

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 water circuits 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. centre: customised cable outlet and plug connection

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.

Suitability for flammable refrigerants

The model PMT10 enables reliable pressure measurement in water circuits of boilers and heat pumps. It is suitable for applications with flammable refrigerants, even in the case of direct contact through a leakage.

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: ≤ 0.4 % of span/10 K
Span	Typical: ≤ 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

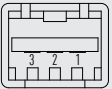
→ Other output signals on request.

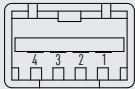
Electrical connection	
Connection type	■ RAST 2.5 female connector, 3-pin ■ RAST 2.5 female connector, 4-pin ■ Cable outlet, flying leads
Cable outlet	
Wire cross-section	3 x 0.14 mm ²
Cable diameter	4.1 mm
Cable length	1.5 m
Pin assignment	→ See below
Ingress protection (IP code) per IEC 60529 ¹⁾	
RAST 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

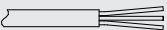
1) The stated IP codes only apply when plugged in using mating connectors that have the appropriate IP code.

→ Other electrical connections on request.

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, flying leads, 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

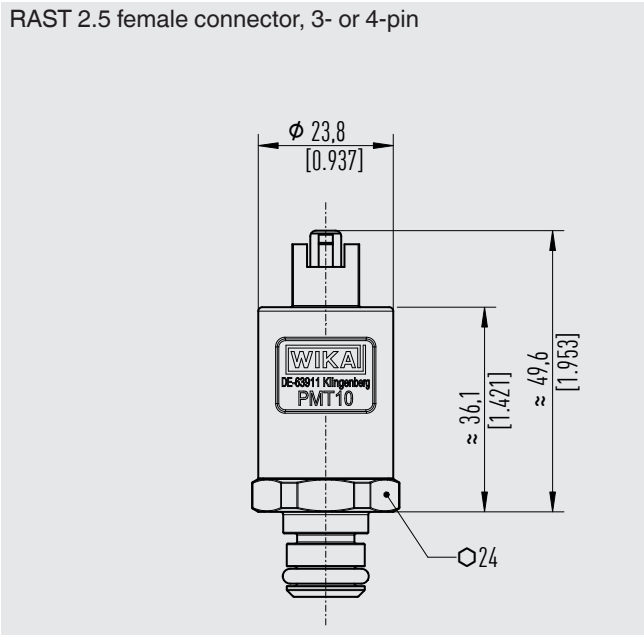
Manufacturer’s declaration

Logo	Description
-	Suitability for pressure measurement in water circuits of systems using flammable refrigerants. Version without case ventilation with fixed cable outlet.

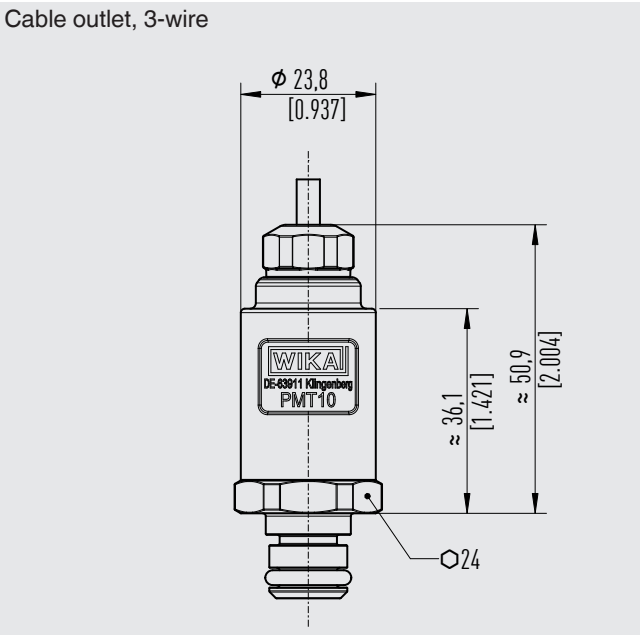
→ For manufacturer’s declarations, see website

Dimensions in mm [in]

RAST 2.5 female connector, 3- or 4-pin

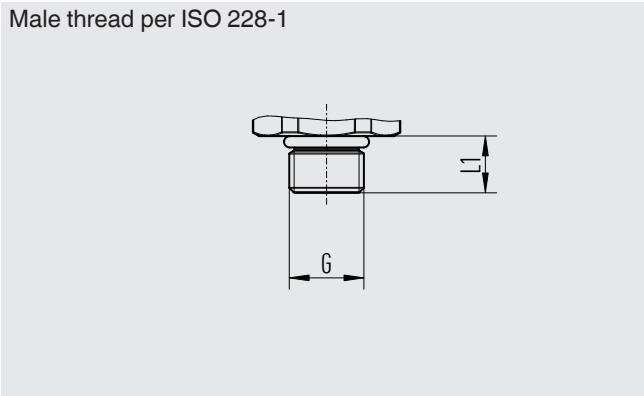


Cable outlet, 3-wire



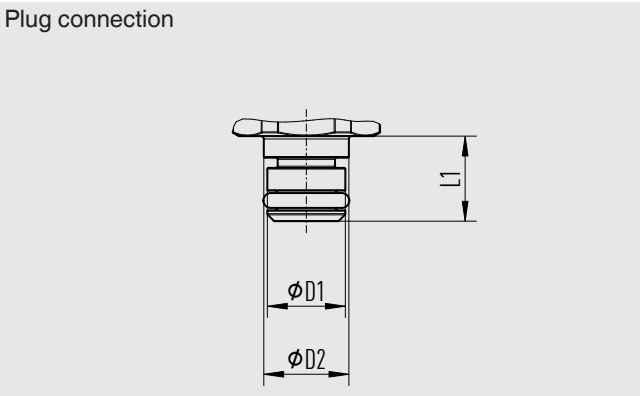
Process connection of the sensor

Male thread per ISO 228-1



G	L1
G ¼ B	10 [0.39]
G ⅜ B	10 [0.39]

