

# Speed Sensor Hall-Effect Mini-HA-P



- ▶ Max. frequency:  $\leq 10$  kHz
- ▶ Air gap: 0.2 to 1.0 mm
- ▶ Bore diameter: 11.5 mm
- ▶ Max. vibration:  $1,200 \text{ m/s}^2$  at 10 Hz to 2 kHz
- ▶ Weight w/o wire: 20 g

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 $150^\circ\text{C}$
Output circuit	Open collector for 1 kOhm
Output type	Active low
External magnetic fields	$\leq 0.3$ mT
Max. vibration	$1,200 \text{ m/s}^2$ at 10 Hz to 2 kHz

## Technical Specifications

### Variations

Connector	ASL606-05PC-HE	1234.482.092
Mating connector	ASL006-05SC-HE	F02U.B00.555-01
Pin 1	$U_s$	$U_s$
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 $I_S$	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 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	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
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.

### Legal Restrictions

Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

### Ordering Information

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

Connector ASL606-05PC-HE

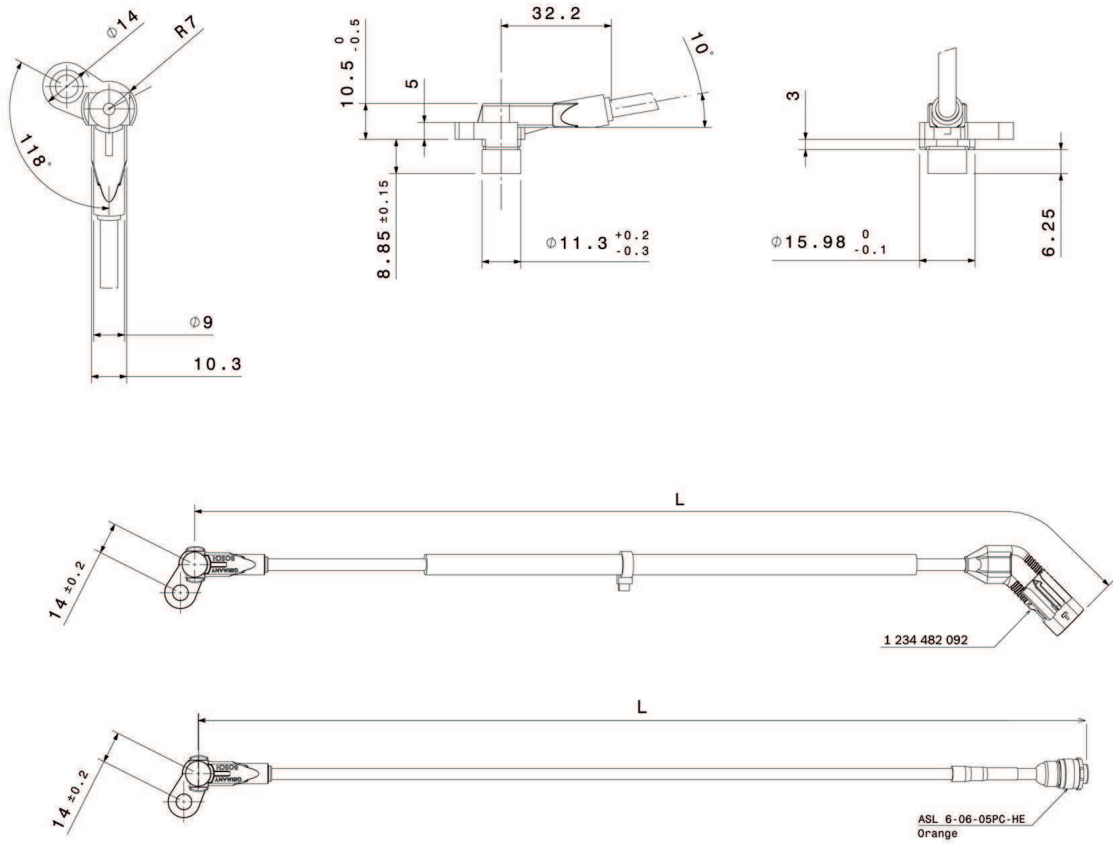
Order number **F02U.V00.564-03**

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

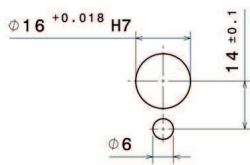
Connector 1 234 482 092

Order number **F02U.V00.566-02**

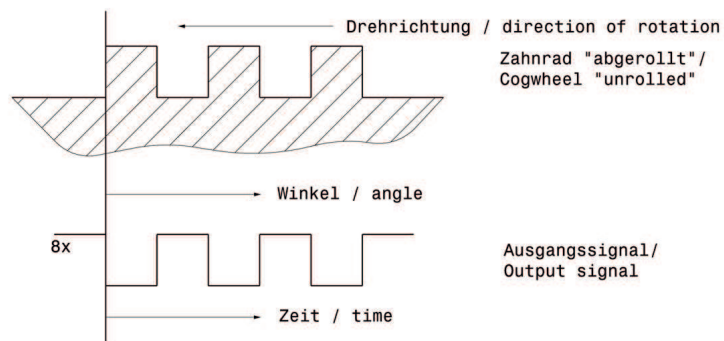
Dimensions

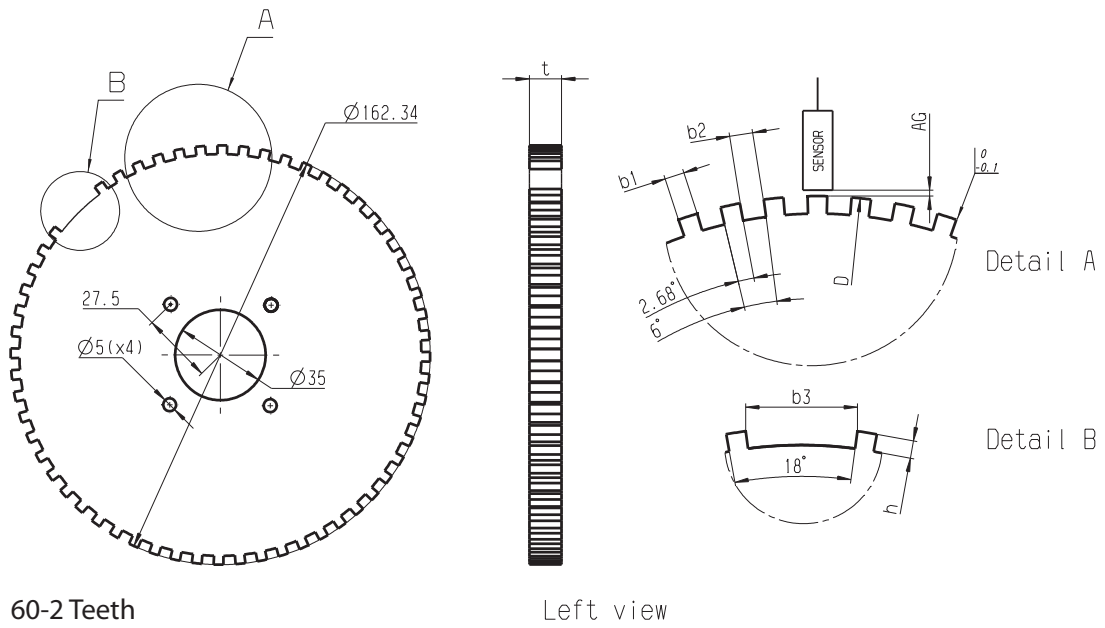


Einbauvorschrift  
Mounting requirement



Signal-Definition  
Signal definition





**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.  
 Motorsports Department  
 1-9-32 Nakagawa Chuo, Tsuzuki-ku  
 Yokohama City  
 Kanagawa Prefecture 224-8601  
 Japan  
 Tel.: +81 45 605 3032  
 Fax: +81 45 605 3059  
 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