Speed Sensor Hall-Effect HA-M



- Max. frequency: ≤ 4.2 kHz
- Air gap: 0.5 to 1.0 mm
- Bore diameter: 11.8 mm
- Max. vibration: 1,200 m/s² at 10 Hz to 2 kHz
- Weight w/o wire: 12 g

This sensor is designed for incremental measurement of rotational speed (e.g. camshaft, crankshaft or wheel speed).
Due to the rotation of a ferromagnetic target wheel in front of the HA-M, 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. We offer this sensor with two different types of output: Active high and Active low.
The main feature and benefit of this sensor is the combination of a high quality production part and robust design with metal housing and motorsport connectors.

Application

Application	Speed
Max. frequency	≤ 4.2 kHz
Target wheel air gap	0.5 to 1.5 mm
Temperature range	- 40 to 160°C
Output circuit	Open collector for 1 kOhm
Output type	Please see Ordering Information
External magnetic fields	< 1 mT
Max. vibration	1,200 m/s² at 10 Hz to 2 kHz

Technical Specifications

Variations

Active low with connector / active high with connector	
Connector	ASU603-03PN-HE
Mating connector ASU003-03SN-HE	F02U.000.199-01
Pin 1	U_S
Pin 2	Gnd
Pin 3	Sig
Active high, without connector	
Red	U_S
Black	Gnd
Green	Sig

Mechanical Data

Weight w/o wire	12 g
Mounting	1 x M6
Bore diameter	11.8 mm
Installation depth L2	30 mm
Tightening torque	6 Nm

Electrical Data

Power supply	5 to 18 V
Current I_S	5.6 to 18 mA

Characteristic

Accuracy repeatability of the falling edge of tooth	< 4 % (≤ 4.2 kHz)
Signal output	0.52 V to < Us

Connectors and Wires

Various motorsport and automotive connectors available on request.	
Pin layout	Please see Variations
Sleeve	DR-25
Wire size	AWG 24
Wire length L	10 to 100 cm

Please specify the required wire length with your order.

Installation Notes

The HA-M 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

Generally blocked are direct and indirect business involving high risk destinations, including Russia, Belarus, Cuba, Iran, North Korea, Syria, Libya, Afghanistan, and certain non-governmental controlled Ukrainian regions. This list may change as geopolitics evolve.

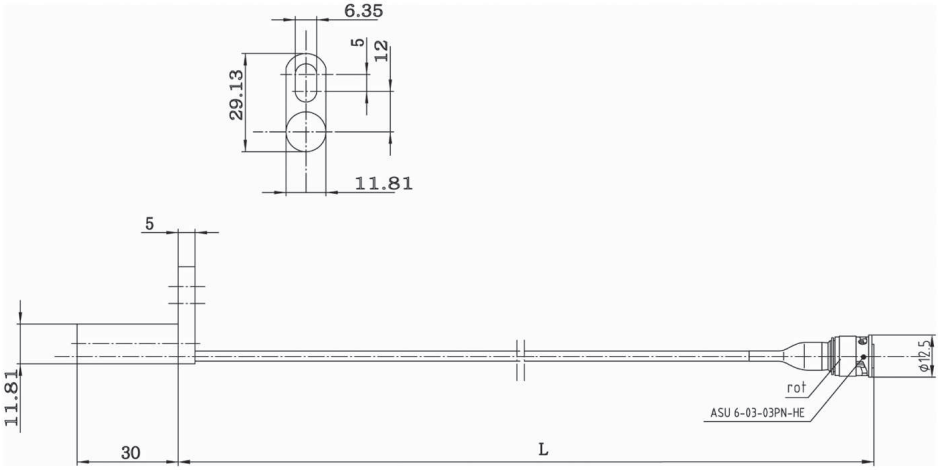
Ordering Information

Speed Sensor Hall Effect HA-M
Active low
Order number **B261.209.283-01**

Speed Sensor Hall Effect HA-M
Active high
Order number **B261.209.295-01**

Speed Sensor Hall Effect HA-M
Active high, without connector
Order number **F02U.V00.627-01**

Dimensions



Represented by:

Europe:
Bosch Engineering GmbH
Motorsport
Robert-Bosch-Allee 1
74232 Abstatt
Germany
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
motorsport@bosch.com
www.bosch-motorsport.com

Asia-Pacific:
Bosch Engineering Japan K.K.
Motorsports Department
1-9-32 Nakagawachuo, Tsuzuki-ku
Yokohama-shi
Kanagawa, 224-8601
Japan
motorsport@jp.bosch.com
www.bosch-motorsport.jp

Australia, New Zealand and South Africa:
Robert Bosch Pty. Ltd
Motorsport
1555 Centre Road
Clayton, Victoria, 3168
Australia
motor.sport@au.bosch.com
www.bosch-motorsport.com.au

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