

**JUMO GmbH & Co. KG**  
Delivery address: Mackenrodtstraße 14,  
36039 Fulda, Germany  
Postal address: 36035 Fulda, Germany  
Phone: +49 661 6003-0  
Fax: +49 661 6003-607  
E-mail: mail@jumo.net  
Internet: www.jumo.net

**JUMO Instrument Co. Ltd.**  
JUMO House  
Temple Bank, Riverway  
Harlow - Essex CM20 2DY, UK  
Phone: +44 1279 63 55 33  
Fax: +44 1279 63 52 62  
E-mail: sales@jumo.co.uk  
Internet: www.jumo.co.uk

**JUMO Process Control, Inc.**  
8 Technology Boulevard  
Canastota, NY 13032, USA  
Phone: 315-697-JUMO  
1-800-554-JUMO  
Fax: 315-697-5867  
E-mail: info@jumo.us  
Internet: www.jumo.us



## Screw-in RTD temperature probe with plug connector as per DIN EN 175301

- Temperature range from -50 to +260 °C
- Shakeproof design
- Plug connection locked contact stable, protection class IP65
- Available with transmitter
- GL approval for type 902044/20 and 902044/21

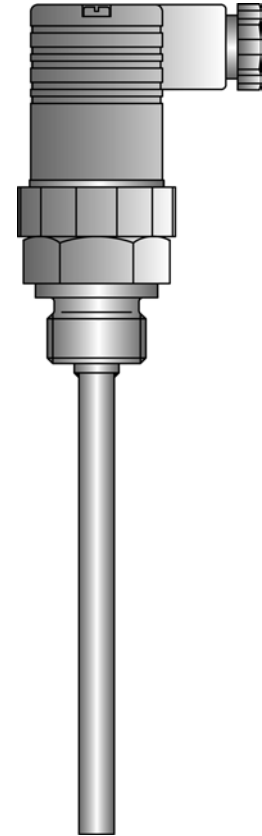
Screw-in RTD temperature probes in vibration proof design allow temperature measuring under pressure in motors, compressors, plant engineering and shipbuilding.

The plug connectors between the protection fitting and the connection cable are locked contact stable and have the protection class IP65 when connected.

The measuring insert is normally fitted with a Pt100 temperature probe as per DIN EN 60751, Class B in 2-wire circuit; versions with Pt500 or Pt1000 can also be supplied.

Connection is available in 2-wire or 4-wire-circuit as an option.

The types 902044/25 to 902044/29 are designed with transmitters (output 4 to 20 mA).



## Technical Data

<b>Connection</b>	Type 902044/20, 902044/25 and 902044/28: plug connector DIN EN 175301-803, Pg9 Type 902044/21, 902044/26 and 902044/29: plug connector DIN EN 175301-803, Pg11 max. cable cross section 1.5 mm <sup>2</sup> , IP65, ambient temperature -40 to +125 °C for the versions equipped with transmitter, ambient temperature -40 to +85 °C
<b>Process connection</b>	Thread, stainless steel 1.4301/1.4571
<b>Thermowell</b>	Stainless steel 1.4571, Ø 8 mm, Ø 6 mm stepped down to Ø 3.3 mm, Pressure load max. 50 bar at 200 °C (type 902044/20 and 902044/21)
<b>Measuring insert</b>	Pt100 temperature probe, DIN EN 60751, cl. B in 2-wire or 4-wire circuit, exchangeable. Shorter fitting lengths in connection with unfavorable fitting conditions (heat dissipation error) can result in an exceedance of the tolerance class. The measuring insert is not exchangeable for version equipped with transmitter.
<b>Protection type</b>	IP65 when connected
<b>Response times</b>	Type 902044/20 and 902044/21: $t_{0.5} = 15$ s, $t_{0.9} = 45$ s, in water with 0.2 m/s, Ø 8 mm Type 902044/25 to 902044/29: $t_{0.5} = <2$ s, $t_{0.9} = <4$ s, in water with 0.2 m/s, Ø 6 mm stepped down to Ø 3.3 mm
<b>Vibration proof design</b>	German Lloyd, application category "D", characteristic line 2
<b>Approval</b>	Type 902044/20 and 902044/21 GL, German Lloyd
<b>Accessories</b>	Thermowell, Data Sheet 90.2440

