

# Hall-Effect Speed Sensor HA-P

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Invented for life



- ▶ Camshaft or Wheel speed
- ▶ 24.0 mm depth
- ▶ Robust design
- ▶ Active low

This sensor is designed for incremental measurement of rotational speed (e.g. camshaft or wheel speed). Due to the rotation of a ferromagnetic target wheel in front of the HA-P, the magnetic field is modulated at the place of the Hall probe. A Hall-effect sensor element with integrated signal conditioning circuit detects this change and generates a digital output signal. The main feature and benefit of this sensor is the combination of a high quality production part and robust design with metal housing.

## Application

Application	Speed
Max. frequency	≤ 10 kHz
Target wheel air gap	0.5 to 1.4 mm
Temperature range	-40 to 150°C
Output type	Active low
Output circuit	Open collector for 1 kΩ
Max. vibration	1,000 m/s <sup>2</sup> at 10 Hz to 2 kHz

## Technical Specifications

### Mechanical Data

Weight w/o wire	70 g
Mounting	With screw 1 x M6
Bore diameter	18 mm
Installation depth L2	24 mm
Tightening torque	8 Nm

### Electrical Data

Power supply	4.5 to 24 V
Current I <sub>S</sub>	10 mA

### Characteristic

Accuracy repeatability of the falling edge of tooth	< 1.5 % (≤6 kHz) < 2 % (≤10 kHz)
Signal output	0.4 V to < US

### Environment

Target wheel diameter D	162.34 mm
Thickness t	12.5 mm

Width of teeth b1	3.8 mm
Width of gap b2	4.7 mm
Width of sync. gap b3	20.79 mm
Depth of teeth h	3.4 mm
Number of teeth	60-2

### Connectors and Wires

Connector	1 928 404 227
Mating connector 3-pole Compact	D 261 205 335-01
Pin 1	Gnd
Pin 2	Sig
Pin 3	U <sub>s</sub>

### Installation Notes

The HA-P can be connected directly to most control units and data logging systems.

Please avoid abrupt temperature changes.

For mounting please use only the integrated plug.

If a wheel with different dimensions is used (see Environment), the technical function has to be tested individually.

Please ensure that the environmental conditions do not exceed the sensor specifications.

Please find further application hints in the offer drawing at our homepage.

### Safety Note

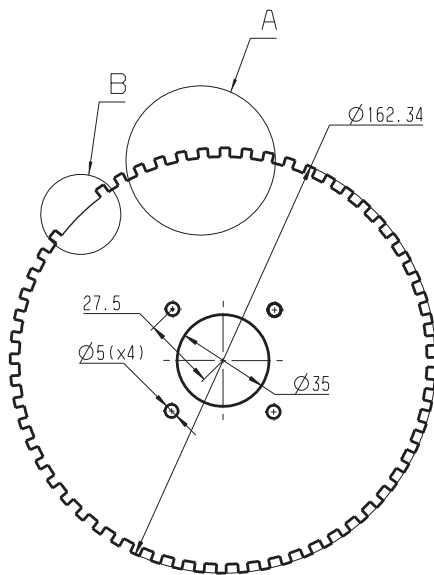
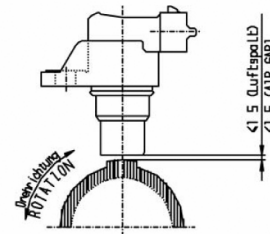
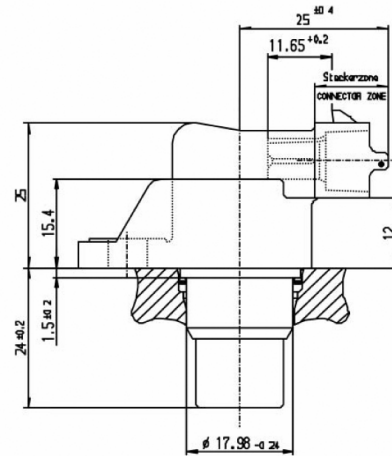
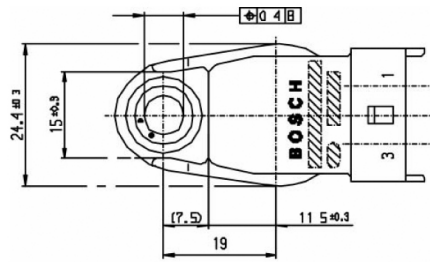
The Sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

### Ordering Information

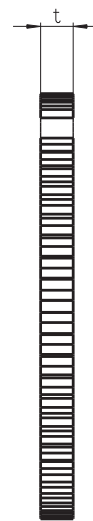
#### Hall-Effect Speed Sensor HA-P

Order number **0 232 103 037**

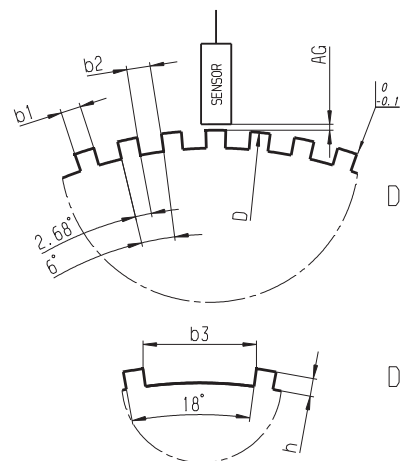
Dimensions



60-2 Teeth



Left view



Detail A

Detail B

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