

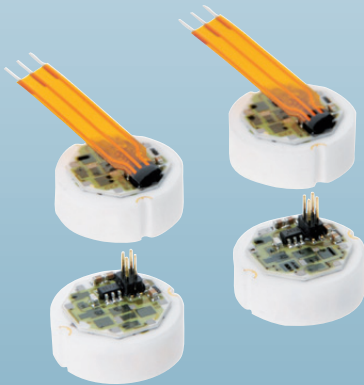


Measuring cell

OEM Relative and absolute pressure measuring cell Type 513

Type 513 pressure measuring cells have an adjusted, amplified sensor signal. They are especially suitable for high volume OEM applications.

The unique integrated electronics allow installation without the need for temperature and pressure adjustment by the customer.



Pressure range
-1 ... 0 – 600 bar

- + Integrated amplifier electronics
- + No customer specific adjustment necessary
- + Excellent EMC capacity by reinforcement on measuring cell
- + Easy and quick fitting
- + Negligible temperature influence on accuracy

Technical overview

Pressure range ¹⁾

Relative	-1 ... 0 – 600 bar
Absolute	0 ... 1 – 25 bar

Operating conditions

Medium		Liquids and 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 at range -30 ... +125 °C	TC-zero point ²⁾	max. ± 0.15% fs/10K
	TC-full scale ²⁾	max. ± 0.15% fs/10K
Overload / rupture pressure ³⁾	≤ 4 bar	3 x fs
	> 4 bar	2.5 x fs
	> 60 bar	2.0 x fs
Humidity protection (optional)		KFW, 20 days acc. DIN 50017

Material in contact with the medium

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

Electrical overview

Output	with full scale adjustment	ratiom. 10 ... 90%
	without full scale adjustment	ratiom. 10 ... 60% ±1.2 V
Power supply		5 VDC ±5%
Load		> 10 kOhm / < 100 nF
Current consumption	At nominal pressure without load	< 4 mA
ESD-handling		Necessary
Electromagnetic compatibility	The product is designed exclusively for installation in equipment which complies with EU directives. The customer is responsible for CE conformity.	

Dynamic response

Response time	< 2 ms, typ. 1 ms
Load cycle	< 100 Hz

Electrical connections

Connector RAST 1.27
Flex connection RAST 2.54

Installation arrangement

According to recommendation of Huba Control with special assembly instructions

Weight

~ 5 g

Packaging (multi packaging)

With connector in covering box	5 Blisters 96 pcs each	(= 480 pcs)
With flex connection in covering box	5 Blisters 80 pcs each	(= 400 pcs)

Accuracy

Parameter	Unit	
Tolerance zero point with full scale adjustment	% fs	± 0.5
Tolerance full scale with full scale adjustment	% fs	± 0.5
Tolerance zero point without full scale adjustment	V	0.5 ± 0.02
Tolerance full scale without full scale adjustment	V	3.0 ± 1.2
Resolution	% fs	0.1
Total of linearity, hysteresis and repeatability	max. % fs	± 0.3
Barometric sensor	max. % fs/10K	± 0.5
Long term stability acc. to DIN EN 60770	% fs	± 0.5

