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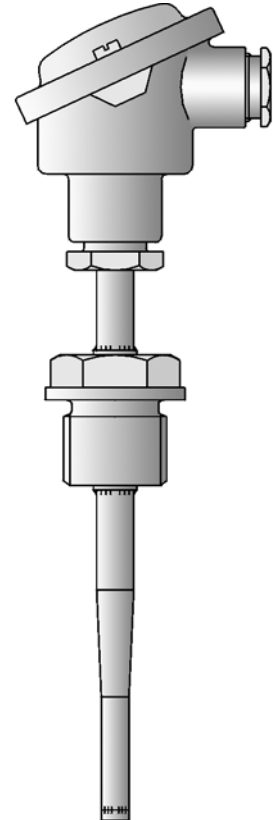
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JUMO PROCESStemp

RTD temperature probe for process technology with ATEX approval



- For temperatures from -200 to +600 °C
- with thermowells made of stainless steel, titanium, tantalum, Inconel and Hastelloy
- available with two-wire transmitter (4 to 20 mA/HART®) in Ex version
- II 1/2 G Ex ia IIC T1 to T6 (or Ex ib IIC T1 to T6)¹
- II 1/2 D Ex iaD 20/21 T80 °C to T400 °C (or ...ib...)¹
- II 1/2 G Ex d IIC T1 to T6¹
- II 1/2 D Ex tb A20/21 IP66 T80 °C to T400 °C¹
- with replaceable measuring insert (not for ATEX-basic types)

RTD temperature probes for process technology (chemical and petrochemical plants, pressure vessels, etc.) are preferentially used for measuring temperatures in liquids and gases. These RTD temperature probes consist of a protection fitting per DIN 43763 with various process connection options, a terminal head and a replaceable measuring insert. The protection fitting is made of material 1.4571 as standard. Other materials are available for special applications. All fittings are manufactured in accordance with the pressure vessel regulations and are subjected to a pressure and leakage test. The measuring insert is normally fitted with a Pt100 temperature sensor as per DIN EN 60751, Class B in 2-wire circuit; versions with two Pt100 measuring circuits are also available as well as 3- and 4-wire circuits. An analog or programmable transmitter can be integrated for measurement transmission with a 4 to 20 mA or via the HART® interface. Versions with flameproof enclosure or intrinsic safety are available for temperature measurement in areas with an explosion hazard. For documentation purposes, the device parameters (measurement tolerance, material, etc.) can be certified with a works test certificate.

Push-in and screw-in RTD temperature probes with connecting cable and ATEX approval can be provided on request.

Technical data

Terminal head

Form B DIN 43729, die-cast aluminum, M 20x1.5; IP65, ambient temperature -40 to +100 °C
 Form BUZ, die-cast aluminum, M 20x1.5; IP65, ambient temperature -40 to +100 °C
 Form BUZH, die-cast aluminum, M 20x1.5; IP65, ambient temperature -40 to +100 °C
 Form BBKS, plastic (PA 6), M 20x1.5; IP54, ambient temperature -30 to +130 °C
 Form BEGF, stainless steel 1.4541, M 20x1.5, IP65, ambient temperature -40 to +100 °C
 Form XD-AD (EEx d ATEX), die-cast aluminum, M 20x1.5; IP66,
 ambient temperature -50 to +100 °C
 Caution: reduced ambient temperature range when using transmitters,
 data sheets 707010, 707030 and 707060

Extension tube

Stainless steel 1.4571, length 130 mm (150 mm for type 902820/50.../51...)

Process connection

thread, stainless steel 1.4571
 flange, stainless steel 1.4571
 Sheath, stainless steel 1.4571 or steel 1.7335
 highly corrosion-resistant materials/coatings are optionally available

Sheath

Stainless steel 1.4571, Ø 9 mm, Ø 11 mm, Ø 12 mm
 highly corrosion-resistant materials/coatings are optionally available

Measuring insert

Replaceable, Pt100 temperature probe, DIN EN 60751, class B, 2-wire circuit

Response times

t_{0.9} approx. 50 s, in water 0.4 m/s, Ø 9 mm

Transmitter

analog transmitter, 4 to 20 mA output, data sheet 707030
 analog transmitter, 0 to 10 V output, data sheet 707030
 programmable transmitter, 4 to 20 mA/20 to 4 mA output, data sheet 707010
 programmable transmitter, 4 to 20 mA output and HART® interface, data sheet 707010
 Wtrans B programmable head transducer with radio transmission, data sheet 707060
(do not use in Ex-areas), (suitable Wtrans receivers, data sheet 902931)

Accessories

Sheath, data sheet 909710 (909721)

DIN versions

DIN 43765 Form B1, B2, B3, load capacity, see diagram 1
 DIN 43766 Form C1, C2, load capacity, see diagram 2
 DIN 43767 Form D1, D2, D4, D5, load capacity, see diagram 3
 DIN 43771 Form G1, G2, G3, load capacity, see diagram 4

¹ Explosion protection: The maximum product specific explosion protection depends of the RTD temperature probe design. For an exact classification of the RTD temperature probe, please refer to Operating Manual B 90.2820.

