Powertrain sensors

Speed sensor for turbocharger RS-T1

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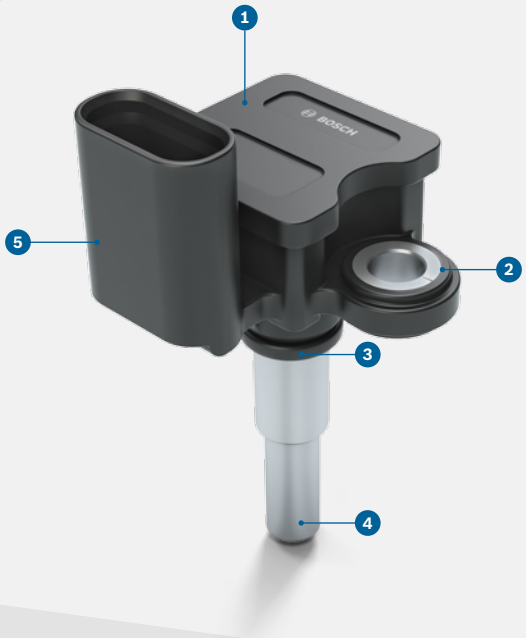

PRODUCT BENEFITS

- Expands application boundaries for the turbocharger's compressor map
- Improved power output, even in high-altitude operation
- Optimal control of multistage or multiflow turbocharging layouts
- Prevents exhaust-gas turbocharger overspeed (component protection)
- Detection of leakage and air filter load

1. Sensor housing with integrated electronics
2. Mounting flange
3. O-ring
4. Sensor head
5. Electrical interface (connector)

up to

5 %

greater engine power output through the use of the speed sensor for turbocharger

up to

400,000 rpm

the speed sensor can still reliably detect each compressor blade.

TASK

The RS-T1 speed sensor detects the rotational speed of exhaust-gas turbochargers. By doing so, it provides a key input parameter for the efficient management of the turbocharging system.

FUNCTION

The RS-T1 speed sensor is an inductive measurement sensor with integrated electronics. It measures compressor wheel speed without the need for a through bore (blind hole) in the turbocharger's compressor housing. This avoids leakages and air turbulence while allowing the housing to be compact in size. A specifically developed ASIC amplifies the analog signal within the sensor and converts it into a frequency signal suitable for control units. A protection circuit integrated within the sensor enables optimum electromagnetic compatibility.

TECHNICAL CHARACTERISTICS

Speed range	up to 400,000 rpm
Mounting angle	α = 45° ± 10°
Operating voltage	5 V

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2. Mounting flange
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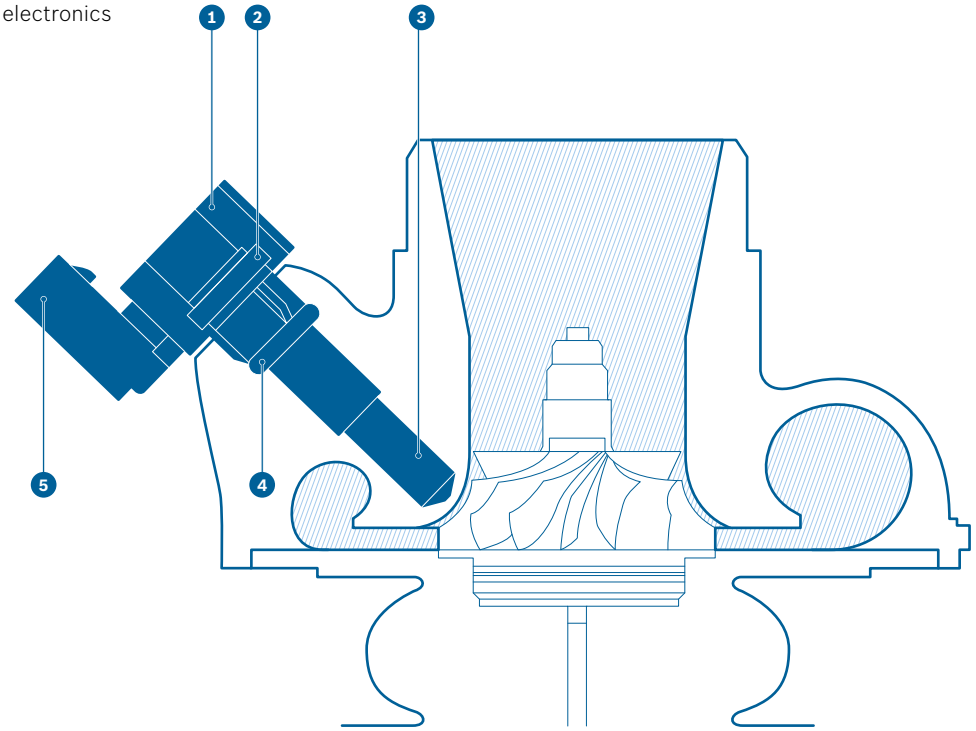
5. Electrical interface (connector)



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