

OEM Relative and absolute pressure measuring cell

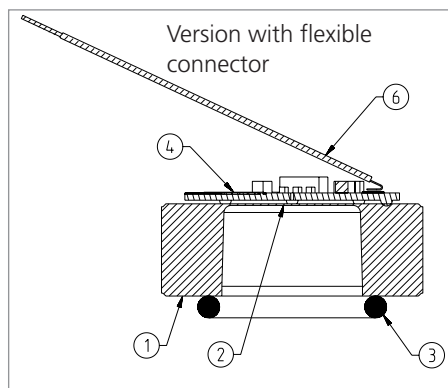
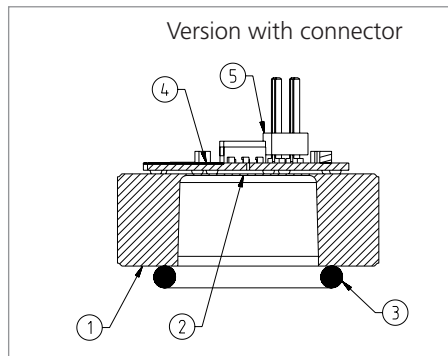
-1 ... 0 – 160 bar



Technical overview

This pressure-measuring cell is based on ceramic technology, developed by Huba Control and used for the last 10 years, in millions of applications, used in combination with a unique integrated electronic design, this gives the type 513 series a high degree of accuracy for all temperature ranges.

This technology with an amplified ratiometric output signal, supports direct assembly without the need for the user to adjust for temperature or pressure.



Legend to cross-section drawing

- 1 Ceramic measuring cell
- 2 Measuring diaphragm
- 3 Sealing see accessories
- 4 Amplifier electronics
- 5 Electrical connection
- 6 Flexible connector

The distinct advantages

- 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

Medium

Liquids and neutral gases

Pressure ranges

Absolute 0 ... 1 – 25 bar
0.8 ... 1.4 bar (barometric sensor)
Relative – 1 ... 0 – 160 bar
Other pressure ranges on request

Overload / Rupture pressure

3.0 x Measuring range at – 1 ... 4 bar
2.5 x Measuring range at 6 ... 60 bar
2.0 x Measuring range at 100 ... 160 bar
Higher overload on request / higher rupture pressure on request

Material in contact with the medium

Measuring cell: Ceramic Al₂O₃ (96%)
Sealing: FPM, NBR, FPM spec.

Temperature

Medium temperature with sealing:
FPM –15 ... +125 °C
NBR –25 ... +85 °C
FPM spec. –30 ... +150 °C
Storage –40 ... +130 °C
In packaging –40 ... +65 °C

Power supply / Output

Power supply 5 VDC (4.75 ... 5.25 V)
Output with full scale adjustment ratiom. 0.5 ... 4.5 V
10 ... 90% of power supply
without full scale adjustment 0.5 ... 3 ±1.2 V

Load

> 10 kOhm / < 100 nF

Current consumption

At nominal pressure without load
< 4 mA

Accuracy

Resolution 0.1 % fs
Long term stability according to DIN IEC 60770 ±0.5% fs
Total of linearity, hysteresis and repeatability: max. ±0.3% fs
Barometrical sensor max. ±0.5% fs

Versions with full scale adjustment:

Tolerance zero point max. ±0.5% fs
Tolerance full scale max. ±0.5% fs

Versions without full scale adjustment:

Zero point 0.5 V ±0.02 V
Full scale 3.0 V ±1.2 V

Temperature influences

In the range –30 ... +125 °C
TC zero point max. ±0.15% fs/10 K
TC sensitivity max. ±0.15% fs/10 K

Dynamic response

Suitable for static and dynamic measurements
Response time < 2 ms, 1 ms typ.
Load cycle < 100 Hz

Electrical connection

Connector
Contact spacing 1.27 mm (50 mil)
Flexible connector
Contact spacing 2.54 mm (100 mil)

