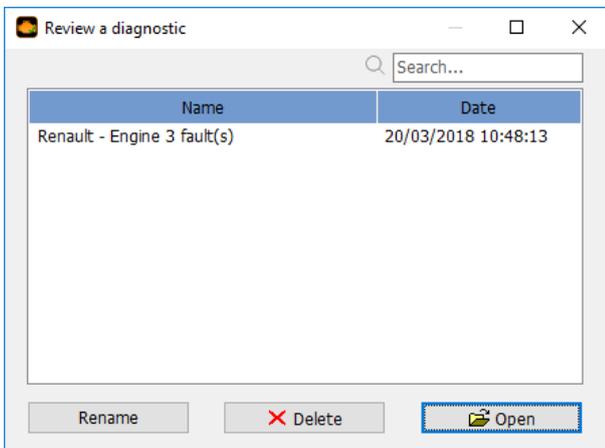
 - O-02-0 Freeze frame trouble code P0670
 - O-03-0 Fuel system status 1 Open loop (has not yet satisfied conditions Bank 2)
 - O-03-1 Fuel system status 2 Open loop (due to driving conditions)
 - O-04-0 Calculated load value 89,8 %
 - O-05-0 Coolant temperature 155 °C
 - O-06-0 Short term fuel % trim Bank 1 91,4 %
 - O-07-0 Long term fuel % trim Bank 1 0,0 %
 - O-08-0 Short term fuel % trim Bank 2 -64,1 %
 - O-09-0 Long term fuel % trim Bank 2 51,6 %
 - O-0A-0 Fuel pressure 2,31 bar
 - O-0B-0 Intake Manifold Pressure 1,23 bar
 - O-0C-0 Engine RPM 5386.50 rpm

11 Save/Review a diagnostic

It is possible to save the data displayed inside the diagnostic sheet.
Click on « Save » button, a window will appear to give a name to the record



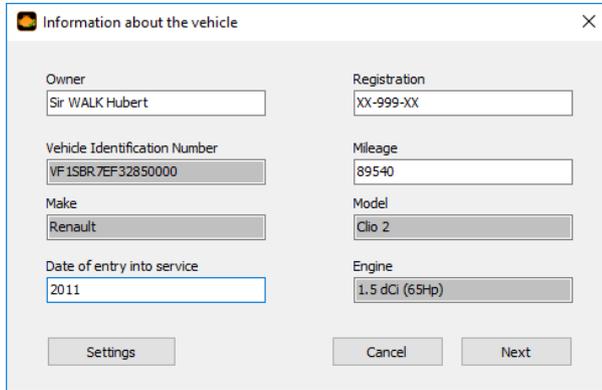
To reload the data saved previously, click on « History » button, the following window will be displayed to manage your records. You can easily reload, delete, or rename your records.



12 Generate diagnostic report

To generate a report, clic on « Report » button on the diagnostic sheet. A wizard composed by 3 steps will ask you the following information to complete the report :

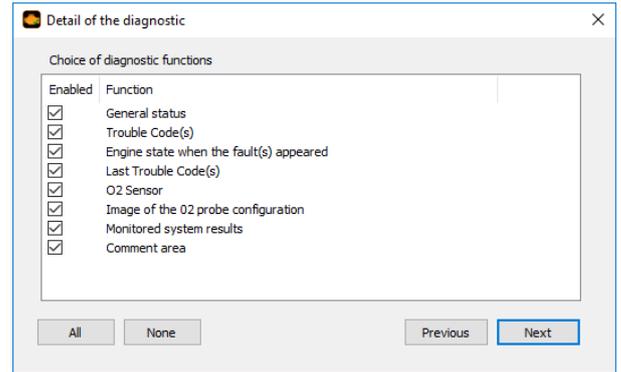
1. Vehicle informations
2. ECU to include to the report
3. Diagnostic's data to include to the report



Information about the vehicle

Owner Sir WALK Hubert	Registration XX-999-XX
Vehicle Identification Number VF15BR7EF32850000	Mileage 89540
Make Renault	Model Clio 2
Date of entry into service 2011	Engine 1.5 dCi (65Hp)

Buttons: Settings, Cancel, Next



Detail of the diagnostic

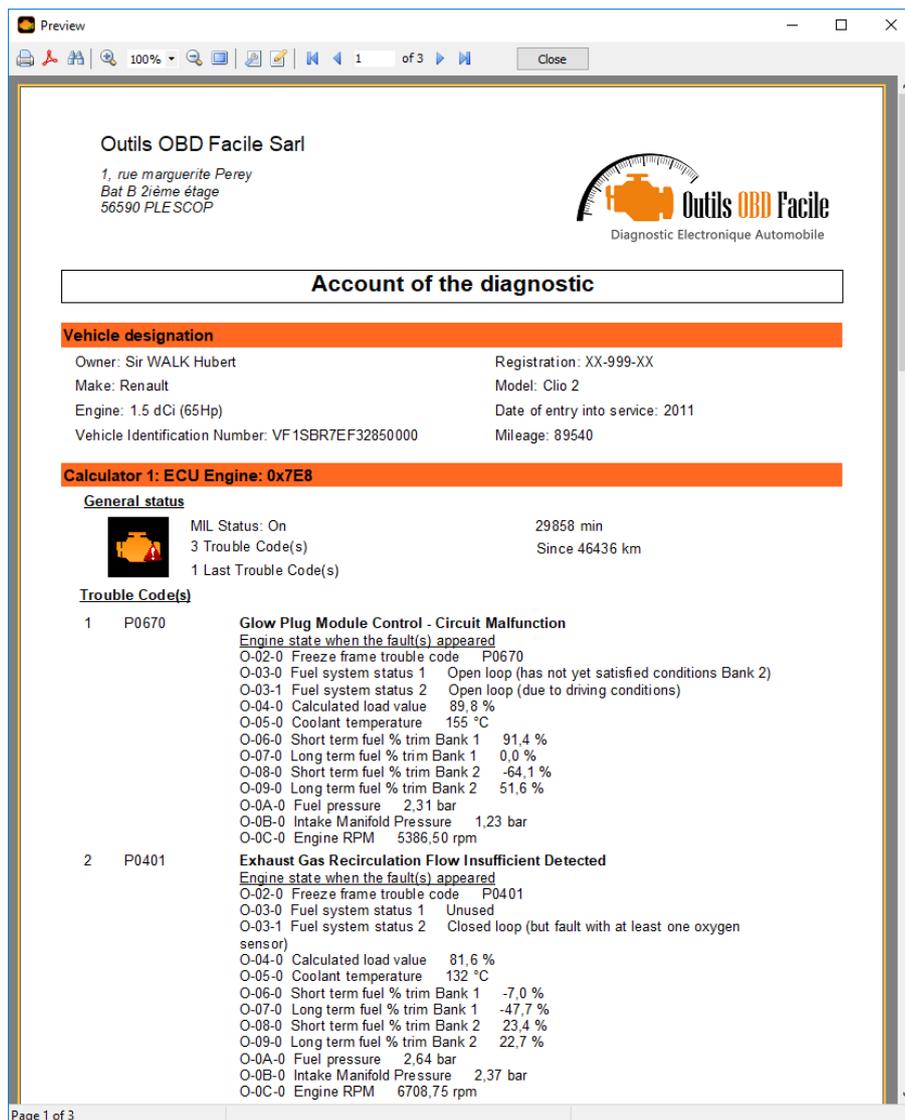
Choice of diagnostic functions

Enabled	Function
<input checked="" type="checkbox"/>	General status
<input checked="" type="checkbox"/>	Trouble Code(s)
<input checked="" type="checkbox"/>	Engine state when the fault(s) appeared
<input checked="" type="checkbox"/>	Last Trouble Code(s)
<input checked="" type="checkbox"/>	O2 Sensor
<input checked="" type="checkbox"/>	Image of the O2 probe configuration
<input checked="" type="checkbox"/>	Monitored system results
<input checked="" type="checkbox"/>	Comment area

Buttons: All, None, Previous, Next

The report generated can be saved inside as a pdf document or can be printed directly from EOBD-Facile

Remember: Report head can be customized inside the software settings. Vous can displayed your own company name, logo and contact information.



