

# Hall-Effect Speed Sensor Mini-HA-P

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Invented for life



- ▶ Camshaft or wheel speed
- ▶ Max. frequency  $\leq 10$  kHz
- ▶ High vibration resistance
- ▶ Low weight
- ▶ Small housing

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 Mini-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 a very small housing.

## Application

Application	Speed
Max. frequency	$\leq 10$ kHz
Target wheel air gap	0.2 to 1.5 mm
Temperature range	-40 to 150°C
Output circuit	Open collector for 1 kOhm
Output type	Active low
External magnetic fields	$\leq 0.3$ mT
Max. vibration	1,200 m/s <sup>2</sup> at 10 Hz to 2 kHz

## Technical Specifications

### Variations

Connector	ASL 6-06-05PC-HE	1 234 482 092
Mating connector	ASL 0-06-05SC-HE	F 02U B00 555-01
Pin 1	U <sub>s</sub>	U <sub>s</sub>
Pin 2	Gnd	Sig
Pin 3	Sig	Gnd
Pin 4	Nc	-
Pin 5	Nc	-

### Mechanical Data

Weight w/o wire	19.2 g
Mounting	With screw 1 x M6
Bore diameter	11.5 mm
Installation depth L2	9 mm
Tightening torque	8 Nm

**Electrical Data**

Power supply	5 to 18 V
Current I <sub>S</sub>	10 mA

**Characteristic**

Accuracy repeatability of the falling edge of tooth	< 3 % ( $\leq 6$ kHz) < 5 % ( $\leq 10$ kHz)
Signal output	0.4 V to $< U_s$

**Environment**

Target wheel diameter D	162.34 mm
Thickness t	12.5 mm
Width of teeth b <sub>1</sub>	3.8 mm
Width of gap b <sub>2</sub>	4.7 mm
Width of sync. gap b <sub>3</sub>	20.79 mm
Depth of teeth h	3.4 mm
Number of teeth	60-2

**Connectors and Wires**

Connector	Please see Variations
Various motorsport and automotive connectors available on request.	
Sleeve	HT wire $\varnothing$ 5.2 mm
Wire size	AWG 20

Wire length L	< 27 cm
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Please specify the required wire length with your order.

**Installation Notes**

The Mini-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.

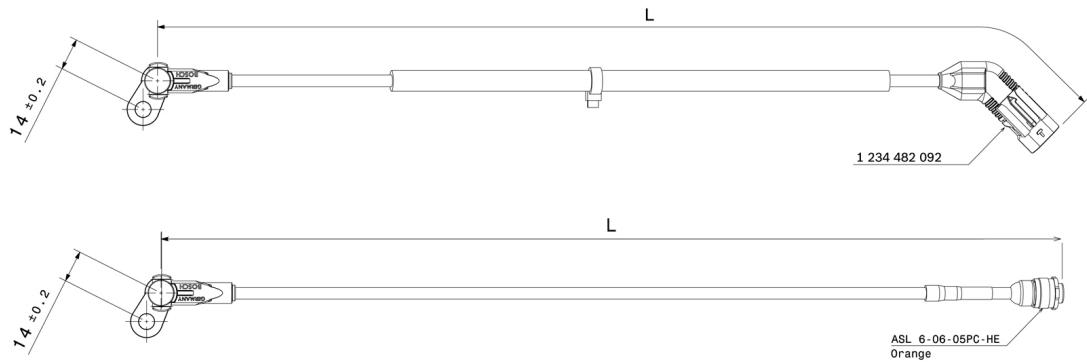
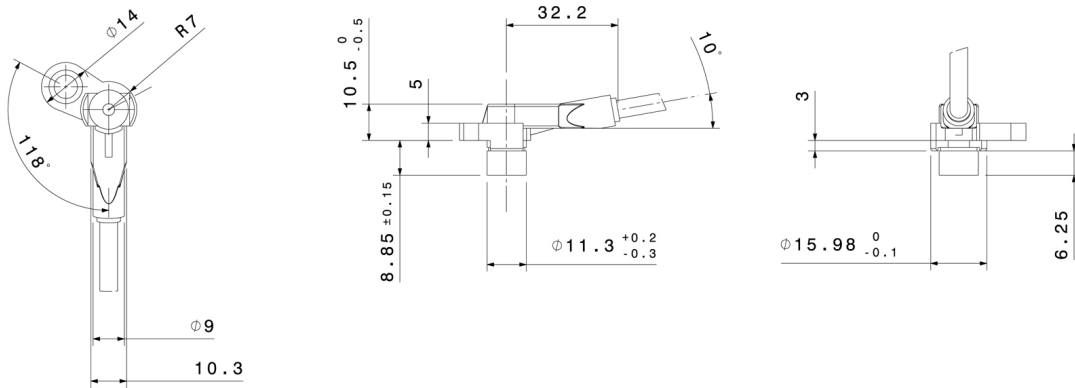
**Ordering Information****Mini-HA-P**