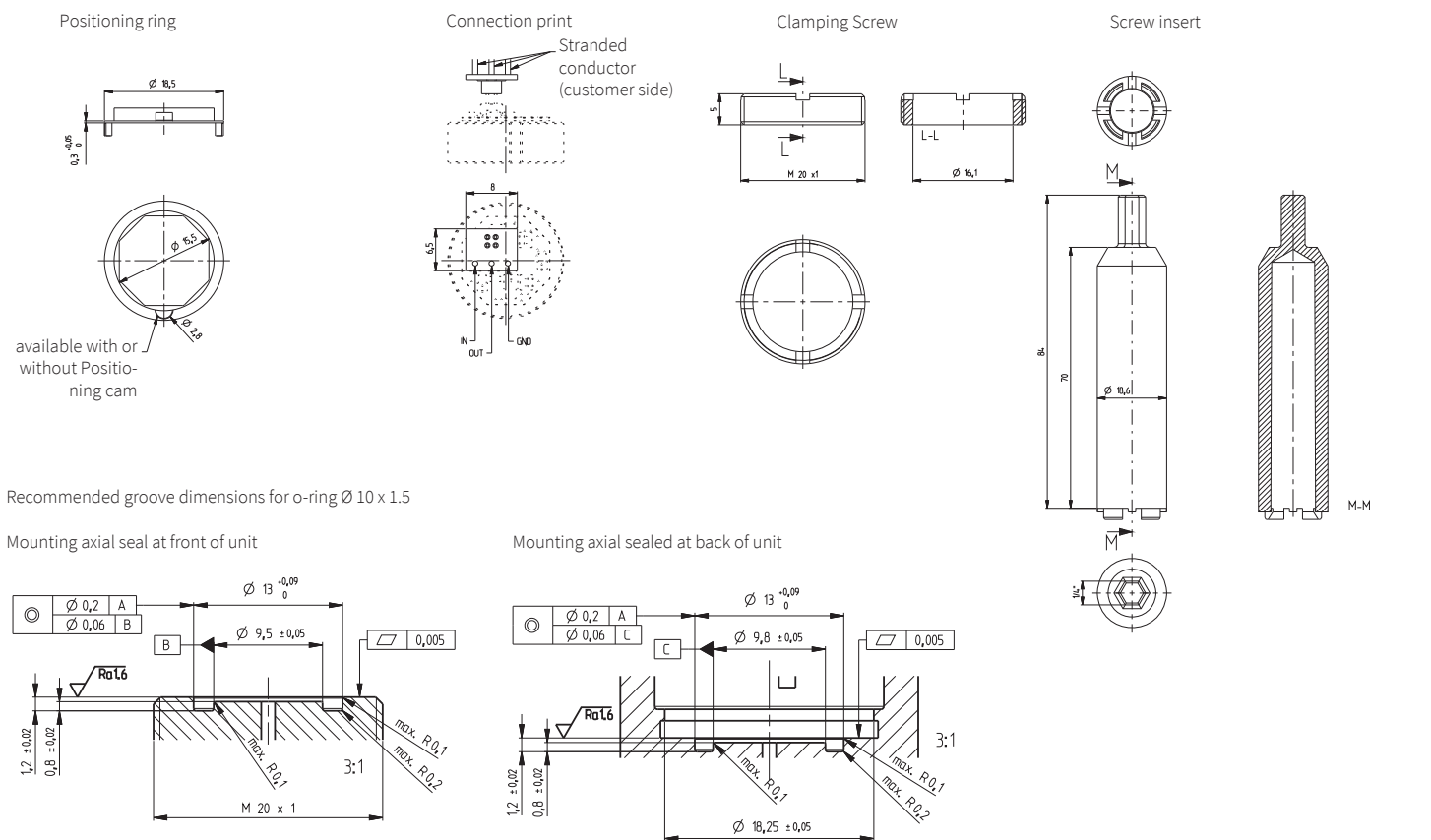
¹⁾ Other pressure ranges on request

²⁾ TC = Temperature coefficient

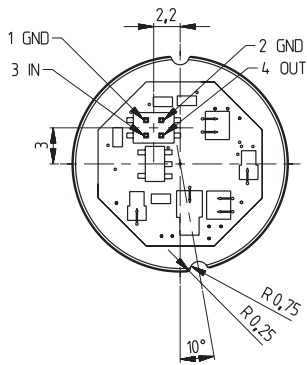
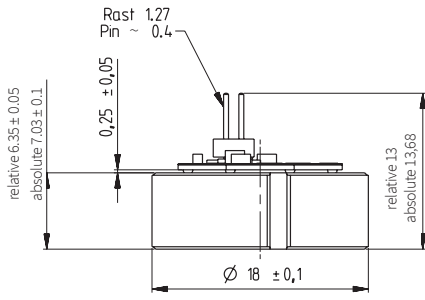
³⁾ Higher overload / higher rupture pressure on request

			1	2	3	4	5	6						
Order code selection table			513.						X	X	X	X	X	X
Pressure mode	Relative		9											
	Absolute (≤ 60 bar)		8											
Pressure range	-1 ... 0 bar		9	0	0									
	0.8 ... 1.4 bar		8	1	0									
	0 ... 1 bar			1	1									
	0 ... 1.6 bar			1	2									
	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		9	3	3									
	0 ... 60 bar		9	4	0									
	0 ... 100 bar		9	4	1									
	0 ... 160 bar		9	4	2									
	0 ... 250 bar		9	4	3									
0 ... 400 bar		9	5	4										
0 ... 600 bar		9	5	5										
▲ Full scale signal at these pressure														
Adjustment (Factory adjusted)	only zero point and full scale									0				
	only zero point		9							1				
Output / power supply	ratiom. 10 ... 90%	with connector								0	4			
		with connector								0	F			
		with flexible connector								0	H			
	ratiom. 10 ... 60% ± 1.2 V	with connector								0	J			
		with connector	9							1	8			
		with flexible connector	9							1	G			
Pressure range variation (optional)	with flexible connector	9							1	I				
	with flexible connector	9							1	K				
Indicate W and state range on order (e.g.: W0... + 5bar/OUT1...3.5V)										0			W	

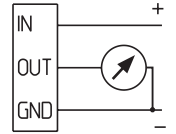
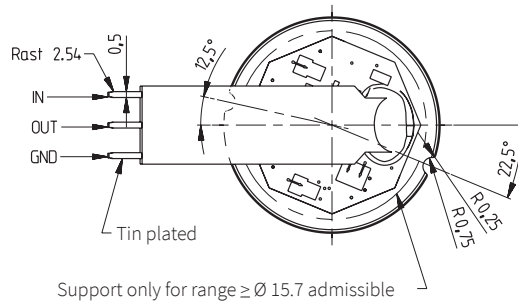
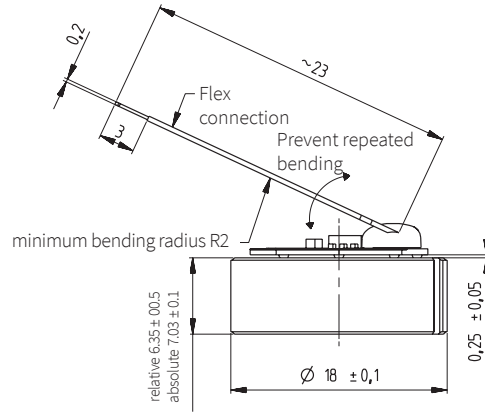
Accessories (supplied loose)			Order number	
O-ring FPM	≤ 60 bar		105598	
O-ring NBR	≤ 60 bar		105145	
O-ring FPM spec.	≤ 60 bar		109338	
O-ring FPM	≥ 100 bar		105285	
O-ring NBR	≥ 100 bar		104952	
O-ring FPM spec.	≥ 100 bar		102321	
Backup-ring	≥ 100 bar		114660	
Positioning ring (PPS)	≤ 160 bar		107397	
Positioning ring without cam (PPS)	≤ 160 bar		107926	
Positioning ring (metal)	> 160 bar		107383	
Connection print (connector counterpart)			109225	
Clamping Screw M20x1			112151	
Screw insert for Clamping Screw			112187	



Connection with connector



Connections with flex cable



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