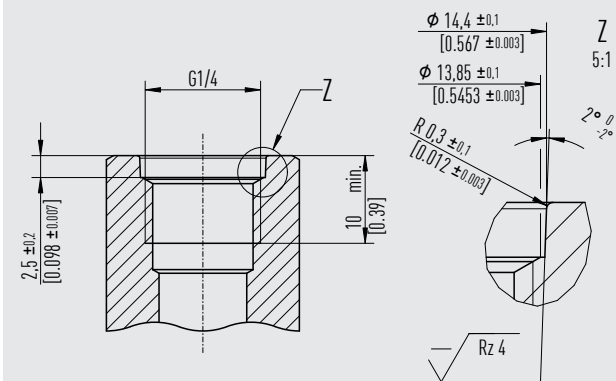
Plug connection



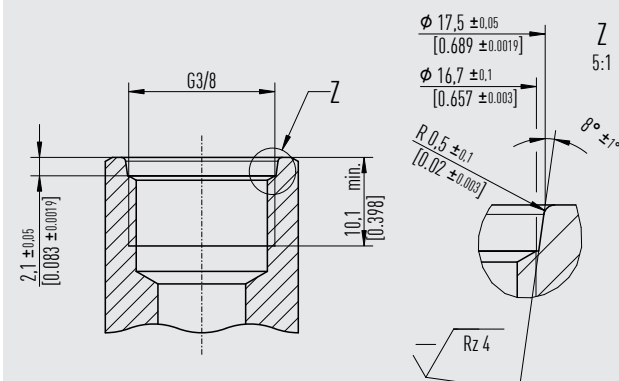
D1	D2	L1
11.8 [0.4657]	12.5 [0.4921]	14.2 [0.5591]
13.75 [0.5413]	15 [0.5905]	15 [0.5905]
13.75 [0.5413]	14.85 [0.5846]	15.11 [0.5949]

Process connections on the customer side

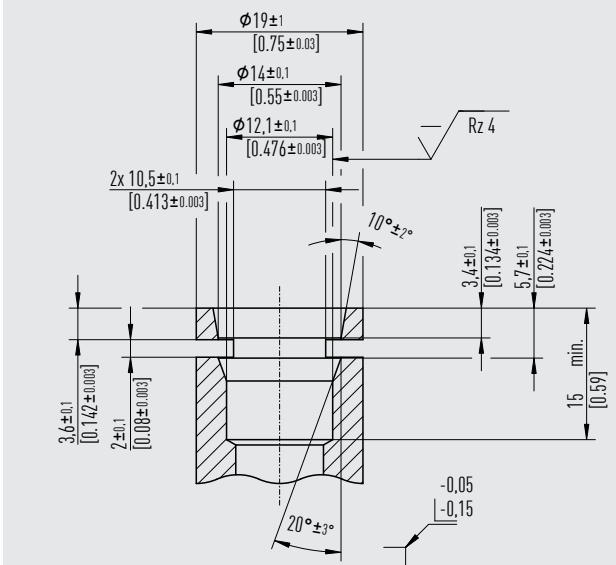
Female thread per ISO 228-1, G 1/4 B



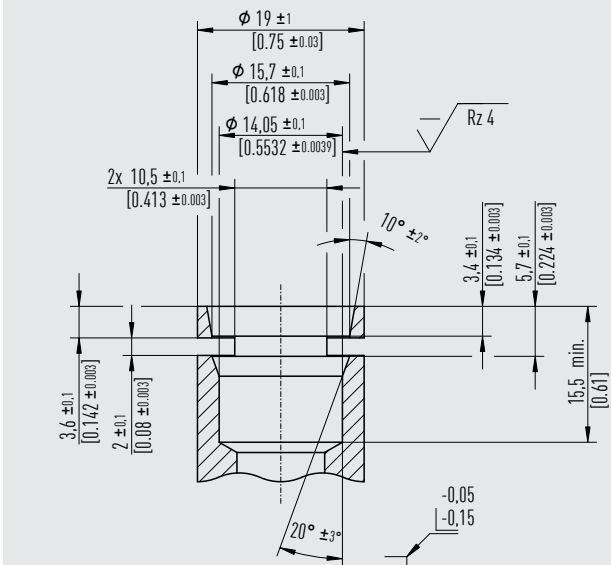
Female thread per ISO 228-1, G 3/8 B



Plug connection, D1 = 11.8 mm

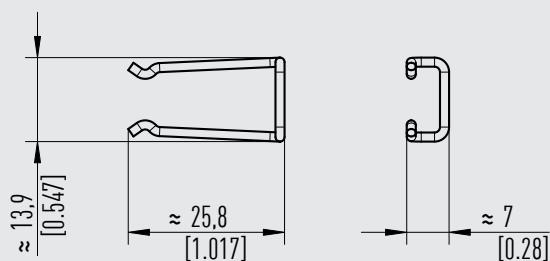


Plug connection, D1 = 13.75 mm



Accessories

Clamp for plug connection



Order number: 14579614

Ordering information

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

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