



Quick Start
Smart Gas –Logic Gas
Gas analyzer



Operating manual
(ENGLISH)

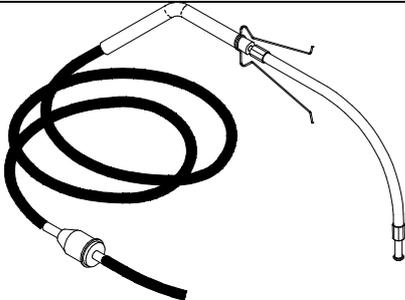
Rev 2.0



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1 Package contents

<p>Gas analyzer Smart Gas/Logic Gas</p>	 A blue and black portable gas analyzer with a carrying handle, a small LCD screen, and a keypad. A label on the front reads "SMART GAS" and "MAGNETI MARELLI".
<p>220V supply cable</p>	 A black power cable with a standard three-prong AC plug on one end and a two-prong DC connector on the other.
<p>Serial cable for connection to the PC</p>	 A light green serial communication cable with two DB-9 female connectors on both ends.
<p>Exhaust gas sampling probe</p>	 A black flexible sampling probe with a metal tip and a connector at the other end.
<p>Logbook</p>	 A green icon of an open book, representing the logbook.



CD ROM containing instrument and Dir modules user manual	
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WARNING

This manual provides all necessary information to install the product in a few steps, and to support the user during the vehicle first gas analysis.

For further information, also concerning merely technical issues, please refer to the 1161061-0 user manual contained in the supplied CD, where you can find more detailed information on the themes that are shortly handled in this document.

2 Warranty

2.1 Warranty Coverage

Magneti Marelli After Market Parts and Services (MM AM P&S) warrants the Product for 24 (Twenty four) Months starting from the date of the Product's activation or the date of the original purchase turning out by the Purchase Documents. Any operation performed under the Warranty Period, doesn't extend the Expiry date of the Warranty.

2.2 Repair & Replacement

The Warranty includes the Repairing or Replacement of the original Components which ,by the unchangeable sentence of MM AM P&S, came out faulty from the Manufacturer, cause manufacture defects or flaw material. The Warranty doesn't include the complete Equipment. The Repairing under Warranty is being carried close the Service Assistance Department indicated by MM AM P&S.



The Warranty excludes the repairing close the Customer.
The Service Assistance Department doesn't guarantee any Repairing Time, but is engaged to repair the Equipment as soon as possible.

2.3 *Remedy*

To take advantage of the Warranty, the Customer has to send the Product in 'Carriage Paid Shipment' to the Service Assistance Department indicated by MM AM P&S, as soon the problem has been forwarded to the Service Assistance Department.

The Product must to be packed properly and safely, in order to avoid possibly damages during the transport.

MM AM P&S shall not be under liability in respect of possible damages arising from the transport.

The Product sent under Warranty must to be provided by the copy of the Purchase Document.

The Product will be returned back to the Customer in 'Carriage Forward Shipment'.

2.4 *Warranty Exclusions*

The Warranty does not extend to degraded Parts caused by the wrong using of the Equipment due to working condition out of the Technical Specifications.

The Warranty will be not extended to Product in the following cases:

- Transport Damages due to the inappropriate package
- Wrong use of the Product
- Thunderbolt, Tempest, Explosion, Flood, Fire
- Inappropriate Installation or Maintenance
- Mechanical Damages
- Setup carried out by a non-authorized Personnel
- Repairing and Replacement or product Modification carried out by a non-authorized Personnel
- Use of not original Parts
- Damages due to Humidity, Dust, Power Supply Leakage or High Voltage, and any others abnormal conditions
- Equipment use into inappropriate places
- Any kind of Display damages
- Any kind of Action or Event not attributable to the MM AM P&S S.p.A liability



In case of the Product sent for Repairing is not under Warranty, the Customer will be advised and will have to authorized the Repairing out-of-Warranty. The cost of the Repairing will be charged to the Customer.
In case of unjustified demand of Warranty, the labor cost for checking and verifying the Product will be charged to the Customer.

3 Product installation

Take the instrument out of the package and follow the procedure to carry out a vehicle first exhaust gas analysis in ten minutes.

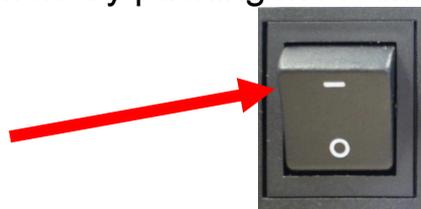
3.1 Power supply

The device shall be powered through the network cable supplied with the package.