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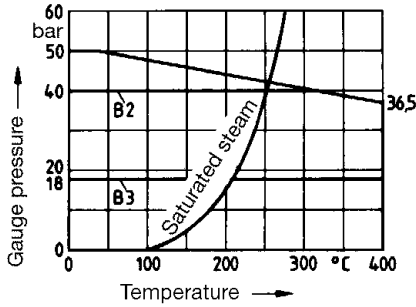


Diagram 1:

Permissible flow velocity
 for air and superheated steam: up to 25 m/s
 for water: up to 3 m/s
 Permissible tightening torque: 50 Nm

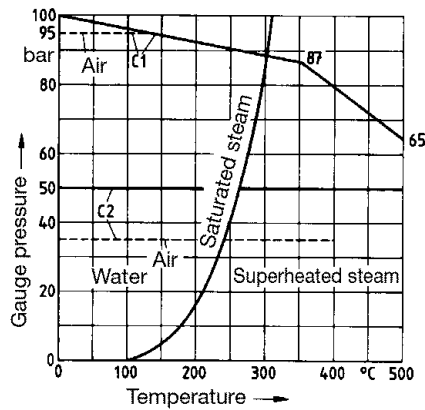


Diagram 2:

Permissible flow velocity
 for air and superheated steam: up to 40 m/s
 for water: up to 5 m/s
 Permissible tightening torque: 100 Nm

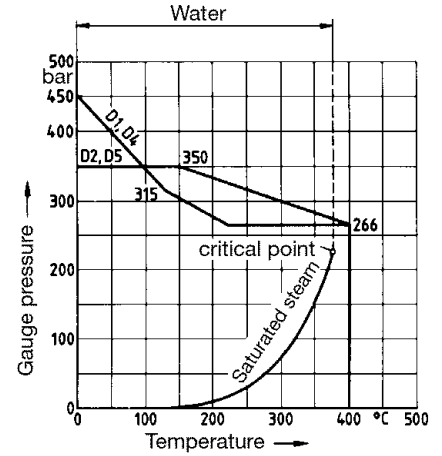


Diagram 3:

Form D1; D4 permissible flow velocity
 for air, water, superheated steam: up to
 60 m/s
 Form D2; D5 permissible flow velocity
 for air: up to 60 m/s
 for water, superheated steam: up to 30 m/s

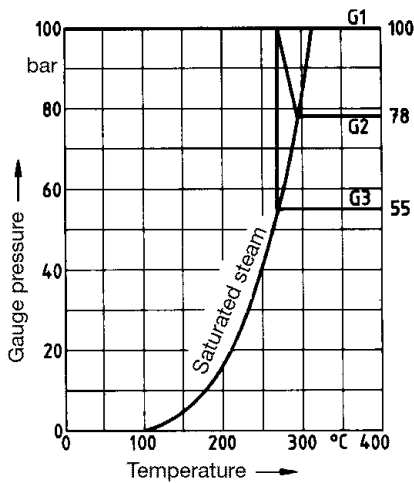


Diagram 4:

Permissible flow velocity
 for superheated steam: up to 40 m/s
 for water: up to 5 m/s
 for air: up to 400 °C

Type	DIN Form	D	L2	EL	Thread
902820/10	B1	9	-	160	G 1/2
902820/10	B2	9	-	250	G 1/2
902820/10	B3	9	-	400	G 1/2
902820/10	C1	11	-	160	G 1
902820/10	C2	11	-	250	G 1
902820/11	G1	9	-	160	G 1

Type	DIN Form	D	L2	EL	Thread
902820/11	G2	9	-	220	G 1
902820/11	G3	9	-	280	G 1
902820/50	D1	12,5	140	65	-
902820/50	D2	12,5	200	125	-
902820/51	D4	12,5	200	65	-
902820/51	D5	12,5	260	125	-

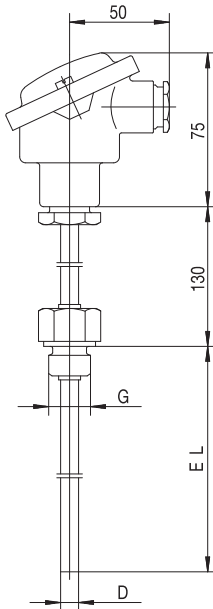
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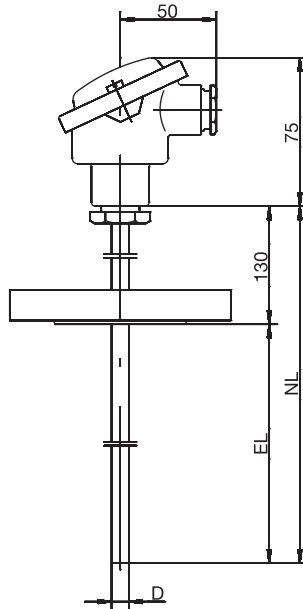
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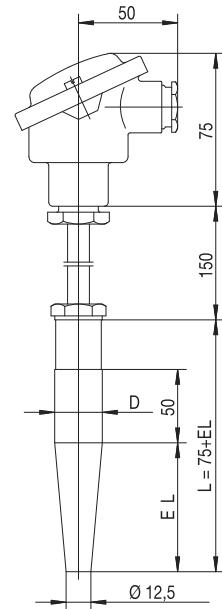
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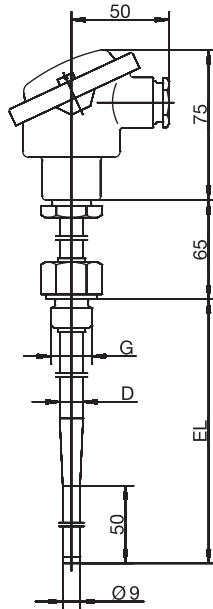
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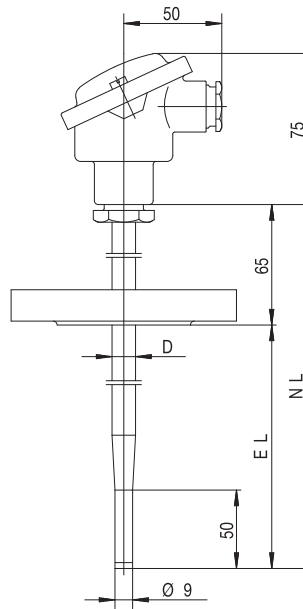
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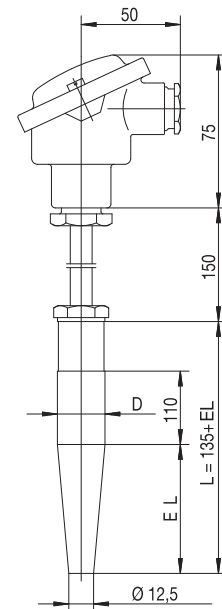
Basic type 902820/50



