



**MAGNETI
MARELLI**

**ELECTRONICS
MAGNETI MARELLI**



Knock sensor

The knock sensor records knocking noise and transforms structure vibrations into an electrical signal for the Engine Control Unit. It is mounted on the outside of the engine block. It is able to determine exactly which cylinder is affected by knocking.

In the event of knocking, ignition is adjusted (delayed) until the knocking disappears.

The Magneti Marelli range includes 30 products.



CAM sensor

The camshaft position sensor (or "CAM sensor" for short) registers the exact position of the camshaft. This information is required for example to calculate the ignition point, the injection point and the position of the valves.

The Magneti Marelli range includes 120 products.



MAP

The Manifold Absolute Pressure sensor supplies instantaneous manifold pressure information to the ECU. The data are used to calculate air density and determine the engine air mass flow rate.

This data set is necessary for optimal combustion. A fuel-injected engine may alternatively use a mass airflow sensor (MAF sensor) to detect the intake airflow. A typical naturally aspirated engine configuration uses one or the other, while a turbocharged engine has both sensors.

Magneti Marelli offers a wide range of MAP sensors with 120 products.



MAF

This sensor measures the Mass Air Flow. These data are used by the ECU to calculate the quantity of fuel for combustion. Usually, the sensor is made up of a cylindrical housing and a sensor module. The sensor is installed in the inlet pipe. The sensor module has 2 resistors: the first is a temperature sensor and the second measures the air flow.

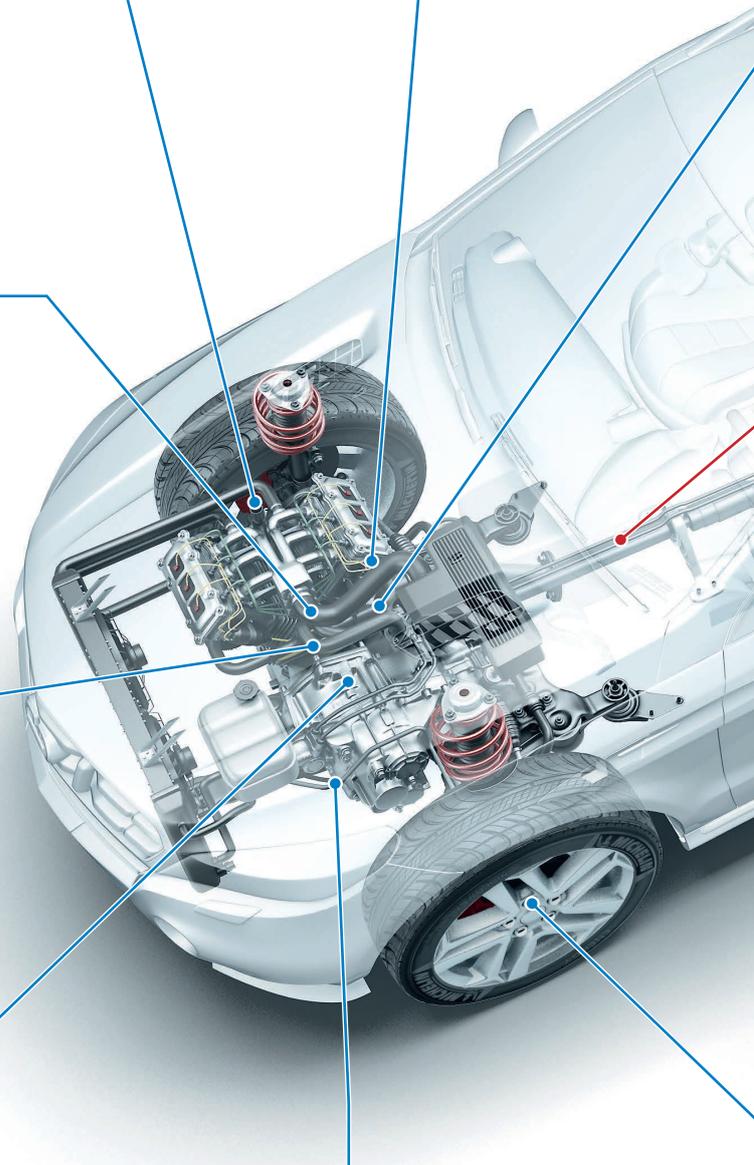
Magneti Marelli offers a significant range of 240 MAF sensors.