Preview

Outils OBD Facile Sarl
1, rue marguerite Perey
Bat B 2ième étage
56590 PLESCOP

Account of the diagnostic

Vehicle designation

Owner: Sir WALK Hubert	Registration: XX-999-XX
Make: Renault	Model: Clio 2
Engine: 1.5 dCi (65Hp)	Date of entry into service: 2011
Vehicle Identification Number: VF15BR7EF32850000	Mileage: 89540

Calculator 1: ECU Engine: 0x7E8

General status

 MIL Status: On	29858 min
3 Trouble Code(s)	Since 46436 km
1 Last Trouble Code(s)	

Trouble Code(s)

1	P0670	Glow Plug Module Control - Circuit Malfunction Engine state when the fault(s) appeared O-02-0 Freeze frame trouble code P0670 O-03-0 Fuel system status 1 Open loop (has not yet satisfied conditions Bank 2) O-03-1 Fuel system status 2 Open loop (due to driving conditions) O-04-0 Calculated load value 89,8 % O-05-0 Coolant temperature 155 °C O-06-0 Short term fuel % trim Bank 1 91,4 % O-07-0 Long term fuel % trim Bank 1 0,0 % O-08-0 Short term fuel % trim Bank 2 -64,1 % O-09-0 Long term fuel % trim Bank 2 51,6 % O-0A-0 Fuel pressure 2,31 bar O-0B-0 Intake Manifold Pressure 1,23 bar O-0C-0 Engine RPM 5386,50 rpm
2	P0401	Exhaust Gas Recirculation Flow Insufficient Detected Engine state when the fault(s) appeared O-02-0 Freeze frame trouble code P0401 O-03-0 Fuel system status 1 Unused O-03-1 Fuel system status 2 Closed loop (but fault with at least one oxygen sensor) O-04-0 Calculated load value 81,6 % O-05-0 Coolant temperature 132 °C O-06-0 Short term fuel % trim Bank 1 -7,0 % O-07-0 Long term fuel % trim Bank 1 -47,7 % O-08-0 Short term fuel % trim Bank 2 23,4 % O-09-0 Long term fuel % trim Bank 2 22,7 % O-0A-0 Fuel pressure 2,64 bar O-0B-0 Intake Manifold Pressure 2,37 bar O-0C-0 Engine RPM 6708,75 rpm

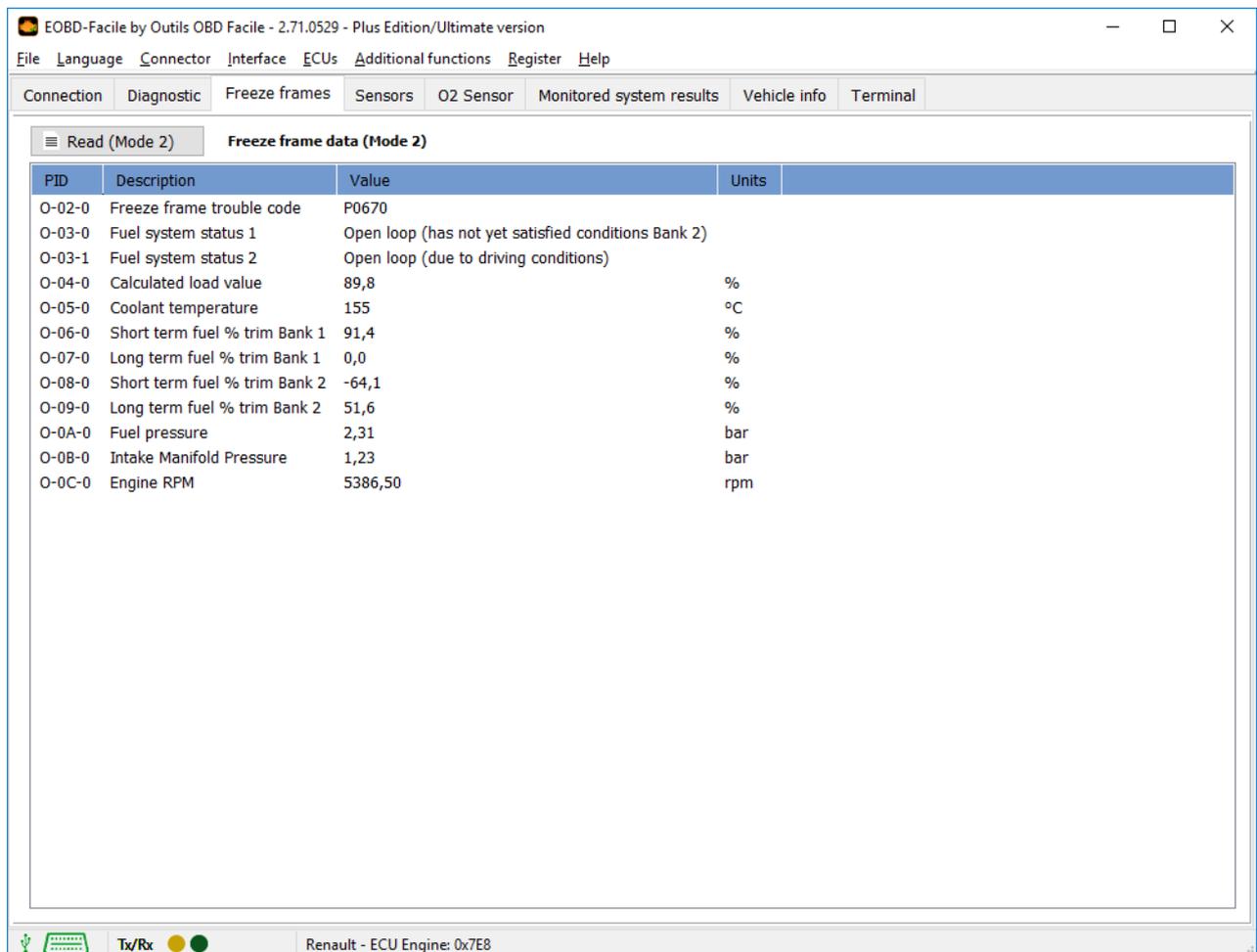
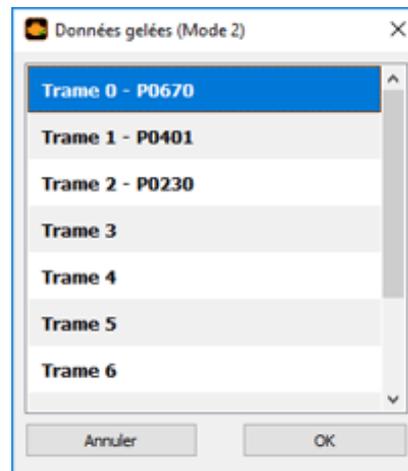
Page 1 of 3

13 The “Freeze frame” tab

Read (Mode 2) is used to display the engine status when the fault appeared.

First of all, the software will scan the ECU to know the number of freeze frame available and its fault code associated. For each fault code, a raw of data is available. Select the frame/fault you wish read (for example Frame 1 - P0401)

The software will display a table with the values of the associated engine sensors.



14 “Sensors” tab

Read (Mode 1): allow to read to start the reading of current value of the sensors.

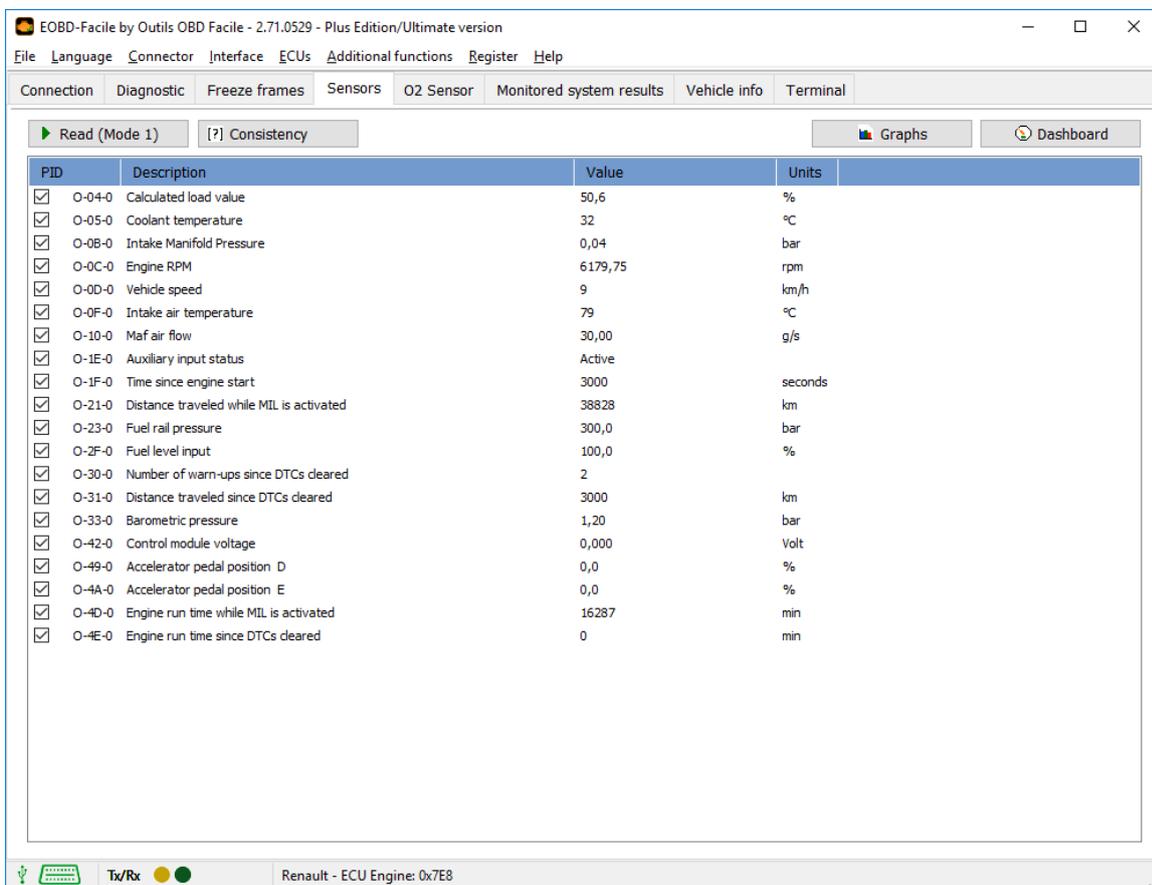
This tab is used to read the actual value of the sensors. The list of sensors displayed is automatic depending on the vehicle configuration.

