Obd Road

User's Manual

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Foreword to User Manual

Dear Customer, thank you for choosing our diagnostic equipment that will enable you to keep the pace with the ever-changing technology of Vehicles and Motorbikes and Trucks on-board electronics.
Please read this manual carefully and follow the indications provided in paragraph Safety rules.

Contents of the User Manual

The User Manual is divided into sections:

Product Description	Product description, list of components
Product installation	Software and Hardware installation
Operating instructions	Description of functions, legend of icons and commands
Troubleshooting	Solutions to frequently encountered problems/FAQ's

Symbols and glossary of safety-related terms and warnings

The following symbols are used throughout the manual to highlight important indications or information:

Warning This symbol is used to call your attention to certain particular operations and the relevant instructions

Important This symbol is designed to draw your attention to important information.

Note This symbol is used to highlight useful indications on how to use the product.

Safety rules

Signs and symbols:

The symbols used in this paragraph have the following meanings.

DANGER: **Failure to comply with or improper use of the information identified by this symbol may result in severe injury or death.**

WARNING: **Failure to comply with or improper use of the information identified by this symbol may result in personal injury and equipment or property damage.**

CAUTION: **Failure to comply with or improper use of the information identified by this symbol may result in improper operation of device and/or software.**

Precautions required during operation/installation:

DANGER:

- **Abnormal conditions**: Continued operation when the device has been producing smoke or abnormal odours may create a fire or electric shock hazard. Cut off power supply immediately and contact a service centre.
- **Water and foreign matter**: If foreign matter (metal, water or other fluids) enter the device, cut off power supply immediately and contact a service centre.
- **Shocks and damage**: If the device is damaged, unplug it from the power mains and contact a service centre.
- **Disassembly**: Never attempt to dismantle or make changes to the device, as this may result in a risk of fire or electric shock.
- **Placement**: Keep device away from heat, oil fumes or vapour. Such ambient conditions might create a risk of fire and electric shock. Keep the device away from fluids and volatile flammable materials. Non compliance may create a fire hazard.

WARNING:

- **Placement**: Do not place the device on unstable surfaces, high shelves or other unstable locations or the unit may fall, leading to injury and/or damage.
- **Foreign bodies**: Do not insert any foreign bodies into the connectors as this may lead to device failure.
- **Maintenance**: Never use thinners, cosmetics or other volatile agents to clean the exterior of the device. Clean with a cloth wetted with a diluted solution of water and mild detergent.

WARNING:

- **Recharging the device:** The device must be recharged in compliance with the manufacturer's instructions. The Manufacturer shall not be liable for damage in the event the device is recharged using other power sources.

WARNING

- For the maintenance of packages containing the equipment and the relocation of the equipment once installed, the provisions of Italian Law Decrees DDLL 626 of 19/9/94 and 242 of 19/3/96 apply. Use appropriate tools to open package.

WARNING:

- **Usage conditions:** This appliance has been designed and tested to ensure safe operation. The user is required to observe the information and warnings provided in this manual to ensure safe operation and preserve the safety features of the appliance.

  Do not allow operation of this equipment by unqualified persons.
  It is the owner's responsibility to keep warning labels and rating plates clean and legible.

  This manual is subject to changes and updates.
  Be sure to read the update and customisation instructions included in this manual.
  The manual is divided into sections for ease of reference. Manual instructions - especially those concerning maintenance - are intended for use by specialised technical personnel with good knowledge of mechanics, electro mechanics or of the operation of computerised unit-based systems. The system has been designed to facilitate operation and troubleshooting, with a wide range of display messages providing detailed indications to help locate problems.

  Please read these instructions carefully before operating the equipment.
  Collect this manual and all literature supplied with the equipment in a file folder and keep it with the machine where operators can easily access it.

  Make sure installation has been performed in compliance with all applicable regulations and standards.
  Read this manual carefully and learn how to use the equipment properly and safely.
  Be sure to observe applicable accident prevention rules when operating and servicing the equipment.
  In the event of unauthorised changes to the equipment, the manufacturer shall not be liable for any resulting damage or incident. Please note that bypassing or removing safety devices is in violation of workplace safety rules in force in the user's country.

