

# OEM pressure sensor with ceramic thick-film technology Model SCT-1

WIKA data sheet PE 81.40

## Applications

- Applications with limited mounting space
- Design-in solutions
- Automotive industry
- Pneumatics

## Special features

- Unamplified mV/V signal
- Temperature compensation directly on the sensor
- Condensation-resistant sensor surface
- Production to ISO 9001 and ISO/TS 16949
- Excellent media compatibility



OEM pressure sensor model SCT-1

## Description

### Resistance to humidity and condensation

Due to the special, full-surface passivation of the sensor's surface, the sensor is impervious to humidity or condensation.

### Flexible connection possibilities

A high variety of electrical connections enables an easy sensor integration.

### State-of-the-art production standards

The production is carried out on state-of-the-art manufacturing lines with high capacity, high levels of automation and high process reliability. The sensors are manufactured in lot sizes of 500 pieces.

### Monolithic ceramic

With the monolithic body of the ceramic thick-film sensor a high long-term stability is achieved.

## Specifications

### Measuring ranges

Relative pressure [bar]			
Measuring range	0 ... 2	0 ... 5	0 ... 10
Overpressure limit	5	10	20
Burst pressure	6	12	25
Measuring range	0 ... 20	0 ... 50	0 ... 100
Overpressure limit	40	100	200
Burst pressure	50	120	250

Other measuring ranges on request.

### Output signals

Measuring range [bar]	Output signal [mV/V] (unamplified)
0 ... 2	1 ... 4
0 ... 5, 0 ... 10	1.5 ... 4
0 ... 20, 0 ... 50	2 ... 4
0 ... 100	1.7 ... 2.7

### Electrical connection

- Bondable pads, grid dimension 2.54 or 1.27
- Solderable pads, grid dimension 2.54 or 1.27
- Flex with solder pins
- Flex for Molex connector, model 5597

Others on request

### Power supply

DC 1 ... 20 V

### Settling time (10 ... 90 %)

< 1 ms

### Limit frequency (mechanical)

15 kHz

### Condensation resistance

In accordance to test as per IEC 68-2-30, test Db, variant 2  
test level: 25 ... 55 °C  
6 cycles

### Permissible temperature ranges

Medium: -40 ... +125 °C  
Ambient: -40 ... +125 °C  
Storage: -40 ... +125 °C

### Service life

> 10 million load cycles

### Zero offset

-0.2 ... 0 mV/V

### Bridge resistance

7.5 ... 15 kΩ

### Temperature error

Temperature compensation directly on the sensor  
Compensated temperature range: -25 ... +105 °C  
Mean temperature coefficient

- Zero point: < 0.2 % of span/10 K  
< 0.3 % of span/10 K (at 0 ... 2 bar)
- Span: < 0.2 % of span/10 K

### Accuracy at reference conditions

Including non-linearity, hysteresis, non-repeatability (corresponds to measured error per IEC 61298-2).

#### ■ Measuring range 0 ... 2 bar

Typical: < 0.40 % of span  
Maximum: < 0.75 % of span

#### ■ Measuring ranges 0 ... 5 to 0 ... 50 bar

Typical: < 0.25 % of span  
Maximum: < 0.50 % of span

#### ■ Measuring range 0 ... 100 bar

Typical: < 0.40 % of span  
Maximum: < 0.75 % of span

### Material, wetted parts

Ceramic (96% Al<sub>2</sub>O<sub>3</sub>)