Basic type 902820/11



Basic type 902820/21



Basic type 902820/51

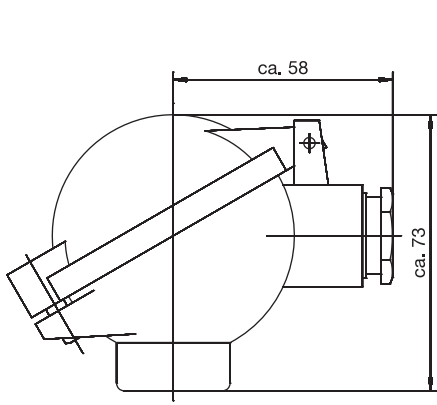
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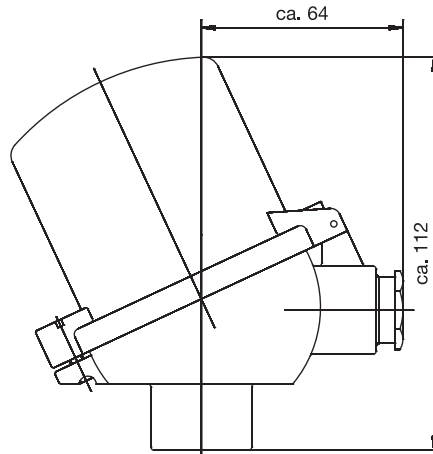
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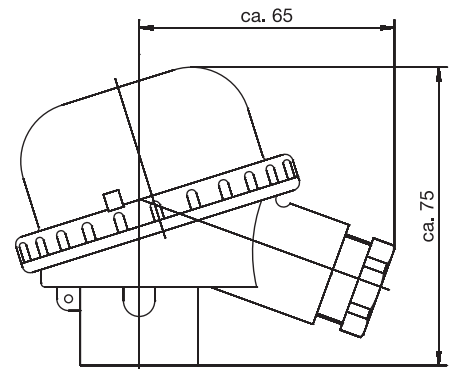
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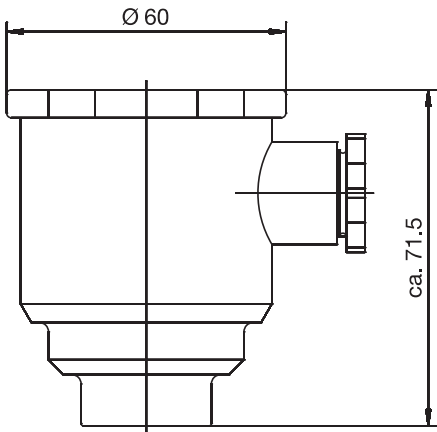
terminal head Form BUZ
 extra code 320



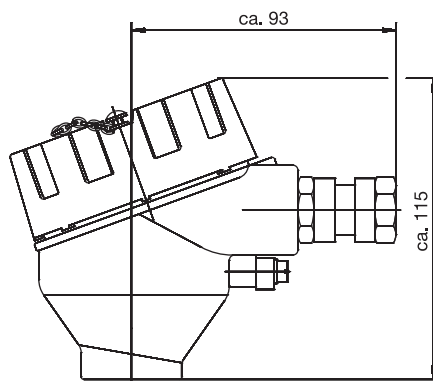
terminal head Form BUZH
 extra code 321



terminal head Form BBKS
 extra code 324



Terminal head Form BEGF
 extra code 397



Terminal head Form XD-AD
 extra code 399

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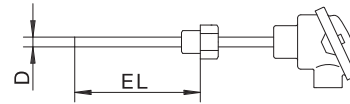
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Order specifications: RTD temperature probes for process technology

(1) Basic type

902820/10 Screw-in RTD temperature probes with continuous sheath



(2) Operating temperature in °C

- x 150 -200 to +600 °C (wire-wound temperature sensor)
- x 402 -50 to +400 °C (thin-film temperature sensor)
- x 415 -50 to +600 °C (thin-film temperature sensor)

