

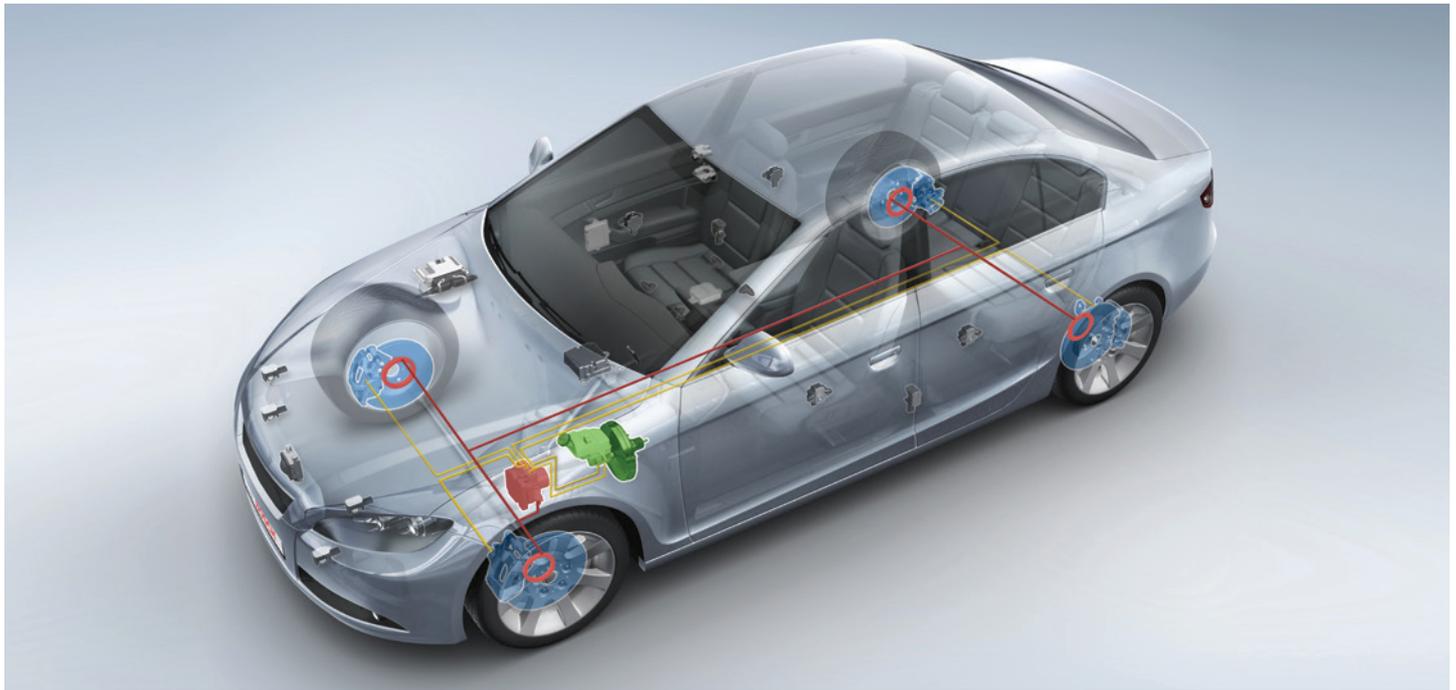
ABS/ESP Sensors

Overview, features and benefits

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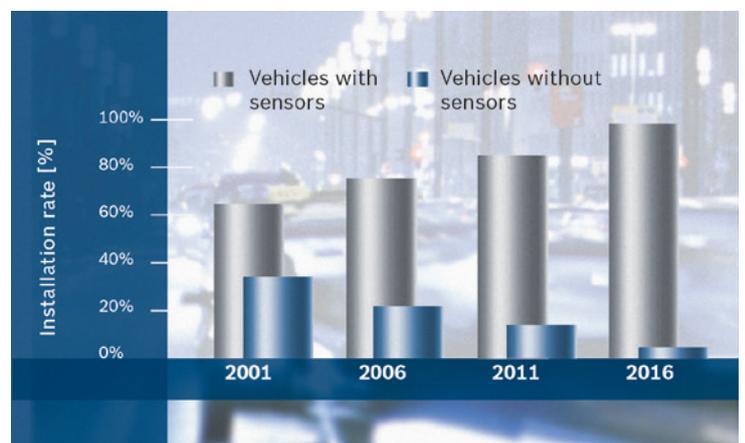
- ▶ Original equipment product
- ▶ Growing market due to compulsory installation of ABS and ESP
- ▶ Comprehensive range
- ▶ Bosch is the largest manufacturer of sensors worldwide
- ▶ Easy diagnosis and safe installation with ESI[tronic] & KTS

Modern vehicles are being equipped with more and more electronic components. As a consequence, there has also been an increase in the number of sensors installed in vehicles. These sensors act as the “sensory organs” of a vehicle to record a wide range of different parameters.

The antilock braking system (ABS) has the purpose of keeping vehicles steerable and improving directional stability even during emergency braking. The ABS system is also the foundation for the electronic stability program (ESP®) system. The ESP® system provides the ABS, the TCS and ESP® function.

Sensor system:

A rapidly growing market with best prospects for the future of workshops and trade.



Bosch is the world's leading manufacturer of sensors.

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The ESP® function has the purpose of improving vehicle stability and keeping the vehicle on course by means of rapid intervention in the engine and braking systems. The ESP® function works by detecting rotational motion of the vehicle and compensating for

driving errors. The ESP® intervention often goes unnoticed to the driver. The TCS function has the purpose of preventing the driven wheels from spinning when setting off and accelerating.



Yaw Rate Sensor

Function:

- ▶ Yaw rate sensors record the rotary motion of the vehicle along the longitudinal, vertical and lateral axes
- ▶ Used in ESP®

Advantages:

- ▶ Flexible and cost-effective sensor cluster with highly integrated electronics
- ▶ Modular concept for different integration stages
- ▶ Multiple use of sensor signals for future highly dynamic safety and convenience systems
- ▶ Optimised monitoring and safety concept

Acceleration Sensor

Function:

- ▶ Acceleration sensors record the acceleration values of a frontal or side impact or vehicle movement. They support the Electronic Stability Program ESP® and the Antilock Braking System ABS or airbag systems

Advantages:

- ▶ Excellent ability to distinguish between vibration and actual vehicle movement
- ▶ Safe and reliable triggering of life-saving reactions, such as airbag deployment

Wheel Speed Sensor

Function:

- ▶ Wheel speed sensors transmit the most important data for safe ABS/ESP® control

Advantages:

- ▶ Safety: Exact speed from virtual 0 km/h, essential for traction control systems
- ▶ Active Sensors can detect forward and backward movement, and stoppage
- ▶ Best protection against external magnetic influences
- ▶ 1000+ part numbers covering Top vehicles in Top Markets

Steering Angle Sensor

Function:

- ▶ Steering angle sensors record the steering angle without contact
- ▶ Used in ESP®, steering systems, active steering

Advantages:

- ▶ Safety: The highest measurement accuracy through low tolerance values
- ▶ Comfort: Signal refresh frequency adjustable to system requirements
- ▶ Driving sensation: modular expansion of functions, e.g. for all-wheel-drive

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