

## Inductive Speed Sensor IS-C

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

The inductive sensor consists of a bar magnet with a soft magnetic pole pin supporting an induction coil with two connections. When a ferromagnetic ring gear turns past this sensor, it generates a voltage in the coil which is directly proportional to the periodic variation in the magnetic flux. The rotational speed is reflected on a periodic interval between the voltage's zero transition points.

The main benefit of this sensor is the combination of a high quality production part with very compact design, and high temperature resistance.



### Application

Application	speed
Max. frequency	≤ 15 kHz
Target wheel air gap AG	0.8 ± 0.3 mm
Operating temp. range (sensing head)	-40 ... 230 °C
Storage temperature range	0 ... 100 °C
Max. vibration	800 m/s <sup>2</sup> max. 80 h

### Electrical Data

Coil resistance	340 Ω
Inductance max.	64 mH

### Mechanical Data

Magnetic pole	round
Bore diameter	12.9 mm
Tightening torque	8 Nm
Weight w/o wire	25 g
Installation depth L <sub>2</sub>	24.1 mm

### Environment

Target wheel diameter D	160.43 mm
Thickness t	> 5 mm
Width of teeth b <sub>1</sub>	4.1 mm
Width of gap b <sub>2</sub>	4.3 mm
Depth of teeth h <sub>1</sub>	3.5 mm
Depth of teeth h <sub>2</sub>	1.75 mm
Number of teeth	60-2

**Connectors and Wires**

Connector	ASL 6-06-05SN-HE
Mating connector	ASL 0-06-05PN-HE
Pin 1	-
Pin 2	GND
Pin 3	Sig
Pin 4	-
Pin 5	Scr
Various motorsport and automotive connectors are available on request.	
Sleeve	DR-25
Wire	AWG 24
Wire length	max. 50 cm
Please specify the required wire length with your order.	

**Application Hint**

The inductive speed sensor IS-C is developed for wheels made of ferromagnetic material.

If a wheel with different dimensions is used (see Environment), the technical function has to be tested individually.

This sensor is also available with a M10x1 male thread.

Please contact our technical consultancy for more information.

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

**Part Number**

Inductive Speed Sensor IS-C **B 261 209 609**

$$U_a = f(\text{rpm, airgap})$$