(3) Measuring insert

- x 1001 1x Pt100 in 3-wire-circuit
- x 1003 1x Pt100 in 2-wire circuit
- x 1011 1x Pt100 in 4-wire circuit
- x 2001 2x Pt100 in 3-wire circuit
- x 2003 2x Pt100 in 2-wire circuit
- x 2011 2x Pt100 in 4-wire circuit (only with terminal head Form BUZH)

(4) Tolerance class as per DIN EN 60751

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

(5) Sheath diameter D in mm

- x 9 Ø 9 x 1 mm
- x 11 Ø 11 x 2 mm

(6) Fitting length EL in mm (100 to 1000)

- x 160 160 mm
- x 250 250 mm
- x 400 400 mm
- x ... Specification in plain text (50 mm steps)

(7) Process connection

- x 104 Screw-connection G 1/2
- x 106 Screw connection G 1
- x 144 Screw connection (thread) 1/2-14NPT
- x 146 Screw connection (thread) 1-11.5NPT

(8) Sheathmaterial

- x 26 stainless steel 1.4571
- x 60 titanium, on request
- x 81 Inconel, on request
- x 82 Hastelloy, on request

(9) Extra codes

- x 000 None
- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 324 terminal head Form BBKS
- x 330 1x analog transmitter, 4 to 20 mA output², data sheet 707030 (not with extra code 362)
- x 331 1x transmitter programmable output 4 to 20 mA/20 to 4 mA³, data sheet 707010
- x 333 1x analog transmitter, 0 to 10 V output², data sheet 707030 (not with extra code 362)
- x 336 1x programmable transmitter, 4 to 20 mA output³ and HART® interface, data sheet 707010
- x 365 acceptance test certificate 3.1 DIN EN 10204 insulation resistance
- x 367 acceptance test certificate 3.1 DIN EN 10204 pressure test
- x 368 acceptance test certificate 3.1 DIN EN 10204 leakage test
- x 374 acceptance test certificate 3.1 DIN EN 10204 material
- x 562 parts in contact with medium with PTFE covering, on request
- x 563 parts in contact with medium with HALAR coating, on request
- x 859 1x Wtrans B programmable head transducer with radio transmission, data sheet 707060

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) / ¹
 Order example 902820/10 - 402 - 1001 - 1 - 9 - 250 - 104 - 26 / 000

¹ List extra codes in sequence, separated by commas.
² Specify measuring range in plain text.
³ Specify measuring range and output signal in plain text.

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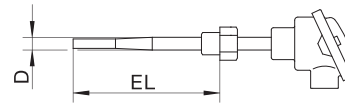
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Order specifications: RTD temperature probes for process technology

(1) Basic type

902820/11 Screw-in RTD temperature probes with stepped sheath



(2) Operating temperature in °C

- x 150 -200 to +600 °C (wire-wound temperature sensor)
- x 402 -50 to +400 °C (thin-film temperature sensor)
- x 415 -50 to +600 °C (thin-film temperature sensor)

(3) Measuring insert

- x 1001 1x Pt100 in 3-wire-circuit
- x 1003 1x Pt100 in 2-wire circuit
- x 1011 1x Pt100 in 4-wire circuit
- x 2001 2x Pt100 in 3-wire circuit
- x 2003 2x Pt100 in 2-wire circuit
- x 2011 2x Pt100 in 4-wire circuit (only with terminal head Form BUZH)

(4) Tolerance class as per DIN EN 60751

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

(5) Sheath diameter D in mm

- x 12 Ø 12 x 2.5 mm stepped down to 9 mm

(6) Fitting length EL in mm (100 to 700)

- x 160 160 mm
- x 220 220 mm
- x 250 250 mm
- x 280 280 mm
- x 400 400 mm
- x ... Specification in plain text (50 mm steps)

(7) Process connection

- x 104 Screw-connection G 1/2
- x 106 Screw connection G 1
- x 144 Screw connection (thread) 1/2-14NPT
- x 146 Screw connection (thread) 1-11.5NPT

(8) Sheathmaterial

- x 26 stainless steel 1.4571

(9) Extra codes

- x 000 None
- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 324 terminal head Form BBKS
- x 330 1x analog transmitter, 4 to 20 mA output², data sheet 707030 (not with extra code 362)
- x 331 1x transmitter programmable output 4 to 20 mA/20 to 4 mA³, data sheet 707010
- x 333 1x analog transmitter, 0 to 10 V output², data sheet 707030 (not with extra code 362)
- x 336 1x programmable transmitter, 4 to 20 mA output³ and HART[®] interface, data sheet 707010
- x 365 acceptance test certificate 3.1 DIN EN 10204 insulation resistance
- x 367 acceptance test certificate 3.1 DIN EN 10204 pressure test
- x 368 acceptance test certificate 3.1 DIN EN 10204 leakage test
- x 374 acceptance test certificate 3.1 DIN EN 10204 material
- x 562 parts in contact with medium with PTFE covering, on request
- x 563 parts in contact with medium with HALAR coating, on request
- x 859 1x Wtrans B programmable head transducer with radio transmission, data sheet 707060

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) / ...¹
Order example 902820/11 - 402 - 1001 - 1 - 12 - 250 - 104 - 26 / 000

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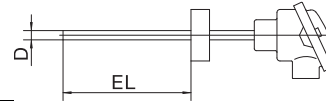
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Order specifications: RTD temperature probes for process technology

(1) Basic type

902820/20 Push-in RTD temperature probes
 with continuous sheath



(2) Operating temperature in °C

- x 150 -200 to +600 °C (wire-wound temperature sensor)
- x 402 -50 to +400 °C (thin-film temperature sensor)
- x 415 -50 to +600 °C (thin-film temperature sensor)

