

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 CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

JUMO Process Control, Inc.
 8 Technology Boulevard
 Canastota, NY 13031, USA
 Phone: 315-697-JUMO
 1-800-554-JUMO
 Fax: 315-697-5867
 e-mail: info@jumo.us
 Internet: www.jumo.us

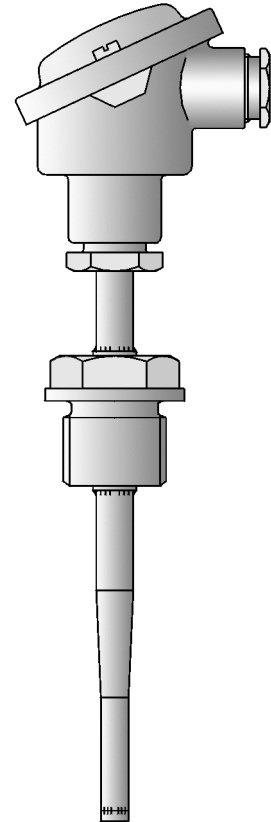


JUMO PROCESStemp

Resistance thermometers for process technology with ATEX approval

- for temperatures from -200 to +600°C
- with protection tubes in stainless steel, titanium, tantalum, Inconel and Hastelloy
- available with 2-wire transmitter (4 – 20mA / HART®) in Ex version
- Ex II 1/2 GD EEx ia II C T1 - T6 IP 6x T80 - T400°C¹
- Ex II 1/2 GD EEx d II C T1 - T6 IP 6x T80 - T400°C¹
- with replaceable measuring insert

Resistance thermometers for process technology (chemical and petrochemical plant, pressure vessels, etc.) are preferentially used for measuring temperatures in liquids and gases. The thermometers consist of a protection fitting to DIN 43 763 with various process connection options, a terminal head and a replaceable measuring insert. The protection fitting is normally made from material 1.4571. 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 to EN 60 751, Class B in 2-wire circuit; versions with two Pt100 measuring circuits can also be supplied, as well as 3- and 4-wire circuits. An analog or programmable transmitter can be integrated for measurement transmission with a 4 – 20mA standard signal 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 instrument parameters (measurement tolerance, material, etc.) can be certified with a works test certificate. Push-in and screw-in resistance thermometers with connecting cable and ATEX approval can be provided on request.



Technical data

Terminal head

Form B DIN 43 729, die-cast aluminium, M 20x1.5; IP54, ambient temperature -40 to +100°C
 Form BUZ, die-cast aluminium, M 20x1.5; IP65, ambient temperature -40 to +100°C
 Form BUZH, die-cast aluminium, 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 aluminium, M 20x1.5; IP66, ambient temperature -40 to +100°C
 Caution: reduced ambient temperature range when using transmitters, Data Sheets 70.7010 and 70.7030

Extension tube

stainless steel 1.4571, length 130mm (150mm on Type 902820/50.../51...)

Process connection

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

Protection tube

stainless steel 1.4571, 9mm, 11mm, 12mm dia.
 highly corrosion-resistant materials/coatings are optionally available

Measuring insert

interchangeable, Pt100 temperature sensor to EN 60 751, Class B, 2-wire circuit

Response times

t_{0.9} approx. 50sec, in water 0.4m/sec, 9mm dia.

Transmitter

analog transmitter, 4 – 20mA output, Data Sheet 70.7030
 analog transmitter, 0 – 10V output, Data Sheet 70.7030
 programmable transmitter, 4 – 20mA/20 – 4mA output, Data Sheet 70.7010
 programmable transmitter, 4 – 20mA output and HART® interface, Data Sheet 70.7010
 pocket, Data Sheet 90.9721

Accessories

DIN versions

DIN 43 765 Form B1, B2, B3, load capacity, see diagram 1
 DIN 43 766 Form C1, C2, load capacity, see diagram 2
 DIN 43 767 Form D1, D2, D4, D5, load capacity, see diagram 3
 DIN 43 771 Form G1, G2, G3, load capacity, see diagram 4

¹ Explosion protection: The maximum product-specific explosion protection Ex II 1/2 GD EEx d ia II C T1 to T6 IP6x T80 to T400°C depends on the constructional type of the resistance thermometer. For an exact classification of the resistance thermometer, please see the Operating Instructions B 90.2820.

