

Knock Sensor KS-R

This sensor is used for detecting structural born vibrations in spark ignition engines due to uncontrolled combustion. This sensor is suitable for operation in extreme conditions.

Due to the inertia of the seismic mass, the sensor moves in correlation to the engine block vibration; this motion results in a compressive force which is converted into a voltage signal via a piezoceramic sensor element. As a result, upper and lower voltage thresholds can be defined directly correlating to an acceleration magnitude.

The main benefits of this sensor are its robust mechanical design, compact housing and precise determination of structure-related noise. Connection to this sensor can be tailored to customer requirements through specified wire lengths and various connector options.



Application	
Application	1 ... 20 kHz
Operating temperature range	-40 ... 130 °C
Storage temperature range	0 ... 100 °C
Max. vibration	≤ 800 m/s ²

Mechanical Data	
Male thread (for cast)	M8 x 25
Male thread (for Al)	M8 x 30
Installation torque	20 ± 5 Nm
Weight w/o wire	82 g
Protection	IP 54

Electrical Data

Range of frequency	1 ... 20 kHz
Sensitivity @ 5 kHz	26 ± 8 mV/g
Max. sensitivity changing (life time)	-17 %
Linearity between 5 ... 15 kHz (from 5 kHz value)	-10 ... 20 %
Linearity between 15 ... 20 kHz (linear increasing with freq)	20 ... 50 %
Main resonance frequency	> 25 kHz
Impedance	> 1 MΩ
Temperature dependence of sensitivity	-0,06 mV/g °C
Capacity field	800 ... 1400 pF

Application Hint

The KS-R sensor can be connected to all Bosch Motorsport ECU featuring knock control.

The sensor must rest directly on the brass compression sleeve during operation.

To ensure low-resonance coupling of the sensor to the measurement location, the contact surface must be clean and properly machined to provide a secure flush mounting.

The sensor cable is to be routed such that no resonance vibration can occur.

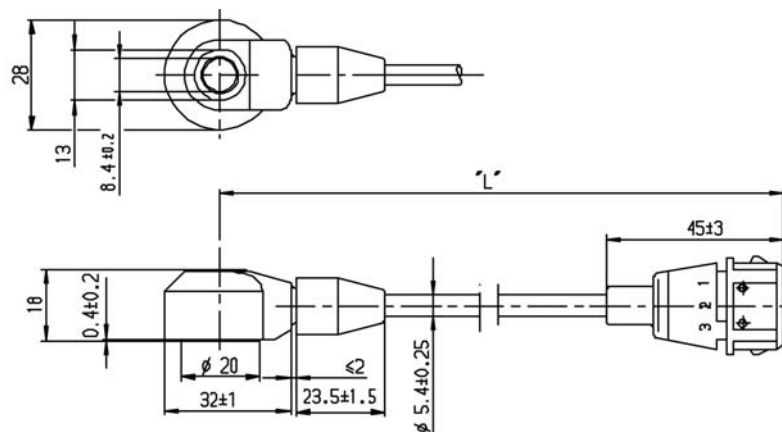
Please find further application hints in the offer drawing (<http://www.bosch-motorsport.com>).

Connectors and Wires

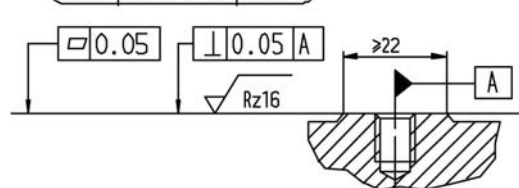
Connector	A 261 230 076
Mating connector	D 261 205 289
Pin 1	Sig +
Pin 2	Sig -
Pin 3	Scr
Sleeve	Elastomer
Wire size	AWG 24
Wire length L	50 cm
Various motorsport and automotive connectors on request.	
Please specify the required wire length with your order.	

Part Number

Knock Sensor KS-R **0 261 231 047**



Beispiel/example/:



Sensor darf nur auf seinen Metallflächchen aufliegen (keine Sicherungsscheiben verwenden)
Only the metallic part of the sensor may have contact with the engine (no washers are to be used)

Auflagefläche soll rotationssymmetrisch zur Gewindebohrung bearbeitet werden.
The contact surface must be machined rotationally symmetrical to the threaded bore.