

Engine management

Crankshaft speed sensor



BOSCH

Invented for life



PRODUCT BENEFITS

- ▶ High accuracy and large temperature range
- ▶ Robust design for long lifetime
- ▶ Wide air gap range
- ▶ Non-contacting measurement
- ▶ Helps to reduce emissions and fuel consumption

- 1 Electrical interface (connector)
- 2 Mounting flange
- 3 Measuring unit



Start-stop functionality

via direction detection. Helps reduce fuel consumption and CO₂ emissions.

TASK

The electronic engine management enables precise, central control of all functions relevant for engine operation. This control is based on ongoing, exact information from the drivetrain. This information is provided by sensors. The crankshaft speed sensor measures the speed, position and, optionally, the rotational direction of the crankshaft. This data is used by engine management systems for controlling injection and/or ignition timing. The crankshaft speed sensor supports compliance with emission regulations as well as increased driving comfort due to smoother engine operation.

FUNCTION

The sensor is a Hall or inductive sensor. The crankshaft is fitted with a target wheel which the sensor scans using a non-contacting method. The reference point is determined by a missing element in the target wheel.

TECHNICAL CHARACTERISTICS

	Active	Inductive
Functional principle	differential Hall with or without direction detection	inductive
Temperature range	-40 to +150 °C	-40 to +130 °C
Air gap	0.2 – 1.8 mm	0.3 – 1.8 mm
Target wheel	steel or multipole target wheel	steel target wheel

PRODUCT VARIANT ADVANTAGES

Active	high electromagnetic compatibility (EMC), compact size, low weight, flexible design, direction detection for start-stop functionality
Inductive	high output signal at low speeds, twist insensitive mounting (TIM)

- 1 Mounting flange
- 2 Engine block
- 3 Measuring unit
- 4 Trigger wheel (60 – 2 teeth)
- 5 Wiring harness
- 6 Electrical interface (connector)