(3) Measuring insert

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- x 1003 1x Pt100 in 2-wire circuit
- x 1011 1x Pt100 in 4-wire circuit
- x 2001 2x Pt100 in 3-wire circuit
- x 2003 2x Pt100 in 2-wire circuit
- x 2011 2x Pt100 in 4-wire circuit (only with terminal head Form BUZH)

(4) Tolerance class as per DIN EN 60751

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

(5) Sheath diameter D in mm

- x 9 Ø 9 x 1 mm
- x 11 Ø 11 x 2 mm

(6) Fitting length EL in mm (100 to 1000)

- x 160 160 mm
- x 250 250 mm
- x 400 400 mm
- x ... Specification in plain text (50 mm steps)

(7) Process connection

- x 000 None
- x 642 Flange C DN 25 PN 40, DIN 2501
- x 644 Flange C DN 40 PN 40, DIN 2501

(8) Sheathmaterial

- x 26 stainless steel 1.4571
- x 60 titanium, on request
- x 80 tantalum, on request
- x 81 Inconel, on request
- x 82 Hastelloy, on request

(9) Extra codes

- x 000 None
- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 324 terminal head Form BBKS
- x 330 1x analog transmitter, 4 to 20 mA output², data sheet 707030 (not with extra code 362)
- x 331 1x transmitter programmable output 4 to 20 mA/20 to 4 mA³, data sheet 707010
- x 333 1x analog transmitter, 0 to 10 V output², data sheet 707030 (not with extra code 362)
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- x 365 acceptance test certificate 3.1 DIN EN 10204 insulation resistance
- x 367 acceptance test certificate 3.1 DIN EN 10204 pressure test
- x 368 acceptance test certificate 3.1 DIN EN 10204 leakage test
- x 374 acceptance test certificate 3.1 DIN EN 10204 material
- x 562 parts in contact with medium with PTFE covering, on request
- x 563 parts in contact with medium with HALAR coating, on request
- x 859 1x Wtrans B programmable head transducer with radio transmission, data sheet 707060

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Order example 902820/20 - 402 - 1001 - 1 - 9 - 250 - 642 - 26 / 000

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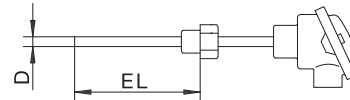
Order specifications: RTD temperature probes for process technology with Ex (ATEX) approval

Ex II 1/2 G Ex ia IIC T1 to T6 (or Ex ib IIC T1 to T6)⁴ Ex II 1/2 D Ex iaD 20/21 T80 °C to T400 °C (or ...ib...)⁴
 Ex II 1/2 G Ex d IIC T1 to T6⁴ Ex II 1/2 D Ex tb A20/21 IP66 T80 °C to T400 °C⁴



(1) Basic type

902820/10	Screw-in RTD temperature probes with continuous sheath
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(2) Operating temperature in °C

x	150	-200 to +600 °C (wire-wound temperature sensor)
x	415	-50 to +600 °C (thin-film temperature sensor)

(3) Measuring insert

x	1001	1x Pt100 in 3-wire circuit (not in conjunction with transmitter 331, 336)
x	1003	1x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)
x	1011	1x Pt100 in 4-wire circuit
x	2001	2x Pt100 in 3-wire circuit
x	2003	2x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)

(4) Tolerance class as per DIN EN 60751

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

(5) Sheath diameter D in mm

x	9	Ø 9 x 1 mm (for use in zone 0 or 20 on request)
x	11	Ø 11 x 2 mm

(6) Fitting length EL in mm (100 to 1000)

x	160	160 mm
x	250	250 mm
x	400	400 mm
x	...	Specification in plain text (50 mm steps)

(7) Process connection

x	104	Screw-connection G 1/2
x	106	Screw connection G 1
x	144	Screw connection (thread) 1/2-14NPT
x	146	Screw connection (thread) 1-11.5NPT

(8) Sheath material

x	26	stainless steel 1.4571
x	60	titanium, on request
x	81	Inconel, on request
x	82	Hastelloy, on request

(9) Extra codes

Caution: for application in zones 20, 21 and 22, only a terminal head with a min. protection rating of IP65 is possible.		
x	320	terminal head Form BUZ
x	321	terminal head Form BUZH
x	397	Terminal head Form BEGF
x	331	Ex 1x transmitter programmable output 4 to 20 mA/20 to 4 mA ³ , data sheet 707010
x	336	Ex 1x programmable transmitter, 4 to 20 mA output ³ and HART [®] interface, data sheet 707010
x	362	Ex Ex protection i per EC directive 94/9/EC (ATEX)⁴
x	399	Ex Ex protection d flameproof enclosure, terminal head Form XD-AD (ATEX) Cable gland for cable dia. 3.0 to 8.0 mm (for cable dia. 7.5 to 11.9 mm on request) only possible in conjunction with 362.
x	365	acceptance test certificate 3.1 DIN EN 10204 insulation resistance
x	367	acceptance test certificate 3.1 DIN EN 10204 pressure test
x	368	acceptance test certificate 3.1 DIN EN 10204 leakage test
x	374	acceptance test certificate 3.1 DIN EN 10204 material
x	562	parts in contact with medium with PTFE covering, on request
x	563	parts in contact with medium with HALAR coating, on request

Additional details: In which zone is the RTD temperature probe used?

