

OEM pressure sensor For heating technology Model PMT10

WIKA data sheet PE 82.01

Applications

- For gaseous and liquid media that are not highly viscous or crystallising and will not attack copper alloy parts
- Pressure measurement in the water cycle of boilers and heat pumps

Special features

- Measuring range 0 ... 4 bar or 0 ... 6 bar
- Voltage signal, e.g. DC 0.5 ... 4.5 V ratiometric
- Reliable and cost-effective
- Compact design
- Low weight



Fig. left: With RAST 2.5 female connector and G $\frac{3}{8}$ B
Fig. right: With cable outlet and plug connection

Description

The model PMT10 is a reliable and cost-effective pressure sensor that is optimised for the specific requirements of heating technology. Under the ambient conditions prevailing there, the maintenance-free sensor provides constant, precise measured data and guarantees a high level of operational safety. Thus the PMT10 is the ideal choice for OEM use.

Functionality specifically developed for the requirements of heating technology

A mechanical measuring system generates a deflection proportional to the pressure. This deflection is converted into the output signal using a non-contact position sensor with evaluation electronics. Thanks to the non-contact position sensor, the signal transmission is frictionless and therefore completely wear-free.

Think big – with WIKA as an OEM supplier

Secure supply chains, high quality standards and a comprehensive range of services worldwide make WIKA a reliable OEM supplier – especially for large volume orders. Model PMT10 pressure sensors are available on short notice, in high quantities, with the specified electrical connections and process connections. Customer-specific interfaces and adaptations can be realised together.

Specifications

Accuracy specifications	
Accuracy	→ See "Max. measured error per IEC 61298-2"
Max. measured error per IEC 61298-2	$\leq \pm 2.5\%$ of span
Medium temperature coefficient at 2 ... 90 °C [36 ... 194 °F]	
Zero point	Typical $\leq 0.4\%$ of span/10 K
Span	Typical $\leq 0.1\%$ of span/10 K
Long-term stability	$\leq \pm 0.3\%$ of span/year
Reference conditions	Per IEC 61298-1 in a vertical position with the process connection downwards

Measuring ranges, gauge pressure

bar	
0 ... 4	0 ... 6

→ Other measuring ranges on request.

Further details on: Measuring range	
Unit	bar
Maximum working pressure	→ Corresponds to the end of measuring range
Overpressure limit	1.2 times, short time The overpressure limit is based on the measuring range.
Burst pressure	> 50 bar

Process connection	
Standard	
ISO 228-1	■ G ¼ B, male thread ■ G ⅜ B, male thread
Plug connection	■ Plug connection, D1 = 11.8 mm ■ Plug connection, D1 = 13.75 mm
Seal	EPDM

Details must be tested separately in the respective application. The specified values for the overpressure limit serve only as a rough orientation. The values depend on the temperature, the seal used, the selected torque, the type and material of the mating thread and the prevailing operating conditions.

→ Other process connections on request.

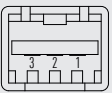
Output signal	
Signal type	
Ratiometric (3-wire)	■ DC 0.5 ... 2.5 V ■ DC 0.5 ... 3.5 V ■ DC 0.5 ... 4.5 V
Load	> max. output signal/1 mA
Auxiliary power	
Supply voltage	DC 5 V $\pm 5\%$
Overvoltage resistance	DC 12 V, max. 10 minutes
Dynamic behaviour	
Settling time per IEC 61298-2	≤ 250 ms

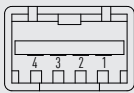
→ Other output signals on request.

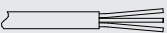
Electrical connection	
Connection type	■ RAST 2.5 female connector, 3-pin ■ RAST 2.5 female connector, 4-pin ■ Cable outlet
Cable outlet	
Wire cross-section	3 x 0.14 mm ²
Cable diameter	4.1 mm
Cable length	1.5 m
Pin assignment	→ See below
Ingress protection (IP code) per IEC 60529 ¹⁾	
RAST plug connection	IP20
Cable outlet	IP44
Short-circuit resistance	S+ against 0 V, 10 minutes at max. permissible supply voltage
Reverse polarity protection	U+ against 0 V, 10 minutes at max. permissible supply voltage
Insulation voltage	DC 500 V

1) The stated IP codes only apply when plugged in using mating connectors that have the appropriate IP code.

