

# OEM Pressure sensor module with ceramic thick film technology Model MCT\*-1

WIKA Data Sheet PE 81.43

## 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

## Description

### Module with case

#### ■ Fast and easy installation

Through the patented sealing concept and the sophisticated sensor housing a fast and easy installation of the pressure sensor module is possible by simply clamping the MCTH-1 into the customer product - without any influences on the output signal from installation.

#### ■ Minimal height

When designing this product, special importance was attached to a minimal size: With a height of only 25 mm this module is ideally suited for direct integration into the end product of the customer.

### Module without case

#### ■ Concentration on the essentials

The MCTO-1 is a sensor hybrid module without a case. Due to its concentration on the essential elements, i.e. the pressure sensor and the integrated amplification, this cost effective solution is excellently suited for customers who already have an integrated EMC concept.



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

### Integrated amplification electronics

Due to its integrated amplification electronics the MCT\*-1 is fully amplified and adjusted. The ratiometric output signal is 0.5 ... 4.5 V.

### Interesting price/performance ratio

The sensor module has been specially designed for price-sensitive applications with high-volume requirements.

### Highest quality standards

The production lines of the MCT\*-1 excel in their high quality standards, which are demonstrated with DIN ISO 9001 and ISO/TS 16949 certification. This indicates the highest reliability and consistently high quality.

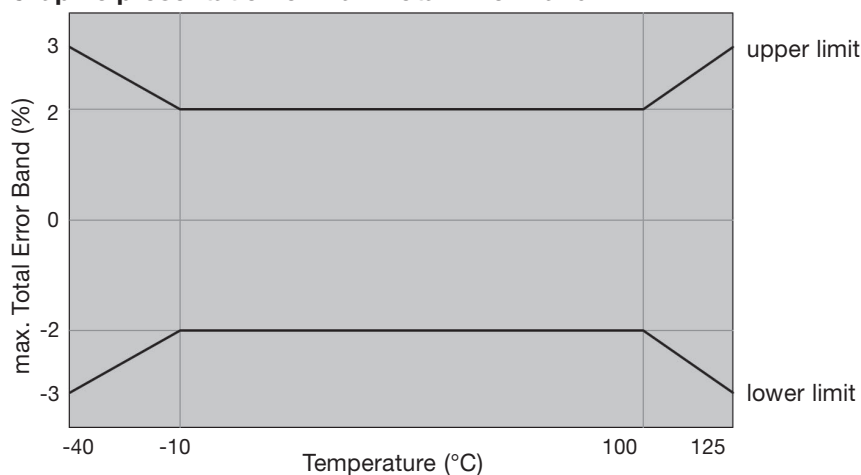
## Specifications

## Model MCT\*-1

Pressure ranges	bar	2	5	10	20	50	100
Over pressure safety <sup>1)</sup>	bar	5	10	20	40	100	200
Burst pressure	bar	6	12	25	50	120	250
{Vacuum, gauge pressure, compound range are available}							
<sup>1)</sup> Specifications of WIKA's ceramic thick film sensors will not be permanently affected by pressure loads up to the burst pressure.							
		<b>MCTH-1</b>			<b>MCTO-1</b>		
		<b>Module with case</b>			<b>Module without case</b>		
Materials							
■ Wetted parts							
> Sealing element		NBR, EPDM {others on request}			-		
> Diaphragm		Ceramic Al <sub>2</sub> O <sub>3</sub> 96 %			Ceramic Al <sub>2</sub> O <sub>3</sub> 96 %		
■ Case		VA 1.4301, zinc-diecast, PA6			-		
Power supply U <sub>B</sub>	DC V	4.5 ≤ U <sub>B</sub> ≤ 5.5			4.5 ≤ U <sub>B</sub> ≤ 5.5		
Signal output	DC V	0.5 ... 4.5, ratiometric			0.5 ... 4.5, ratiometric		
Maximum load R <sub>A</sub>	kΩ	R <sub>A</sub> > 4.5			R <sub>A</sub> > 4.5		
Transducer life time		> 1 x 10 <sup>7</sup>			> 1 x 10 <sup>7</sup>		
Response time (10 ... 90 %)	ms	< 2			< 2		
Non-linearity	% of span	≤ 0.25 (BFSL) according to IEC 61298-2			≤ 0.25 (BFSL) according to IEC 61298-2		
Total Error Band <sup>2)3)</sup>	% of span	Typ. 1 % at -10 ... +100 °C / 14 ... 212 °F			Typ. 1 % at -10 ... +100 °C / 14 ... 212 °F		
		Max. 2 % at -10 ... +100 °C / 14...212 °F			Max. 2 % at -10 ... +100 °C / 14 ...212 °F		
<sup>2)</sup> Including non-linearity, hysteresis, non-repeatability, zero point and full scale error (corresponds to error of measurement per IEC 61298-2) as well as temperature error.							
<sup>3)</sup> Reduced accuracy with pressure range 2 bar.							
1-year stability	% of span	< 0.3 (at reference conditions)			< 0.3 (at reference conditions)		
Permissible temperature of with sealing element		EPDM		NBR	-		
■ Medium	°C	-40 ... +125 <sup>4)</sup>		-30...+80 <sup>4)</sup>	-40 ... +125 <sup>4)</sup>		
■ Ambience	°C	-40 ... +125 <sup>4)</sup>		-30...+80 <sup>4)</sup>	-40 ... +125 <sup>4)</sup>		
■ Storage	°C	-40 ... +125 <sup>4)</sup>		-30...+80 <sup>4)</sup>	-40 ... +125 <sup>4)</sup>		
<sup>4)</sup> -40 ... +125 °C = -40 ... +257 °F / -30 ... +80 °C = -22 ... +176 °F							
Temperature coefficients in temp. range							
■ Mean TC of zero	% of span	Typ. < 0.2 / 10 K		max. < 0.3 / 10 K	Typ. < 0.2 / 10 K		max. < 0.3 / 10 K
■ Mean TC of range	% of span	Typ. < 0.15 / 10 K		max. < 0.3 / 10 K	Typ. < 0.15 / 10 K		max. < 0.3 / 10 K
CE- conformity		89/336/EWG interference emission and immunity see EN 61 326			To be provided by the plant manager		
Wiring protection		Resistant to short circuiting (power supply)			-		
		Polarity (mechanically via connector)			-		
Mass	g	Approx. 20			Approx. 10		