You can also view the vehicle sensors using the Graph and log function. These functions are described in the following chapters.

Consistency: This function allows checking if the vehicle sensor’s values are inside a “plausible” range. This function should be used with the 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 the harness.



EOBD-Facile by Outils OBD Facile - 2.71.0529 - Plus Edition/Ultimate version

File Language Connector Interface ECUs Additional functions Register Help

Connection Diagnostic Freeze frames Sensors O2 Sensor Monitored system results Vehicle info Terminal

Read (Mode 1) [?] Consistency Graphs Dashboard

PID	Description	Value	Units	
<input checked="" type="checkbox"/>	O-04-0	Calculated load value	50,6	%
<input checked="" type="checkbox"/>	O-05-0	Coolant temperature	32	°C
<input checked="" type="checkbox"/>	O-0B-0	Intake Manifold Pressure	0,04	bar
<input checked="" type="checkbox"/>	O-0C-0	Engine RPM	6179,75	rpm
<input checked="" type="checkbox"/>	O-0D-0	Vehicle speed	9	km/h
<input checked="" type="checkbox"/>	O-0F-0	Intake air temperature	79	°C
<input checked="" type="checkbox"/>	O-10-0	Maf air flow	30,00	g/s
<input checked="" type="checkbox"/>	O-1E-0	Auxiliary input status	Active	
<input checked="" type="checkbox"/>	O-1F-0	Time since engine start	3000	seconds
<input checked="" type="checkbox"/>	O-21-0	Distance traveled while MIL is activated	38828	km
<input checked="" type="checkbox"/>	O-23-0	Fuel rail pressure	300,0	bar
<input checked="" type="checkbox"/>	O-2F-0	Fuel level input	100,0	%
<input checked="" type="checkbox"/>	O-30-0	Number of warn-ups since DTCs cleared	2	
<input checked="" type="checkbox"/>	O-31-0	Distance traveled since DTCs cleared	3000	km
<input checked="" type="checkbox"/>	O-33-0	Barometric pressure	1,20	bar
<input checked="" type="checkbox"/>	O-42-0	Control module voltage	0,000	Volt
<input checked="" type="checkbox"/>	O-49-0	Accelerator pedal position D	0,0	%
<input checked="" type="checkbox"/>	O-4A-0	Accelerator pedal position E	0,0	%
<input checked="" type="checkbox"/>	O-4D-0	Engine run time while MIL is activated	16287	min
<input checked="" type="checkbox"/>	O-4E-0	Engine run time since DTCs cleared	0	min

Tx/Rx Renault - ECU Engine: 0x7E8

15 The “Oxygen sensors” tab

Oxygen sensors are used in petrol vehicles to control the injection. As a result, this function is only active on petrol vehicles.

Note: On some petrol vehicles, the diagnostic for oxygen probes is only accessible via the “Results of monitored systems” tab.

Click Read to display the auto-diagnostic values for these sensors. The ECU monitors measurements taken by these sensors permanently. The measurement must remain within the tolerances indicated by the software minimum and maximum. A sensor showing values outside this range is probably faulty.

Depending on the configuration of your vehicle (number of cylinders, exhaust), several sensors are available. Select the sensor of your choice using the drop-down menu.

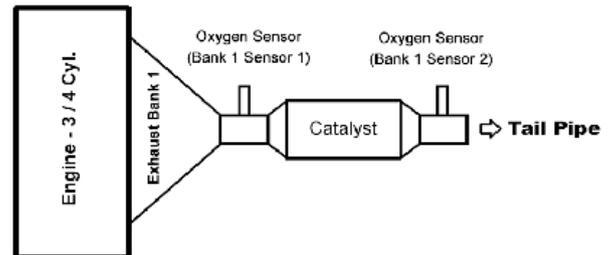
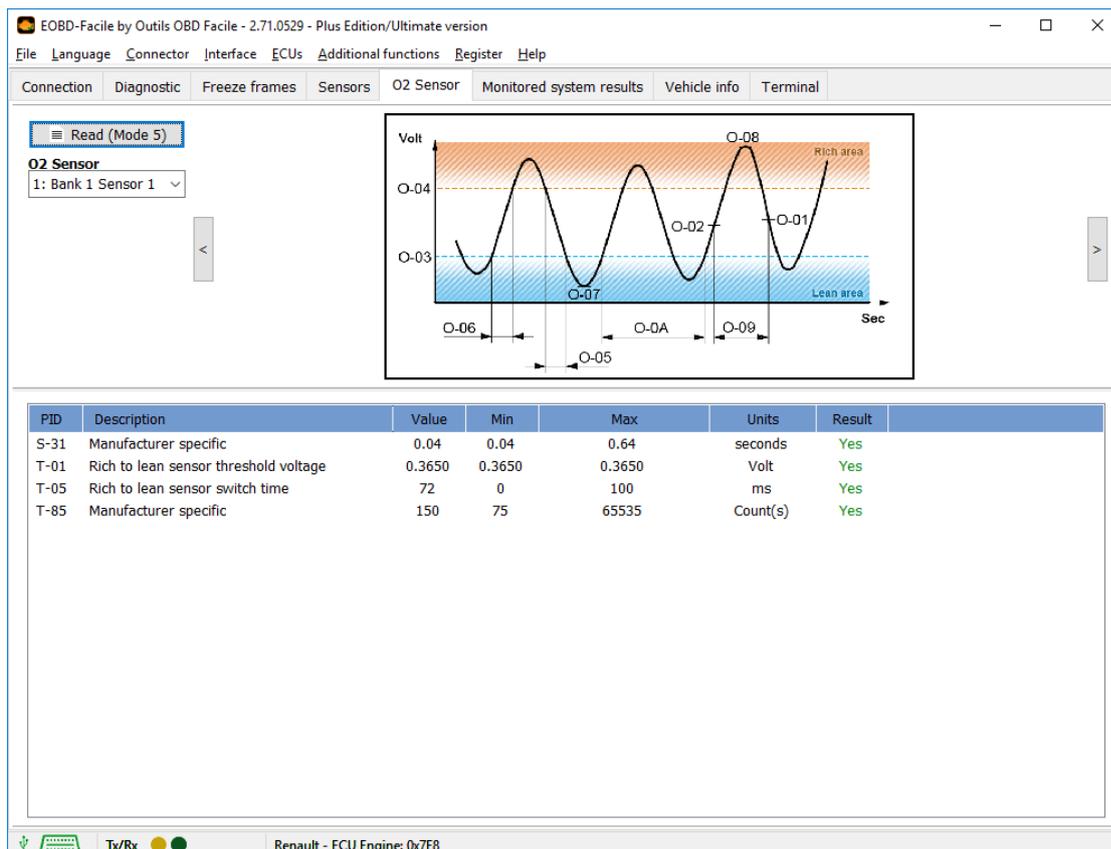
Oxygen sensors are named as follows:

Bank X Sensor Y

X represents the bank number. Bank 1 corresponds to the connection to cylinder no.1 on the vehicle. Most vehicles (3, 4 or 5 cylinders) only have one bank. On V6, V8, V10 engines, there are usually 2 banks (or more). Sometimes, several ECUs may be used on sports vehicles with more than 8 cylinders. In this case, switch from one ECU to the other using the menu “ECUs” to check all the oxygen sensors.

Y represents the number of the sensor. Sensor no. 1 is the one closest to the cylinder (further upstream). Numbering continues from there. Sensor no. 2 is the one after the catalytic converter.

