# CERAMIC PRESSURE CELL CPS 1184

**This monolithic ceramic pressure measuring cell has a diameter of 18 mm and is suitable for measuring gauge pressure up to 600 bar.**

**Available with pitch dimensions of 1.27 or 2.54 mm and as a Z variant with signal amplification (see CPS 1184 Z).**

**Advantages**
– Compact design
– High measurement accuracy
– Very good media resistance
– Excellent long-term stability

**Application examples**
– Pumps
– Pressure transmitters
– Heating and cooling systems
– Pressure monitoring







| General data | |
|---|---|
| Sensor technology | Piezoresistive, Wheatstone bridge |
| Sensor type | Monolitic, gauge pressure |

| Electrical data | |
|---|---|
| Pressure range | -1 to 600 bar |
| Supply voltage | 3 to 30 VDC |
| Output signal | Analog |
| Current consumption | ≤ 1.2 mA at 10 VDC |
| Offset | 0 ±0.2 mV/V |
| Temperature Coefficient of Span | 0 to -0.013 % FS/K (0 to 70 °C)<br>0 to -0.015 % FS/K (-20 to 0 °C and 70 to 85 °C)<br>0 to -0.018 % FS/K (-40 to 0 °C and 85 to 135 °C) |
| Temperature Coefficient of Offset | 0 ±0.02 % FS/K (20 to 85 °C)<br>Compensated |

| Mechanical data | |
|---|---|
| Dimensions | See drawing |
| Diameter | 18 mm |
| Pitch | 1.27 or 2.54 mm |
| Weight | < 5 g |

| Environmental data | |
|---|---|
| Operating temperature | -40 to +135 °C* |
| Storage temperature | -40 to +150 °C |

*The operating temperature range may vary depending on the electrical connection.

| Material | |
|---|---|
| Sensor body | Ceramic $Al_2O_3$ 96 %<br>Others on request |

| Electrical connection |
|---|
| Solder pad tinned<br>Solder pin<br>Cable<br>Others on request |

| Nominal pressure | | 2 bar | 5 bar | 10 bar | 20 bar | 50 bar | 100 bar | 200 bar | 400 bar | 600 bar |
|---|---|---|---|---|---|---|---|---|---|---|
| Gauge pressure | | • | • | • | • | • | • | • | • | • |
| Overpressure* | bar | ≤ 3 | ≤ 7.5 | ≤ 15 | ≤ 30 | ≤ 75 | ≤ 150 | ≤ 300 | ≤ 550 | ≤ 720 |
| Burst pressure | bar | ≥ 5 | ≥ 15 | ≥ 30 | ≥ 60 | ≥ 150 | ≥ 250 | ≥ 450 | ≥ 700 | ≥ 900 |
| Vacuum strength | bar | -0.6 | -0.8 | -1 | -1 | -1 | -1 | -1 | -1 | -1 |
| Sensitivity | mV/V | 2.9 – 3.9 | 2.8 – 3.8 | 2.5 – 3.5 | 2.5 – 3.5 | 2.7 – 3.7 | 2.9 – 3.9 | 2.7 – 3.7 | 2.4 – 3.4 | 2.2 – 3.2 |
| Accuracy** typ./max. | % FS | 0.3 / 0.5 | 0.3 / 0.5 | 0.3 / 0.5 | 0.3 / 0.5 | 0.3 / 0.5 | 0.5 / 0.6 | 0.5 / 0.6 | 0.6 / 0.7 | 0.6 / 0.7 |

* The specified overpressure ensures correct functioning of the cell in the event of overload. Duration of overpressure < 1 s
** Basis of calculation:

$$\text{Accuracy} = \sqrt{\text{Nonlinearity}^2 + \text{Hysteresis}^2 + \text{Nonrepeatability}^2}$$

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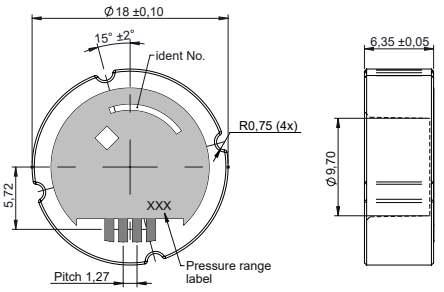
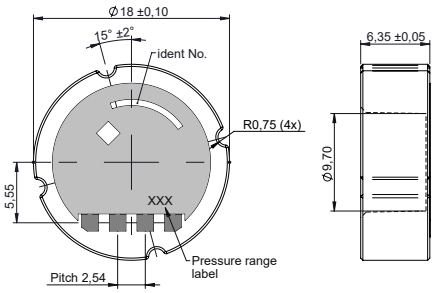
## Dimensions

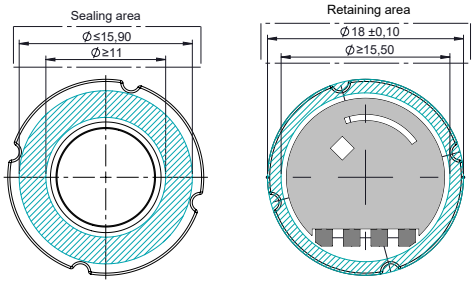
Pitch 1.27 mm




Pitch 2.54 mm



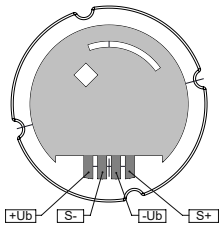

## Mounting proposal



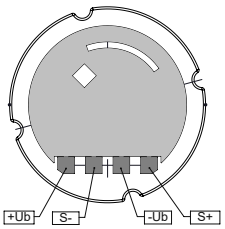

All dimensions in mm

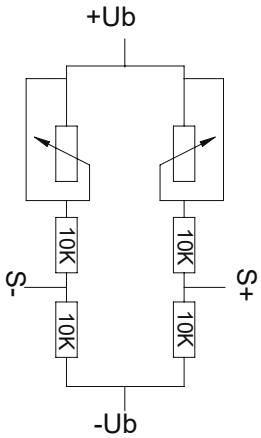
## Connection diagram

Pitch 1.27 mm




Pitch 2.54 mm

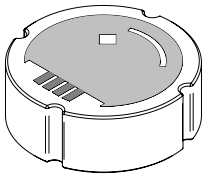


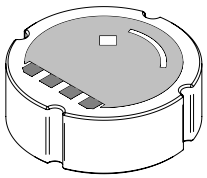

## Electrical connection

**Solder pad tinned**

Pitch 1.27 mm



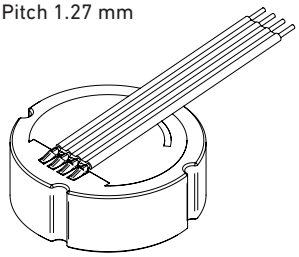
Pitch 2.54 mm



**Cable**

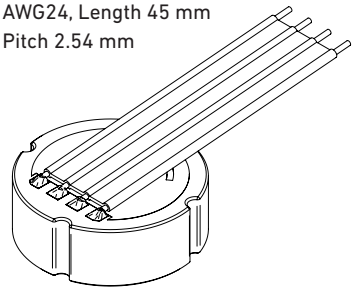
AWG24, Length 45 mm

Pitch 1.27 mm



AWG24, Length 45 mm

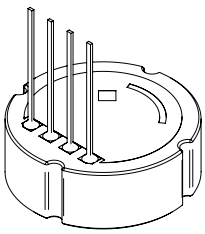
Pitch 2.54 mm



**Solder pin**

0.5 x 0.27 mm, Length max. 13 mm

only Pitch 2.54 mm



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