## Approval/approval marks (see Technical Data)



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**Technical Data**

<b>Transmitter</b>	<b>Input</b>	
	Measuring input	Pt100 (DIN EN 60751)
	Measuring range limits	-50 to +260 °C
	Measuring range	25 to 310 K (also see zero point offset)
	Zero point offset Data sheet 70.7030, page 7/10	for measuring range < 75 K fixed zero point setting: -40 °C, -20 °C, 0 °C, 20 °C, 40 °C for measuring range ≥ 75 K: ±50 °C
	Probe current	≤ 0.5 mA
	Measuring range	Permanent measurement due to analog signal path
	<b>Measuring circuit monitoring</b>	
	Underrange	dropping to ≤ 3.6 mA
	Overrange	increasing to ≥ 22 mA to < 28 mA (typical 24 mA)
	Probe short-circuit	≤ 3.6 mA
	Probe and wire break	positive: ≥ 22 mA to < 28 mA (typical 24 mA)
	<b>Output</b>	
	Output signal	load-independent direct current 4 to 20 mA
	Transmission behavior	temperature linear
	Transmission accuracy	≤ ±0.1 %
	Damping of the residual ripple of a voltage supply of 24 V, amplitude 10 V/50 Hz, burden 470 Ω/Load 10MΩ	40 dB
	Burden (Rb)	$R_b = (U_b - 7.5 \text{ V}) / 22 \text{ mA}$
	Burden influence	≤ ±0.02 % / 100 Ω <sup>1</sup>
	Setting time for temperature changes	≤ 10 ms
	Adjustment conditions	DC 24 V / approx. 22 °C
	Calibration accuracy	≤ ±0.2 % <sup>1,2</sup> or ≤ ±0.2 K
	Overall accuracy, probe/calibration	±0.4 K (typical) at 20 °C / DC 24 V voltage supply
	<b>Voltage supply</b>	
	Voltage supply (U <sub>b</sub> )	DC 7.5 to 30 V
	Reverse voltage protection	yes
	Voltage supply influence	≤ ±0.01 % / V deviation from 24 V <sup>1</sup>
	<b>Environmental influences</b>	
	Operating temperature range	-40 to +85 °C
	Storage temperature range	-40 to +100 °C
Temperature coefficient	≤ ±0.01 % / K deviation from 22 °C <sup>1</sup>	
Ambient conditions similar to DIN EN 60654 cl. D1	relative humidity ≤ 95 % annual average, no condensation	
EMC Interference emission/resistance	EN 61326 class B / Industrial requirements	

**Approval**

GL	German Lloyd for type 902044/20 and 902044/21
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<sup>1</sup> All specifications referring to the measuring range limit value of 20mA.

<sup>2</sup> The higher value is valid.