Connector ASL 6-06-05PC-HE  
Order number **F 02U V00 564-02**

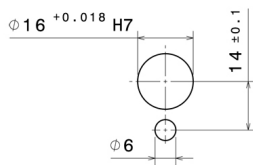
**Mini-HA-P**

Connector 1 234 482 092  
Order number **F 02U V00 566-02**

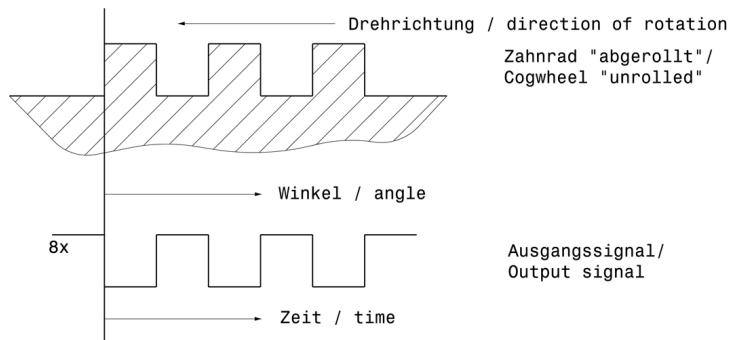
Dimensions

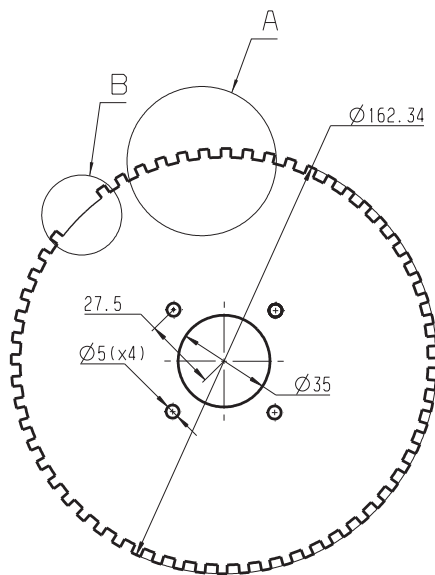


**Einbauvorschrift**  
Mounting requirement

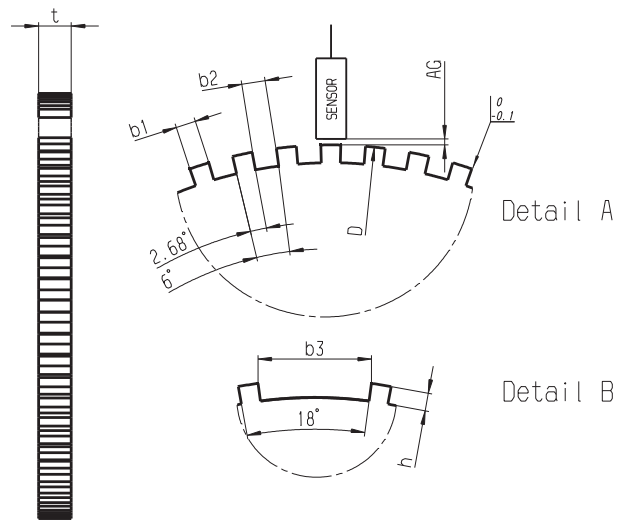


**Signal-Definition**  
Signal definition





60-2 Teeth



Left view

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