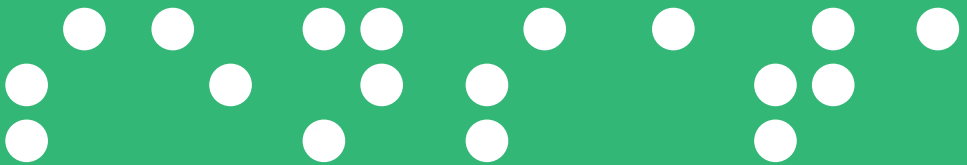
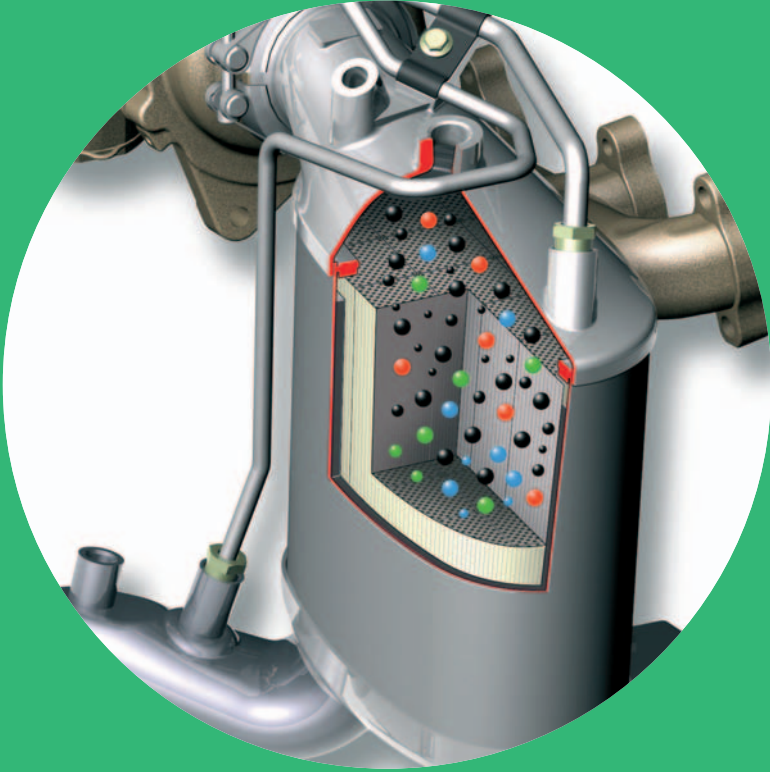


POWERTRAIN SENSORS




Sensata
Technologies

EXHAUST-GAS
AFTER-
TREATMENT

The World Depends on Sensors and Controls



**More than a supplier –
a partner.**

Satisfaction. Much more than just a word for Sensata: it is the objective of every step we take. Our customers and their needs are central to every consideration.

The fast adaptations of customer wishes by direct communication with one of our specialists in the field or in engineering are part of our daily work. Business-to-business processes form the basis for individual optimized solutions. An optimal solution is for us always a cost-effective solution. We never lose sight of costs no matter what we are considering. Does this sound intriguing? Then contact us at www.sensata.com.

Sensata Technologies: about us.

Sensata Technologies provides leaders in the global automotive, appliance, aircraft, industrial, and HVAC markets with sensing and protection solutions. Our mission is to improve safety, efficiency, and environment protection for millions of people every day. Headquartered in Attleboro, Massachusetts, Sensata Technologies has nine technology and manufacturing centers in eight countries, and sales offices throughout the world.

SENSATA EXHAUST-GAS AFTERTREATMENT SOLUTIONS

Environmental awareness and emission legislation have made it necessary to achieve cleaner exhaust gases from gasoline and diesel engines. Additional systems are needed to reduce hazardous components from exhaust gas. The performance of these systems depends highly on sensors and controls. At this point, Sensata Technologies comes into play: Our products can meet your system requirements because of our experience and dedicated products. Our aim: maximum performance at minimized costs.



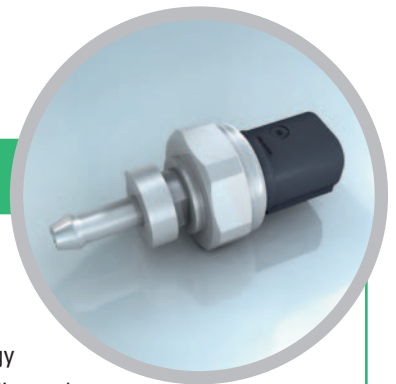
A match for the pressure: EBP sensors.

