



Pressure Sensor Solutions

Brief description

Automotive pressure sensors are widely used in vehicle engine systems, air conditioning systems, braking systems, fuel control systems, and exhaust after-treatment systems. The product is installed on the corresponding system or pipeline to detect the pressure (and temperature) information in real time. The measured pressure (and temperature) signals would be transmitted to the vehicle's control system and ultimately achieve the efficient, stable and reliable operation of the vehicle.

Features

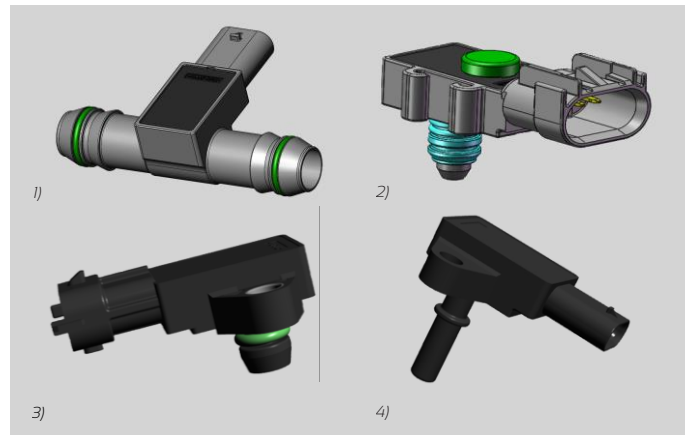
- Sensor element: High-sensitive chip sets based on piezo-resistor MEMS technology
- Pressure operating range: -1.2 to 50 bar or customer specific
- Typical temperature range: -40 to 150 °C
- Typical signal output: analog or SENT interface
- Typical power supply: 5 V
- Plug connector: customer specific
- Designed for harsh environments with excellent long-term stability

Benefits

- Intelligent zero- and temperature compensation enabling most robust output signal over wide temperature range
- Robust sensor design (depolarization protection, exceptional shake and vibration tolerance, sealing solution, EMC/ESD concepts and others)
- Improved, application-specific accuracy within wide operating range
- Customized pressure range, output curve, and dimensions for easy design-in
- Highly modular product design enabling fast development cycle
- Comprehensive product portfolio supporting customer needs
- In-house die bonding capabilities enabling sensor miniaturization

Available support

- Product development
- Design-in support
- Calibration solution
- Rapid prototyping



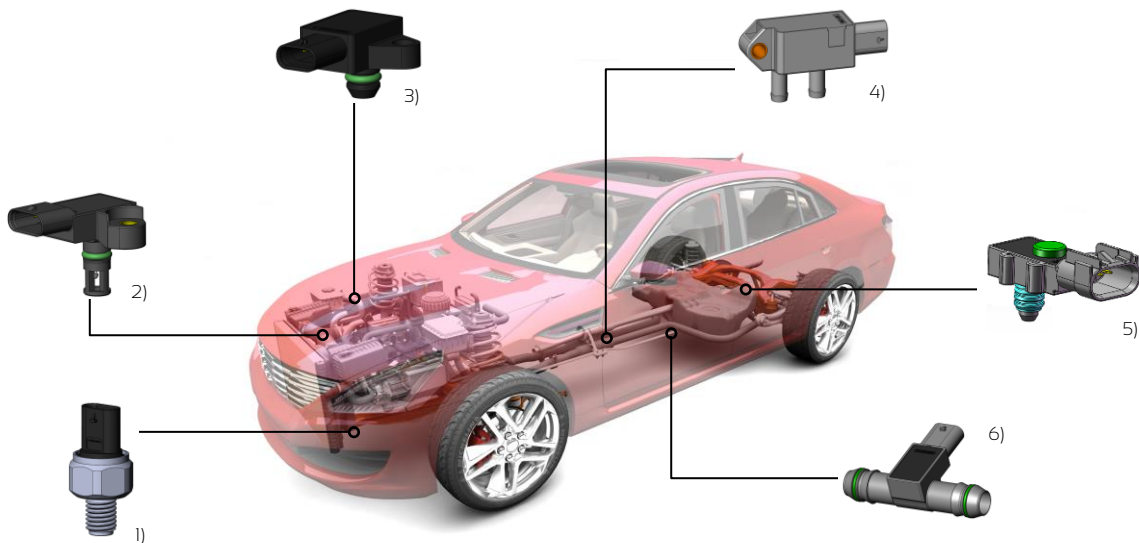
Typical applications

- Engine oil pressure sensing,
- Fuel tank ¹⁾ / fuel vapor ²⁾ pressure sensing,
- Carbon canister pressure sensing ^{3) 4)},
- Differential pressure sensing for gas particular filter,
- TMAP, MAP application,
- AC pressure sensing,
- Brake booster pressure sensing,
- Other fully-customizable pressure sensing applications



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Application example:



- Engine oil pressure sensing ¹⁾: detect the pressure of the engine oil, which has cooling, lubrication, cleaning and sealing functions and play a vital role in ensuring the normal operation of the engine.
- TMAP, MAP application ²⁾: mounted in the gasoline injection systems, which measures the change of the absolute pressure and temperature in the intake manifold to let ECU to evaluate the loading state of engine.
- Carbon canister pressure sensing ³⁾: mounted on a fuel vapor adsorption and desorption device (carbon canister) to detect the internal absolute pressure to let ECU evaluate the amount of air pollution the vehicle created and simultaneously increase the fuel efficiency.
- Differential pressure sensing ⁴⁾: sensor detects the pressure both sides of gasoline particulate filter installed in the exhaust emission system. It reflects the status in gas particulate filter and plays a significant role for the regeneration and system diagnosis.
- Fuel tank ⁵⁾ / fuel vapor ⁶⁾ pressure sensing: The fuel evaporative leakage pressure sensor, which mounts in the fuel pipeline or direct on the fuel tank, detects the possible leakage amount in the fuel evaporation control system and export signal for on-board diagnosis.

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