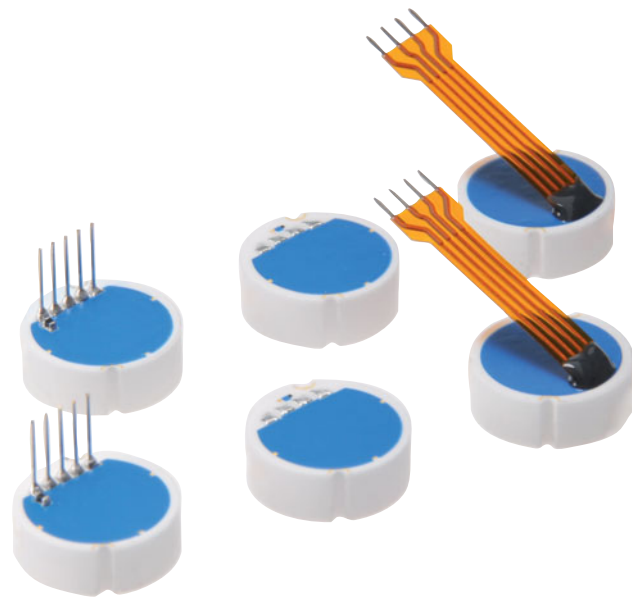


OEM Relative pressure measuring cell 509

Pressure range
0 ... 2.5 – 250 bar



Type 509 pressure measuring cells are based on ceramic technology developed by Huba Control, and used for the last 15 years in millions of applications.

Due to the robust design of the ceramic cell there are no significant changes in the sensor characteristics when mounted by the customer. The pressure measuring cells are delivered either factory set or with TK zero point adjustment. You can choose between various versions including temperature measurement.

- Negligible temperature influence on accuracy
- No customer specific adjustment of zero point and temperature compensation necessary
- Easy mounting
- Overload secure up to rupture pressure

Technical Overview

Pressure range

Relative	0 ... 2.5 – 250 bar
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Operating conditions

Medium		Liquids and neutral gases
Temperature	FPM	-15 ... +125 °C
	NBR	-25 ... +85 °C
	FPM spec.	-30 ... +150 °C
	Storage	-40 ... +130 °C
	in packaging	-40 ... +65 °C
Temperature influences in range -30 ... +125 °C	Zero point	max. $\pm 0.2\%$ fs/10K with TC adjustment max. $\pm 1\%$ fs/10K without TC adjustment
	Span	-0.12 $\pm 0.1\%$ fs/10K
Overload / Rupture pressure ¹⁾	≤ 4 bar	3 x fs
	≥ 6 bar	2.5 x fs
Humidity protection		AHT, 20 days acc. DIN EN ISO 6270-2

Material in contact with the medium

Sensor	Ceramic Al ₂ O ₃ (96%)
Sealing material	FPM, NBR, FPM spec.

Electrical data

Bridge impedance	10 kOhm $\pm 20\%$
Power supply	3 ... 30 VDC
Insulation voltage	2000 VDC
ESD-handling	Necessary
Electromagnetic compatibility	The product is designed exclusively for installation in equipment. The customer is responsible for CE conformity.

Dynamic response

Response time	< 1 ms
Load cycle	< 100 Hz

Electrical connector

Bondpads (AgPd) RAST 1.27	
Flexible connector RAST 2.54	Length 66 mm
	Length 28 mm
Pin connector	Length 9 mm
	Length 13 mm
Pin connector with temperature measuring (NTC 10kOhm $\pm 3\%$, $\beta = 3800$ K $\pm 3\%$)	Length 9 mm
	Length 13 mm

Assembly / housing

According to recommendation of Huba Control with special assembly instructions
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Weight

~ 5 g

Packaging (multiple)

Cells with bondpads / Pin connector in covering box	5 Blister (96 pcs.)	480 pcs.
Cells with flexible connector in covering box	5 Blister (80 pcs.)	400 pcs.