Below is an example of common configuration for vehicles with 3 or 4 cylinders:

EOBD-Facile by Outils OBD Facile - 2.71.0529 - Plus Edition/Ultimate version

File Language Connector Interface ECUs Additional functions Register Help

Connection Diagnostic Freeze frames Sensors O2 Sensor Monitored system results Vehicle info Terminal

Read (Mode 5)

O2 Sensor

1: Bank 1 Sensor 1

Graph Data:

Label	Value
O-06	0.06
O-07	0.07
O-08	0.08
O-09	0.09
O-0A	0.0A
O-01	0.01
O-02	0.02
O-05	0.05

Table Data:

PID	Description	Value	Min	Max	Units	Result
S-31	Manufacturer specific	0.04	0.04	0.64	seconds	Yes
T-01	Rich to lean sensor threshold voltage	0.3650	0.3650	0.3650	Volt	Yes
T-05	Rich to lean sensor switch time	72	0	100	ms	Yes
T-85	Manufacturer specific	150	75	65535	Count(s)	Yes

Renault - ECU Engine: 0x7E8

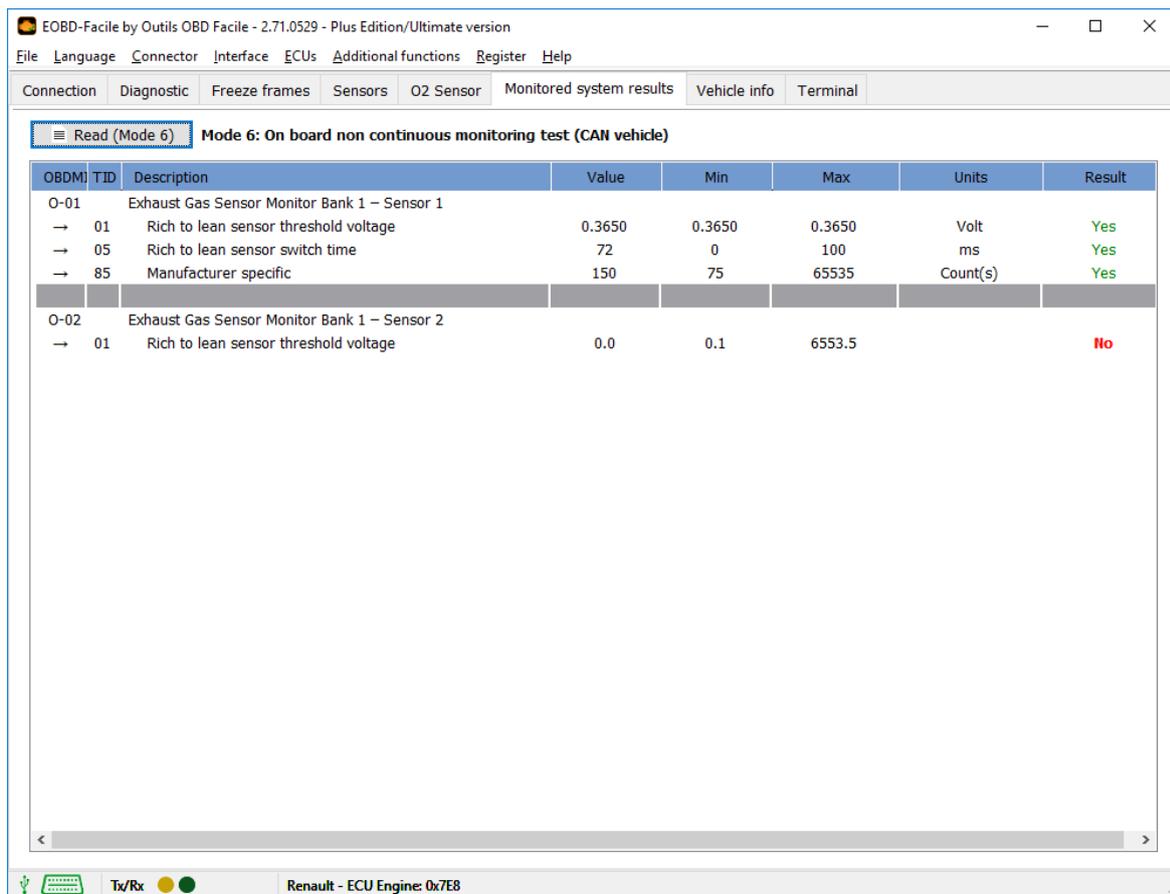
16 “Monitored system results” tab

The ECU permanently monitors the various systems regarding the function it manages (engine, transmission, etc.). These results are available in this tab corresponding to mode 6 on EOBD.

Depending on the configuration of your vehicle, you will have access to data concerning: EGR, particulate filter, oxygen sensors, fuel management systems (canister, common rail, etc.).

This function is used to check that each system is operating within its nominal range. The “Result” column will display “No” in red if this is not the case.

Note: depending on the make of vehicle, the descriptions of systems and measurements may differ. The software may not know the description of some measurements. In this case, “Manufacturer specific ID Test” will be displayed.



OBDM TID	Description	Value	Min	Max	Units	Result
O-01	Exhaust Gas Sensor Monitor Bank 1 – Sensor 1					
→ 01	Rich to lean sensor threshold voltage	0.3650	0.3650	0.3650	Volt	Yes
→ 05	Rich to lean sensor switch time	72	0	100	ms	Yes
→ 85	Manufacturer specific	150	75	65535	Count(s)	Yes
O-02	Exhaust Gas Sensor Monitor Bank 1 – Sensor 2					
→ 01	Rich to lean sensor threshold voltage	0.0	0.1	6553.5		No

17 “Vehicle Info” tab

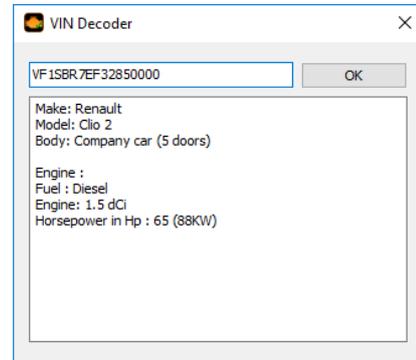
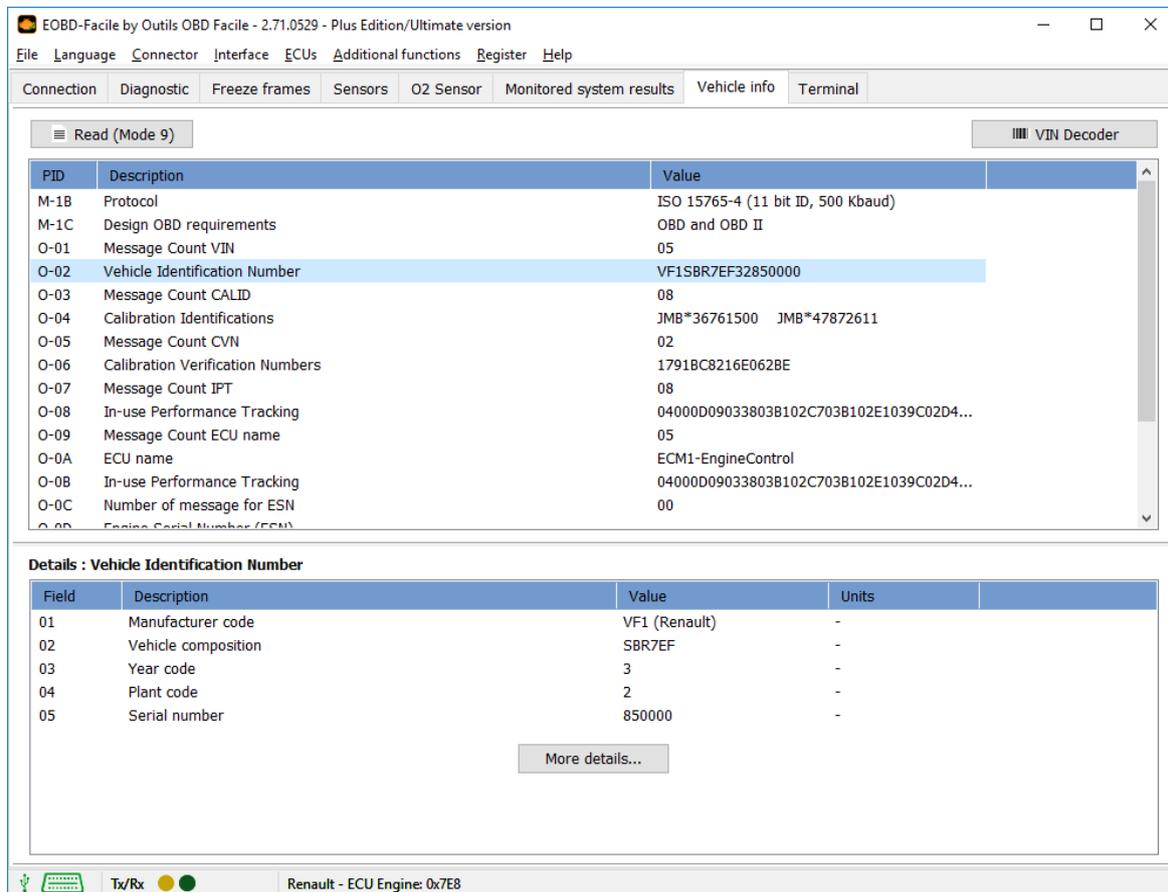
Click Read to display the vehicle identification data (VIN, calibrations, etc.).

