

CV sensors – important sources of revenue for maintenance and repairs

Wide Bosch sensor portfolio for engine management and exhaust-gas treatment in commercial vehicles

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Differential pressure sensor, nitrogen-oxide sensor (NOx), particulate matter sensor, exhaust-gas temperature sensor and lambda sensor

The requirements placed on the emission behavior and the safety equipment of commercial vehicles are constantly growing. Besides, there is also further development of automation and connectivity. All of this will increase the future demand for sensors even further. Sensors have become a significant source of revenue for workshops in terms of repair and maintenance. Bosch offers a broad range of powertrain and exhaust-gas system sensors measuring for instance, pressure, speed and temperature. They stand out for their robust design and high-quality materials making them particularly resistant to deformation, tears and cracks. In order to ensure reliably high measurement accuracy throughout their long service lives, they are

subject to the same functional and quality tests as original equipment parts. Their easy installation saves time and reduces the vehicle downtime while being at the workshop.

Sensors for exhaust-gas systems of trucks

Exhaust-gas temperature sensors, differential pressure sensors, lambda sensors, particulate matter sensors and nitrogen-oxide sensors (NOx) measure the values within the exhaust-gas system thus significantly contributing to emission management. **Lambda sensors** measure the amount of oxygen within the exhaust gas thus providing the engine control unit with the information required to set the proper air/fuel ratio. **Particulate matter sensors** allow reliable diesel

particle filter monitoring thus contributing to reduced particulate emissions. **NOx sensors** determine the amount of nitrogen oxides contained in exhaust gases thus supporting the NOx reduction monitoring. **Exhaust-gas temperature sensors** monitor the optimum temperature range thus protecting high-quality components such as turbochargers, catalytic converters and diesel particle filters within the exhaust-gas system. In this way, they ensure optimum control behavior. **Differential pressure sensors** monitor the differential pressure of the particle filter and provide information on its saturation level to enable demand controlled particle filter regeneration.

Sensors for commercial vehicle engine management

The range of engine management sensors include crankshaft speed sensors, air-mass meters, camshaft position sensors, rail pressure sensors, intake manifold and boost-pressure sensors (MAP) as well as temperature sensors. **Crankshaft sensors** detect the speed and position

of the crankshaft, **camshaft position sensors** monitor the position of the camshaft. Based on these values, the engine control unit determines the precise injection timing. **Air-mass meters** measure the actual air-mass flow rate to optimize the air/fuel ratio. This contributes to efficient fuel combustion. **Rail pressure sensors** measure the fuel pressure within the

fuel rail of direct injection engines. Intake manifold pressure and boost-pressure sensors quickly and accurately measure the pressure and temperature of the intake air of combustion engines.

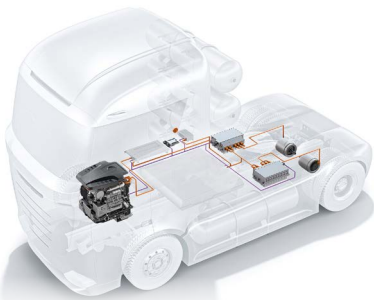


[← Truck brochure](#)



Crankshaft sensor, air-mass meter, MAP sensor, temperature sensor, rail pressure sensor and camshaft sensor

Fuel Cell: Bosch sensors for trucks with fuel cell powertrains



As one of the leading suppliers of sustainable powertrain technologies, Bosch relies on a broad range of technologies. Fuel cell systems are an essential part of this range. Besides

components such as fuel cell stacks and control units, Bosch also provides sensors: **Air-mass meters** are used on the cathode side to control the air mass supplied. New **hydrogen concentration sensors** reliably monitor the admissible amount of hydrogen contained in the exhaust air of fuel cell systems. Moreover, there are applications to measure the H₂ concentration inside the cabin or close to the fuel cell module. **Temperature and pressure**

sensors monitor the hydrogen supplied to the anode submodule.

Fuel cell: Bosch invests in future technologies

Right from the beginning, Bosch has been involved in the development of fuel cells. This know-how will also be available in the aftermarket. In the future and in addition to spare parts, Bosch also wants to offer suitable services as well as diagnostic solutions and trainings.