

DATA SHEET



Ceramic pressure sensors DS-KE-D-RXX

Description



Technical Data

Ceramic pressure sensors	
Measuring principle	Pressure measuring cell in thick film technology
Measuring range	1,6...600 bar, 14 Types
Output signal	1...4 mV / V
Linearity / Hysteresis / Reproducibility	$< \pm 0,2...1,5$ % FS
Zero point -Offset	$< \pm 0,2$ mV / V (optional $< \pm 0,1$ mV / V)
Stability	$< \pm 0,4$ % FS / a at 25 °C
Application temperature range	-40...105 °C
Temperature error Offset	$< \pm 0,02$ % FS / K
Temperature error Gain	0...70 °C $< \pm 0,01$ % FS / K -25...0 / 70...85 °C $< \pm 0,012$ % FS / K -40...-25 / 85...105 °C $< \pm 0,015$ % FS / K
Resistance value	10 kΩ
Resistance tolerance	± 20 %
Bridge supply voltage	5...30 V
Insulation resistance	1 GΩ at 500 VDC 25 °C, 75 % RH
Breakdown strength	2000 V DC
Dimensions	Ø18 ±0,1 x 6,35 mm
Connection	Flat cable, RM 1.27 x 40 mm long

Characteristic features

- Application range of 1.6 to 600 bar
- For measurement of relative pressure
- Temperature compensated
- Robust, medium resistant model
- Monolithic ceramic technology
- Simple assembly
- Water and oil resistant
- With connection leads
- OEM specific solutions

Typical areas of application

- Pneumatics
- Hydraulics
- Pressure transmitter
- Electronic pressure switch
- Brake systems
- Printing machines
- Fork lift trucks

Features

The pressure sensors of series DS-KE-R are ceramic measuring cells in thick film technology for measurement of static and dynamic relative pressure in liquids and gases. Typical areas of application are in the field of pneumatics, hydraulics and in industrial applications.

Because the material is a ceramic (Al₂O₃), the sensor has an outstanding stability against aggressive and corrosive media.

The delivery spectrum covers the entire pressure range of 1.6...600 bar FS with 14 variants for different measuring ranges. The outer dimensions of all the types are maintained same so that they can be fitted in the same mechanical housing construction.

The sensor is made up in the form of a full wheatstone bridge. The output signal is a pressure dependent differential voltage, that can be directly processed further with an instrument amplifier or an ASIC.

The sensor is temperature compensated, hence in most of the applications, the circuit design efforts are reduced to only simple zero point and gain setting.

A printed circuit board, matching with the sensor, is available which gives out an processed and calibrated voltage output of 0...10 V or current output of 4...20 mA.

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Delivery spectrum

Measuring range	Bursting pressure	Ordering No.
1,6 bar	4 bar	DS-KE-D-R1B6
2,5 bar	6,25 bar	DS-KE-D-R2B5
4 bar	10 bar	DS-KE-D-R4B
6 bar	15 bar	DS-KE-D-R6B
10 bar	25 bar	DS-KE-D-R10B
16 bar	40 bar	DS-KE-D-R16B
25 bar	62,5 bar	DS-KE-D-R25B
40 bar	100 bar	DS-KE-D-R40B
60 bar	150 bar	DS-KE-D-R60B
100 bar	175 bar	DS-KE-D-R100B
160 bar	280 bar	DS-KE-D-R160B
250 bar	400 bar	DS-KE-D-R250B
400 bar	700 bar	DS-KE-D-R400B
600 bar	1050 bar	DS-KE-D-R600B

Options

The standard models are supplied with 4-core flat cable, RM 1.27 mm. The standard temperature measuring range is right from $-40 \dots 105 \text{ }^\circ\text{C}$. Extended temperature ranges up to $135 \text{ }^\circ\text{C}$ are also available for special applications. Special calibrations of the TK at other temperature are also possible for large order quantities.

You can get further support for integration into your application - please contact us!

For further information visit our website please:
www.bb-sensors.com