Optional humidity protection

KFW, 20 days acc. DIN 50017

Assembly / housing

According to recommendation of Huba Control with special assembly instructions

ESD-handling

Necessary



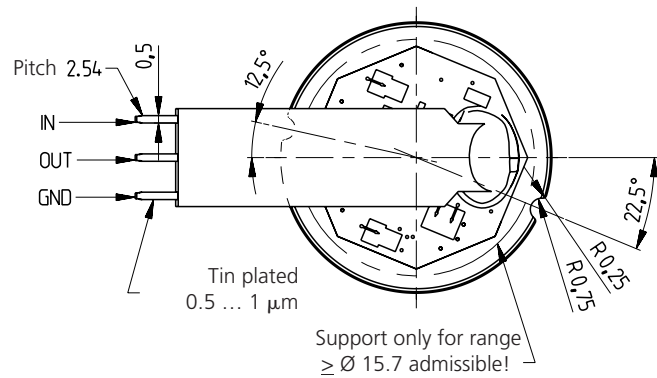
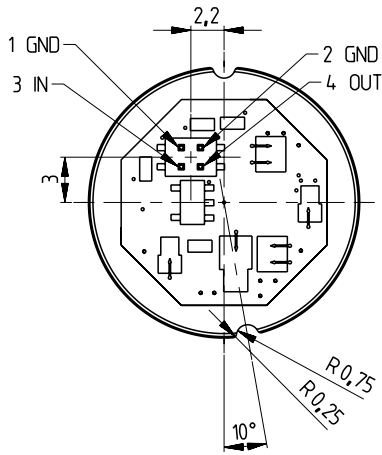
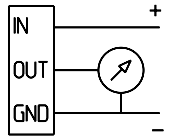
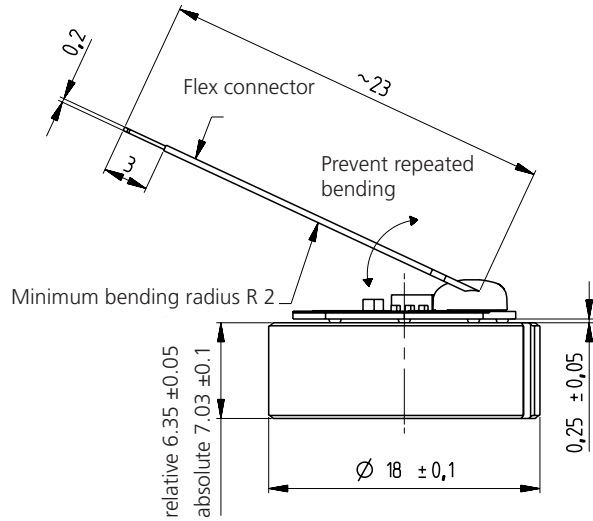
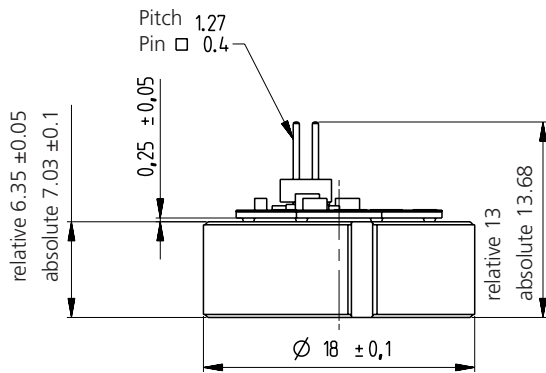
Weight

Approx. 5 g

Packaging

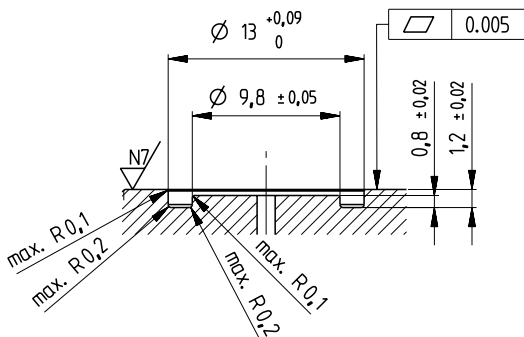
Cells with connector:
Packaging for series: 5 blisters (480 pcs) in covering box

Cells with flexible connector
Packaging for series: 5 blisters (400 pcs) in covering box