Accuracy

Parameter	Unit	
Zero point	mV / V	0.2 \pm 0.2
Span at nominal pressure	mV / V	2.5 \pm 1.5
Resolution	% fs	0.1
Linearity (BFSC) max.	% fs	\pm 0.3
Hysteresis and repeatability max.	% fs	\pm 0.2
Long term stability acc. to DIN EN 60770	% fs	\pm 0.5

¹⁾ Higher overload / higher rupture pressure on request

Order code selection table

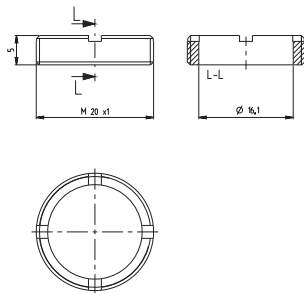
509. X X X X X

Relative pressure	axial sealed	9				
	radial sealed	R				
Pressure range ¹⁾	0 ... 2.5 bar		1	4		
	0 ... 4 bar		1	5		
	0 ... 6 bar		1	7		
	0 ... 10 bar		3	0		
	0 ... 16 bar		3	1		
	0 ... 25 bar		3	2		
	0 ... 40 bar		3	3		
	0 ... 60 bar		4	0		
	0 ... 100 bar	9	4	1		
	0 ... 160 bar	9	4	2		
	0 ... 250 bar	9	4	3		
▲ Full scale signal at these pressure						
Adjustment	Factory adjusted only zero point and TC ²⁾ zero point					1
	Factory adjusted only zero point					2
Electrical connection	Bondpads					1 G
	Flex connection	Length: 28mm				1 K
	Flex connection	Length: 66mm				1 L
	Pin connection	Length: 9mm				2 M
	Pin connection	Length: 13mm				2 N
	Pin connection with temperature measuring	Length: 9mm				2 O
	Pin connection with temperature measuring	Length: 13mm				2 P

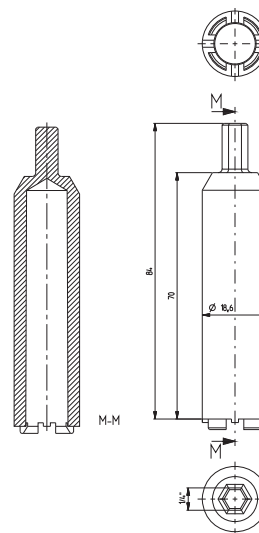
Accessories ³⁾

	Order number
O-ring FPM ≤ 60 bar	105598
O-ring NBR ≤ 60 bar	105145
O-ring FPM spec. ≤ 60 bar	109338
O-ring FPM ≥ 100 bar	105285
O-ring NBR ≥ 100 bar	104952
O-ring FPM spec. ≥ 100 bar	102321
Back-up ring teflon ≥ 100 bar	114660
Clam screw M20x1	112151
Screw insert for clam screw	112187

