

OEM pressure transducer

Model SPR-2, sensor element

Model TPR-2, sensor element with process connection

WIKA data sheet PE 81.62

Applications

- Applications with limited mounting space
- Design-in solutions

Special features

- Measuring ranges from 0 ... 0.4 to 0 ... 16 bar (gauge and absolute pressure)
- Measuring cell from stainless steel
- High measuring sensitivity
- High stability



Examples for models SPR-2 and TPR-2

Description

Design

The heart of the measuring cell is a silicon chip, which is pressurised via a pressure transmission medium. As pressure transmission medium, a suitable filling liquid for the respective application is used.

A diaphragm and a case from stainless steel make the transducer highly resistant to a wide variety of media.

Individual solutions

The pressure transducers are manufactured on a flexible production line and can be individually adapted to suit customer requirements.

Special features

The pressure transducer can be delivered either with or without linear temperature compensation. Alternatively, a test certificate for the sensor cell can be supplied with it, for active temperature compensation by the customers themselves.

The assembly and connection concept guarantees a very high overload and burst pressure safety.

The silicon chip provides a high measuring sensitivity, which enables measurement of even the lowest pressures.

Measuring ranges

Selectable versions				
Gauge pressure and absolute pressure [bar]				
0 ... 0.4	0 ... 1	0 ... 1.6	0 ... 2.5	0 ... 4
0 ... 6	0 ... 10	0 ... 16	0 ... 25	

Other measuring ranges on request.

Overpressure protection

3 times

Burst pressure safety

5 times

Vacuum tightness

Yes

Output signals

Without temperature compensation

12 ... 50 mV/V (depending on measuring range)

With temperature compensation

6 ... 22 mV/V (depending on measuring range)

Voltage supply

Power supply

Max. DC 10 V

Reference conditions (per IEC 61298-1)

Temperature

15 ... 25 °C

Atmospheric pressure

860 ... 1,060 mbar

Humidity

45 ... 75 % relative

Power supply

DC 10 V

Mounting position

As required

Time response

Settling time (10 ... 90 %)

< 1 ms

Accuracy specifications

Zero offset

Without temperature compensation: ± 10 mV/V

With temperature compensation: ± 2 mV/V

Bridge resistance

Without temperature compensation: 4 ... 6.5 k Ω

With temperature compensation: 8 ... 16 k Ω

Compensated temperature range

Selectable versions	
Standard	without temperature compensation
Option	-20 ... +85 °C

Temperature error

Without temperature compensation	
	Max. temperature coefficient
Zero point	-0.5 ... +1.5 % of span/10 K (depending on measuring range)
Span	-2.4 ... -1.4 % of span/10 K

With temperature compensation		
	Measuring range	Max. temperature error
Zero point	0 ... 0.4 bar	± 2.5 % of span
	0 ... 1 to 0 ... 2.5 bar	± 1 % of span
	0 ... 4 to 0 ... 25 bar	± 0.75 % of span
Span	0 ... 0.4 bar	± 1 % of span
	0 ... 1 to 0 ... 25 bar	± 0.75 % of span

Non-linearity (BFSL)

± 0.3 % of span

Hysteresis

≤ 0.03 % of span

Non-repeatability

≤ 0.03 % of span

Long-term stability

≤ 0.2 % of span/year

Operating conditions

Permissible temperature ranges

Medium: -40 ... +125 °C

Ambient: -40 ... +125 °C

Storage: -40 ... +125 °C

Valid for standard filling liquid.
Other filling liquids on request.