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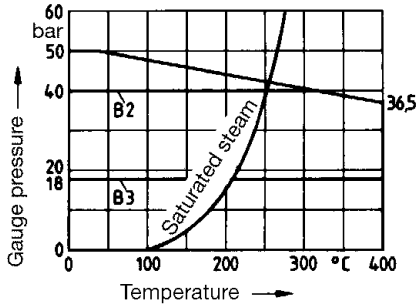


Diagram 1:

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

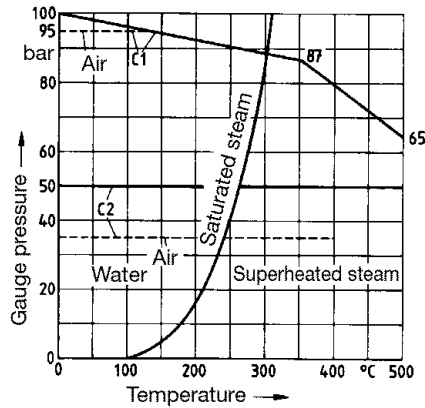


Diagram 2:

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

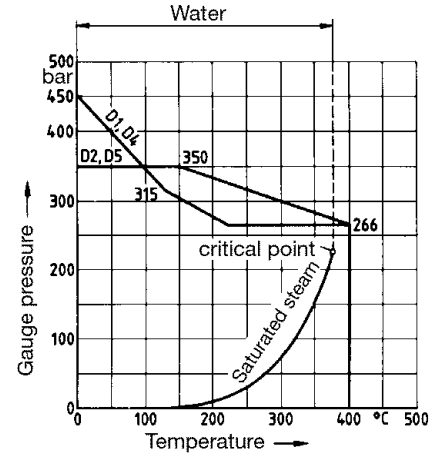


Diagram 3:

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

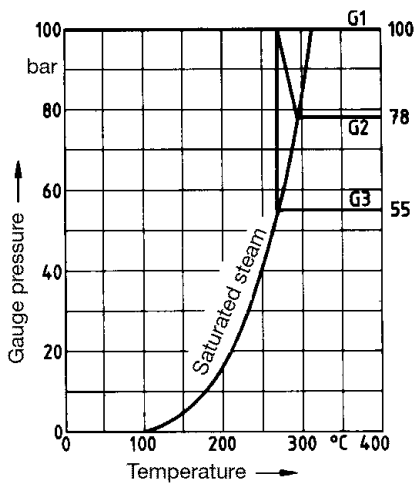


Diagram 4:

Permissible flow velocity
 for superheated steam: up to 40m/sec
 for water: up to 5m/sec
 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	-

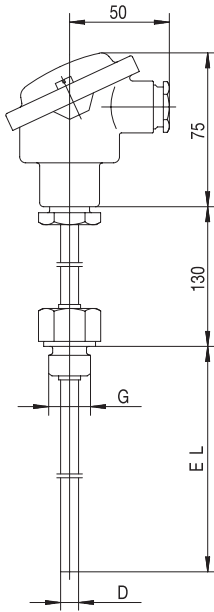
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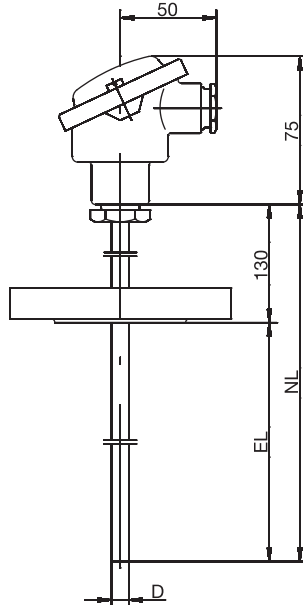
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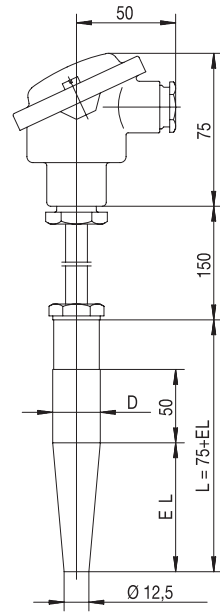
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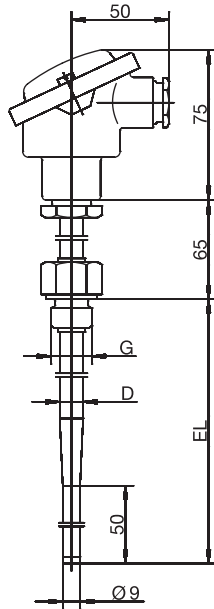
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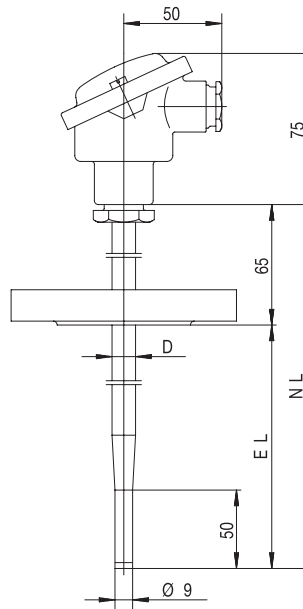
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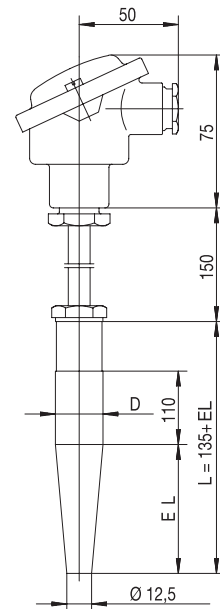
Type 902820/50



