

Speed Sensor Hall-Effect HA-P



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 kOhm
Max. vibration	1,000 m/s ² 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
--------------	-------------

- ▶ Max. frequency: ≤ 10 kHz
- ▶ Air gap: 0.5 to 1.0 mm
- ▶ Bore diameter: 18 mm
- ▶ Max. vibration: 1,000 m/s² at 10 Hz to 2 kHz
- ▶ Weight w/o wire: 70 g

Current IS	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	1928.404.227
Mating connector	D261.205.335-01
3-pole Compact	
Pin 1	Gnd
Pin 2	Sig
Pin 3	U _s

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.

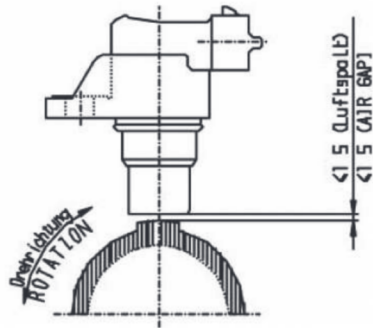
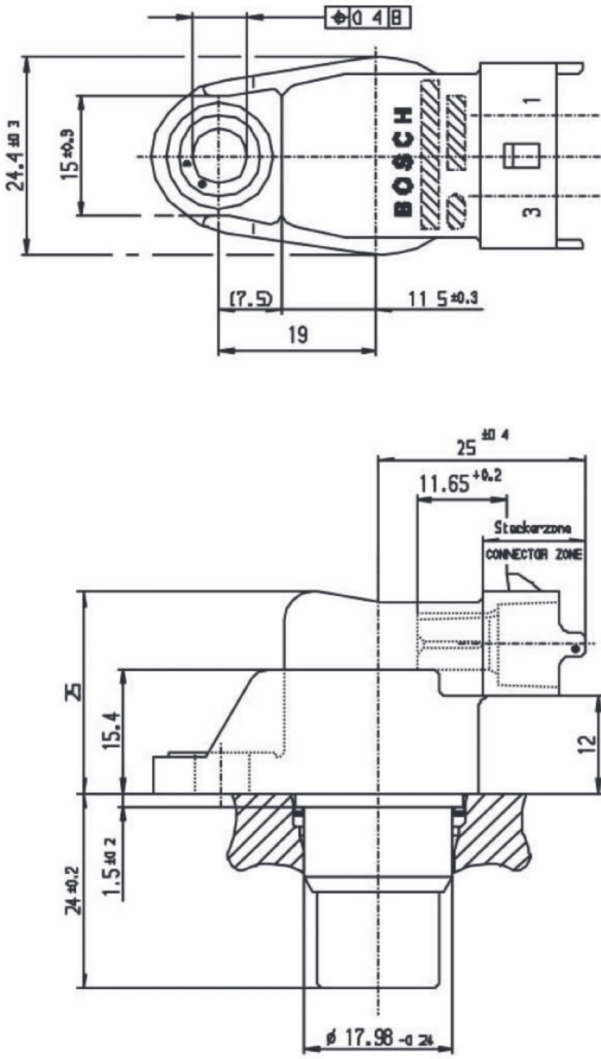
Safety Note