This tab is divided into 2 zones. The upper zone displays the general data for the various PIDs. Click on one of them to update the lower zone with the details of the selected PID.

The VIN (Vehicle Identification Number) allows the software to “recognise” the vehicle characteristics.

The IPTs (Performance monitoring during use) are also available in this tab.

In the example below, the details are shown using the VIN of a Renault vehicle.

PID	Description	Value
M-1B	Protocol	ISO 15765-4 (11 bit ID, 500 Kbaud)
M-1C	Design OBD requirements	OBD and OBD II
O-01	Message Count VIN	05
O-02	Vehicle Identification Number	VF1SBR7EF32850000
O-03	Message Count CALID	08
O-04	Calibration Identifications	JMB*36761500 JMB*47872611
O-05	Message Count CVN	02
O-06	Calibration Verification Numbers	17918C8216E062BE
O-07	Message Count IPT	08
O-08	In-use Performance Tracking	04000D09033803B102C703B102E1039C02D4...
O-09	Message Count ECU name	05
O-0A	ECU name	ECM1-EngineControl
O-0B	In-use Performance Tracking	04000D09033803B102C703B102E1039C02D4...
O-0C	Number of message for ESN	00
O-0D	Engine Serial Number (ESN)	

Field	Description	Value	Units
01	Manufacturer code	VF1 (Renault)	-
02	Vehicle composition	SBR7EF	-
03	Year code	3	-
04	Plant code	2	-
05	Serial number	850000	-

More details...

18 “Terminal” tab

It is used 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 AT1 and click Send
- The ELM will display its “name”.

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

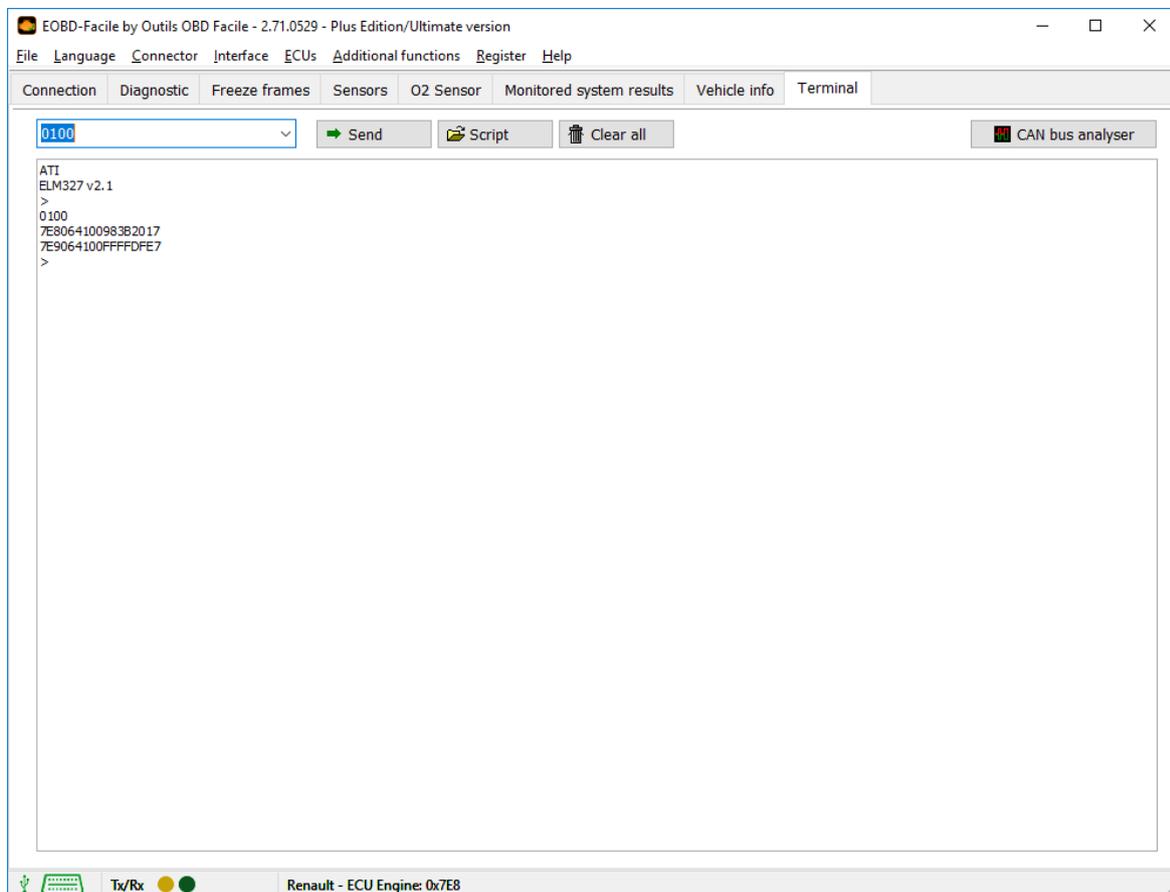
Scripts:

This function is used to save and replay commands for the ELM. File syntax is as follows:

- Lines starting with the character # are comments displays on execution.
- [TX] followed by a text is used to send an order
- [WAIT] followed by a numerical value is used to add time in milliseconds.
- [CLS]: is used to clear the screen.
- [SAVE]: is used to save the result in a file.

Examples of scripts provided with the software

- Bus_CAN_11b_ECU_Moteur.txt: is used to accelerate data recovery speed on the CAN bus for vehicles operating with an 11bit CAN protocol.



19 The “Graph and recording” window

This window is run either from the shortcut on the sensor tab, or from the “Special” menu. It is used to display the sensor values in the form of a graph and to record them in a file for later use.

19.1 *Display values*

In the “Data” tab, select the parameters you want to display, for each bank, using the drop down menus. Run continuous reading by clicking on “Start”. During reading, it is possible to show or hide a curve by un/checking “Displayed”.

You can also pause the recording at any time by pressing the button “Start/resume”.

Tip: You can show/hide the sensor selection area using the grey arrow in the top right corner of the window. This is useful if you are working on a small screen (e.g. netbook)

At the bottom of the window, a status bar shows real-time information from left to right:

- The length of the recording in seconds
- The refresh frequency of the values in milliseconds (and the average in brackets)
- The current value on bank 1
- The current value on bank 2
- The current value on bank 3
- The current value on bank 4

Stop the recording: Click Stop to stop recording. A summary is displayed with, for each active bank, some statistics. To save the recording, click Save as. The data are saved in .csv format with commas as separators. This type of file can be opened in Excel.

Placing markers: The “Mark” button can be used to place markers on the graph. They will appear in a little yellow bow with a number. Markers are easily inserted in the recording file, making it easier in long recordings to find the area you wish to analyse.

Snapshot: save the current image of the graph in an image file.

Note: Each recording is saved by default in the file *DernierEnregistrement.txt* in the software’s data directory. Any new recording will replace this file.

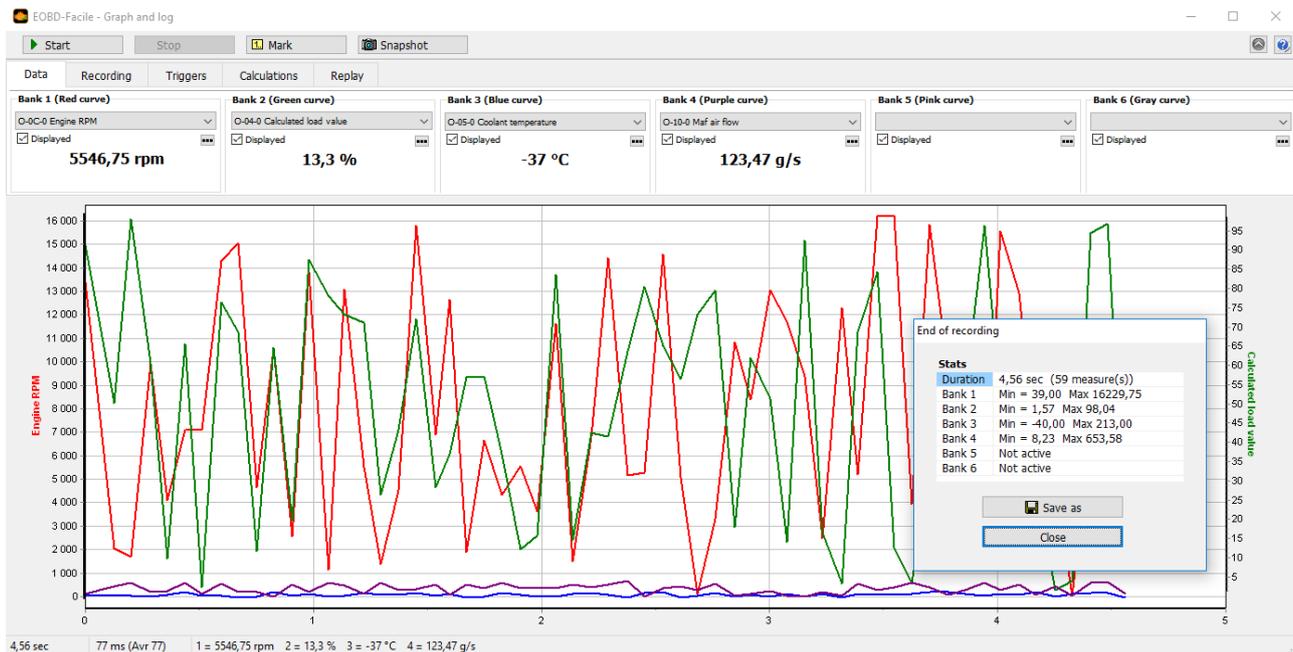
19.2 *Display/record options*

In the “Recording” tab, select the display you require.