Type 902820/11



Type 902820/21



Type 902820/51

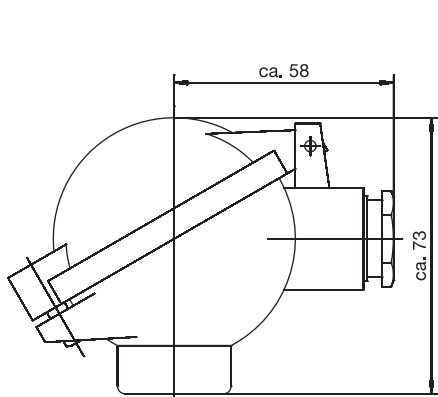
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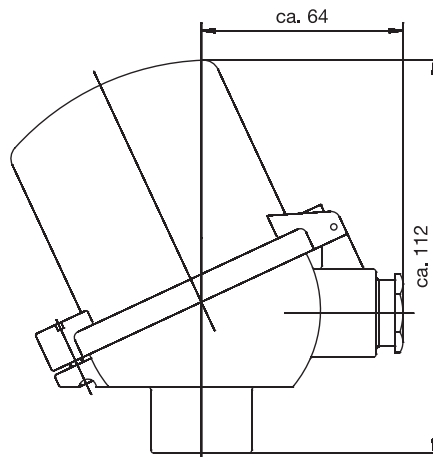
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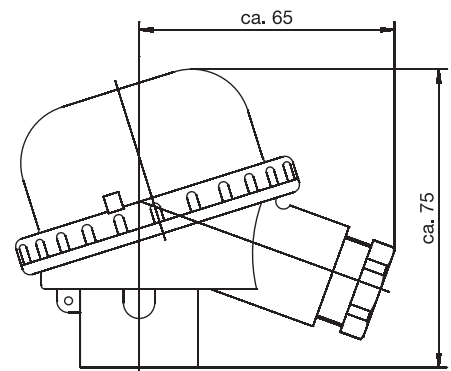
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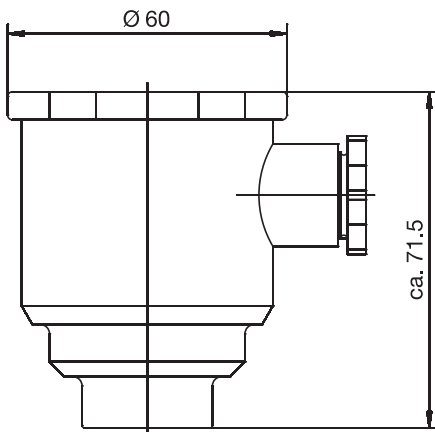
Terminal head Form BUZ
 extra code 320



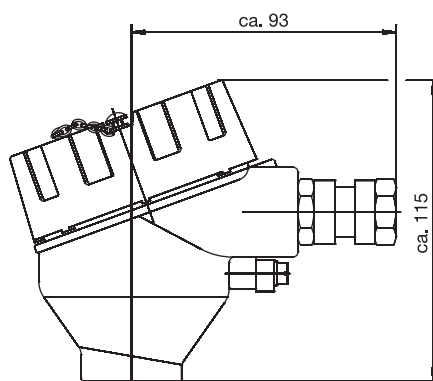
Terminal head Form BUZH
 extra code 321



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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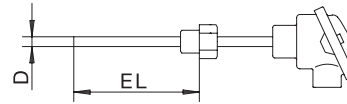
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Order details: Resistance thermometers for process technology

(1) Basic versions

902820/10 Screw-in resistance thermometers
 with continuous protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

- x 9 9 x 1mm
- x 11 11 x 2mm

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

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

(7) Process connection

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

(8) Protection tube 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

- x 000 no extra code
- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 324 terminal head Form BBKS
- x 330 1 x analog transmitter, 4 – 20mA output², Data Sheet 70.7030 (not with extra code 362)
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³, Data Sheet 70.7010
- x 333 1 x analog transmitter, 0 – 10V output², Data Sheet 70.7030 (not with extra code 362)
- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
- x 365 acceptance test certificate 3.1 EN 10 204: insulation resistance
- x 367 acceptance test certificate 3.1 EN 10 204: pressure test
- x 368 acceptance test certificate 3.1 EN 10 204: leakage test
- x 374 acceptance test certificate 3.1 EN 10 204: 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