## Reference conditions (per IEC 61298-1)

### Temperature

15 ... 25 °C

### Atmospheric pressure

860 ... 1,060 mbar

### Humidity

45 ... 75 % relative

### Power supply

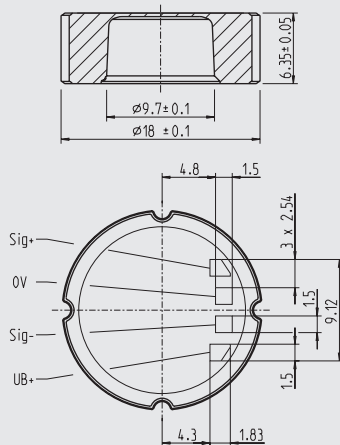
DC 10 V

### Mounting position

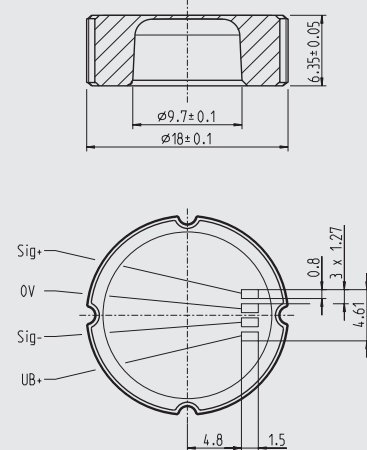
any

## Dimensions in mm

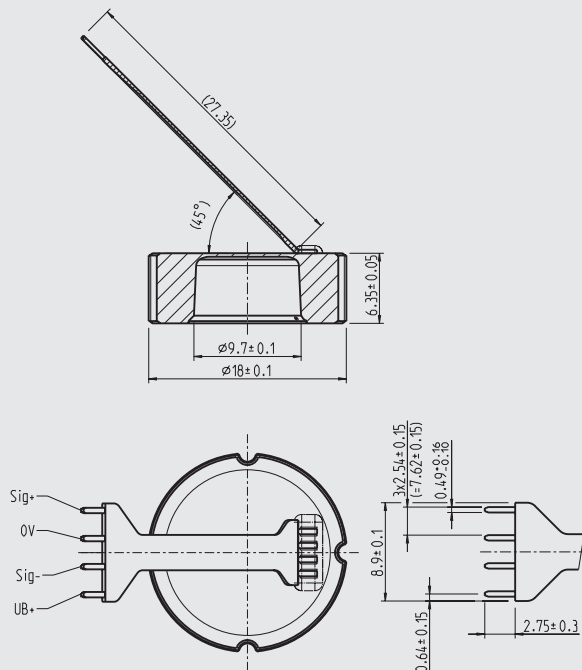
Bondable pads, grid dimension 2.54  
Solderable pads, grid dimension 2.54



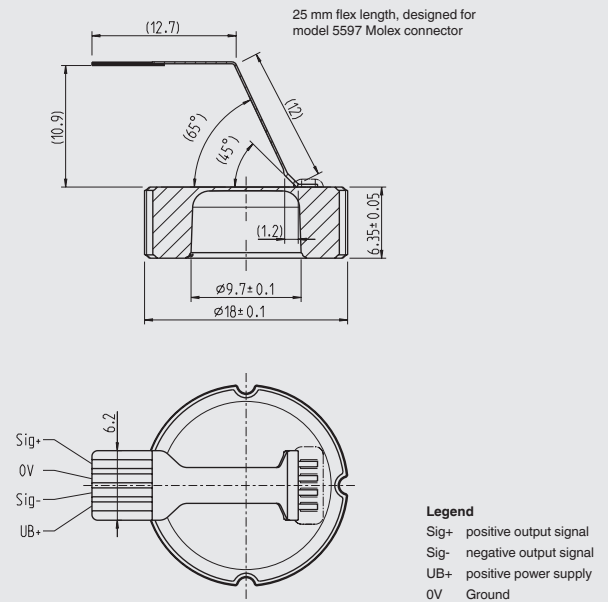
Bondable pads, grid dimension 1.27  
Solderable pads, grid dimension 1.27



Flex with solder pins



Flex for Molex connector, model 5597



**Legend**  
Sig+ positive output signal  
Sig- negative output signal  
UB+ positive power supply  
OV Ground

Customer-specific solutions on request  
Detailed mounting instructions on request.

### Ordering information

Measuring range / Output signal / Electrical connection

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