- Scroll time between 30 seconds and 10 minutes.
- Graph background colour: black or white
- Display or hide the graph grid.

Legend:

- Vertical axis scale is selected automatically by the software. You may use your own scale by setting minimum and maximum values for bank 1 and 2.



19.3 Replay a recording

This function is used to reload a previous recording saved in the software. The data can be analysed and replayed in the data graph window.

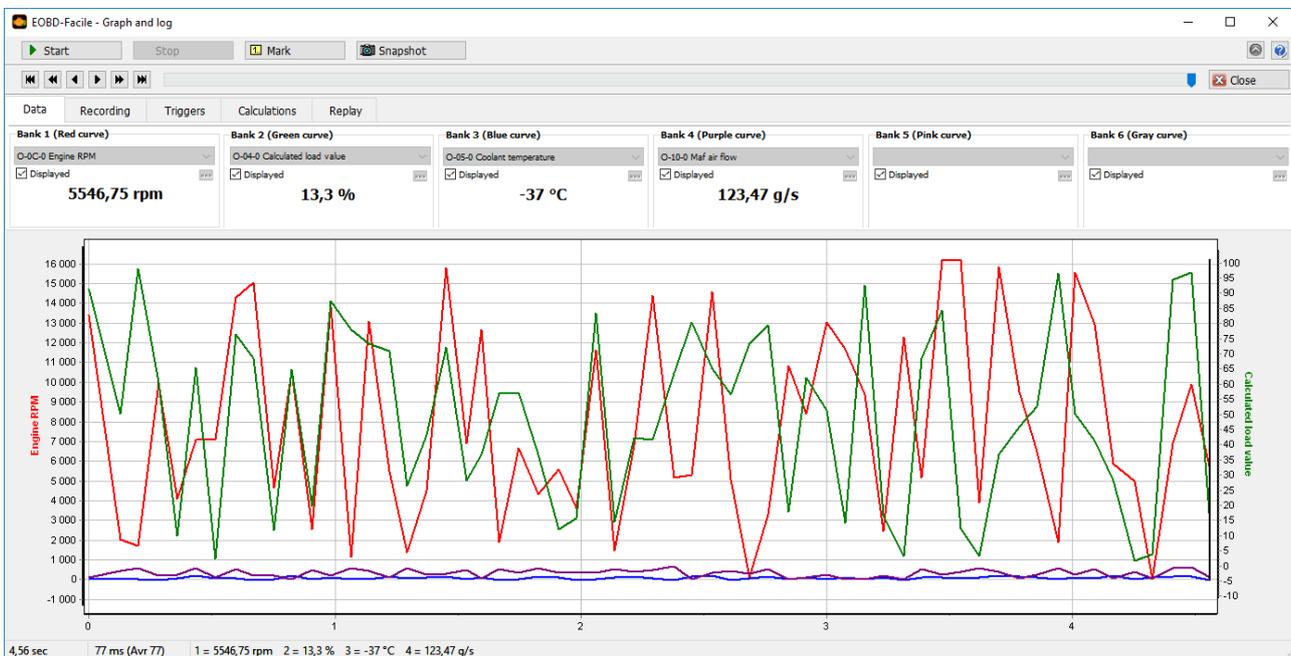
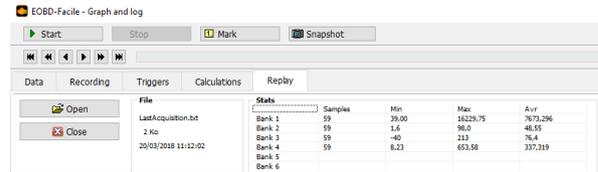
In the “**Replay**” tab, open the file you want to replay. The window will change aspect. A horizontal bar with buttons will appear with a cursor used to navigate through the recording. A black line shows your current position.

When you have finished the replay, click Close to return to normal mode (recording).

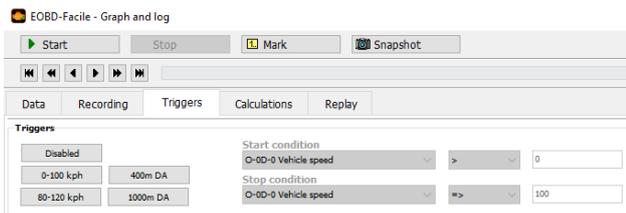
Tip: It is possible to zoom/unzoom on a specific area of the chart by pressing the left bouton and select an area.

Do your selection from the left to the right to zoom and from the right to left to come back to the full scale.

The “**Replay**” tab contains data in the open file and the statistics on the data in the file.



19.4 Smart triggers



This function is used to start reading and stop recording in graphic mode automatically and according to a condition. This is useful for performance measurements such as standing starts for a 0 to 100 kph.

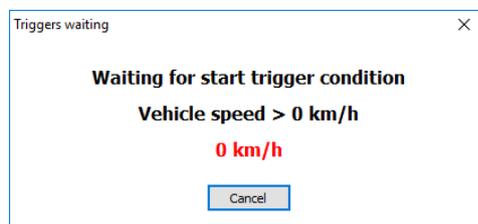
The software includes 4 preset triggers:

- 0-100 kph
- 80-120 kph
- 400m standing start
- 1000m standing start

Other triggers can be set by changing the recording start and stop conditions. For example, standing start tests up to 130 kph are possible by changing the stop conditions with the value 130.

Important: The settings used to trigger the recording (engine speed, vehicle speed, etc.), must also be present in the settings to be recorded in order to work.

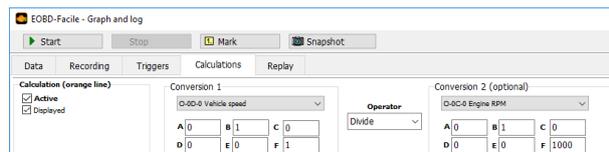
Once the trigger is configured, click “**Start**”. The following window will appear and the recording will start itself when the condition is fulfilled.



19.5 Calculations

This function allows to create your own conversion factor or to made customized calculations on values displayed by the chart.

On the below example, vehicle speed and engine rpm are used to calculate gear ratio (theoretical results)



Notice : to be able to select conversion parameters, you shall first select the parameters used for the display inside the first sheet (Data).

19.6 Exporting recording to a spreadsheet

Recordings can be exported using the graph and recording function. The data are saved in a .csv file with commas as separators. Each line in the file corresponds to a point of the recording and each line contains several fields. The first field corresponds to the recording time (in seconds), and then for each active bank, a field corresponding to the sensor PID, followed by a field indicating its value.

Example:

```
Time;Engine speed;Vehicle speed
Time;O-0C-0;O-0D-0
sec;rpm;kph
0,068;5758,000;113,000
0,131;5758,000;113,000
0,198;5801,500;113,000
0,256;5801,500;114,000
```

At t = 0.068: Engine speed = 5758 rpm
Vehicle speed = 113 kph

At t = 0.131: Engine speed = 5758 rpm
Vehicle speed = 113 kph

At t = 0.198: Engine speed = 5801.5 rpm
Vehicle speed = 113 kph

At t = 0.256: Engine speed = 5801.5 rpm
Vehicle speed = 114 kph

A sample file is available in the EOBD-Facile installation directory: *Exemple_DA.xls*

The first tab in the Excel file (*User instructions*) explains in detail the procedure for importing a recording file.

The second tab shows the data in raw table form. In the sample, a standing start simulation where the 4 banks were configured to measure speed, engine speed, flow and boost pressure (turbocharged engine).

The third tab shows the same data in graph form.

Using spreadsheet functions, it is possible to develop conversion formula or easily extract statistics on your measurements.