Order code	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Order example	902820/10	- 415	- 1001	- 1	- 9	- 250	- 104	- 26	/ 362	,... ¹

Note: Due to the complexity of the possible versions, not all variations can be illustrated. We must draw your attention to the fact that certain combinations cannot be supplied for all ATEX categories.

¹ List extra codes in sequence, separated by commas.
³ Specify measuring range and output signal in plain text.
⁴ The precise Ex protection identification is listed on the rating plate and in Operating Manual B 90.2820.0.

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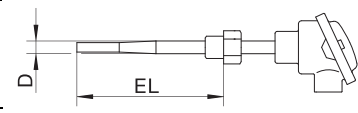
Order specifications: RTD temperature probes for process technology with Ex (ATEX) approval

Ex II 1/2 G Ex ia IIC T1 to T6 (or Ex ib IIC T1 to T6)⁴ Ex II 1/2 D Ex iaD 20/21 T80°C to T400 °C (or ...ib...)⁴
 Ex II 1/2 G Ex d IIC T1 to T6⁴ Ex II 1/2 D Ex tb A20/21 IP66 T80 °C to T400 °C⁴



(1) Basic type

902820/11	Screw-in RTD temperature probes with stepped sheath
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(2) Operating temperature in °C

x	150	-200 to +600 °C (wire-wound temperature sensor)
x	415	-50 to +600 °C (thin-film temperature sensor)

(3) Measuring insert

x	1001	1x Pt100 in 3-wire circuit (not in conjunction with transmitter 331, 336)
x	1003	1x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)
x	1011	1x Pt100 in 4-wire circuit
x	2001	2x Pt100 in 3-wire circuit
x	2003	2x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)

(4) Tolerance class as per DIN EN 60751

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

(5) Sheath diameter D in mm

x	12	Ø 12x2.5 mm, stepped down to 9 mm (for use in zone 0 or 20, on request)
---	----	---

(6) Fitting length EL in mm (100 to 700)

x	160	160 mm
x	220	220 mm
x	250	250 mm
x	280	280 mm
x	400	400 mm
x	...	Specification in plain text (50 mm steps)

(7) Process connection

x	104	Screw-connection G 1/2
x	106	Screw connection G 1
x	144	Screw connection (thread) 1/2-14NPT
x	146	Screw connection (thread) 1-11.5NPT

(8) Sheath material

x	26	stainless steel 1.4571
---	----	------------------------

(9) Extra codes

Caution: for application in zones 20, 21 and 22, only a terminal head with a min. protection rating of IP65 is possible.		
x	320	terminal head Form BUZ
x	321	terminal head Form BUZH
x	397	Terminal head Form BEGF
x	331	Ex 1x programmable transmitter, output 4 to 20 mA/20 to 4mA ³ , data sheet 707010
x	336	Ex 1x programmable transmitter, 4 to 20 mA output ³ and HART [®] interface, data sheet 707010
x	362	Ex protection i per EC directive 94/9/EC (ATEX)⁴
x	399	Ex Ex protection d flameproof enclosure, terminal head Form XD-AD (ATEX) Cable gland for cable dia. 3.0 to 8.0 mm (for cable dia. 7.5 to 11.9 mm on request) only possible in conjunction with 362.
x	365	acceptance test certificate 3.1 DIN EN 10204 insulation resistance
x	367	acceptance test certificate 3.1 DIN EN 10204 pressure test
x	368	acceptance test certificate 3.1 DIN EN 10204 leakage test
x	374	acceptance test certificate 3.1 DIN EN 10204 material
x	562	parts in contact with medium with PTFE covering, on request
x	563	parts in contact with medium with HALAR coating, on request

Additional details: In which zone is the RTD temperature probe used?

Order code	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	...								
Order example	902820/11	-	415	-	1001	-	1	-	12	-	250	-	104	-	26	/	362	,...

Note: Due to the complexity of the possible versions, not all variations can be illustrated. We must draw your attention to the fact that certain combinations cannot be supplied for all ATEX categories.

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³ Specify measuring range and output signal in plain text.
⁴ The precise Ex protection identification is listed on the rating plate and in Operating Manual B 90.2820.0.

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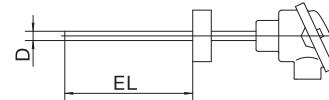
Order specifications: RTD temperature probes for process technology with Ex (ATEX) approval

Ex II 1/2 G Ex ia IIC T1 to T6 (or Ex ib IIC T1 to T6)⁴ Ex II 1/2 D Ex iaD 20/21 T80 °C to T400 °C (or ...ib...)⁴
 Ex II 1/2 G Ex d IIC T1 to T6⁴ Ex II 1/2 D Ex tb A20/21 IP66 T80 °C to T400 °C⁴



(1) Basic type

902820/20	Push-in RTD temperature probes with continuous sheath
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(2) Operating temperature in °C

x	150	-200 to +600 °C (wire-wound temperature sensor)
x	415	-50 to +600 °C (thin-film temperature sensor)

(3) Measuring insert

x	1001	1x Pt100 in 3-wire circuit (not in conjunction with transmitter 331, 336)
x	1003	1x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)
x	1011	1x Pt100 in 4-wire circuit
x	2001	2x Pt100 in 3-wire circuit
x	2003	2x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)

