

# DATA SHEET

## Ceramic pressure sensors 0391 0001-\*

**B+B**  
SENSORS

### 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	$< \pm 0,2...1,5 \% \text{ FS}$
Zero point –Offset	$< \pm 0,2 \text{ mV / V}$ (optional $< \pm 0,1 \text{ mV / V}$ )
Stability	$< \pm 0,4 \% \text{ FS / a}$ at 25 °C
Application temperature range	-40...105 °C
Temperature error Offset	$< \pm 0,02 \% \text{ FS / K}$
Temperature error Gain	0...70 °C $< \pm 0,01 \% \text{ FS / K}$ -25...0 / 70...85 °C $< \pm 0,012 \% \text{ FS / K}$ -40...-25 / 85...105 °C $< \pm 0,015 \% \text{ FS / K}$
Resistance value	10 kΩ
Resistance tolerance	$\pm 20 \%$
Bridge supply voltage	5...30 V
Insulation resistance	1 GΩ at 500 VDC 25 °C, 75 % RH
Breakdown strength	2000 V DC
Dimensions	$\varnothing 18 \pm 0,1 \times 6,35 \text{ mm}$
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

- Food technology
- Pneumatics
- High pressure
- Fuel pumps
- Gases
- Fuel cells

### 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 (Al<sub>2</sub>O<sub>3</sub>), 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.

In general the B+B pressure sensors are medium resistant. However we recommend to prove the media compatibility with critical mediums such as electroplating applications (iron trichloride) or oils with undefined additives .

# DATA SHEET



## Ceramic pressure sensors 0391 0001-\*

### Delivery spectrum

Measuring range	Bursting pressure	Ordering No.
1,6 bar	4 bar	0391 0001-05
2,5 bar	6,25 bar	0391 0001-09
4 bar	10 bar	0391 0001-12
6 bar	15 bar	0391 0001-15
10 bar	25 bar	0391 0001-02
16 bar	40 bar	0391 0001-04
25 bar	62,5 bar	0391 0001-08
40 bar	100 bar	0391 0001-11
60 bar	150 bar	0391 0001-14
100 bar	175 bar	0391 0001-01
160 bar	280 bar	0391 0001-03
250 bar	400 bar	0391 0001-07
400 bar	700 bar	0391 0001-10
600 bar	1050 bar	0391 0001-13

### 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](http://www.bb-sensors.com)

