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## JUMO HEATtemp

# Push-in RTD temperature probe for combined cold/heat meter with connecting cable for thermowells (type PS/PL)

- For temperatures from 0 to 120 °C (cold) and 0 to 180 °C (heat)
- Type examination certificate for MID heat meters and domestic approval for cold meters as replaceable temperature probes
- Fulfills the requirements of DIN EN 1434, AGFW FW202, and FW211
- Pairing and declaration of conformity according to German Weights and Measures Act as well as MID
- Production certified according to module D (MID) (CE and metrology identification marking)
- Coordinated accessories for installation (data and price sheets 902440 and 902442)

### Brief description

Combined cold/heat meter RTD temperature probes are used for temperature measurement in closed pipeline systems. As the probes are installed in thermowells, emptying the system for regular replacement at the end of the certification period is no longer necessary.

The temperature probes are approved according to the EU Directive 2014/32/EU (MID) as well as according to the German Weights and Measures Act (Mess- und Eichgesetz or MessEG). The temperature probes are available in the paired version and a version with a declaration of conformity. The officially recognized test facility for heat KHE2 is available for this purpose. Production has been certified according to Annex D of Directive 2014/32/EU and Annex 4 Module D of the German Weights and Measures Act.

#### Note:

We recommend the following installation in accordance with technical directive TR-K9 (current state of technology):

For heat/cold meters with nominal flows of  $\leq q_p 6 \text{ m}^3/\text{h}$ , the temperature sensors must only be installed directly immersed in the area of the measuring point with nominal pressures  $\leq 16 \text{ bar}$  when the pipeline section is newly installed. Temperature probes with thermowells can also be installed under these circumstances, but only when under increased strain (for example pressure, temperature, flow velocity, or oscillation).



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## Technical data

Process connection	Push-in RTD temperature probe for thermowells
Connection	Ferrules
Connecting cable	PVC, PUR (TPE), silicone; unshielded or shielded
Protection tube	Type PS: stainless steel Ø 5.0 mm, Ø 5.2 mm, or Ø 6.0 mm Type PL: stainless steel Ø 6.0 mm Protection tube with fitting tolerance for thermowells
Measuring insert	Platinum temperature sensor according to DIN EN 60751 Nominal value: Pt100, Pt500, or Pt1000 Connection: two-wire or four-wire circuit
Temperature	Type PS: 0 to 150 °C (heat), 0 to 150 °C (cold) Type PL: 0 to 180 °C (heat), 0 to 150 °C (cold)
Temperature difference	Type PS: 3 to 150 °C (heat) Type PL: 3 to 85 °C (cold)
Minimum immersion depth	Type PS: > 15 mm Type PL: 30 mm
Insertion length	Type PS: 45 to 85 mm Type PL: 85 to 450 mm
Environmental influences	Climatic 0 to 55 °C Protection type IP65 Mechanical M3
Accessories	Thermowells, see data and price sheet 902440 Accessories, see data and price sheet 902442
Sensor design	Type 902465/50: Wrap-around contact Type 902465/51: Flip chip Type 902465/30: PCA

### Response in thermowells

Basic type	Protection tube Ø	Response time $t_{0,5}$	Response time $t_{0,9}$
902465/30	6,0 mm	≤ 6,0 s	≤ 13,0 s
902465/50	5,0/5,2 mm	≤ 7,5 s	≤ 27,0 s
	6,0 mm	≤ 11,0 s	≤ 30,0 s
902465/51	5,0/5,2 mm	≤ 7,0 s	≤ 22,9 s
	6,0 mm	≤ 10,1 s	≤ 28,7 s

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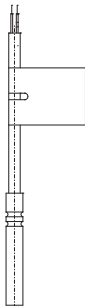
## Connecting cable lengths according to DIN EN 1434

Conductor cross section	Max. connecting cable length AL for Pt100	Max. connecting cable length AL for Pt500	Max. connecting cable length AL for Pt1000
0.22 mm <sup>2</sup>	2500 mm	12500 mm	25000 mm
0.34 mm <sup>2</sup>	3500 mm	17500 mm	35000 mm
0.50 mm <sup>2</sup>	5000 mm	25000 mm	50000 mm

**Note:**

The possible limitation of the connecting cable length due to the type examination certificate of the ALU/meter should also be taken into account. For four-wire circuits, the max. connecting cable lengths are limited by the requirements of the ALU/meter.