{ } Items in curved brackets are optional extras for additional price.

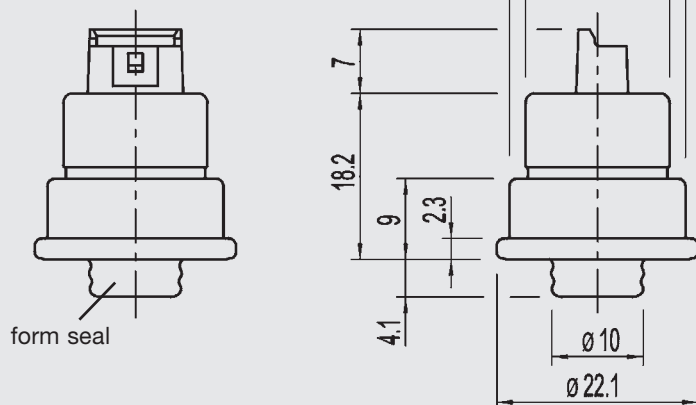
### Graphic presentation of max. Total Error Band



## Dimensions in mm

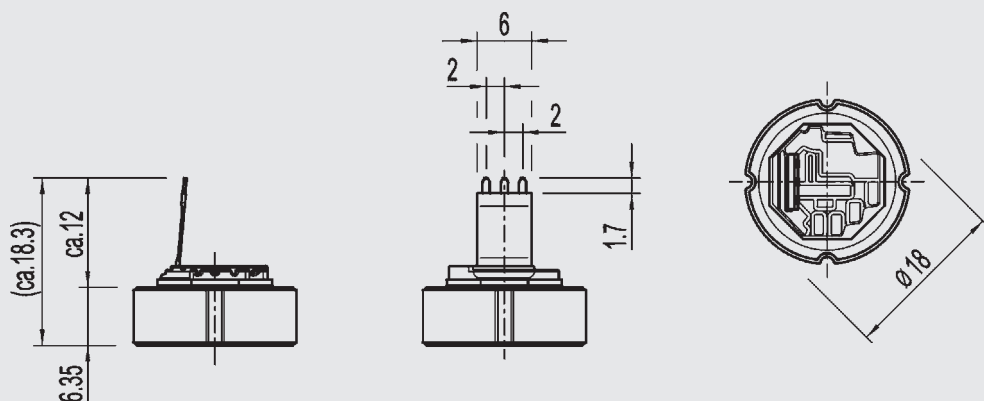
### MCTH-1

Module with case  
Ingress Protection  
IP 40  
per IEC 60 529



### MCTO-1

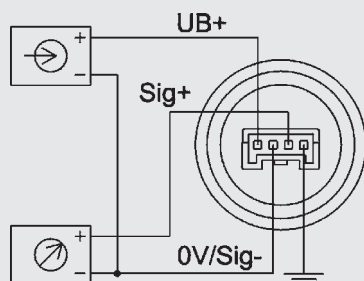
Module without case



## Wiring

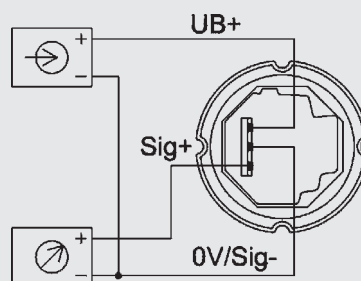
### MCTH-1

Module with case

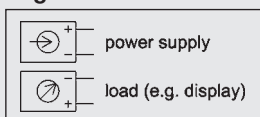


### MCTO-1

Module without case



### Legende:



	<b>Order No.</b>
JST connector, cable length 0.5 m, braids stripped and tin-plated	11045876

## OEM Pressure Sensor with ceramic thick film technology



**Model SCT-1**  
see Data Sheet PE 81.40

## Further information

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

The screenshot shows a web browser window displaying the Wika website. On the left, there is a navigation menu with 'Product News' expanded, listing items like 'New Wika Pressure Transmitter for the Process Industry', 'EasyCom CANopen - Plug & Play for CANopen pressure transmitters', 'UniTrans universal pressure transmitter for low pressure', 'New dual range pressure controllers', and 'T22 Temperature transmitter'. On the right, a large banner for 'MCTH-1' is visible, featuring the text 'Operating Instructions' and 'OEM Pressure sensor module with ceramic thick film technology'. Below the banner, there are sections for 'Technical data', 'Order', and 'Quick links'.

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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