

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

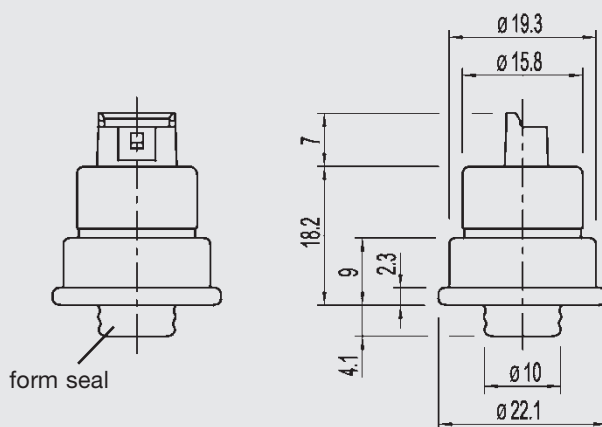
Pressure ranges	bar	2	5	10	20	50	100
Over pressure safety ¹⁾	bar	5	10	20	40	100	200
Burst pressure	bar	6	12	25	50	120	250
{Vacuum, gauge pressure, compound range, absolute pressure are available}							
¹⁾ Specifications of WIKA's ceramic thick film sensors will not be permanently affected by pressure loads up to the burst pressure.							
		MCTH-1			MCTO-1		
		Module with case			Module without case		
Materials							
■ Wetted parts							
> Sealing element		NBR, EPDM {others on request}			-		
> Diaphragm		Ceramic Al ₂ O ₃ 96 %			Ceramic Al ₂ O ₃ 96 %		
■ Case		VA 1.4301, zinc-diecast, PA6			-		
Power supply U _B	DC V	4.5 ≤ U _B ≤ 5.5			4.5 ≤ U _B ≤ 5.5		
Signal output	DC V	0.5 ... 4.5, ratiometric			0.5 ... 4.5, ratiometric		
Maximum load R _A	kΩ	R _A > 4.5			R _A > 4.5		
Transducer life time		> 1 x 10 ⁷			> 1 x 10 ⁷		
Response time (10 ... 90 %)	ms	< 2			< 2		
Linearity	% of span	0.5			0.5		
Total Error Band ^{2) 3)}	% of span	Typ. 1 % at -10 ... +100 °C / 14 ... 212 °F Max. 2 % 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		
²⁾ Including linearity, hysteresis and repeatability, adjustment of zero and span as well as temperature error.							
³⁾ 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 ⁴⁾		-30...+100 ⁴⁾	-40 ... +125 ⁴⁾		
■ Ambience	°C	-40 ... +125 ⁴⁾		-30...+100 ⁴⁾	-40 ... +125 ⁴⁾		
■ Storage	°C	-40 ... +125 ⁴⁾		-30...+100 ⁴⁾	-40 ... +125 ⁴⁾		
⁴⁾ -40 ... +125 °C = -40 ... +257 °F / -30 ... +100 °C = -22 ... +212 °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.

Dimensions in mm

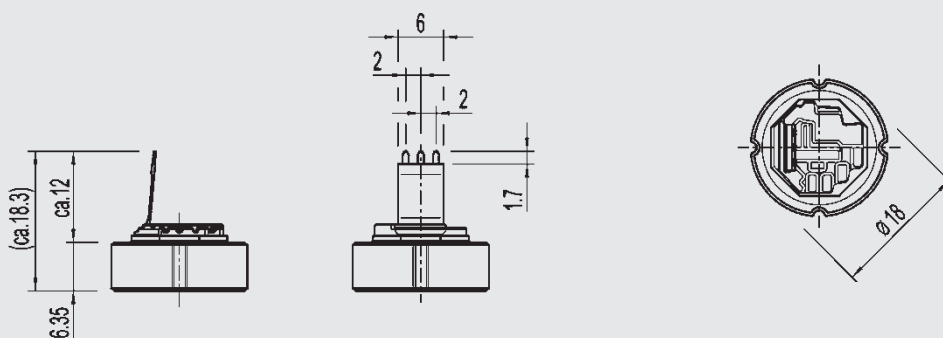
MCTH-1

Module with case
Ingress Protection
IP 40
per IEC 60 529



MCTO-1

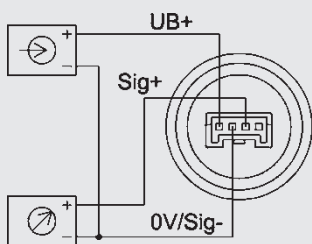
Module without case



Wiring

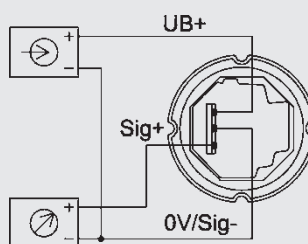
MCTH-1

Module with case

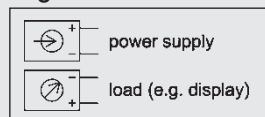


MCTO-1

Module without case



Legende:



	Order No.
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

The screenshot displays the Wika website interface. On the left, there is a navigation menu with options like 'Wika News', 'Product News', and 'Trade Shows'. The main content area features several news items, including 'Flexibility down to the last detail - electronic pressure measuring solutions from WIKA', 'First class electronic pressure measurement', 'New cost-effective pressure controllers', and 'New multi function temperature controllers'. On the right, there is a detailed view of the 'MCTH-1' sensor, titled 'Operating Instructions'. This view includes a photograph of the sensor and text describing it as an 'OEM Pressure sensor module with ceramic thick film technology' and 'OEM Drucksensor-Modul in Keramik-Dickschicht-Technologie'. It also features the Wika logo and contact information for Wika Alexander Wiegand GmbH & Co. KG.

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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