The first Exhaust-gas Back-Pressure (EBP) Sensors used in the automotive industry were on diesel engines of American trucks to avoid a too high pressure in exhaust pipes when these were choked by a butterfly valve, in order to provide faster heat into the truck's cabin.

Nowadays, EBP sensors are used in exhausts for emission purposes to control the back pressure in systems with or without a Diesel-Particle Filter (DPF). These sensors are often applied in the newer particle-filter types – the so called continuous-regenerating types. Their task is not only to protect the engine against damage from over-pressure, but also to provide diagnostics for regeneration of the Diesel-Particle Filter.

EXHAUST-GAS PRESSURE SENSORS

Exhaust gas: a highly demanding environment for sensors and electronics. We have gained over ten years of experience in the production of Exhaust-gas Pressure Sensors. We realized that capacitive ceramic technology is the technology that is best suited – because it is impervious to acids, humidity, and soot in the exhaust gas. Our latest improvements in the electronics will provide you with reliable and accurate pressure measurement throughout the life of the sensor. Ask for details!



Reduced emission of particles, enhanced pollution control.

Reduced emission of particles can be realized by using a Diesel-Particle Filter system (DPF), which has now become an industry standard. Measuring the pressure in the exhaust supports the regeneration strategy as well as the system diagnostics of the DPF function. Sensata Technologies is the partner of OEMs and system suppliers for absolute, relative, or differential pressure sensors or DPF systems.

DIFFERENTIAL PRESSURE SENSORS AND RELATIVE PRESSURE SENSORS

DPS: The most accurate technologies for a true Differential Pressure Sensor (DPS) are Micro-Electrical Mechanical Systems (MEMS). Sensata

Technologies has developed a MEMS-based DPS, capable of surviving in exhaust gases. The patented technology of Sensata Technologies can help OEMs to improve regeneration strategies for particle filters and to prevent blockage of the filter.

RPS: Our Relative Pressure Sensor (RPS) is small, accurate, and robust to exhaust gasses. Based on our proven MEMS technology, we are supporting DPF regeneration strategies with our RPS, enabling low costs for DPF systems.



OEMs rely on our differential pressure sensor to optimize and control Diesel-Particle Filter regeneration and prevent filter blockage.

A way to avoid NO_x.

Emission control starts by optimizing the combustion. Exhaust-gas recirculation reduces the temperature of combustion and therefore avoids the formation of NO_x. Control of the EGR flow is essential for highest possible NO_x reduction while maintaining stable combustion.

HIGH COMMON-MODE SENSOR

Our High Common-Mode Sensor (HCM) is a differential pressure sensor designed for the most accurate EGR control, and it is based on MEMS. HCM combines low-pressure accuracy in a high-pressure environment.



NO_x SENSOR

In the near future, Sensata Technologies will expand their product line with an NO_x sensor that can measure low ppm levels of NO_x, that is very accurate, and meets the heavy-duty-truck durability requirements. This product will be the first NO_x sensor that is not cross-sensitive to NH₃, which is valuable for SCR system control – and which will reduce the total costs of SCR systems. The chosen sensing technology is suitable for sensing other gases, such as O₂ and NH₃.



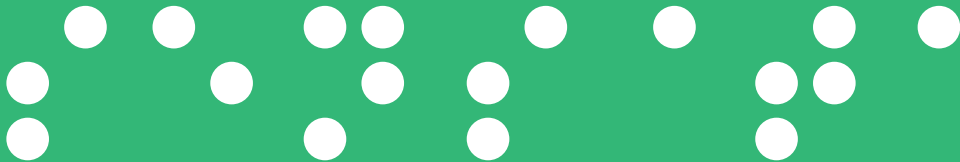
Clean solutions: SCR and NST.

SCR: A very efficient way of reducing NO_x in diesel exhaust gases is by selective catalyst reduction. The NO_x is reduced to nitrogen and water just by adding urea to the exhaust gas. The functionality of the NO_x sensor is essential to control and diagnose the targeted NO_x reduction, which is required by OBD legislation. Starting in the heavy-duty diesel-truck segment, the legislation prescribes the need for measuring the NO_x emission level and warns against NO_x emissions above the legal threshold. An NO_x sensor is the best device to help OEMs to comply with this legislation.

NST: Use of a nitrogen-storage trap is applicable in both diesel and gasoline engines to reduce NO_x from the exhaust gas. Diesel engines, starting with heavy-duty, will need NO_x post-treatment such as NST or SCR systems to comply with emission legislation. Next to that, a stratified-injected direct-Injection gasoline engine also requires NST or comparable NO_x reduction systems. The control of NST depends highly on the NO_x sensor itself and on its quality.

*Small is beautiful:
Our differential pressure
sensor for particle-filter
applications is the small-
est in the world.*





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