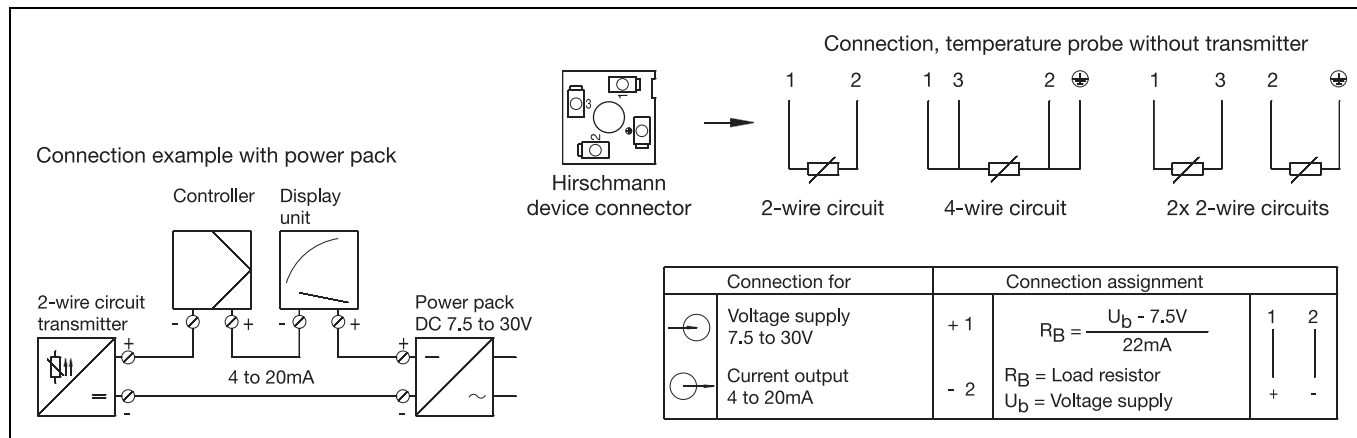
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## Connection diagram



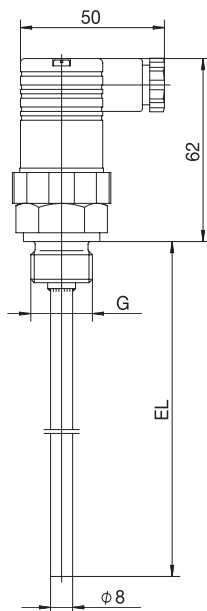
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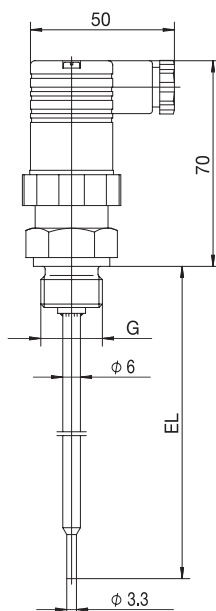
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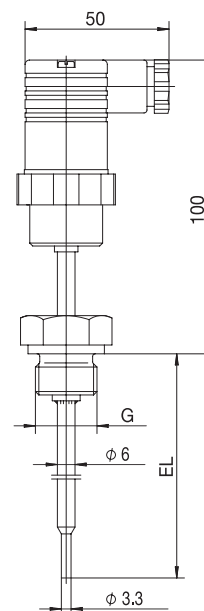
## Dimensions



**Type 902044/20**  
**Type 902044/21**



**Type 902044/25**  
**Type 902044/26**



**Type 902044/28**  
**Type 902044/29**

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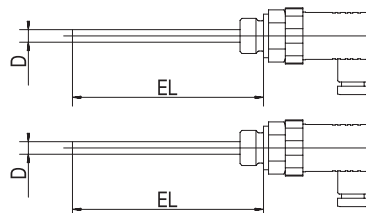
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**Order details:** Screw-in RTD temperature probe with plug connector as per DIN EN 175301

	<b>(1) Basic type</b>
902044/20	Screw-in RTD temperature probe with connection socket Pg9 as per DIN EN 175301-803 (DIN 43650)
902044/21	Screw-in RTD temperature probe with connection socket Pg11 as per DIN EN 175301-803 (DIN 43650)
x x	<b>(2) Operating temperature in °C</b>
	380 -50 to +200 °C
x x	<b>(3) Measuring insert</b>
	1003 1 x Pt100 in 2-wire circuit
	1011 1 x Pt100 in 4-wire circuit
	2003 2 x Pt100 in 2-wire circuit
x x	<b>(4) Tolerance class as per DIN EN 60 751</b>
	1 Class B (standard)
	2 Class A
x x	<b>(5) Thermowell diameter D in mm</b>
	8 Ø 8 mm
x x	<b>(6) Fitting length EL in mm</b>
	50 50 mm
	100 100 mm
	150 150 mm
	200 200 mm
	250 250 mm (no GL approval)
	... Please specify in plain text (50 mm steps)
x x	<b>(7) Process connection</b>
	102 Screw connection G 1/4
	103 Screw connection G 3/8
	104 Screw connection G 1/2
	126 Screw connection M 18x1.5
	128 Screw connection M 20x1.5
	144 Screw connection (thread) 1/2-14NPT
x x	<b>(8) Protection tube material</b>
	26 stainless steel 1.4571
x x	<b>(9) Extra codes</b>
	000 None
	062 GL approval (max. EL = 200 mm)



