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JUMO HEATtemp

Screw-in RTD Temperature Probe for Heat Meters with Connecting Cable for Direct Mounting (Type DS/DL)

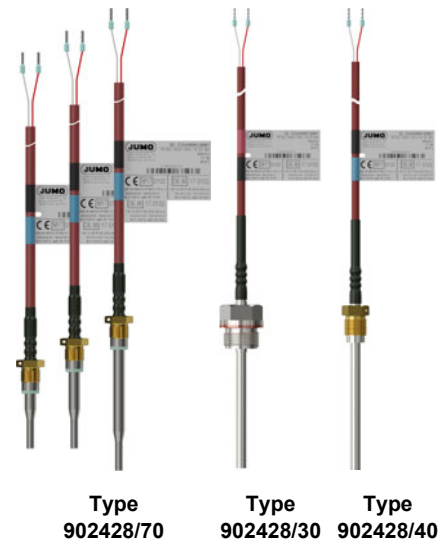
- For temperatures between 0 and 150 °C and 180 °C
- Type examination certificate for MID heat meters as replaceable temperature probes
- Fulfills the requirements of DIN EN 1434, AGFW FW 202, and FW 211
- Pairing and declaration of conformity according to MID
- Production certified according to module D (MID) (CE and metrology identification marking)

Heat meter RTD temperature probes are used for temperature measurement in closed pipeline systems. Direct mounting without additional thermowell is recommended to achieve optimum thermal coupling to the measurement medium in the heating system.

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).

For heat/cold meters with nominal flows $\leq q_p$ 6 m³/h the installation of temperature probes for a new installation of the pipeline section in the measuring point area with nominal flows \leq 16 bar is intended. Installation in ball valves has been shown to be the optimum installation location (see data sheet 902442). In addition, emptying the system when installing and replacing the temperature probe at the end of the calibration period is no longer necessary.

The temperature probes are available in a paired and conformity-assessed version. 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.



Technical data

Connection	Ferrules
Connecting cable	PVC, PUR (TPE), silicone; unshielded or shielded
Process connection	Type DS: screw connection M10 × 1, brass according to DIN EN 1434 Type DL: thread G 1/4, G 1/2 stainless steel
Protection tube	Type DS: stainless steel Ø 5.4 mm stepped down to Ø 3.6 mm Type DL: stainless steel Ø 8 mm stepped down to Ø 6 mm
Measuring insert	Platinum temperature sensor according to DIN EN 60751 Nominal value: Pt100, Pt500, or Pt1000 Connection: two-wire or four-wire circuit
Sensor design	Type 902428/50, 902428/70: all-round contact Type 902428/51, 902428/71: flip chip Type 902428/30, 902428/40: PCA
Temperature	Type DS: 0 to 150 °C Type DL: 0 to 180 °C
Temperature difference	3 to 180 K
Minimum immersion depth	Type DS: 15 mm Type DL: 30 mm
Insertion length	Type DS: 25 to 60 mm Type DL: 60 to 280 mm
Maximum pressure	PS 25
Flow velocity	2 m/s (water)
Thermoelectric voltage	\leq 5 μ V
Environmental influences	Climatic 5 to 55 °C Protection type IP65 Mechanical M3

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**Response**

Basic type	Protection tube Ø	Response time $t_{0,5}$	Response time $t_{0,9}$
902428/20	3.3 mm	≤ 2.0 s	≤ 5.0 s
902428/50	5.0 mm/5.2 mm	≤ 3.5 s	≤ 10.5 s
902428/51	5.0 mm/5.2 mm	≤ 2.5 s	≤ 7.6 s
902428/70	3.6 mm	≤ 2.0 s	≤ 5.0 s
902428/71	3.6 mm	≤ 1.1 s	≤ 3.5 s
902428/30	6.0 mm	≤ 6.0 s	≤ 13.0 s
902428/40	6.0 mm	≤ 6.0 s	≤ 13.0 s

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 ²	2500 mm	12500 mm	25000 mm
0.34 mm ²	3500 mm	17500 mm	35000 mm
0.50 mm ²	5000 mm	25000 mm	50000 mm

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.