20 The “Dashboard” window

This function is accessible from the *Special / Dashboard* menu enabling you to make consumption measurements for petrol and LPG vehicles only.

In order to obtain relevant data, remember to enter the software options in the vehicle tab with the cubic capacity, the fuel type and the gearbox ratios.

Important: For consumption to be calculated, your vehicle must be able to measure one of the 2 following values:

- Intake manifold pressure (PID 0x0B)
- Intake air flow (PID 0x10)

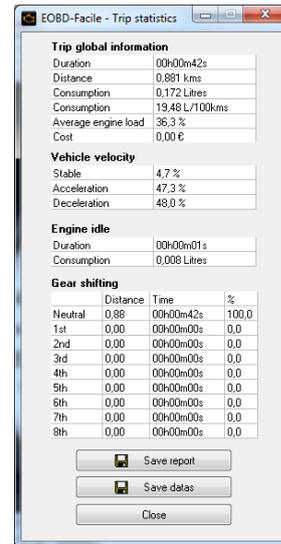
Several parameters are available in the dashboard electronic display (for petrol/LPG vehicles)

- Vehicle speed
- Engine speed
- The engaged gear (N for neutral)
- Distance covered (Odo.)
- Quantity of air taken in (Qair)
- Current consumption (in L/100km)
- Current consumption (in L/hr)
- Engine load (in %)

Journey statistics:

During the whole journey, the software will record and calculate statistics to analyse the driving style and vehicle consumption. The image below shows the various parameters calculated.

The journey data can be saved in a *.csv file for later analysis with another software (a spreadsheet for example). It is also possible to save the data below in the form of an .html file (for printing for example).



EOBD-Facile - Trip statistics

Trip global information

Duration	00h00m42s
Distance	0.881 kms
Consumption	0.172 Litres
Consumption	19.48 L/100kms
Average engine load	36.3 %
Cost	0.00 €

Vehicle velocity

Stable	4.7 %
Acceleration	47.3 %
Deceleration	48.0 %

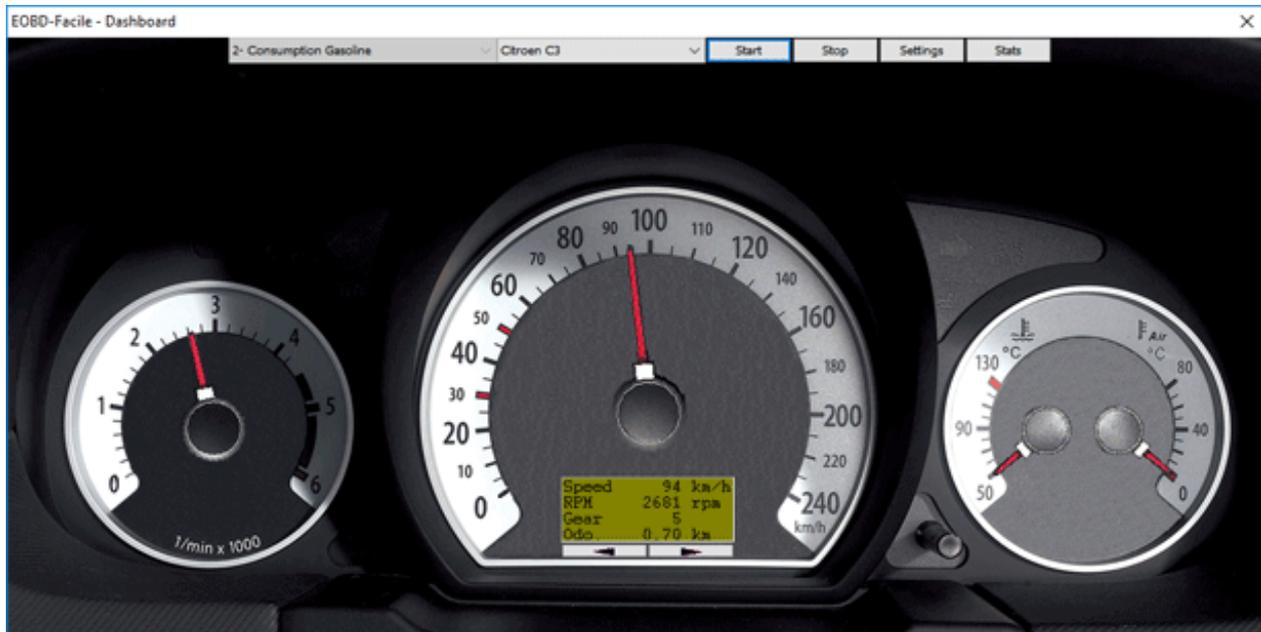
Engine idle

Duration	00h00m01s
Consumption	0.008 Litres

Gear shifting

	Distance	Time	%
Neutral	0.88	00h00m42s	100.0
1st	0.00	00h00m00s	0.0
2nd	0.00	00h00m00s	0.0
3rd	0.00	00h00m00s	0.0
4th	0.00	00h00m00s	0.0
5th	0.00	00h00m00s	0.0
6th	0.00	00h00m00s	0.0
7th	0.00	00h00m00s	0.0
8th	0.00	00h00m00s	0.0

Buttons: Save report, Save datas, Close



21 The “CAN bus analyser” window

This function is accessible from the *Special / CAN bus analyser* menu enabling you to spy on a CAN bus via an ELM interface.

Important: If your vehicle does not operate in CAN bus, force the interface in one of the CAN protocols and start the connection. The connection will fail but you will still be able to use the CAN bus analyser function.

21.1 Display frames

The frames can be displayed in two ways:

- Time: the frames are displayed in chronological order
- By ID: in this case, frames with the same ID are always displayed on the same line. Yellow highlighting shows the changes.

The status bar (bottom of the window) contains from left to right:

- The 11bits or 29 bits CAN protocol
- The *Cnt* statistics showing the number of frames received and *Fps* showing the number of frames received per second.
- The status of the CAN filters.

Reading can be paused at any time.

With the Plus/Expert Edition it is also possible to display a contextual menu by right clicking on the frame display area to:

- Save the read result in a file
- Clear the area
- Copy the read result into the clipboard

21.2 Filtering the CAN bus

Depending on the CAN buses spied on, the quantity of frames displayed can rapidly grow and saturate the ELM interface causing a “Buffer overflow!” error. To solve this problem, either increase the communication speed with the ELM or define a filter to only display the frames that interest you.

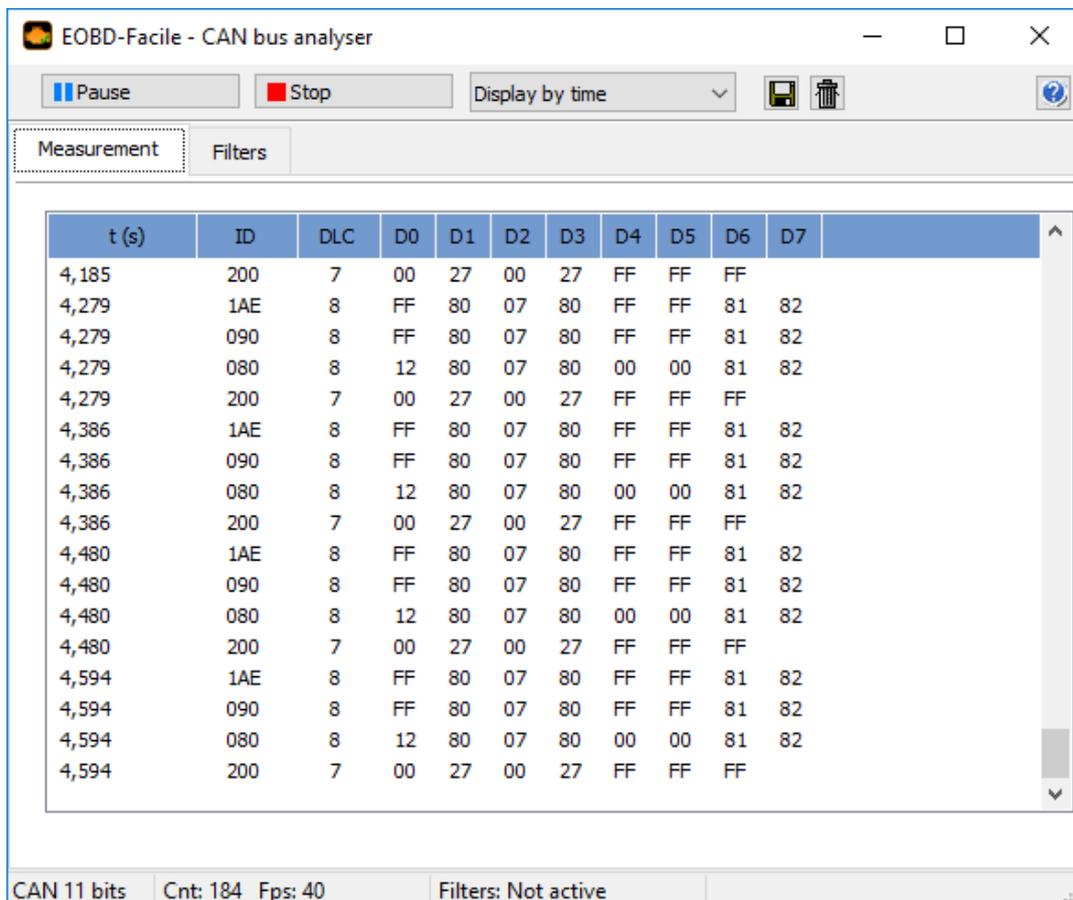
The principle of filtering is to choose CAN identifiers that you want to display. 2 types of filtering are possible:

Software filtering: this is display filtering in EOBD-Facile. It has the advantage of being easy to configure but does not solve ELM buffer overflow problems. With this type of filtering, the ELM will continue to send all frame continuously.