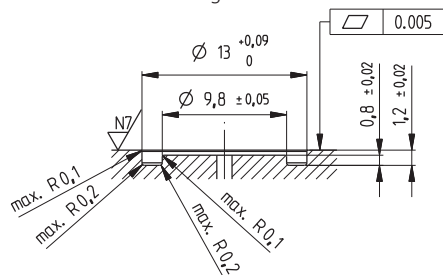
Clamp screw



Screw insert



Recommended groove dimensions for o-ring Ø 10 x 1.5

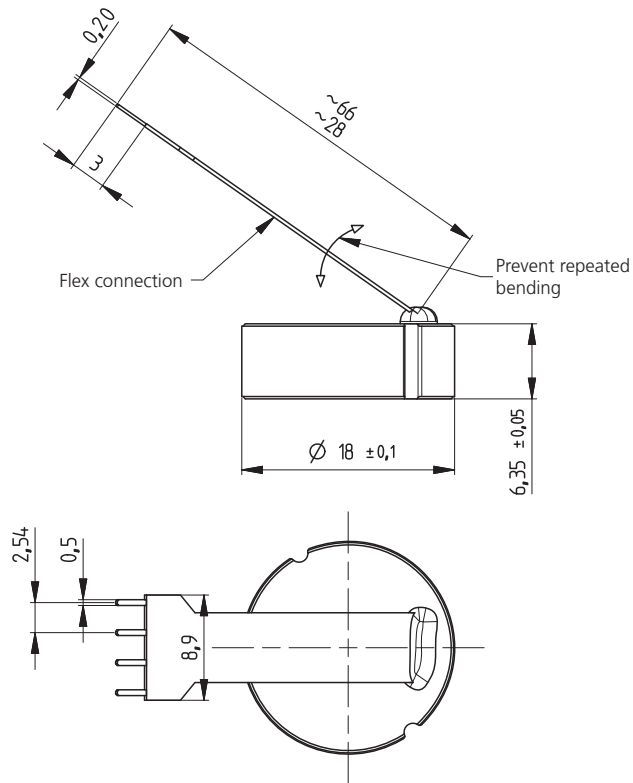


¹⁾ Other pressure range on request

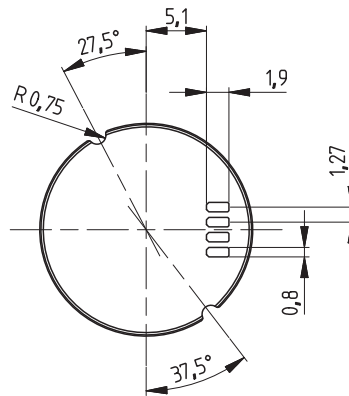
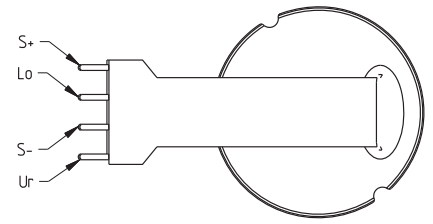
²⁾ TC = Temperature coefficient

³⁾ Accessories supplied loose

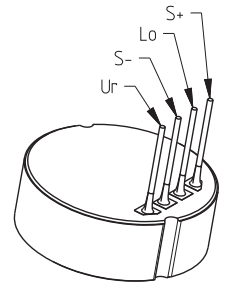
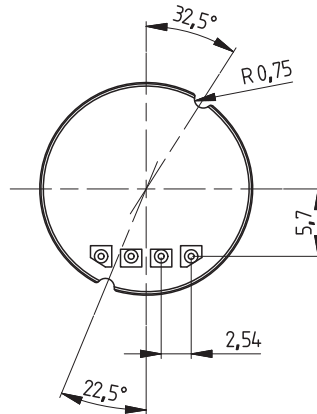
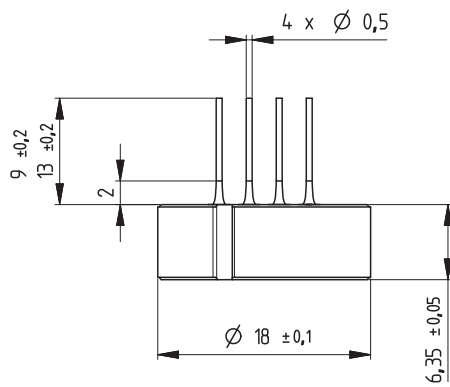
Flex connection



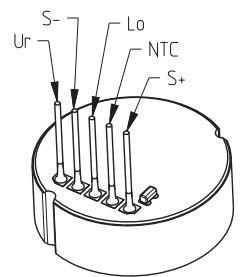
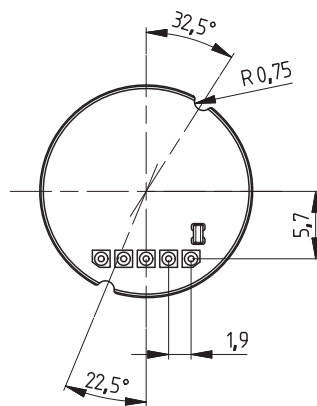
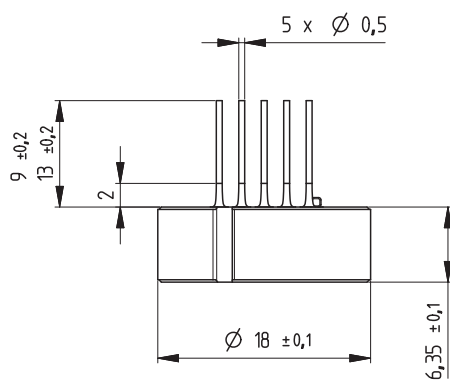
Bondpads



Pin connection 4 Pins

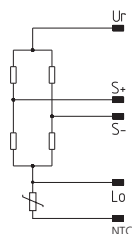
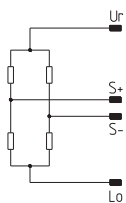


Pin connection 5 Pins with temperature measuring



without NTC

with NTC



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