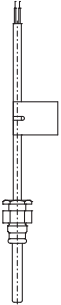
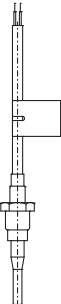
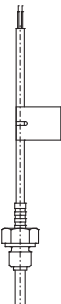
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Overview of approvals

Version	Basic type	Type examination certificate	
		Type	Number
	902428/50 (DS), 902428/51 (DS)	Module B according to MID ^a (heat)	A0445-2112-2007 (150 °C)
	DS = Direct short (short temperature probe, without immersion sleeve)		
	902428/70 (DS), 902428/71 (DS)	Module B according to MID ^a (heat)	DE-06-MI004-PTB010 (150 °C)
	DS = Direct short (short temperature probe, without immersion sleeve)		
	902428/30 (DL), 902428/40 (DL)	Module B according to MID ^a (heat)	DE-06-MI004-PTB011 (180 °C)
	DL = Direct long (long temperature probe, without immersion sleeve)		

^a MID = Measuring Instruments Directive, 2014/32/EU

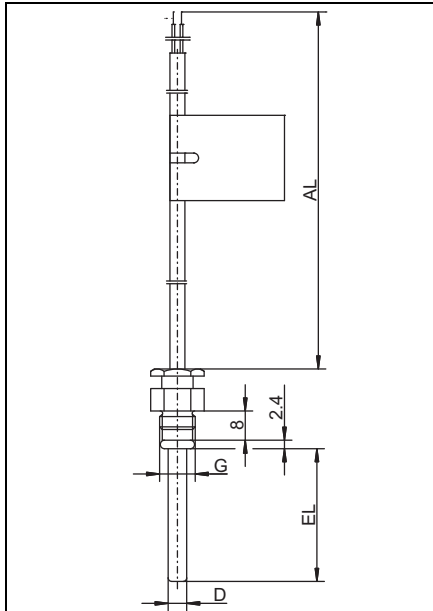
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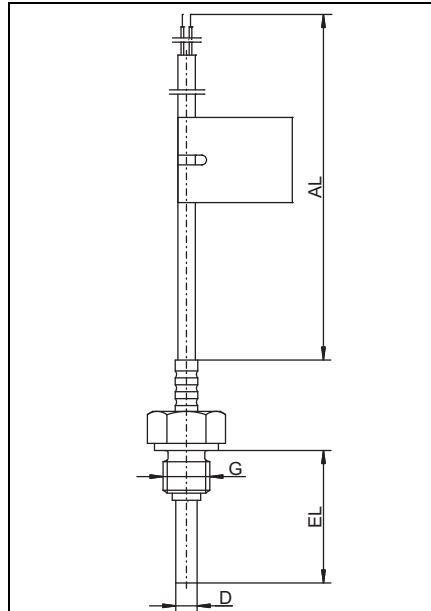
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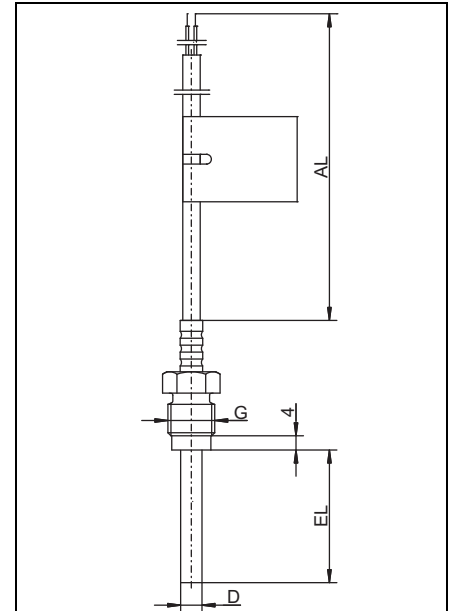
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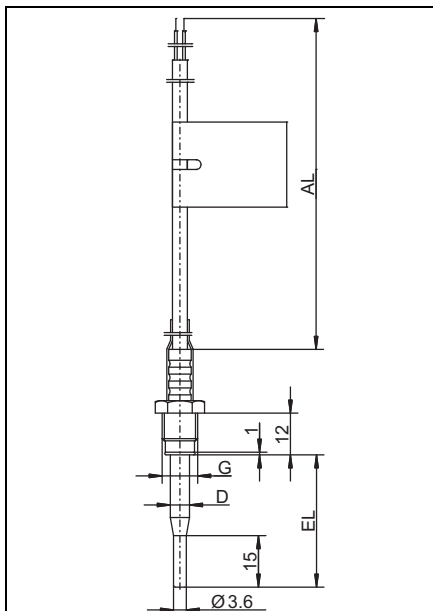
Type 902428/50 (DS),
 Type 902428/51 (DS),
 with loose fitting and smooth protection tube



Type 902428/30 (DL),
 with fixed fitting and smooth protection tube



Type 902428/40 (DL),
 with flange and loose screw connection and
 smooth protection tube



Type 902428/70 (DS),
 Type 902428/71 (DS),
 with loose fitting and offset protection tube

