

## Hall-Effect Speed Sensor HA-P2

This sensor is designed for incremental measurement of rotational speed (e.g. camshaft, crankshaft or wheelspeed).

Due to the rotation of a ferromagnetic target wheel in front of the HA-P2, 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, robust design, very small housing and low weight.



Application	
Application	speed
Max. frequency	≤ 10 kHz
Target wheel air gap	0.5 ... 2.5 mm
Temperature range	-40 ... 160 °C
Output circuit	open collector for 1 kΩ
Output type	active low
External magnetic fields	< 0.1 mT
Max. vibration	400 m/s <sup>2</sup> @ 10 Hz ... 2 kHz

Mechanical Data	
Weight w/o wire	12 g
Bore diameter	15 mm
Installation depth L <sub>2</sub>	15 mm
Mounting	with screw 1 x M6
Tightening torque	8 Nm

Characteristic	
Accuracy repeatability of the falling edge of tooth	up to 1.5 mm < 4 % (≤ 10 kHz)
	up to 2.5 mm < 8 % (≤ 10 kHz)
Signal output	0.4 V ... < U <sub>s</sub>

Electrical Data	
Power supply U <sub>s</sub>	4.75 ... 18 V
Current I <sub>s</sub>	10 mA

Connectors and Wires	
Connector	Hirschmann 872-658-501 Cod.A
Mating connector	Hirschmann 872-858-501 Cod.A
Pin 1	U <sub>s</sub>
Pin 2	Sig
Pin 3	Gnd
Various motorsport and automotive connectors available on request.	

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

### Application Hint

The HA-P2 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.

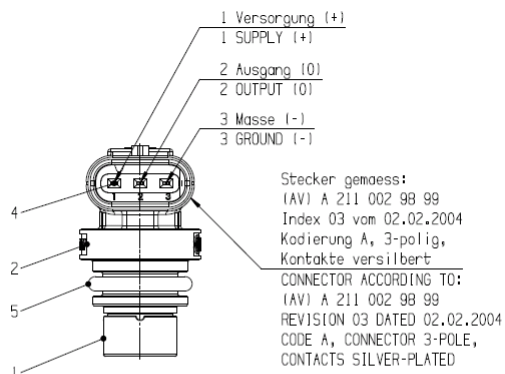
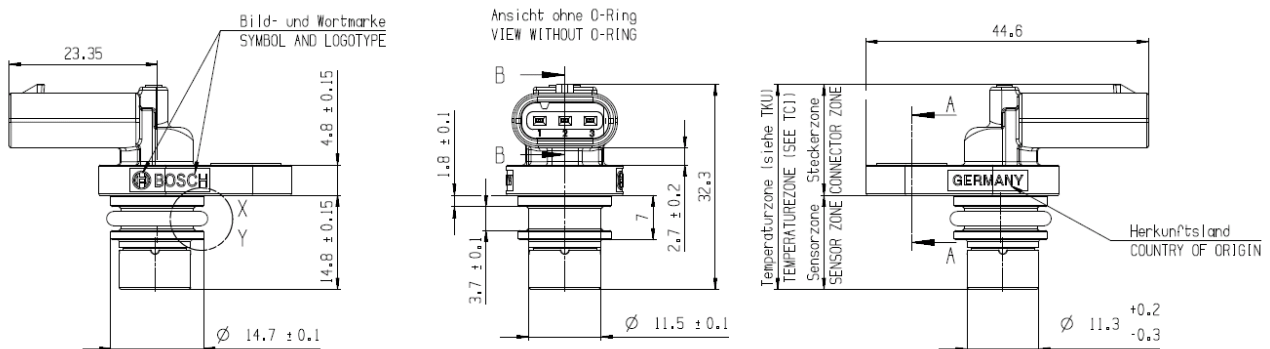
Please ensure that the environmental conditions do not exceed the sensor specifications.

Please find further application hints in the offer drawing (<http://www.bosch-motorsport.com>).

### Part Number

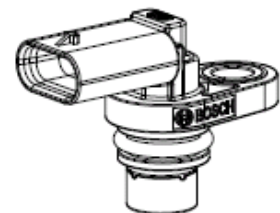
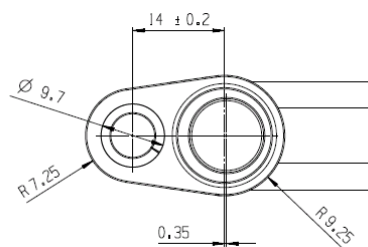
Speed Sensor Hall HA-P2

**0 232 103 111**

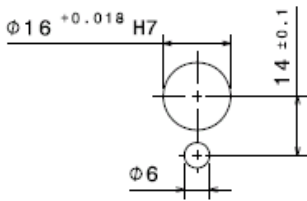


Steckverbindungseinzelteile:  
Steckergehäuse gemäss Hirschmann 805-121-521  
Kontakte gemäss Kostal 32124680890 in DOC00072546  
Einzeladerrichtungen gemäss DOC00072546

PLUG CONNECTION SYSTEM PARTS:  
CONNECTOR HOUSING ACC. TO HIRSCHMANN 805-121-521  
TERMINALS ACC. TO KOSTAL 32124680890 IN DOC00072546  
SINGLE WIRE SEALS ACC. TO DOC00072546



Einbauvorschrift  
Mounting requirement



Signal-Definition  
Signal definition