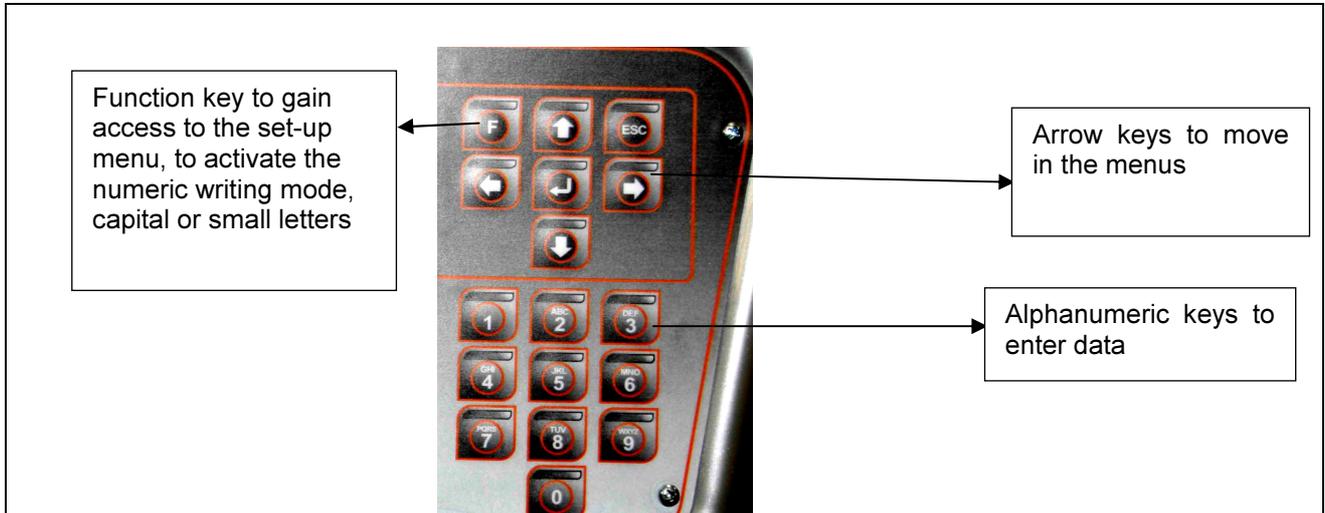
Insert the supply cable in the outlet placed in the instrument rear side, as shown in the picture below.



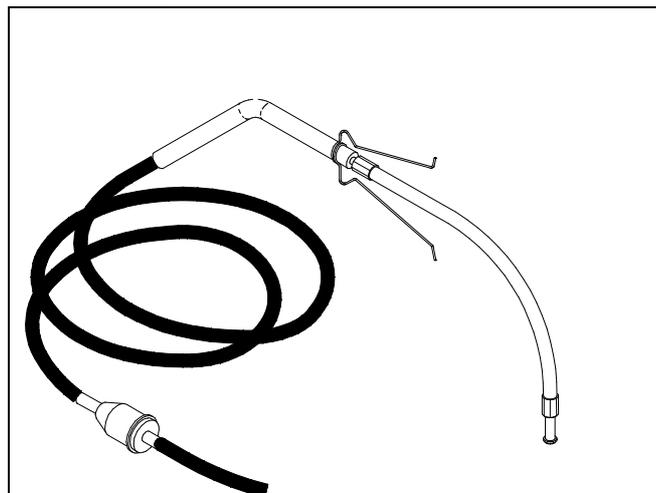
Turn on the instrument by pushing the rocker switch near the outlet.