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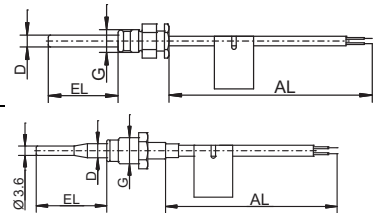
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Order details

(1) Basic type	
902428/50	Screw-in RTD temperature probe for direct mounting (DS) with loose fitting and smooth protection tube
902428/51	
902428/70	Screw-in RTD temperature probe for direct mounting (DS) with loose fitting and offset protection tube
902428/71	
(2) Operating temperature in °C	
x x	815 0 to 105 °C/PVC, PUR (TPE) (only in two-wire circuit)
x x	824 0 to 150 °C/silicone
(3) Measuring insert	
x x	1003 1× Pt100 in two-wire circuit
x x	1004 1 × Pt500 in two-wire circuit
x x	1005 1× Pt1000 in two-wire circuit
x x	1011 1× Pt100 in four-wire circuit
x x	1012 1 × Pt500 in four-wire circuit
x x	1013 1× Pt1000 in four-wire circuit
(4) Tolerance class according to DIN EN 60751	
x x	1 Class B (standard)
(5) Protection tube diameter D in mm	
x	5 Ø 5 mm
x	5.2 Ø 5.2 mm
x	5.4 Ø 5.4 mm stepped down to Ø 3.6 mm
(6) Insertion length EL in mm (25 to 60 mm)	
x	26 26 mm
x	27.5 27.5 mm
x	38 38 mm
x	60 60 mm
x	... Specifications in plain text
(7) Process connection G	
x x	114 Screw connection M10 × 1
(8) Connecting cable end	
x x	04 Tin-plated connection strands (only for temperature probes permanently connected to the ALU)
x x	11 Ferrules according to DIN 46228 Part 4 (standard)
(9) Connecting cable length AL in mm (> 500 mm)	
x x	1500 1500 mm
x x	2500 2500 mm (standard)
x x	... Specifications in plain text (increments of 500 mm)
(10) Extra codes	
x x	000 None
x x	317 Shielded connecting cable
x x	318 Spiral connecting cable (only PUR (TPE))
x x	340 Paired according to DIN EN 1434 ^a
x x	761 Paired according to DIN EN 1434 with conformity assessment/identification marking according to MID ^a (heat)



^a 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)	(10)	...									
Order example	902428/20	-	830	-	1003	-	1	-	5.4	-	27.5	-	114	-	11	-	2500	/	761	...

^a List extra codes in sequence, separated by commas.

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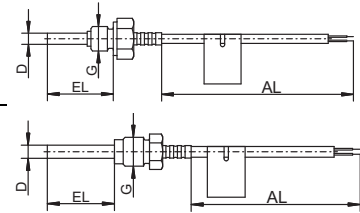
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(1) Basic type

902428/30	Screw-in RTD temperature probe for direct mounting (DL) with fixed fitting and smooth protection tube
902428/40	Screw-in RTD temperature probe for direct mounting (DL) with flange and loose screw connection and smooth protection tube



(2) Operating temperature in °C

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

(3) Measuring insert

x x	1003	1 × Pt100 in two-wire circuit
x x	1004	1 × Pt500 in two-wire circuit
x x	1005	1 × Pt1 000 in two-wire circuit
x x	1011	1 × Pt100 in four-wire circuit
x x	1012	1 × Pt500 in four-wire circuit
x x	1013	1 × Pt1 000 in four-wire circuit

(4) Tolerance class according to DIN EN 60751

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

(5) Protection tube diameter D in mm

x x	6	Ø 6 mm
x x	8	Ø 8 mm stepped down to Ø 6 mm

(6) Insertion length EL in mm (60 to 210 mm)

x x	85	85 mm
x	91	91 mm
x x	120	120 mm
x	146	146 mm
x	210	210 mm (only for Ø 8 mm stepped down to Ø 6 mm)
x x	...	Specifications in plain text

(7) Process connection G

x x	102	Screw connection G 1/4
x	104	Screw connection G 1/2
x x	...	Specifications in plain text

(8) Connecting cable end

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

(9) Connecting cable length AL in mm (> 500 mm)

x x	1500	1500 mm
x x	2500	2500 mm (standard)
x x	...	Specifications in plain text (increments of 500 mm)

(10) Extra codes

x x	000	None
x x	317	Shielded connecting cable
x x	340	Paired according to DIN EN 1434 ^a
x x	761	Paired according to DIN EN 1434 with declaration of conformity/identification marking according to MID ^a

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

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Order example	902428/30	-	830	-	1003	-	1	-	6	-	120	-	104	-	11	-	2500	/	761

^a List extra codes in sequence, separated by commas.