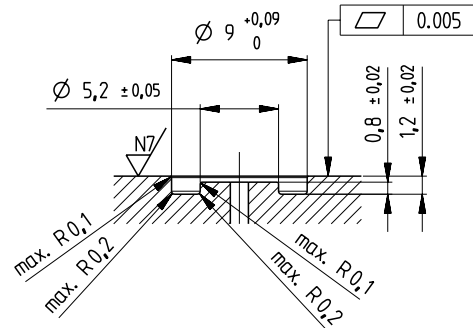
≤ 60 bar

Recommended groove dimensions for o-ring Ø 10 x 1.5



≥ 100 bar

Recommended groove dimensions for o-ring Ø 6 x 1.5

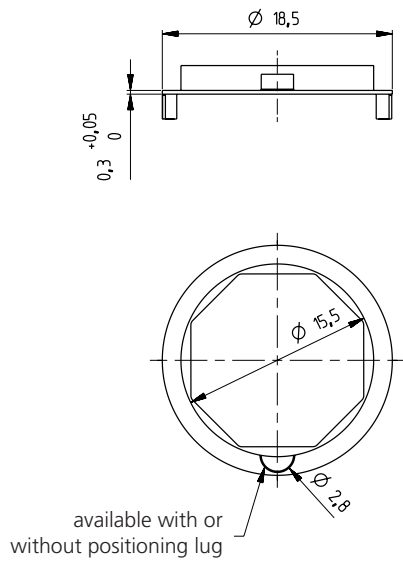


Electromagnetic compatibility (not assembled)

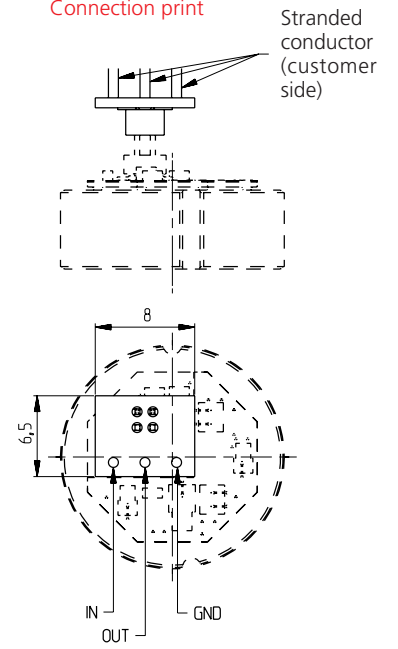
CE conformity (EMC) by application of harmonised standards: Interference stability EN 61000-6-2 and EN 61326-1

Interference stability	Test standard	Effect
Electrostatic discharge (ESD)	EN 61000-4-2	1 kV contact no effect
High-frequency electromagnetic radiation (HF)	EN 61000-4-3	30 V/m, 80 ... 1000 MHz no effect
Conducted HF interference	EN 61000-4-6	30 V, 0.15 ... 80 MHz no effect
Fast transients (burst)	EN 61000-4-4	4 kV no effect

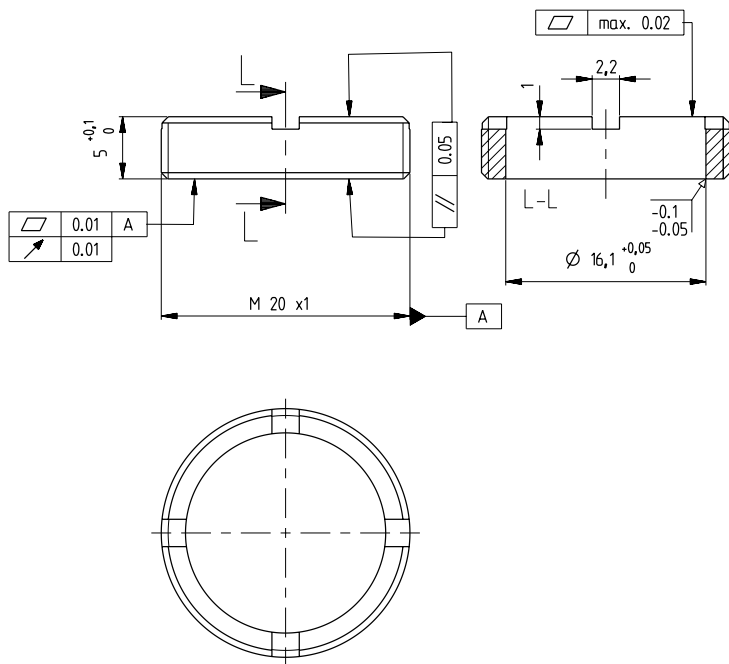
Positioning-ring



Connection print



Clamp screw



Screw insert

