

## Hall-Effect Speed Sensor HA-D 90

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-D, the magnetic field is modulated at the place of the Hall probe.

The main feature and benefit of this sensor is a very good detection of the falling edge, due to a differential measuring method. This sensor is a combination of a high quality production part and robust design with a small housing.



Application	
Application	speed
Max. frequency	≤ 10 kHz
Target wheel air gap AG	0.4 ... 1.0 mm
Temperature range	-40 ... 150 °C
Output circuit	open collector for 1 kΩ
Output type	Active high
External magnetic fields	≤ 50 mT
Max. vibration	1,200 m/s <sup>2</sup> @ 10 Hz ... 2 kHz

Connectors and Wires	
Connector	ASL 6-06-05PC-HE
Mating connector	ASL 0-06-05SC-HE
Pin 1	Us
Pin 2	Gnd
Pin 3	Sig
Pin 4	-
Pin 5	-
Various motorsport and automotive connectors available on request.	
Sleeve	DR-25
Wire size	AWG 24
Wire length L	15 ... 100 cm
Please specify the required wire length with your order.	

Mechanical Data	
Weight w/o wire	12 g
Mounting	with screw 1 x M6
Bore diameter	11.8 mm
Installation depth L <sub>2</sub>	30 mm
Tightening torque	6 Nm

Electrical Data	
Power supply	5 ... 18 V
Current I <sub>s</sub>	20 mA

Characteristic	
Accuracy repeatability of the falling edge of tooth	< 1.0 % (≤ 6 kHz) < 1.5 % (≤ 10 kHz)
Signal output	0.52 V... < Us

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-D 90 can be connected directly to most control units and data logging systems

Please specify the angle between the mounting and the target wheel.

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 HA-D 90

**F 02U V00 334-01**

