

Knock Sensor KS-P

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. The small packaging is accomplished by integrating the connector directly to the sensor.



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)	M8x25
Male thread (for Al)	M8x30
Installation torque	20 ± 5 Nm
Weight w/o wire	48 g
Protection	IP 54

Electrical Data	
Range of frequency	1 ... 20 kHz
Sensitivity @ 5 kHz	26 ± 8 mV/g
Max. sensivity 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-P sensor can be connected to all Bosch Motorsport ECUs 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	Y 280 A62 566A
Mating connector	D 261 205 337
Pin 1	Sig +
Pin 2	Sig -
Various motorsport and automotive connectors on request.	

Part Number	
Knock Sensor KS-P	0 261 231 120