Hardware Specifications of the EQUIPMENT

Vehicle Interface	EOBD standard connector
EOBD compliance	Full compatibility (electrical and mechanical as determined by the standard)
EOBD Communication Protocols	Full compatibility as determined by the standard: J1850-41.6. J1850-10.4 ISO9141-2K/L CAN (Control Area Network ISO 11898)
Power Supply when connected to the vehicle	From the EOBD connector 12 – 24 V
Current consumption	Live date reading mode: < 50 mA Typical STAND-BY mode: : < 1 mA Typical
USB Slave	USB 1.0 Device Profile Virtual COM PORT
Power Supply when connected to the PC	From the PC USB Port (Master)
Core Microcontroller	ARM
Data memory	4 MB
Working conditions	Integrated multifunction LED
Working Temperature	-40 °C to +85 °C
Size	43.5 x 22.5 x 25.1 (L x P x H) (mm)
Weight	20 g
Approval	E24 10R-030604
RTC	Rechargeable Integrated Battery
Warning signals	Buzzer
Visual signals	LED

First use fo the device

- The OBD ROAD has an internal battery for maintaining the date and time. On first use the battery may be discharged. It's needed to power the device through the USB cable for about 1 hour and then set the date and time using the OBD ROAD software installed on the PC.
- If the device is disconnected from the vehicle the internal battery goes flat within 90 days. In this case you must repeat the procedure indicated in the previous point for setting the correct date and time.

Acoustic Signals

The device's provided with internal buzzer that allows to warn the driver on the occurrence of significant events by acoustic signals:

- It has an acoustic signal with 5 intermittent beeps in case faults are being detected on the vehicle.
- In case of ECO driving style you have 3 intermittent beeps if the engine overcomes 2500rpm or 130km / h (default setting).

OBD-ROAD DESCRIPTION

The OBD ROAD is a device able to acquire parameters and live data from ECUs' vehicles. Main features:

- To record into the internal memory the engineering parameters and operating conditions of the engine for further analysis.
- To record into the internal memory the error codes registered during the trip and related to the emissions. An acoustic signal will be generated.
- To display in real-time the engineering parameters, engine's operating parameters and the fault codes.
- To delete the fault codes.
- To register if the User is driving inECO mode with acoustic signals during the trip.

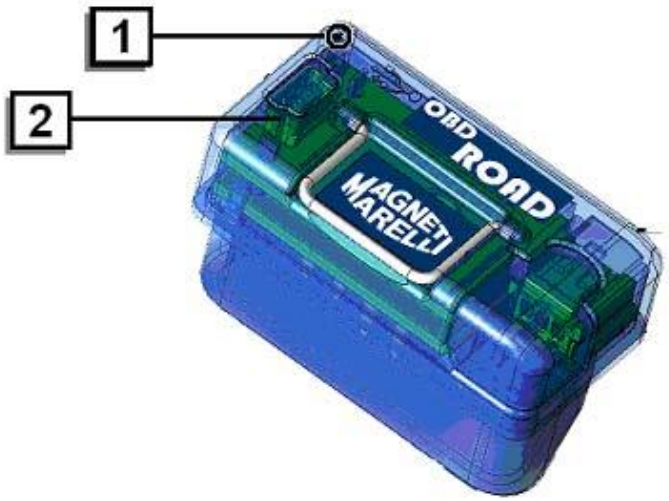
According to the collected live data, the OBD-ROAD software performs a detailed analysis of engine parameters and allows to analyze and calculate the following data:

1. Relevant accelerations / decelerations.
2. Analysis, decoding and cancellation of fault codes related to emissions :
   (standard EOBD - P0xxx – P2xxx…..).
3. Alternative fuel management systems CNG, LPG (by Manufacturers or After-market set).
4. Checking of the ECO style driving.
5. OBD parameters analisys and decoding (see the following table*)

EOBD Live Data (example)	
VEHICLE SPEED	km/h
ENGINE RPM	rpm
ENGINE TEMPERATURE	°C
ACCELERATOR POSITION	%
FUEL PRESSURE	bar
OVERBOOST PRESSURE	bar
BATTERY POWER SUPPLY	V
ATMOSPHERIC PRESSURE	mbar

* In the limited table you can find some engineer parameters which can be different be selecting others vehicles.