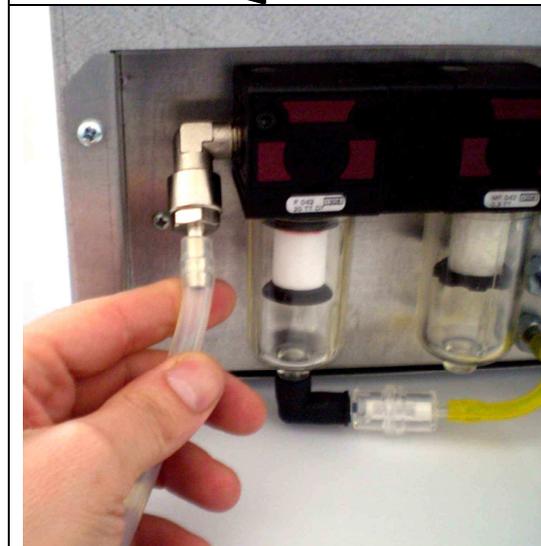
3.2 Function keys



3.3 Gas probe connection

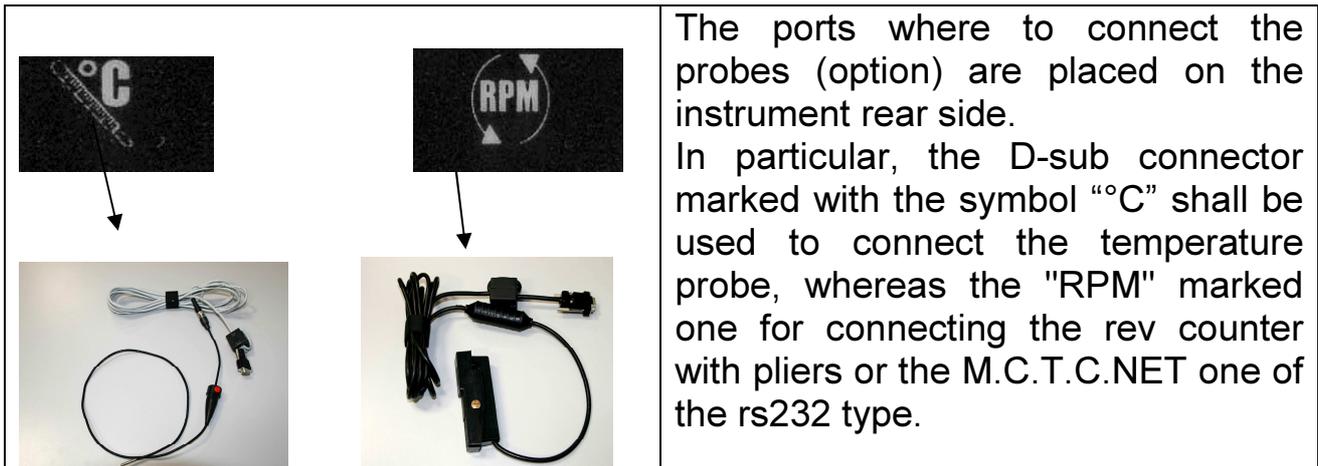


The gas analysis probe features a metallic nozzle collecting the gases, and shall be inserted in the vehicle exhaust pipe, whereas the other side shall be connected to the analyzer.



The instrument gas inlet is situated on the condensate separator. Connect the gas sampling probe as shown in the picture.

3.4 Probe connection: temperature and rpm



4 Gas analyzer use

Upon analyzer Smart Gas switch on the display will show a short introduction message, then the analyzer enters automatically in the main page where it is possible to select the type of test to be carried out.

```
<Gas analysis>
▶Free page
  Light Test
  Official proc.
```

From the main selection page it is possible to gain access to the:

- Free page: to read the exhaust and engine principal values (engine temperature and rpm).
- Mandatory emission test: for the fuel vehicles mandatory emission test.
- Official procedure: to carry out the test in accordance with the most recent Standards in matter of gas analysis.



4.1 Free page

Press the ENTER key (↵) on the main menu to enter in “Free page”.

After turning on the instrument, the warm up phase begins (“WARM UP”); it is necessary to wait for the analysis cell to be properly warmed up before going on with the test. During this phase the analyzer pump is off.

During the analyzer warm up, the display will show the wording “Please wait...” and a bar will indicate the operation progress.

The warm up average time is of 3-5 minutes depending on the environment temperature.

At the end of the “WARM UP”, the pump turns on, and the display shows the message “Analyzer reset in progress, please wait”.

After about 30 seconds the gas values will appear as shown below:

Example

CO= 0.00 %	HC= 0 ppm
CO ₂ = 0.0 %	O ₂ = 20.90 %
COc= -. - %	λ= -. ---
RPM= 0	T= --- C.

Insert the gas sampling probe in the exhaust pipe of a fuel vehicle to get the gas analysis in real time.

Wait at least 30 seconds for the gas values stabilization, then press ENTER (↵) and PRINT to print the results.



4.2 Light test and gas official procedure

To carry out tests in "Official procedure" or for the "Light Test" it is necessary to use the rpm and temperature probes.

If, for technical reasons, should it not be possible to use them, it is possible to manually enter all data in the analyzer.

4.2.1 Preliminary steps

"Mandatory emission test": you will be asked to select the vehicle engine type, (for any detail on the categories, please refer to page 38 of the user manual).

```
<Gas analysis>  
Free page  
Light Test  
Official proc.
```

Press the confirmation key (↵).