Pin assignment

RAST 2.5 female connector, 3-pin		
	U+	1
	U-	2
	S+	3

RAST 2.5 female connector, 4-pin		
	U+	3
	U-	4
	S+	1

Cable outlet, 3-wire		
	U+	Red
	U-	Black
	S+	Orange

Legend

U+ Positive power supply terminal
U- Negative power supply terminal
S+ Analogue output

Material	
Material (wetted)	■ Copper alloy ■ Glass-fibre reinforced plastic (PA)
Material (in contact with the environment)	Glass-fibre reinforced plastic (PA)

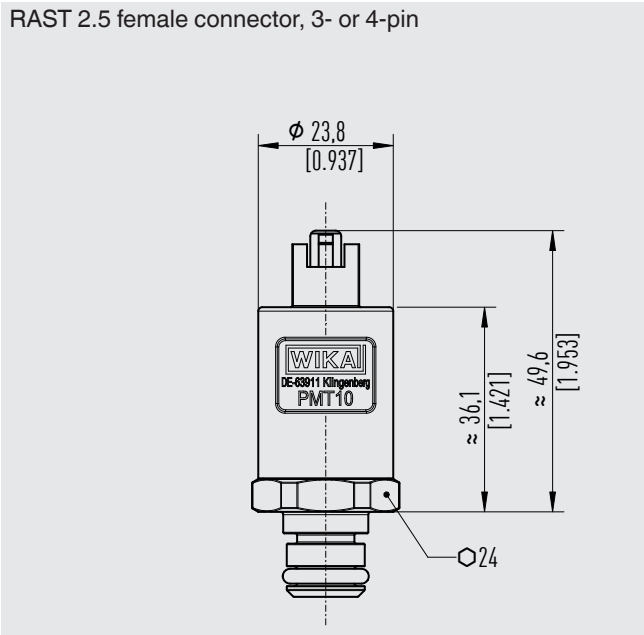
Operating conditions	
Medium temperature limit	2 ... 90 °C [36 ... 194 °F]
Ambient temperature limit	-30 ... +90 °C [-22 ... +194 °F]
Storage temperature limit	-40 ... +90 °C [-40 ... +194 °F]
Relative humidity	0 ... 95 % relative humidity, non-condensing
Ingress protection (IP code) per IEC 60529	→ See "Electrical connection"

→ For further information, see installation instructions

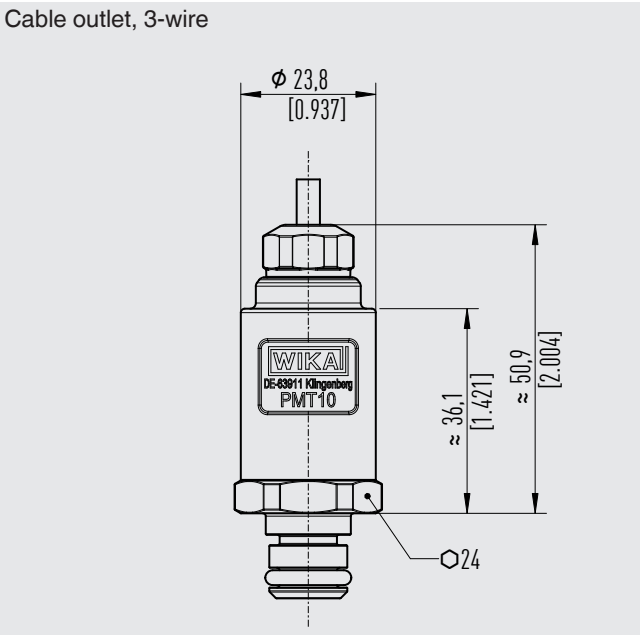
Packaging and instrument labelling	
Packaging	Multiple packaging
Instrument labelling	WIKA product label, lasered

Dimensions in mm [in]

RAST 2.5 female connector, 3- or 4-pin

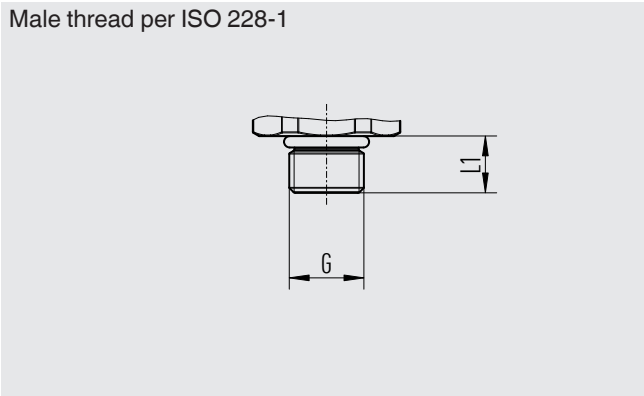


Cable outlet, 3-wire



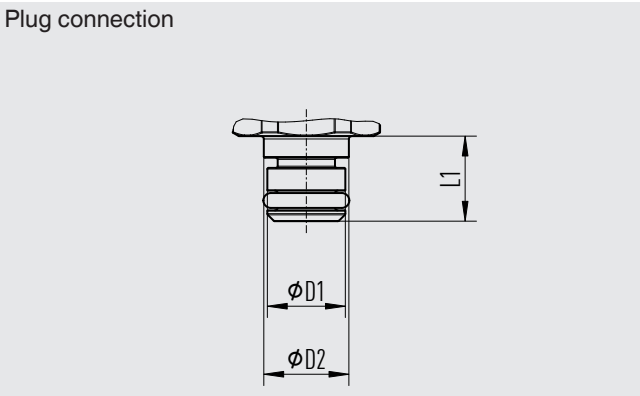
Process connection of the sensor

Male thread per ISO 228-1



G	L1
G ¼ B	10 [0.39]
G ⅜ B	10 [0.39]