## Overview of approvals

Version	Basic type	Type examination certificate	
		Type	Number
	902465/50 (PS), 902465/51 (PS)	Weights and Measures Act (Germany, cold)	DE-15-M-PTB-0052
	PS = Pocket Short (short temperature probe, with thermowell)		
	902465/30 (PL)	Weights and Measures Act (Germany, cold)	DE-15-M-PTB-0050
	PL = Pocket Long (long temperature probe, with thermowell)		

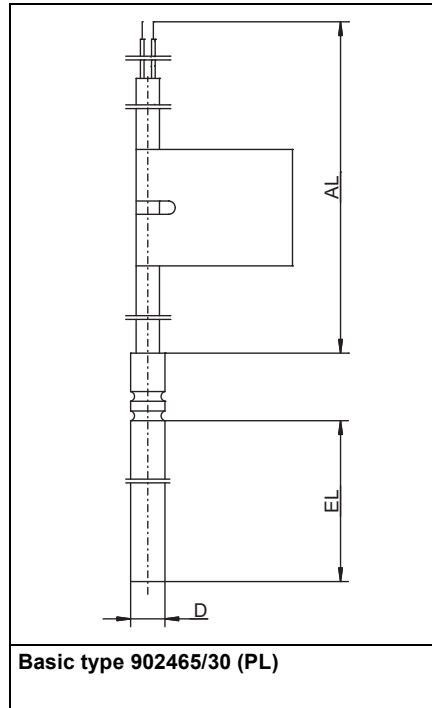
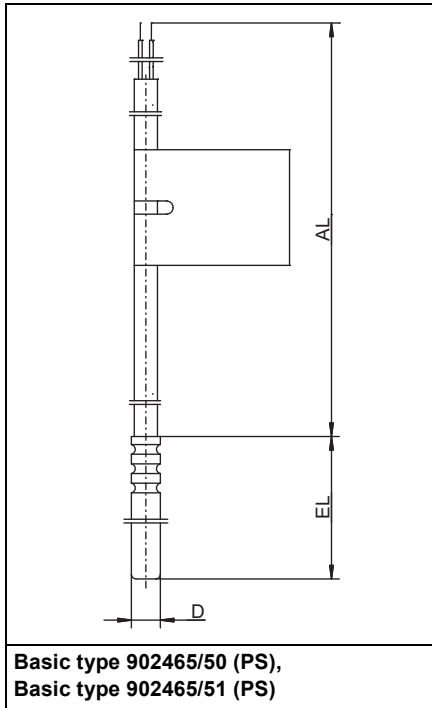
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## Dimensions



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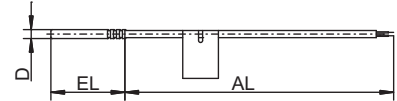
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## Order details

### (1) Basic type

902465/50 Push-in RTD temperature probe  
 902465/51 for installation in a thermowell (PS),  
 protection tube made from stainless steel



### (2) Operating temperature in °C

x 815 0 to 105 °C/PVC 105, PUR (only in two-wire circuit)  
 x 824 0 to 150 °C/silicone

### (3) Measuring insert

x 1003 1× Pt100 in two-wire circuit  
 x 1004 1× Pt500 in two-wire circuit  
 x 1005 1× Pt1000 in two-wire circuit  
 x 1011 1× Pt100 in four-wire circuit  
 x 1012 1× Pt500 in four-wire circuit  
 x 1013 1× Pt1000 in four-wire circuit

### (4) Tolerance class according to DIN EN 60751

x 1 Class B (standard)  
 x 2 Class A  
 x 3 Class AA

### (5) Protection tube diameter D in mm

x 5 Ø 5 mm  
 x 5.2 Ø 5.2 mm  
 x 6 Ø 6 mm

### (6) Insertion length EL in mm (45 to 85 mm)

x 45 45 mm (only for Ø 5 mm and Ø 5.2 mm)  
 x 50 50 mm (only for Ø 6 mm)  
 x 60 60 mm (only for Ø 6 mm)  
 x ... Specifications in plain text