4.2.2 Test start

If the vehicle has a double fuel system, the user shall select the primary and the secondary fuel.

Select the number of the exhaust pipes.

After having entered all data, the analyzer will carry out two checking tests of the pneumatic system:

- HC test
- Seal test



4.2.3 HC test

It checks the presence of hydrocarbons inside the gas sampling probe.
Warning: do not insert the gas sampling probe in the vehicle exhaust pipe during this test.

4.2.4 Leak test

It checks the analyzer pneumatic seal by creating a vacuum in the pneumatic circuit.

To carry out the test in automatic mode, the user shall close the sampling probe and wait for a few seconds.

Should the test result be negative, then the instrument will not start the Official Test or the Mandatory emission test.

4.2.5 Test execution

Follow the displayed instructions.

Once the gas sampling probe has been introduced, the programme automatically displays the steps to be followed.

Bring the engine rpm to the indicated range and wait for the gas stabilization.

At the end of the test, if the engine rpm values have not been properly detected, it is necessary to enter them manually.

The test result is displayed at the end of it.

Press the key ↵ to go on.

```
RESULT AT IDLE SPEED:    R
COc=0.1 % < 0.3 %
RESULT AT MIN ACC:      R
COc=0.1 % < 0.2 %
λ=1.002    0.97-1.03
```



4.2.6 Print report

Select the "Print" item and confirm it with the key ↵.	Repeat test Change result ▶Print End
Enter the vehicle data: make, model, number plate, frame number, mileage, year of first registration. Lastly, enter the name of the technician that carries out the test.	

4.3 Analyzer configuration

Enter the configuration menu when you want to change the settings (date and time modification), and each time you modify the used configuration (for example, when you pass form a rev counter with pliers to a M.C.T.C.NET one).

4.3.1 Workshop data set-up

Press the F key upon instrument initial message display, or "ESC" twice if you are in the test type selection page.

The menu below will be displayed.

```
▶Set-up
  Service
```

Select the Set-up item and press the key (↵) to confirm.	▶Set-up Service
Select the "Workshop data" item and press the key (↵) to	Rev counter



confirm.	Time and Date ▶Workshop data ...
Select the workshop relevant items and press the key (↵) to confirm them.	▶Workshop name Address City ...

4.3.2 Time and date set-up

Upon initial message display at instrument switch-on, press the ESC or F function key; if you are in the instrument main menu, press the ESC key twice.

Select the Set-up item and press the key (↵) to confirm.	▶Set-up Service
Select the "Time and Date" item and press the key (↵) to confirm.	Rev counter ▶ Time and Date Workshop data ...
Select the "Time" item and press the confirmation key (↵) to change the time.	▶Time Date



5 Use of the instrument through PC with serial connection

The instrument is set to be connected to an external control system such as a Computer. The connection can be wireless (Bluetooth) or made with cables. As for the Bluetooth connection, the instrument must be equipped with a suitable internal Bluetooth module.

When the instrument recognizes the presence of an external device, the display shows the message "PC Control" and from now on the instrument will be controlled through the computer programme. To enable the instrument to the external communication with a computer it is necessary to be in the main menu page:

```
<Gas analysis>  
  ▶Free page  
    Light Test  
    Official proc.
```

When you are carrying out the measurement detection, the read gas values will remain displayed to facilitate the operation when you are connected with a computer.

Once the communication with the Computer is interrupted, the instrument can be "locally" reused only after pressing the ESC key.

WARNING: if during communication you press any keys of the instrument keyboard, the communication between PC and instrument will be interrupted.

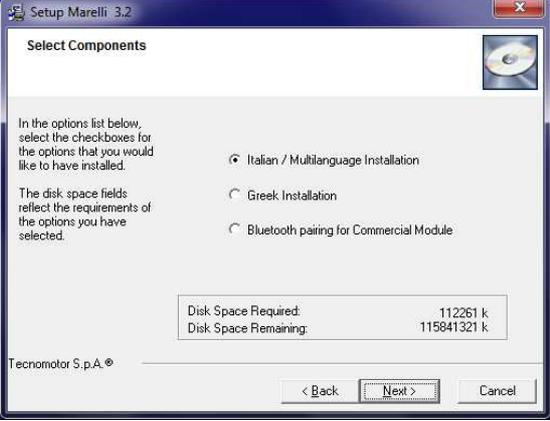
IMPORTANT

If you decide to use the instrument also through the Computer, it is important to know what follows:

3. the expiry dates stored inside the instrument are those set in the Computer configuration programme. The expiry date is set in the instrument at each connection;
4. the instrument serial number indicated in the Computer configuration programme is displayed on the analyzer. Therefore, it is not necessary to manually enter this datum in the PC configuration software.
The serial number is read by the analyzer each time an official test is carried out through the PC.



