Type FER18

OEM-PRESSURE SENSOR CERALITE ® FER18

CERALITE is a piezoresistive sensor on a ceramic base. It is rugged, corrosion and abrasion resistant which makes it particularly suitable for industrial OEM applications. These sensors have a wide operating temperature range of -40°C to 125°C combined with high stability and accuracy. These features make them ideal for process control purposes in automatic machinery and instrumentation.
CERALITE allows **direct contact of the fluid with the measuring cell** and is easy to handle. Its small 18 mm diameter allows for easy installation into almost all applications. Due to the special **monolithic** sensor design they are available as relative pressure cells between **2 to 100** bar**.

- **Monolithic ceramic cell design**
  ⇨ improved stability and linearity
- **Temperature compensated**
- **Trimmed zero balance**
- **Optional sensitivity trimmed**
- **Excellent corrosion and abrasion resistance**
- **Shock and vibration resistant**
- **Easy installation**
  ⇨ one sensor thickness for all ranges
- **Competitive price**



Description

The piezoresistive effect can be observed in a great variety of materials. On CERALITE, a special, proprietary piezoresistive material is applied onto a ceramic diaphragm by using thick film techniques. This gives high sensitivity and stability over a wide temperature range.

The pressure acts directly on the front face of the ceramic diaphragm. Therefore **almost any fluid** can be measured because ceramic offers unequalled resistance against aggressive media. The screen-printed resistors on the opposite face of the diaphragm are connected to a closed Wheatstone bridge. The output from the bridge is highly linear and the output signal is proportional to the excitation voltage. The standard **output signal is untrimmed within 1,6 and 4,0 mV/V and is fully strain gauge compatible.**

The sensors normally are delivered **thermally compensated** and with trimmed zero. Sensitivity is not trimmed standard but is available as option. If sensors are used in a very small temperature band, part of the trimming could be reduced to lower the cost.

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All information is the best representation of actual knowledge. All data is subject to change. Kristal does not assume any liability arising out of the application or use of any product or circuit described herein.

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KRISTAL

Technical Data

Pressure Ranges

Range	bar rel.	2	5	10	20	50	100**
Overload	bar	7	12	25	50	120	250

Excitation			VDC/stabilized	5...30
Bridge resistance			kΩ ±20%	11
Full scale signal	untrimmed		mV/V ±1%FS	1,5...4,5*
Zero measurand output			mV/V	0...-0,2
Linearity, Hysteresis & Repeatability			%FSO typ.	≤±0,15...0,35
Stability			%FSO/a @25°C, typ.	≤±0,2
			%FSO/a @25°C, max.	≤±0,4
Reference temperature			°C	25
Compensated temperature range			°C	0...70
Operating temperature range			°C	-40...+125
Thermal sensitivity shift		0...70°C	%FS/°C typ.	≤±0,005
Thermal zero shift		0...70°C	%FS/°C typ.	≤±0,04
		optional	%FS/°C typ.	≤±0,02

Material: Ceramic Al_2O_3, 96%

Dimensions: ø18 x 6,35 ±0,05 mm

Values correspond to reference temperature of 25°C.
Other pressure and temperature ranges available on request.
Sensitivity trimmed cells on request
****Higher pressure ranges on request***

Ordering Code

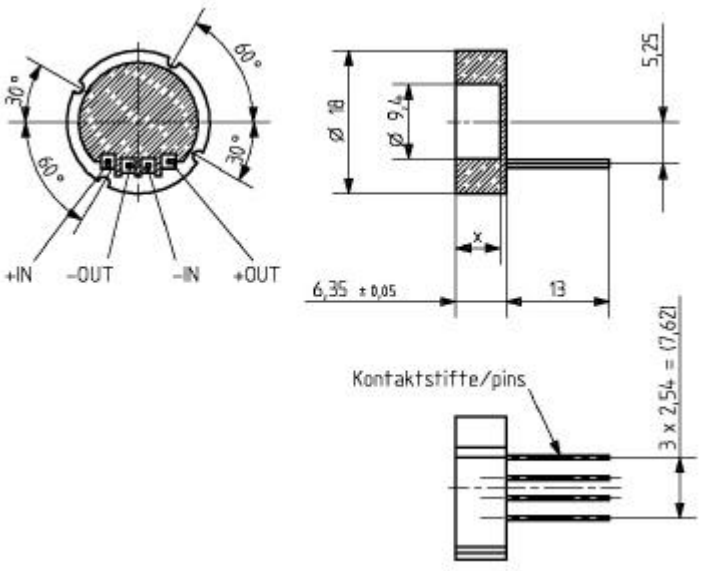
FER18 x xxx x Ceramic Cell ø18mm

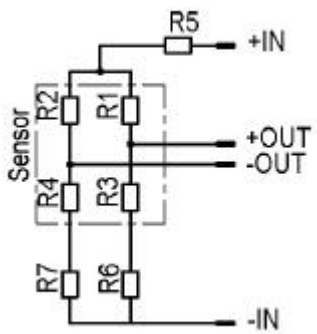
R ..... Relative Pressure

2 ..... Range
5 .....
10 .....
20 .....
50 .....
100** .....

B ..... Range in bar

Dimensions





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