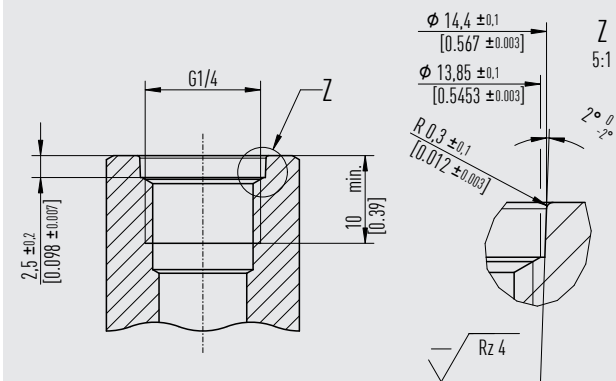
Plug connection



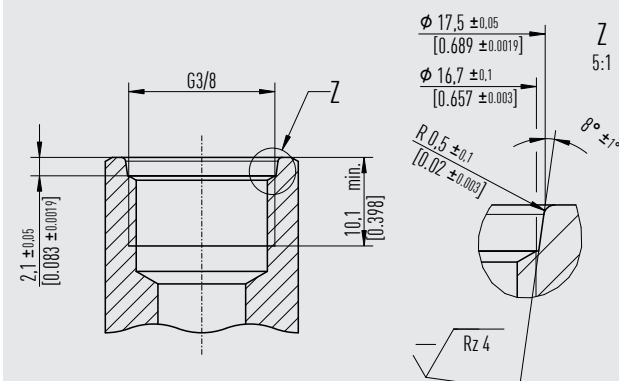
D1	D2	L1
11.8 [0.4657]	12.5 [0.4921]	14.2 [0.5591]
13.75 [0.5413]	15 [0.5905]	15 [0.5905]
13.75 [0.5413]	14.85 [0.5846]	15.11 [0.5949]

Process connections on the customer side

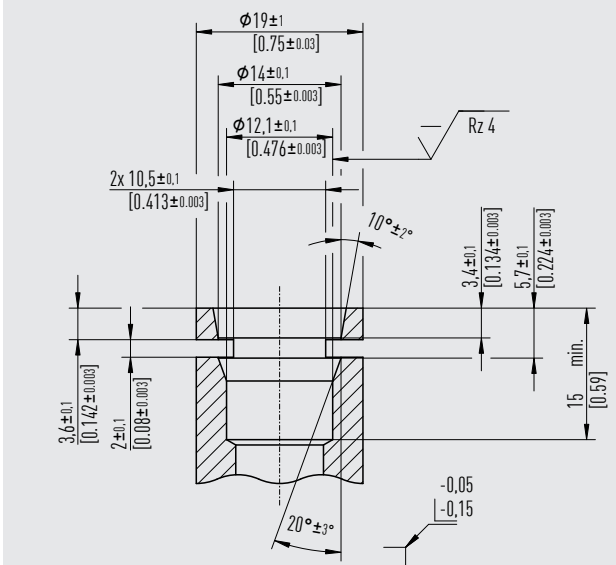
Female thread per ISO 228-1, G 1/4 B



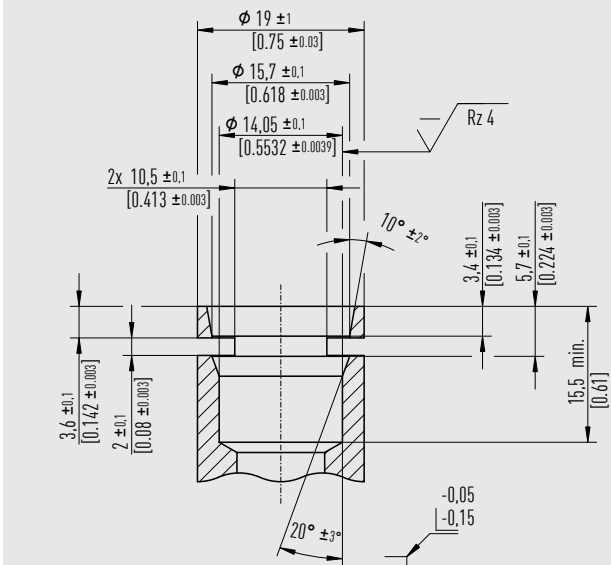
Female thread per ISO 228-1, G 3/8 B



Plug connection, D1 = 11.8 mm

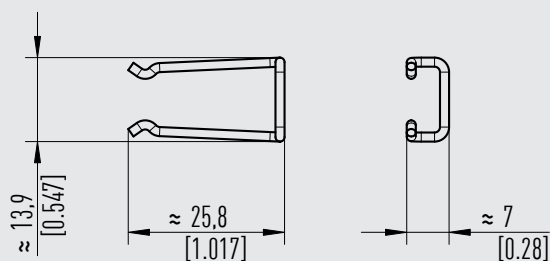


Plug connection, D1 = 13.75 mm



Accessories

Clamp for plug connection



Order number: 14579614

Ordering information

Model / Measuring range / Output signal / Process connection / Electrical connection

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