<b>Order code</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>Order example</b>	902044/20	- 380	- 1003	- 1	- 8	- 100	- 104	- 26	/ 000

Design with machine connector M 12x1, data sheet 90.2040.

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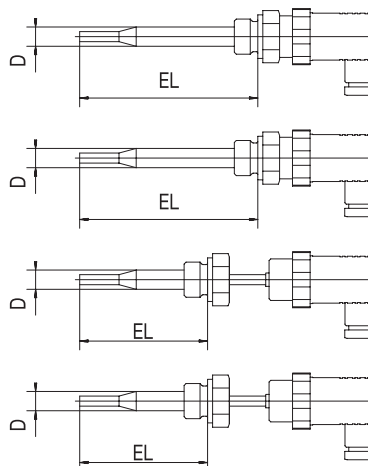
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**Order details: Screw-in RTD temperature probe with plug connector as per DIN EN 175301**

**(1) Basic type**

902044/25	Screw-in RTD temperature probe with analog transmitter and connection socket Pg9 as per DIN EN 175301-803 (DIN 43650)
902044/26	Screw-in RTD temperature probe with analog transmitter and connection socket Pg11 as per DIN EN 175301-803 (DIN 43650)
902044/28	Screw-in RTD temperature probe with analog transmitter and connection socket Pg9 as per DIN EN 175301-803 (DIN 43650), neck tube design for higher temperatures
902044/29	Screw-in RTD temperature probe with analog transmitter and connection socket Pg11 as per DIN EN 175301-803 (DIN 43650), neck tube design for higher temperatures



<b>(2) Operating temperature in °C</b>	
x x	370 -50 to +150 °C
x x	386 -50 to +260 °C
<b>(3) Measuring insert</b>	
x x x x	1003 1 x Pt100 in 2-wire circuit
<b>(4) Tolerance class as per DIN EN 60 751</b>	
x x x x	1 Class B (standard)
x x x x	2 Class A
<b>(5) Thermowell diameter D in mm</b>	
x x x x	6 Ø 6 mm, stepped down to Ø 3.3 mm
<b>(6) Fitting length EL in mm</b>	
x x x x	50 50 mm
x x x x	100 100 mm
x x x x	150 150 mm
x x x x	200 200 mm
x x x x	250 250 mm
x x x x	... Please specify in plain text (50 mm steps)
<b>(7) Process connection</b>	
x x x x	102 Screw connection G 1/4
x x x x	103 Screw connection G 3/8
x x x x	104 Screw connection G 1/2
x x x x	126 Screw connection M 18x1.5
x x x x	128 Screw connection M 20x1.5
x x x x	144 Screw connection (thread) 1/2-14NPT
<b>(8) Protection tube material</b>	
x x x x	26 stainless steel 1.4571
<b>(9) Extra codes</b>	
x x x x	000 None

<b>Order code</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)								
<b>Order example</b>	902044/25	-	370	-	1003	-	1	-	6	-	100	-	104	-	26	/	000

Design with machine connector M 12x1, data sheet 90.2040.

**Stock versions**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	Part No.								
902044/20	-	380	-	1003	-	1	-	8	-	50	-	104	-	26	/	000	90/00365259
902044/20	-	380	-	1003	-	1	-	8	-	100	-	104	-	26	/	000	90/00368414
902044/20	-	380	-	1003	-	1	-	8	-	150	-	104	-	26	/	000	90/00368416