RPM sensors

RPM (revolution per minute) sensors are one of the most important engine sensors, and measure the speed of the crankshaft. These sensors can be either inductive or Hall effect based, and are mounted close to the fly-wheel.

This is a traditional Magneti Marelli range that currently includes 270 products.



Temperature sensor

Temperature sensors have a range of applications and their function is fundamental for optimal engine working conditions. Usually, an internal combustion engine has more than one temperature sensor: air, coolant, oil and fuel.

The Magneti Marelli range includes 120 temperature sensors overall.





Ignition coil

An ignition coil is an induction coil that transforms low voltage (usually 12 volt) to the thousands of volts needed to create an electric spark in the spark plugs. Magneti Marelli offers a complete range of ignition coils with multiple or single output, and with or without an electronic module.

Available both in Original and Aftermarket versions, Magneti Marelli offers a total of 330 products.

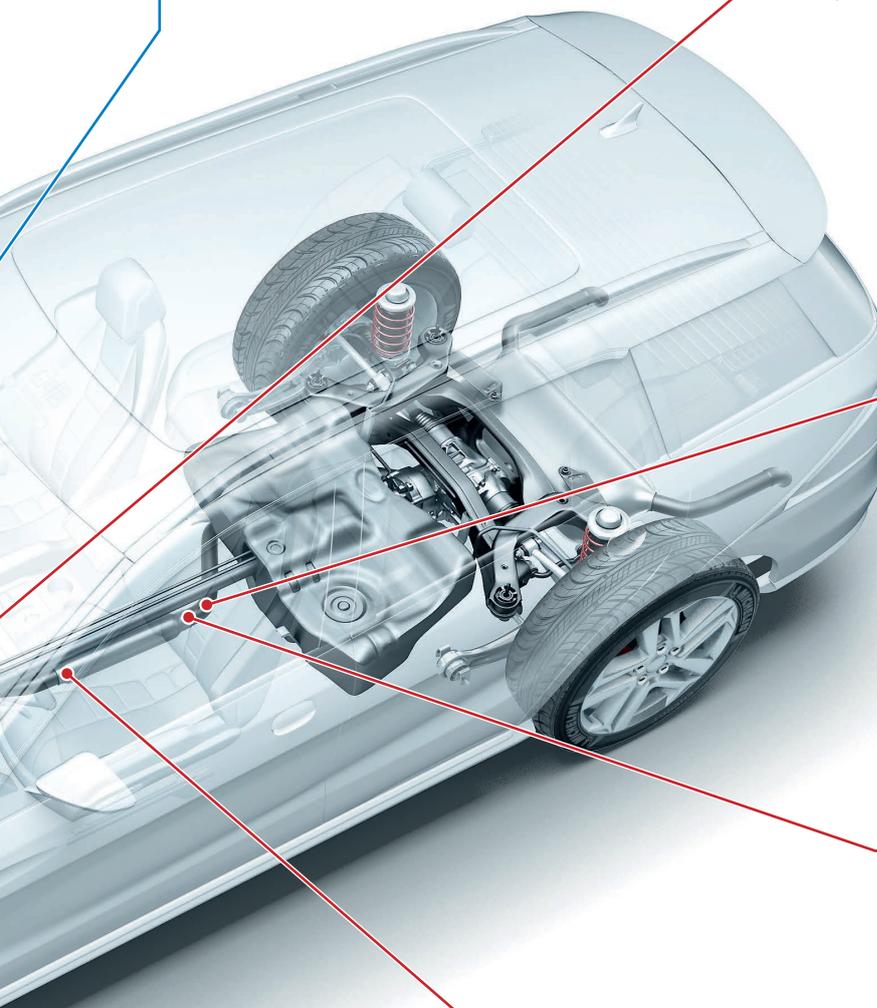


NEW

EGR (Exhaust Gas Recirculation) valve

This valve re-introduces a portion of the exhaust gas into the intake manifold. This mix reduces the peak combustion temperature, so that less NOx is produced.