Hardware filtering: this is a filter than can be set within the ELM. Thus it avoids saturating the link between the ELM and EOBD-Facile. Click on Update to send the new filtering parameters to the interface. A Test button enables you to test the IDs you want to exclude/accept in the configured filter.

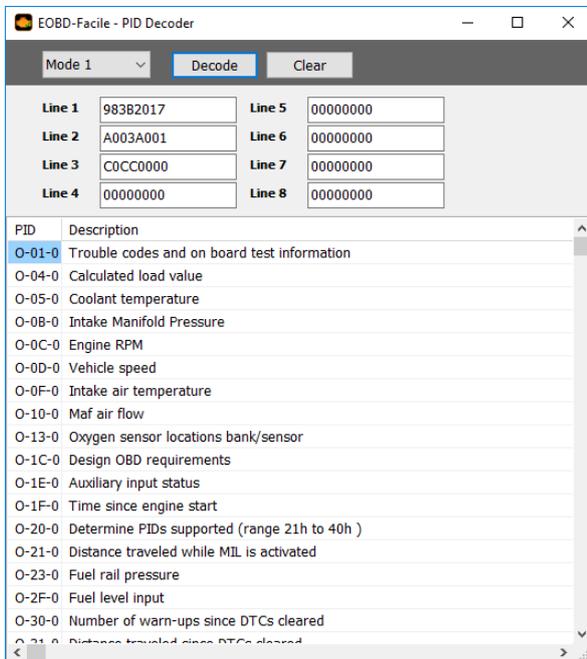
Filtre (0x2FF)	0	1	0	1	1	1	1	1	1	1	1	1	1	1
Masque (0x700)	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Identifieur accepté	0	1	0	x	x	x	x	x	x	x	x	x	x	x

Tous les identifieurs de 0x200 à 0x2FF seront accepté



22 PID Decoder

This function accessible from the *File / PID decoder* menu, is used to interpret the data in the “vehicle list” tables on our website. Copy the lines of the table and select the mode, then click Decode to get a list of supported PIDs.



23 Customisation

23.1 How to add specific manufacturer codes

Edit the file CODES-FR.ini located in the “Documents\EOBD-Facile\data\DTC” directory and add your codes in the form Pxxxx =Description of the code. Then, create one section for each make of vehicle for which you want to add codes. For example, to add the trouble codes for Peugeot and BMW, proceed as follows:

```
[Peugeot]
P1101=MAF (Mass Air Flow) sensor out of self-test range
P1102=MAF (Mass Air Flow) sensor in range but lower than
expected
P1103=MAF (Mass Air Flow) sensor in range but higher than
expected
[BMW]
P1083=Fuel Control Limit Mixture too lean (Bank 1 Sensor 1)
P1084=Fuel Control Limit Mixture too rich (Bank 1 Sensor 1)
```

Once your file is updated, you can test it using the terminal tab and entering the following order line:

```
_TEST_DTC Peugeot P1101
```

Before starting to translate and add numerous definitions, remember that EOBD-Facile already includes more than 5000 definitions to date. As well as generic definitions, many specific definitions have been translated and added by us for makes such as Peugeot, Citroën, Ford, BMW, Mazda, Toyota, Fiat, etc.

24 Error messages:

24.1 Errors from the ELM interface

ELM error detected: Buffer overflow! The flow of data from the OBD communication is greater than that of communication with the PC. This error is frequent with vehicles operating in CAN bus. Reconfigure the communication speed to solve this error (See chapter Graphs / Improving data recovery speed).

ELM error detected: Bus busy! The communication bus is busy and the interface cannot initialise communication.

ELM error detected: Bus error! A corrupted signal has been detected. Typically when the vehicle is started while communication is in progress.

ELM error detected: data error! The data read are incorrect.

ELM error detected: Return signal error! The return signal is inconsistent. The signal generated on the bus does not correspond with what the ELM is attempting to send. Mostly, this is a material wiring issue.

ELM error detected: Reception signal error! Data received are not valid, may be due to incorrect configuration of the communication speed on the CAN bus.

Interface reset detected! Reconnect the software to continue! The software has detected restart of the interface, usually due to loss of power. To continue to use the software, reconnect.

For more information about these errors, please consult the technical documentation on your ELM circuit.

25 Frequent problems, tips

25.1 Connection problems with the vehicle

List of the most common causes of connection problems:

- The USB driver for the interface is not installed
- The vehicle is not compatible with the OBD (Only vehicles since 2001 for petrol and 2003 for diesel are compatible)
- Battery voltage is 0.0V
- The vehicle ignition was not switched on for the connection
- The communication parameters are incorrect
- In 90% of cases, we suggest you keep the option auto-detection of the vehicle protocol

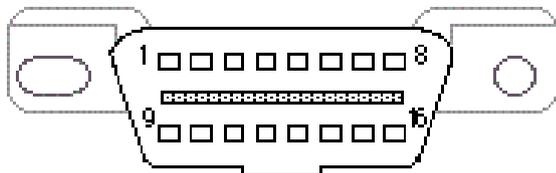
If this does not work, try to force the protocol in ISO 14230 (5 baud init). ELM type interfaces sometimes encounter auto-detection problems for this protocol

25.2 Connection problems with the vehicle (Battery at 0.0V)

During the connection to the vehicle, EOBD-Facile will read the battery voltage on the OBD plug. This voltage shall be a value between 10 Volt and 14 Volt in order to be able to diagnose the vehicle.

If the voltage is stucked at 0.0V. It may possible that the fuse or the harness of the OBD plug is damaged. Please check manually the voltage with the help of a multimeter between PIN 16 and 4 and also between PIN16 and 5 of the connector.

Pin 4 : Chassis ground
Pin 5 : Signal ground
Pin 16 : + VBatt



25.3 Asynchronous socket error

This error arises with WiFi interfaces that are not correctly configured. For more details, consult chapter "Connecting with a WiFi interface".

Asynchronous error 10060 : this error happens during the connexion if the current SSID is not the network of the OBD interface or the current IP configured inside the software is erroneous.

Asynchronous error 10061 : this error happens during the connection if the port number configured inside the software is erroneous.

Asynchronous error 10053 et 10054 : this error happens if the wireless connection has been lost. The network may be too far of the PC. Erreur survient généralement pendant l'utilisation si la connexion WiFi.

25.4 Installation with Windows XP

Sometimes with Windows XP, installation of the software do not start. Please right click on the exe file to unlock the security for the file.

25.5 Fault deletion problem

When you press delete, the software displays an error message "Incorrect conditions". For safety reasons, faults cannot be deleted when the engine is running. Switch off the engine and try again.

25.6 Fiat/Alfa Romeo hand free key – issue with erasing of fault (incorrect condition)

With this vehicle, erasing the fault require to switch the vehicle in diagnosis mode. Follow the below steps:

- Insert the magnetic key
- Push on brake pedal to « power on » the vehicle
- Keep the brake pedal down and connect to the vehicle with EOBD-Facile. Start the erasing of faults.

25.7 Renault "hands-free" kit

Vehicles fitted with this option can be connected using our software. Follow the procedure below to run diagnostics on the vehicle:

- Close the door.
- Put the car in first gear.
- Do not press the brake or the clutch.
- Press the START/STOP button for about 15 seconds.
- Contact will be made and remain active for 30 minutes.

25.8 Engine start "hands-free" (ADML) Peugeot/Citroen

Vehicles fitted with this option shall be connected with the ignition ON without starting the engine to be able to clear the faults. Please push the "start" button without pressing any pedals. Ignition will be turn on and the engine will not start.

25.9 Repair tutorials

On your website you can found repair sample for the following faults:

- P0110 : Air intake temperature sensor
- P0380 / P0670 : Glow plugs
- P0301 / P0302 / P0303 / P0304 : Misfires
- P0420 : Catalytic converter

25.10 Contacts

If you have any questions or suggestions about this help file, contact us at the following address:

contact@outilsobdfacile.fr