

Type 02170



Temperature sensors Pt with MA head up to 150°C

- head stem
- pairs for heat measuring devices according to Government decree no. 464/2005 Coll.

Characteristics

- Sensor 1x or 2 x Pt 100, Pt 500, Pt 1000
- Connection 2-wire, sensors in tolerance class A 4-wire
- Measured stem diameter 6 or 4 mm.
- Mounting in wells.

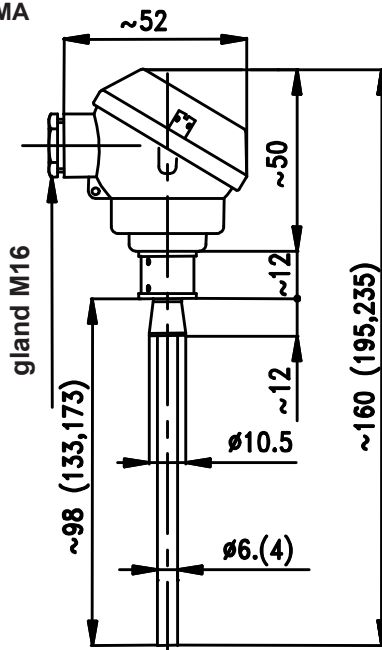
Description - use

The sensors are designed for temperature measuring. The sensor signal can be evaluated for temperature measuring registration or signalisation. The paired are used as a part of heat measuring devices for sensing the temperature difference in the inlet and outlet piping. The product is subject to ČSN EN 60751, the paired are subject to Government Decree no. 464/2005 Coll., which in the CR implements the European Parliament and Council Directive 2004/22/ES and other related standards. The pair assignment is specified by the production number on the label. Digit indication 1 and 2 is used for differentiating for inlet and return piping.

They are connected by means of terminal block in the head. Wells and stems are form stainless steel. Temperature of AI head is max. -40 to +100°C.

Dimension drawing

- sensor with head MA



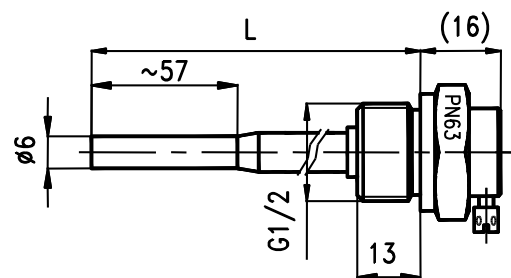
Covered connection into terminal block placed in the head. Head lid diameter 48 mm. Temperature of AI head is -40 to +100°C. Material: stem - stainless steel class 17, head - Al

Technical data

- Measuring range: -50 to +150°C for common use
0 to +150°C for verified design
- Measuring current: 1 mA
- Tolerance class: A, B according to ČSN EN 60751 (in 2xPt only B)
- Protection class: IP 54
- Temperature reaction time: no reservoir - water 15 s, air 50 s

Accessories upon order

- wells for sensors with stem diameter 4 mm



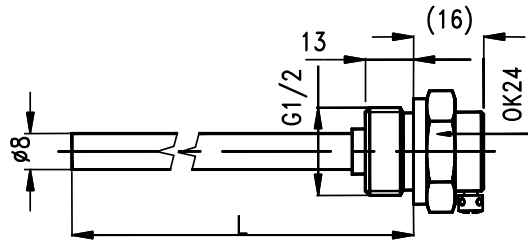
| Well order no. | L |
|-----------------|-----|
| 31 02170 606602 | 85 |
| 31 02170 606603 | 120 |
| 31 02170 606604 | 160 |

- wells are supplied with sealing Cu ring and sealing option

Material: stainless steel class 17 (DIN 1.4541), PN 63 dle ČSN 13 0010

Due to continual technical development the manufacturer reserves the right to change parameters without prior notification.