### (7) Connecting cable end

x 04 Tin-plated connection strands (only for temperature probes permanently connected to the ALU)  
 x 11 Ferrules according to DIN 46228 Part 4 (standard)

### (8) Connecting cable length AL in mm (> 500 mm)

x 1500 1500 mm  
 x 2500 2500 mm (standard)  
 x ... Specifications in plain text (increments of 500 mm, max. connecting cable length: see table)

### (9) Extra codes

x 000 None  
 x 317 Shielded connecting cable  
 x 340 Paired according to DIN EN 1434<sup>a</sup>  
 x 341 Paired according to DIN EN 1434 with conformity assessment/identification marking according to German Weights and Measures Act<sup>a</sup> (cold, Germany)  
 x 761 Paired according to DIN EN 1434 with conformity assessment/identification marking according to MID<sup>a</sup> (heat)

<sup>a</sup> Price for pairing depends on number of units; minimum quantity for paired temperature probes to be cost effective: 30 pairs

**Order code**      (1)      (2)      (3)      (4)      (5)      (6)      (7)      (8)      (9)      ...<sup>a</sup>  
 -  -  -  -  -  -  -  -  /  ...<sup>a</sup>  
**Order example**      902465/51      -      824      -      1003      -      1      -      5      -      45      -      11      -      2500      /      341

<sup>a</sup> List extra codes in sequence and separate using commas.

**Note:**

Thermowells, see data and price sheet 902440  
 Accessories, see data and price sheet 902442

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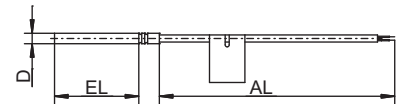
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**(1) Basic type**

902465/30 Push-in RTD temperature probe  
 for installation in a thermowell (PL),  
 protection tube made from stainless steel



**(2) Operating temperature in °C**

- x 815 0 to 105 °C/PVC 105, PUR (only in two-wire circuit)
- x 824 0 to 150 °C/silicone
- x 830 0 to 180 °C/silicone

**(3) Measuring insert**

- x 1003 1× Pt100 in two-wire circuit
- x 1004 1× Pt500 in two-wire circuit
- x 1005 1× Pt1000 in two-wire circuit
- x 1011 1× Pt100 in four-wire circuit
- x 1012 1× Pt500 in four-wire circuit
- x 1013 1× Pt1000 in four-wire circuit

**(4) Tolerance class according to DIN EN 60751**

- x 1 Class B (standard)
- x 2 Class A
- x 3 Class AA

**(5) Protection tube diameter D in mm**

- x 6 Ø 6 mm

**(6) Insertion length EL in mm (105 to 450 mm)**

- x 105 105 mm
- x 140 140 mm
- x 230 230 mm
- x ... Specifications in plain text

**(7) Connecting cable end**

- x 04 Tin-plated connection strands (only for temperature probes permanently connected to the ALU)
- x 11 Ferrules according to DIN 46228 Part 4 (standard)

**(8) Connecting cable length AL in mm (> 500 mm)**

- x 1500 1500 mm
- x 2500 2500 mm (standard)
- x ... Specifications in plain text (increments of 500 mm, max. connecting cable length: see table)

**(9) Extra codes**

- x 000 None
- x 317 Shielded connecting cable
- x 340 Paired according to DIN EN 1434<sup>a</sup>
- x 341 Paired according to DIN EN 1434 with conformity assessment/identification marking according to German Weights and Measures Act<sup>a</sup> (cold, Germany)
- x 761 Paired according to DIN EN 1434 with conformity assessment/identification marking according to MID<sup>a</sup> (heat)

<sup>a</sup> Price for pairing depends on number of units; minimum quantity for paired temperature probes to be cost effective: 30 pairs

**Order code**      (1)      (2)      (3)      (4)      (5)      (6)      (7)      (8)      (9)  
 [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] / [ ]...<sup>a</sup>  
**Order example**      902465/30 - 830 - 1003 - 1 - 6 - 140 - 11 - 2500 / 341

<sup>a</sup> List extra codes in sequence and separate using commas.

**Note:**  
 Thermowells, see data and price sheet 902440  
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