Device lay out



1) Warning Light : device operating conditions, vehicle's connection status, memory status (memory full), working state and so on.

2) USB port for PC connection.

VEHICLE SET UP AND USE

ATTENTION FOR CORRECT USE

It is always needed to check the complete functionality of all safety systems present on-board (es.: AIRBAG, ABS etc.), after installing the device.

LOCATION OF THE OBD CONNECTOR

The standard EOBD connector has to be present on board in all gasoline vehicles starting form 2001. Normally the EOBD connector is located into the vehicles somewhere round the driver site. The connector sometime could be located behind a plastic cover. Through the SW installed on the PC, by selecting the option "OBD Diagnosis" and after selecting the vehicle will be displayed the right position of the Diagnostic connector.

INSTALLTION/REMOVAL OBD-ROAD

The Device connection and disconnection have to be safely complete with the engine off and the dashboard off since 1 minute at least.

HOW TO CONNECT THE OBD ROAD DEVICE

1. The Engine and the Dashboard have to be off.
2. Find out the location of the OBD connector.
3. Make use of the right tools for removing safely all the parts necessary to protect the EOBD connector.
4. Plug the Device into the EOBD connector and make sure it is steadily connected.
5. Reassemble all the parts took off before (plastic cover, panel an so on)

Despite the limited size of the device in some cases could not be possible to put back the plastic cover or panel took off before.
Don't move away the OBD connector from the original location.
Make sure the OBD ROAD don't hamper the right driving.

6. Wait the Warning Light gives information about the 'Device Automatic Setup' procedure.
7. Crank the engine.
8. Now you can use the vehicle on road.

HOW TO DISCONNECT THE DEVICE

1. Crank off the engine and turn off the Dashboard and wait 1 minute at least.
2. Wait the Warning Light gives information about 'STAND-BY' mode.
3. Now you can remove the OBD ROAD device off from the diagnostic connector, making use of the metal clip.
4. Take off the Device pulling out the metal clip.

LED and BUZZER warning and alarm signals

The warning light (LED) gives information about the Device working status. See below:

Mode	Warning Light	ACOUSTIC SIGNAL	MODE
Device Plug-in	Switched ON	1 BEEP	Automatic configuration of original device
Stand-by	Short frequency Every 10 seconds	None	Stand by mode (vehicle off – no activity)
Ignition	Fast frequency	1 beep	Enabling communication with the engine control unit
Recording start-up	On / off low frequency	2 beeps	Trip data recording engaged
Recording completed	On / off short sequence	2 beeps	Trip data recording complete
DTC (Diagnostic Trouble Code) detected	None	5 beeps	Engine system – fault detected
*Eco Drive – RPM signal	None	3 beeps	2500rpm – Threshold overtaking
*Eco Drive – Speed Control	None	3 beeps	130km/h - Threshold overtaking
*Eco – Drive – Economy - Alert	None	3 beeps	Relevant accelerations / decelerations.
PC Connection	Switched on	None	Trip data downloading from the device to PC
All connections	Fast frequency	intermittent	Memory status (memory full) – The device needs to download data to PC

* Eco Drive – These functions are available only by setting the Eco Drive mode.

SOFTWARE

The device must be used with the software supplied by Tecnomotor. The software and setup are enclose into the CD included in the packaging.

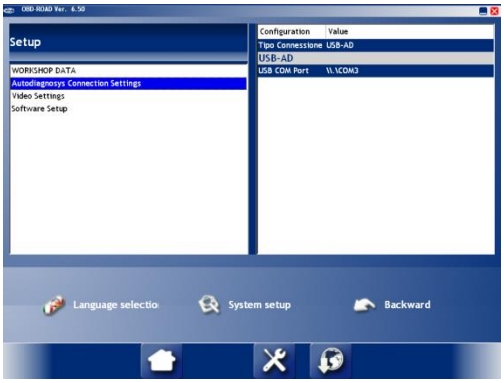
SOFTWARE INSTALLATION

- Close all the software
- Temporarily disable any antivirus / firewall
- Insert the CD-ROM included in the packaging into the PC. The installation will start automatically.
- In the case the installation does not start automatically explore the CD_ROM and run the setup.exe file.
- Select the language and follow the instructions.