Service life

> 100 million load cycles

Process connections

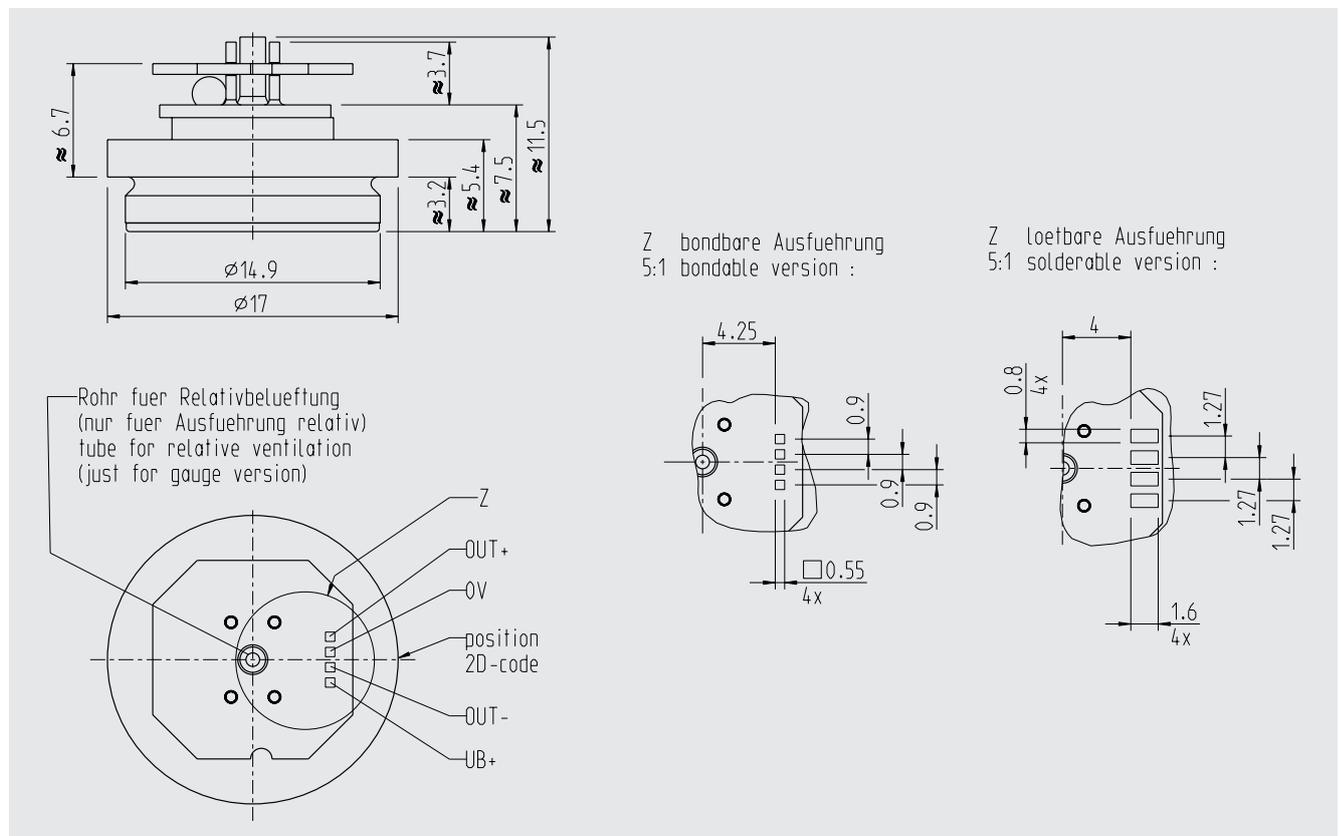
On request

Electrical connections

On request

Dimensions in mm

Model SPR-2 with temperature compensation



Electrical protective measures

High-voltage strength

DC 500 KV

Insulation resistance

> 50 GΩ

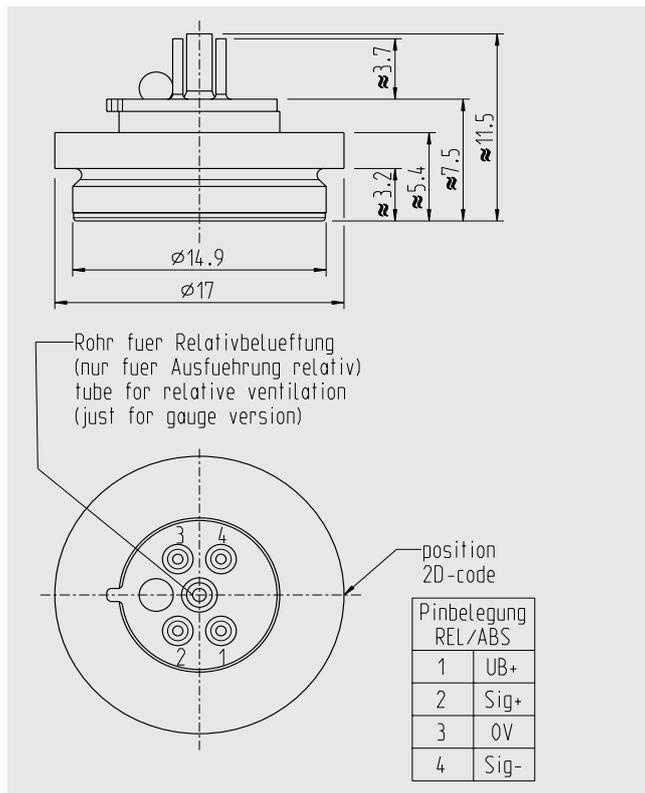
Materials

Wetted parts

Stainless steel

Other materials on request.

Model SPR-2 without temperature compensation



Ordering information

Measuring range / Temperature compensation / Process connection / Electrical connection

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