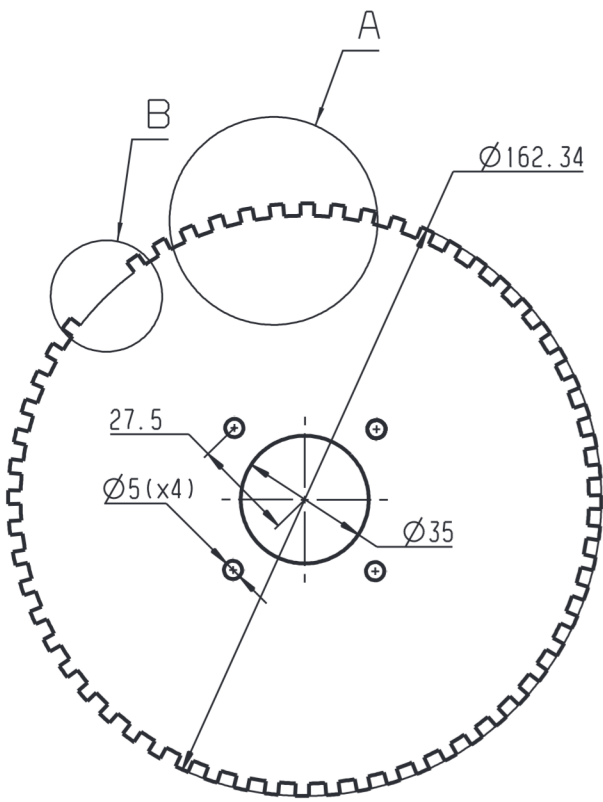
The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Ordering Information

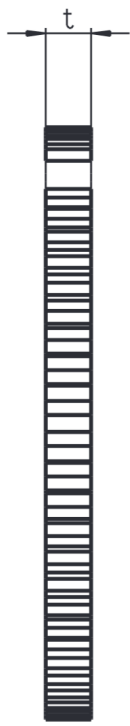
Speed Sensor Hall-Effect HA-P
Order number **0232.103.037**

Dimensions

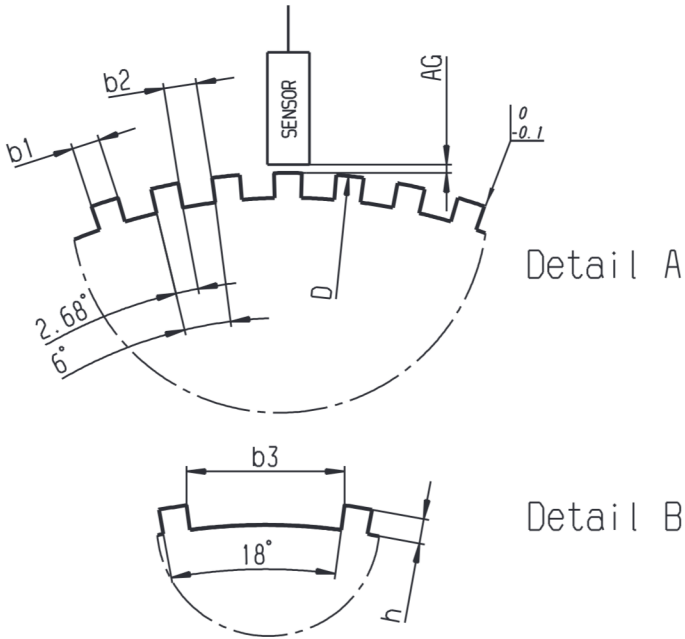




60-2 Teeth



Left view



Represented by:

Europe:
Bosch Engineering GmbH
Motorsport
Robert-Bosch-Allee 1
74232 Abstatt
Germany
Tel.: +49 7062 911 9101
Fax: +49 7062 911 79104
motorsport@bosch.com
www.bosch-motorsport.de

North America:
Bosch Engineering North America
Motorsport
38000 Hills Tech Drive
Farmington Hills, MI 48331-3417
United States of America
Tel.: +1 248 876 2977
Fax: +1 248 876 7373
motorsport@bosch.com
www.bosch-motorsport.com

Asia-Pacific:
Bosch Engineering Japan K.K.
Motorsport
18F Queen's Tower C, 2-3-5 Minato
Mirai Nishi-ku, Yokohama-shi
Kanagawa 220-6218
Japan
Tel.: +81 45 650 5610
Fax: +81 45 650 5611
www.bosch-motorsport.jp

Australia, New Zealand and South Africa:
Robert Bosch Pty. Ltd
Motorsport
1555 Centre Road
Clayton, Victoria, 3168
Australia
Tel.: +61 (3) 9541 3901
motor.sport@au.bosch.com