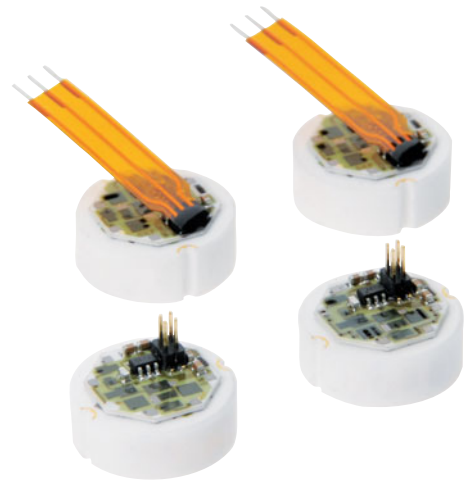


# OEM Relative and absolute pressure measuring cell type 513

Pressure range  
-1 ... 0 – 600 bar



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.

- 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 <sup>1)</sup>

|          |                    |
|----------|--------------------|
| 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 <sup>2)</sup> | max. ± 0.15% fs/10K |
|   | TC-full scale <sup>2)</sup> | max. ± 0.15% fs/10K |
| Overload / rupture pressure <sup>3)</sup>       | ≤ 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 <sub>2</sub> O <sub>3</sub> (96%) |
| Sealing material | FPM, NBR, FPM spec.                          |

### Electrical overview

|                               |   |                           |
|-------------------------------|---|---------------------------|
| Output                        | with full scale adjustment  | ration. 10 ... 90%        |
|                               | without full scale adjustment   | ration. 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 ist designed exclusively for installation in equipment which complies with EU directives.<br>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      |

