

# 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

- Pressure ranges from 0 ... 2 bar to 0 ... 100 bar
- Unamplified mV/V signal
- Temperature compensation direct on the sensor
- Condensation resistant sensor surface
- High variety of electrical connections



Fig. Pressure sensors SCT-1 with different electrical connections

## Description

### Resistance to humidity, moisture and condensation

Since the sensor surface is covered with a special passivation coating, the sensor element can be used in a wide variety of applications without any problems. Humidity, moisture and condensation will not affect it.

### High variety of electrical connections

A high variety of electrical connections, such as pins, wires or flex cables, enable an easy sensor integration.

### Monolithic ceramic thick film

Unlike other comparable pressure sensors WIKA's monolithic ceramic thick film sensor is designed with a one-piece body. As a result, a considerably higher long-term stability is achieved.

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

State-of-the-art, highly automated production lines in class 1000 clean rooms, offering large capacities, ensure a high degree of manufacturing reliability and consistency. As a result the ceramic thick film sensor is ideally suited for automotive applications with high-volume requirements.

### Highest quality standards

The ceramic thick film production excels in its high quality standards, which are demonstrated with DIN ISO 9001 and ISO/TS 16949 certification. This indicates the highest reliability and consistently high quality.

### Interesting price/performance ratio

The product concept has been specially geared to design-in solutions for OEM customers and stands out for its extremely competitive price/performance ratio.

## Specifications

## Model SCT-1

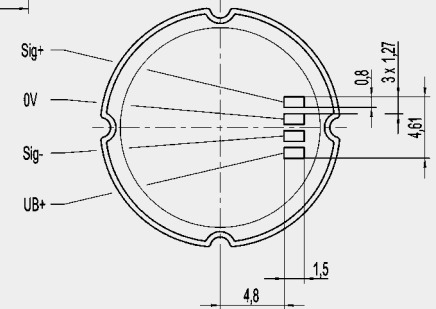
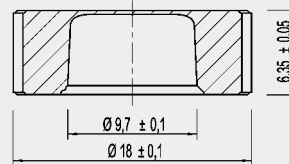
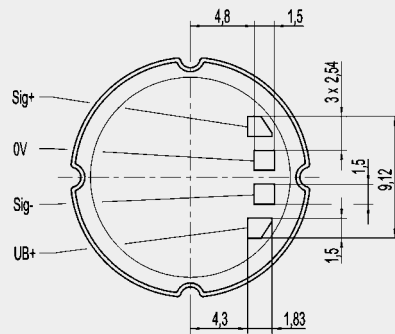
Pressure ranges	bar	2	5	10	20	50	100
Over pressure safety	bar	5	10	20	40	100	200
Burst pressure	bar	6	12	25	50	120	250
Materials		Ceramic Al <sub>2</sub> O <sub>3</sub> 96 %					
■ Wetted parts		Ceramic Al <sub>2</sub> O <sub>3</sub> 96 %					
Power supply U <sub>B</sub>	DC V	1 ≤ U <sub>B</sub> ≤ 20					
Signal output	mV/V	1 ... 4	1.5 ... 4	2 ... 4	2 ... 4	1.7 ... 2.7	
Offset of zero point	mV/V	-0.2 ... 0					
Bridge resistor	kΩ	7.5 ... 15					
Limit frequency (mechanical)	kHz	15					
Transducer life time		> 1 x 10 <sup>7</sup>					
Response time (10 ... 90 %)	ms	< 1					
Accuracy <sup>1)</sup>	% of span						
	Typ. <sup>1)</sup>	< 0.4	< 0.25				< 0.4
	Max. <sup>1)</sup>	< 0.75	< 0.5				< 0.75
		<sup>1)</sup> Including non-linearity, hysteresis, non-repeatability (corresponds to error of measurement per IEC 61298-2).					
1-year stability	% of span	< 0.3 (at reference conditions)					
Permissible temperature of							
■ Medium		-40 ... +125 °C			-40 ... +257 °F		
■ Ambient		-40 ... +125 °C			-40 ... +257 °F		
■ Storage		-40 ... +125 °C			-40 ... +257 °F		
Compensated temp. range		-25 ... +105 °C			-13 ... +221 °F		
Temperature coefficients within compensated temp range							
■ Mean TC of zero	% of span	< 0.2 / 10 K (0.3% / 10K with pressure range 2 bar)					
■ Mean TC of range	% of span	< 0.2 / 10 K					
Condensation resistance		According to test as per IEC 68-2-30, test Db, variant 2, test level: 25–55°C, 6 cycles					
Weight	kg	Approx. 0.005					

## Wiring details

### Bondable pads or pretinned soldering pads

Grid dimension 2,54 mm or 1,27 mm

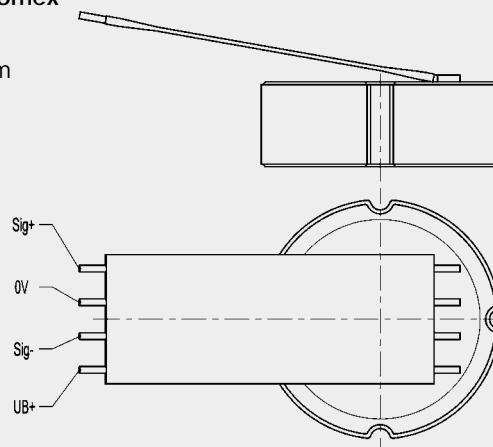
Dimensions in mm



### Flexprint with insulation material Nomex

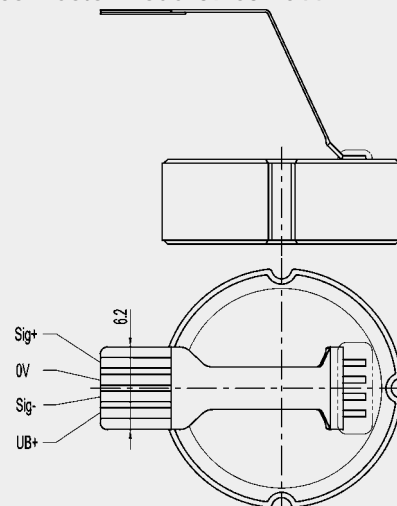
Flexlength 25 mm or 50 mm

Grid dimension 2,54 mm or 1,27 mm



### Flex cable for the connection on the Molex connector model 39-53-2044

Grid dimension 1,27 mm



### Wires

Wire length 25 mm

Grid dimension 2,54 mm or 1,27 mm

### Electrical connection

UB +	Power supply	+
UB -	Power supply	-
Sig +	Signal output	+
Sig -	Signal output	-

Customers specific solutions on request.  
Detailed mounting instructions on request.

## Further products with ceramic thick film technology: OEM Pressure sensor module model MCT\*-1



Fig. left MCTH-1 (module with case)  
Fig. right MCTO-1 (module without case)

### Applications

- Automotive industry
- Pneumatics
- Mechanical engineering
- Heating, ventilation and air-conditioning
- Facility management

### Special Features

- Fast and easy installation through patented sealing concept
- Minimal height
- Amplified ratiometric output signal of 0.5 ... 4.5 V
- Pressure ranges from 0 ... 2 bar to 0 ... 100 bar
- High EMC interference immunity up to 100 V/m

For further information see Data Sheet PE 81.43.

### Further information

You can obtain further information (data sheets, instructions, etc.) via Internet address [www.wika.de](http://www.wika.de)



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