- wells for sensors with stem diameter 6 mm

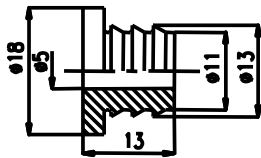


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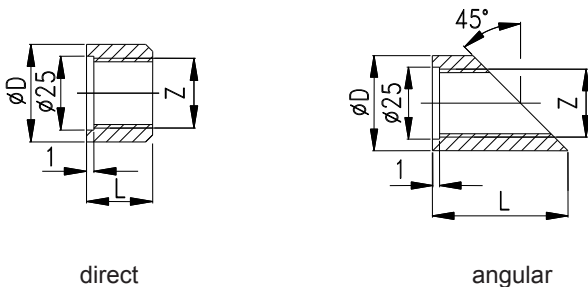
Material: stainless steel class 17 (DIN 1.4541), PN 63 dle ČSN 13 0010

- rubber bushing



The bushing has a function of wall, sheet metal plug, etc.
Order No.: **405 061 014 516**
Material: silicone (max. 180°C)

- weld-on-pieces



| Order No. weld-on-piece | Type | Z | L | ØD |
|-------------------------|---------|------|----|----|
| 405 911 081 416 | direct | G1/2 | 19 | 28 |
| 405 911 081 616 | angular | G1/2 | 40 | 28 |
| 405 911 081 816 | | | 46 | |

The weld-on-pieces are supplied with sealing Cu rings and have aperture for sealing option.
Material: welding steel class 11 (DIN 1.0308, DIN 2391)

- sealing rings Cu (package 10 pcs) - for wells and weld-on-pieces

| Order No. | Dimension |
|-----------------|-----------|
| 405 911 082 716 | 21 x 25 |

Permitted resistance deviations of Pt sensors from rated values for tolerance classes specified in °C

| Tolerance class | Tolerance $\Delta T/K$ temperature $ t $ in °C | tolerance at $t = 0^\circ C$ | |
|-------------------|--|------------------------------|-----------------|
| | | $\Delta T/K$ | Pt 100 [Ω] |
| A ČSN EN 60751 | $\pm 0,15 + 0,002 t $ | $\pm 0,15$ | 99,94 to 100,06 |
| B ČSN EN 60751 | $\pm 0,30 + 0,005 t $ | $\pm 0,30$ | 99,88 to 100,12 |

Rated values of measuring resistance Pt for information purposes depending on temperature (ČSN EN 60751)

| t [°C] | Pt100 [Ω] | t [°C] | Pt100 [Ω] | t [°C] | Pt100 [Ω] |
|--------|-----------|--------|-----------|--------|-----------|
| -50 | 80,31 | 40 | 115,54 | 130 | 149,83 |
| -40 | 84,27 | 50 | 119,40 | 140 | 153,58 |
| -30 | 88,22 | 60 | 123,24 | 150 | 157,33 |
| -20 | 92,16 | 70 | 127,08 | 160 | 161,05 |
| -10 | 96,09 | 80 | 130,90 | 170 | 164,77 |
| 0 | 100,00 | 90 | 134,71 | 180 | 168,48 |
| 10 | 103,90 | 100 | 138,51 | 190 | 172,17 |
| 20 | 107,79 | 110 | 142,29 | 200 | 175,86 |
| 30 | 111,67 | 120 | 146,07 | 210 | 179,53 |

Warranty

24 months warranty is provided from the delivery date unless specified otherwise in the purchase contract.

Ordering devices

| Code | Name | | | | | | | | | | | | | | |
|-------------------|---|----------|----------------------|-----------|---|----|----------------------|----|-----------------------|----|---|----|---|---|--|
| 30 02170 9 | Temperature sensor with head MA | | | | | | | | | | | | | | |
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| 1 | 1 x Pt 100 | | | | | | | | | | | | | | |
| 2 | 1 x Pt 500 | | | | | | | | | | | | | | |
| 3 | 1 x Pt 1000 | | | | | | | | | | | | | | |
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| 30 | stem Ø 4, L = 133 mm | | | | | | | | | | | | | | |
| 40 | stem Ø 4, L = 173 mm | | | | | | | | | | | | | | |
| 50 | stem Ø 6, L = 98 mm | | | | | | | | | | | | | | |
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| 30 02170 9 | 1 | 1 | 4 | 20 | Ordered No. | | | | | | | | | | |

Order example: 1 pair of temperature sensor, type 02170, Pt100, 2 wire, stem diameter 4 mm, stem length 98 mm