Order code selection table

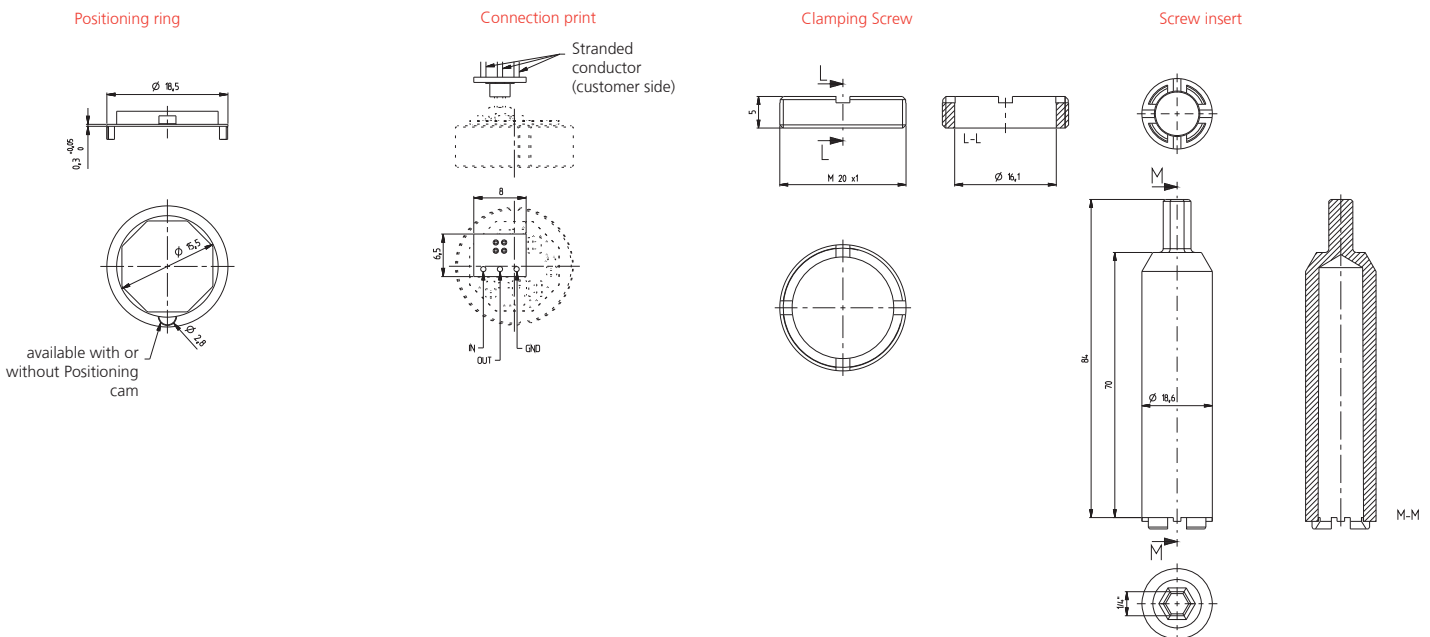
513. X X X X X X

|                                       |  |                         |   |   |   |  |  |   |   |   |
|---------------------------------------|--|-------------------------|---|---|---|--|--|---|---|---|
| Pressure mode                         | Relative   |                         | 9 |   |   |  |  |   |   |   |
|                                       | Absolute ( $\leq 60$ bar)  |                         | 8 |   |   |  |  |   |   |   |
| Pressure range                        | -1 ... + 0 bar   |                         | 9 | 0 | 0 |  |  |   |   |   |
|                                       | 0.8 ... + 1.4 bar  | barometric sensor       | 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 |   |
|                                       | Factory adjusted only zero point                                   |                         | 9 |   | 1 |  |  |   |   |   |
| Output / power supply                 | ration. 10 ... 90%   | with connector          |   |   |   |  |  | 0 | 4 |   |
|                                       | ration. 10 ... 60% $\pm 1.2$ V                                     | with connector          |   |   |   |  |  | 1 | 8 |   |
|                                       | ration. 10 ... 90%   | with connector          |   |   |   |  |  | 0 | F |   |
|                                       | ration. 10 ... 60% $\pm 1.2$ V                                     | with connector          |   |   |   |  |  | 1 | G |   |
|                                       | ration. 10 ... 90%   | with flexible connector |   |   |   |  |  | 0 | H |   |
|                                       | ration. 10 ... 60% $\pm 1.2$ V                                     | with flexible connector |   |   |   |  |  | 1 | I |   |
|                                       | ration. 10 ... 90%   | with flexible connector |   |   |   |  |  | 0 | J |   |
|                                       | ration. 10 ... 60% $\pm 1.2$ V                                     | with flexible connector |   |   |   |  |  | 1 | K |   |
| Pressure range variation              | Indicate W and state range on order (e.g.: W0... + 5bar/OUT1...8V) |                         |   |   |   |  |  |   | 0 | W |

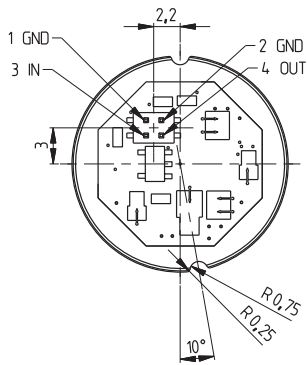
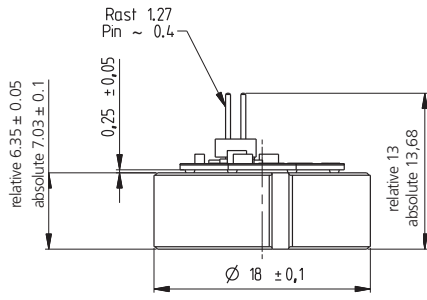
Accessories

Accessories supplied loose

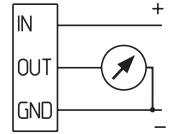
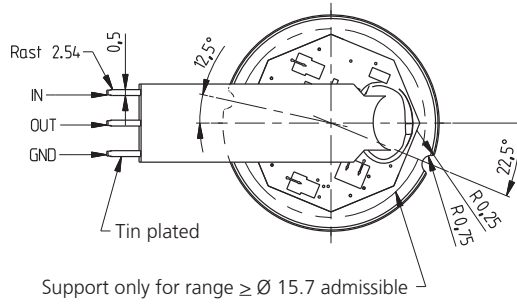
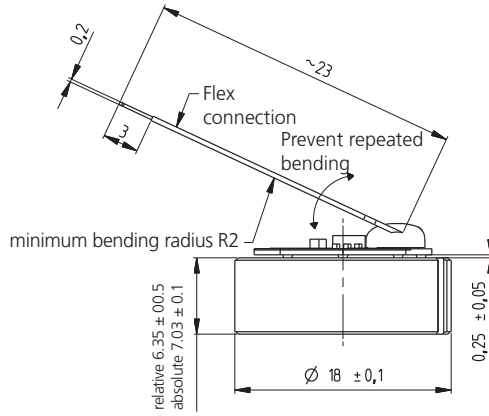
|   | Order number |
|---|--------------|
| O-ring FPM $\leq 60$ bar                          | 105598       |
| O-ring NBR $\leq 60$ bar                          | 105145       |
| O-ring FPM spec. $\leq 60$ bar                    | 109338       |
| O-ring FPM $\geq 100$ bar                         | 105285       |
| O-ring NBR $\geq 100$ bar                         | 104952       |
| O-ring FPM spec. $\geq 100$ bar                   | 102321       |
| Backup-ring $\geq 100$ bar                        | 114660       |
| Positioning ring (PPS) $\leq 160$ bar             | 107397       |
| Positioning ring without cam (PPS) $\leq 160$ 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



# Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT

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