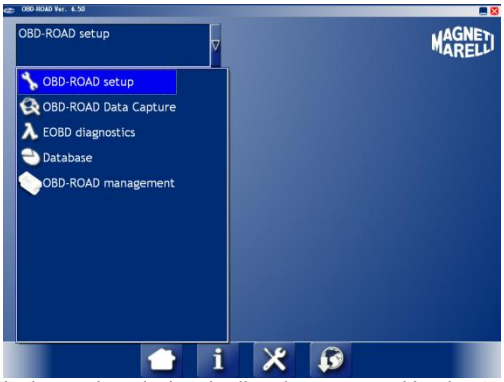
Plug/Unplug the device to PC

PC CONNECTION

1. Turn on the PC and start the application. Wait until the application's working.
2. Connect the USB cable to the device (supplied).
3. Connect the USB cable to the PC. The led on device blinking.
4. If request please install the driver as depicted into installation manual (the driver file is located into "OBD-ROAD/driver" folder)
5. If the USB port is not settled please select "System Setup" from SETTING menu. The software will search automatically the device

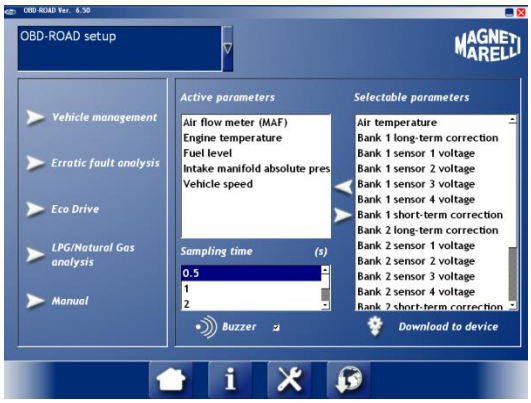


OBD ROAD's SOFTWARE DESCRIPTION



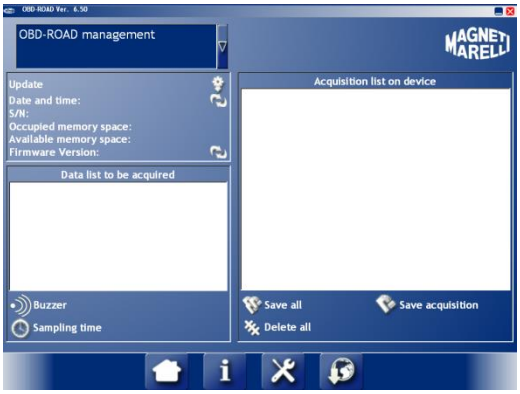
OBD-ROAD SW is the interface for displaying and analyzing the live data captured by the OBD-ROAD device. This data are EOBD live data supplied by the vehicle's ECU and captured into the OBD-ROAD memory during the trip through the diagnostic connector of the vehicle. The live date are recorded into "travels". The live data capture starts when the engine is cranked on and the ODB-INSIDE device is in communication with the vehicle's ECU. The live data capture shuts down when the Dashboard is being turn off. With the OBD-ROAD you can save fuel. With the Eco-Drive mode you can monitor the consumption and driving style. n the Menu you can find the following items:

- OBD-ROAD: it is needed to set the parameters you want to record from the vehicle. Into this page you can select directly the live data or use the preconfigured items.



- OBD-ROAD analysis: it is used to verify the live data captured by the OBD-ROAD
- OBD diagnosis: it is used to check in real time the values of the live data and to read/delete the DTC error codes.
- Database: you can find all the records saved before.

OBD-ROAD management: it is used to verify the OBD-ROAD settings (fw version), to set date and time, to update the fw, to check the memory, etc.



APPENDIX

Warranty information.

This product is covered by 12-month warranty from date of purchase. For detailed information on warranty terms and service procedures, please see the Warranty Terms and Conditions or contact the Manufacturer “Customer Service”.
Please note that warranty does not cover:

- Physical damage to equipment.
- Malfunction of any connection and accessory cables (unless claimed within 10 days from date of receipt and notified in writing to local Dealer or the Manufacturer).
- Damage resulting from tampering/unauthorised changes.
- Short circuits caused by external events or improper use of equipment.

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