(4) Tolerance class as per DIN EN 60751

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

(5) Sheath diameter D in mm

x	9	Ø 9 x 1 mm (for use in zone 0 or 20 on request)
x	11	Ø 11 x 2 mm

(6) Fitting length EL in mm (100 to 1000)

x	160	160 mm
x	250	250 mm
x	400	400 mm
x	...	Specification in plain text (50 mm steps)

(7) Process connection

x	000	None
x	642	Flange C DN 25 PN 40, DIN 2501
x	644	Flange C DN 40 PN 40, DIN 2501

(8) Sheathmaterial

x	26	stainless steel 1.4571
x	60	titanium, on request
x	80	tantalum, on request
x	81	Inconel, on request
x	82	Hastelloy, on request

(9) Extra codes

Caution: for application in zones 20, 21 and 22, only a terminal head with a min. protection rating of IP65 is possible.		
x	320	terminal head Form BUZ
x	321	terminal head Form BUZH
x	397	Terminal head Form BEGF
x	331	Ex 1x transmitter programmable output 4 to 20 mA/20 to 4 mA ³ , data sheet 707010
x	336	Ex 1x programmable transmitter, 4 to 20 mA output ³ and HART [®] interface, data sheet 707010
x	362	Ex Ex protection i per EC directive 94/9/EC (ATEX)⁴
x	399	Ex Ex protection d flameproof enclosure, terminal head Form XD-AD (ATEX) Cable gland for cable dia. 3.0 to 8.0 mm (for cable dia. 7.5 to 11.9 mm on request) only possible in conjunction with 362.
x	365	acceptance test certificate 3.1 DIN EN 10204 insulation resistance
x	367	acceptance test certificate 3.1 DIN EN 10204 pressure test
x	368	acceptance test certificate 3.1 DIN EN 10204 leakage test
x	374	acceptance test certificate 3.1 DIN EN 10204 material
x	562	parts in contact with medium with PTFE covering, on request
x	563	parts in contact with medium with HALAR coating, on request

Additional details: In which zone is the RTD temperature probe used?

Order code	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	...
Order example	902820/20	- 415	- 1001	- 1	- 9	- 250	- 642	- 26	/ 362	,...

Note: Due to the complexity of the possible versions, not all variations can be illustrated. We must draw your attention to the fact that certain combinations cannot be supplied for all ATEX categories.

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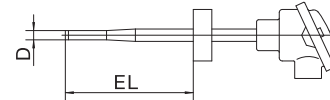
Order specifications: RTD temperature probes for process technology with Ex (ATEX) approval

Ex II 1/2 G Ex ia IIC T1 to T6 (or Ex ib IIC T1 to T6)⁴ Ex II 1/2 D Ex iaD 20/21 T80 °C to T400 °C (or ...ib...)⁴
 Ex II 1/2 G Ex d IIC T1 to T6⁴ Ex II 1/2 D Ex tb A20/21 IP66 T80 °C to T400 °C⁴



(1) Basic type

902820/21	Push-in RTD temperature probes with stepped sheath
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(2) Operating temperature in °C

x	150	-200 to +600 °C (wire-wound temperature sensor)
x	415	-50 to +600 °C (thin-film temperature sensor)

(3) Measuring insert

x	1001	1x Pt100 in 3-wire circuit (not in conjunction with transmitter 331, 336)
x	1003	1x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)
x	1011	1x Pt100 in 4-wire circuit
x	2001	2x Pt100 in 3-wire circuit
x	2003	2x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)

(4) Tolerance class as per DIN EN 60751

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

(5) Sheath diameter D in mm

x	12	Ø 12x2.5 mm, stepped down to 9 mm (for use in zone 0 or 20, on request)
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(6) Fitting length EL in mm (100 to 700)

x	160	160 mm
x	225	225 mm
x	250	250 mm
x	285	285 mm
x	345	345 mm
x	400	400 mm
x	...	Specification in plain text (50 mm steps)

(7) Process connection

x	000	None
x	642	Flange C DN 25 PN 40, DIN 2501
x	644	Flange C DN 40 PN 40, DIN 2501

(8) Sheath material

x	26	stainless steel 1.4571
---	----	------------------------

(9) Extra codes

Caution: for application in zones 20, 21 and 22, only a terminal head with a min. protection rating of IP65 is possible.		
x	320	terminal head Form BUZ
x	321	terminal head Form BUZH
x	397	Terminal head Form BEGF
x	331	Ex 1x transmitter programmable output 4 to 20 mA/20 to 4 mA ³ , data sheet 707010
x	336	Ex 1x programmable transmitter, 4 to 20 mA output ³ and HART [®] interface, data sheet 707010
x	362	Ex protection i per EC directive 94/9/EC (ATEX)⁴
x	399	Ex Ex protection d flameproof enclosure, terminal head Form XD-AD (ATEX) Cable gland for cable dia. 3.0 to 8.0 mm (for cable dia. 7.5 to 11.9 mm on request) only possible in conjunction with 362.
x	365	acceptance test certificate 3.1 DIN EN 10204 insulation resistance
x	367	acceptance test certificate 3.1 DIN EN 10204 pressure test
x	368	acceptance test certificate 3.1 DIN EN 10204 leakage test
x	374	acceptance test certificate 3.1 DIN EN 10204 material
x	562	parts in contact with medium with PTFE covering, on request
x	563	parts in contact with medium with HALAR coating, on request

Additional details: In which zone is the RTD temperature probe used?