6 PC software installation procedure

	<p>Insert the CD contained in the package</p>
	<p>In case the CD is not automatically launched select the file setup.exe on the CD. Upon programme starting the window shown in the figure will be displayed. Select the second item for the installation of the Greek version. Select the first item for all the other kinds of installation. Only one of the 3 options can be selected.</p>
	<p>If the product is installed with the Bluetooth option, select the third item in order to install the Bluetooth Pairing module. This module allows for an easier configuration procedure of the products sold with the onboard Bluetooth option. It associates the serial communication ports with the commercial Bluetooth module on the PC</p>



	<p>Enter the software installation code supplied with the CD (it is written on the CD cover)</p>
	<p>Do not carry out any operation until the end of the installation</p>

7 Software use on PC

	<p>Select the programme icon present on the desktop or which can be accessed through the Windows start button.</p>
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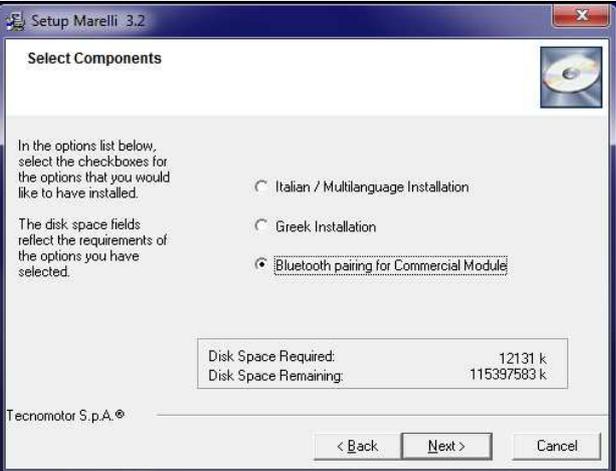


<p style="text-align: center;"><i>Exhaust Analysis EOBD Approved</i></p> <p>DIESEL F2</p> <p>Official Test DIESEL F5</p> <p>MAGNETI MARELLI</p> <p>EXIT F6</p> <p>GAS F1</p> <p>Official Test GAS F4</p> <p>Bollino Blu GAS F7</p> 	<p>Select Diesel for the diesel free test Select Gas for the free test of petrol or gas vehicles. Select Official Test Diesel/Gas in order to carry out an official test according to what required by the Standards in force.</p> <p>Upon test launching follow the displayed indications to carry out the test. Once the procedure is ended, it will be possible to print the test report.</p>
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8 Using the Bluetooth Pairing module

In case the product is fitted with Bluetooth communication system with commercial Bluetooth module installed on the PC, the wireless module shall be configured in order to associate the serial communication port.

	<p>Insert the Bluetooth module in a free USB port of the PC Make sure that the Bluetooth icon is present in Windows Task Manager next to the time. If Bluetooth system has been correctly installed the icon will be blue and white, otherwise it will be blue and red. Make sure that the bluetooth tools are ON and that the commercial Bluetooth module is present on the PC</p>
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	<p>Install the Bluetooth Pairing module present on the CD.</p> <p>At the end of the installation the programme will automatically launch the search for nearby devices.</p>
	<p>Select the required language.</p>
	<p>Once the search is ended, the window shown in the figure will be displayed. If one or more products have been found in the area they will be highlighted in black, otherwise the writings will stay grey. In order to match a serial port with the device found it will be sufficient to tick its name.</p>

9 Instrument cleaning

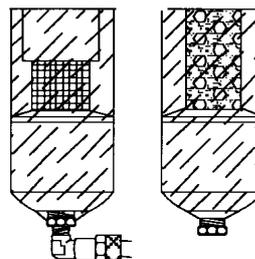
Warning: do not carry out any cleaning operation when the instrument is working.

Proceed as follows to clean the instrument:

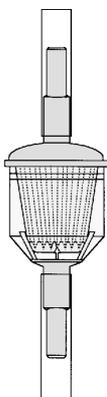
Make sure that the multiple outlet switch is **OFF**.



WARNING: Do not clean the inside part of the condensate separator chambers with alcohol.



Check the filter (see picture below) placed on the sampling probe and change it if the filtering side gets continuously dirty (part number FILTROGAS-01).



Clean the gas sam