Magneti Marelli offer includes more than 150 items for all major applications.



NEW

EGT sensor

EGT sensors monitor the temperature of the exhaust gas in the most critical points: turbocharger, catalytic converter and anti-particle filter. Magneti Marelli sensors work under extreme conditions (-40 °C/+900 °C) permitting optimal engine management.

The Magneti Marelli range (120 products) is continuously evolving.



NEW

DPS

Exhaust Gas Pressure and Differential Gas Pressure Sensors (more simply known as "DPS") send a signal to the engine ECU, allowing it to monitor and control regeneration of the anti-particle filter.

The 20 Magneti Marelli products available cover all the major applications for cars currently in circulation.



NEW

Wheel speed sensor

Wheel speed sensors or ABS sensors measure the wheel speed of the vehicle. The data are sent to the ABS/ESP control unit that maintains vehicle stability. Currently, the automotive industry uses active sensors. These sensors require an external power source to operate and are designed for toothed/magnetic encoder wheels. There are two types of active sensors: Hall sensors and Magneto Resistive sensors.

Magneti Marelli offers its markets a range of 90 products that covers various applications.



Lambda sensor

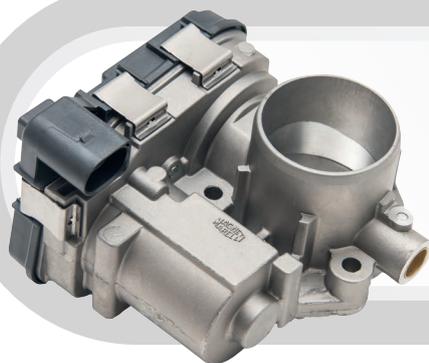
The lambda (λ) sensor or oxygen sensor is an electronic sensor that measures the O₂ level in exhaust gas. This sensor is mandatory in order to maintain the stoichiometric air-fuel ratio and for catalytic management.

The Magneti Marelli range includes over 250 items for the most common gasoline vehicles.

ECU

The Engine Control Unit (ECU for short) is the computer that manages all modern Internal Combustion Engines. Since the 1960s, Magneti Marelli has played a leading role in technological evolution thanks to its strong commitment to the world of sports competition. Magneti Marelli Aftermarket offers Magneti Marelli's entire know-how to the independent market.

The current range includes 70 ECUs for both gasoline and diesel engines.



Throttle bodies

The throttle body is the main component of the air intake manifold. It regulates the incoming airflow to the engine. The core element is the "throttle", which limits the quantity of air. Magneti Marelli designs and produces throttle bodies for both gasoline and diesel engines. Often, the throttle body is integrated in the air intake manifold; at Magneti Marelli we commonly use the Italian acronyms CAD and CAB, referring respectively to air intake manifolds for diesel and gasoline engines.

Magneti Marelli Aftermarket offers a range of 140 products.

Injectors

The injector is the component that supplies fuel to the engine. The injection system ranges from carburetors to electronic systems. Magneti Marelli has been a part of this evolution from the beginning right up to the Gasoline Direct Injection system. Magneti Marelli Aftermarket has a dedicated range of gasoline injection products that includes carburetors, PFI injectors and picojets (port fuel), and GDI.

The complete range includes 60 products.



AMT

Robotized gearboxes are gearboxes where manual systems, for example clutch and gear selection, are substituted by actuators. Magneti Marelli designs and produces robotized gearboxes drawing on its significant experience in Formula1. Magneti Marelli uses hydraulic actuation, improving both performance and comfort. Magneti Marelli Aftermarket brings its production of hydraulic-electro-actuators to the independent aftermarket.

The total range offers 60 products including spare parts.