Order code	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	...
Order example	902820/21	- 415	- 1001	- 1	- 12	- 250	- 642	- 26	/ 362	,...

Note: Due to the complexity of the possible versions, not all variations can be illustrated. We must draw your attention to the fact that certain combinations cannot be supplied for all ATEX categories.

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³ Specify measuring range and output signal in plain text.
⁴ The precise Ex protection identification is listed on the rating plate and in Operating Manual B 90.2820.0.

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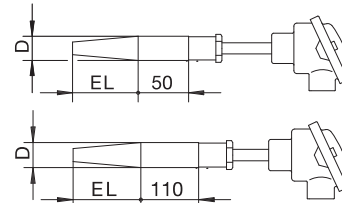


Order specifications: RTD temperature probes for process technology with Ex (ATEX) approval
 Ex II 1/2 G Ex ia IIC T1 to T6 (or Ex ib IIC T1 to T6)⁴ Ex II 1/2 D Ex iaD 20/21 T80 °C to T400 °C (or ...ib...)⁴
 Ex II 1/2 G Ex d IIC T1 to T6⁴ Ex II 1/2 D Ex tb A20/21 IP66 T80 °C to T400 °C⁴



(1) Basic type

902820/50	Screw-in RTD temperature probes with sheath DIN 43767 Form D1/D2
902820/51	Screw-in RTD temperature probes with sheath DIN 43767 Form D4/D5



x x	150	(2) Operating temperature in °C (for restrictions, see DIN 43763) -200 to +600 °C (wire-wound temperature sensor)
x x	415	-50 to +600 °C (thin-film temperature sensor)
		(3) Measuring insert
x x	1001	1x Pt100 in 3-wire circuit (not in conjunction with transmitter 331, 336)
x x	1003	1x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)
x x	1011	1x Pt100 in 4-wire circuit
x x	2001	2x Pt100 in 3-wire circuit
x x	2003	2x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)
		(4) Tolerance class as per DIN EN 60751
x x	1	Class B (standard)
x x	2	Class A
x x	3	Class AA (1/3 DIN B)
		(5) Pocket diameter D in mm
x x	24	Ø 24 mm stepped down to 12.5 mm
		(6) Fitting length EL in mm
x x	65	65 mm for Form D1/D4
x x	125	125 mm with form D2 / D5
		(7) Pocket material
x x	26	stainless steel 1.4571 (operating temperature +600 °C)
x x	36	Steel 1.7335 (operating temperature +540 °C)
x x	60	titanium, on request
x x	80	tantalum, on request
x x	81	Inconel, on request
x x	82	Hastelloy, on request
		(8) Extra codes
		Caution: for application in zones 20, 21 and 22, only a terminal head with a min. protection rating of IP65 is possible.
x x	320	terminal head Form BUZ
x x	321	terminal head Form BUZH
x x	397	Terminal head Form BEGF
x x	331	Ex 1x transmitter programmable output 4 to 20 mA/20 to 4 mA ³ , data sheet 707010
x x	336	Ex 1x programmable transmitter, 4 to 20 mA output ³ and HART® interface, data sheet 707010
x x	362	Ex Ex protection i per EC directive 94/9/EC (ATEX) ⁴
x x	399	Ex Ex protection d flameproof enclosure, terminal head Form XD-AD (ATEX) Cable gland for cable dia. 3.0 to 8.0 mm (for cable dia. 7.5 to 11.9 mm on request) only possible in conjunction with 362.
x x	365	acceptance test certificate 3.1 DIN EN 10204 insulation resistance
x x	367	acceptance test certificate 3.1 DIN EN 10204 pressure test
x x	368	acceptance test certificate 3.1 DIN EN 10204 leakage test
x x	374	acceptance test certificate 3.1 DIN EN 10204 material
x x	562	parts in contact with medium with PTFE covering, on request
x x	563	parts in contact with medium with HALAR coating, on request

Additional details: In which zone is the RTD temperature probe used?

Order code	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	1
Order example	902820/50	- 415	- 1001	- 1	- 24	- 125	- 26	/ 362	,...

Note: Due to the complexity of the possible versions, not all variations can be illustrated. We must draw your attention to the fact that certain combinations cannot be supplied for all ATEX categories.

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³ Specify measuring range and output signal in plain text.
⁴ The precise Ex protection identification is listed on the rating plate and in Operating Manual B 90.2820.0.

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Accessories for programmable 2-wire transmitter type 707010 in the accessories data sheet 709770

Part	Sales No.:
PC interface with TTL/RS232 converter and adapter (socket connector)	70/00350260
PC interface with USB/TTL converter, adapter (socket connector) and adapter (pins)	70/00456352
Special programming (standard measuring range 0 to 100 °C)	-
Setup program on CD-ROM, multilingual	70/00378733

Accessories for Wtrans B, programmable head transmitter with radio transmission Type 707060

Part	Sales No.:
Lithium battery 3.6 V, 2.2 Ah (size AA)	70/00547559
PC interface with USB/TTL converter, adapter (socket) and adapter (pins)	70/00456352
PC interface with TTL/RS232 converter and adapter (socket connector)	70/00350260
Setup program on CD-ROM, multilingual	70/00488887
Setup program including OnlineChart on CD-ROM, multilingual	70/00549067
OnlineChart activation	70/00549188