Order code (1) - (2) - (3) - (4) - (5) - (6) - (7) - (8) - (9) / ...
Order example 902820/10 - 402 - 1001 - 1 - 9 - 250 - 104 - 26 / 000¹

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

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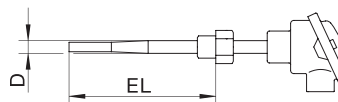
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Order details: Resistance thermometers for process technology

(1) Basic versions

902820/11 Screw-in resistance thermometers
 with stepped protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

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

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

- x 160 160mm
- x 220 220mm
- x 250 250mm
- x 280 280mm
- x 400 400mm

(7) Process connection

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

(8) Protection tube material

- x 26 stainless steel 1.4571

(9) Extra codes

- x 000 no extra code
- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 324 terminal head Form BBKS
- x 330 1 x analog transmitter, 4 – 20mA output², Data Sheet 70.7030 (not with extra code 362)
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³, Data Sheet 70.7010
- x 333 1 x analog transmitter, 0 – 10V output², Data Sheet 70.7030 (not with extra code 362)
- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
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- x 367 acceptance test certificate 3.1 EN 10 204: pressure test
- x 368 acceptance test certificate 3.1 EN 10 204: leakage test
- x 374 acceptance test certificate 3.1 EN 10 204: 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

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9)
 - - - - - - - /

Order example 902820/11 - 402 - 1001 - 1 - 12 - 250 - 104 - 26 / 000¹

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

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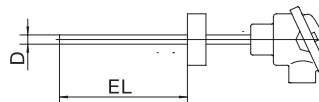
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Order details: Resistance thermometers for process technology

(1) Basic versions

902820/20 Push-in resistance thermometers
 with continuous protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

- x 9 9 x 1mm
- x 11 11 x 2mm

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

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

(7) Process connection

- x 000 no process connection
- x 642 flange C DN 25 PN 40, DIN 25 01
- x 644 flange C DN 40 PN 40, DIN 25 01

(8) Protection tube material

- 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 no extra code
- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 324 terminal head Form BBKS
- x 330 1 x analog transmitter, 4 – 20mA output², Data Sheet 70.7030 (not with extra code 362)
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³, Data Sheet 70.7010
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- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
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- x 368 acceptance test certificate 3.1 EN 10 204: leakage test
- x 374 acceptance test certificate 3.1 EN 10 204: 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

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) ...
 [] - [] - [] - [] - [] - [] - [] - [] / [] ...
Order example 902820/20 - 402 - 1001 - 1 - 9 - 250 - 642 - 26 / 000¹

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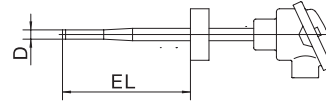
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Order details: Resistance thermometers for process technology

(1) Basic versions

902820/21 Push-in resistance thermometers with stepped protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

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

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

- x 160 160mm
- x 225 225mm
- x 250 250mm
- x 285 285mm
- x 345 345mm
- x 400 400mm

(7) Process connection

- x 000 no process connection
- x 642 flange C DN 25 PN 40, DIN 25 01
- x 644 flange C DN 40 PN 40, DIN 25 01

(8) Protection tube material

- x 26 stainless steel 1.4571

(9) Extra codes

- x 000 no extra code
- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 324 terminal head Form BBKS
- x 330 1 x analog transmitter, 4 – 20mA output², Data Sheet 70.7030 (not with extra code 362)
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³, Data Sheet 70.7010
- x 333 1 x analog transmitter, 0 – 10V output², Data Sheet 70.7030 (not with extra code 362)
- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
- x 365 acceptance test certificate 3.1B EN 10 204: insulation resistance
- x 367 acceptance test certificate 3.1B EN 10 204: pressure test
- x 368 acceptance test certificate 3.1B EN 10 204: leakage test
- x 374 acceptance test certificate 3.1B EN 10 204: 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

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) ...
 [] - [] - [] - [] - [] - [] - [] - [] / [] ...
Order example 902820/21 - 402 - 1001 - 1 - 12 - 250 - 642 - 26 / 000¹

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

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 CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

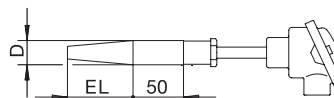
JUMO Process Control, Inc.
 8 Technology Boulevard
 Canastota, NY 13031, USA
 Phone: 315-697-JUMO
 1-800-554-JUMO
 Fax: 315-697-5867
 e-mail: info@jumo.us
 Internet: www.jumo.us



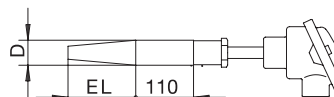
Order details: Resistance thermometers for process technology

(1) Basic versions

902820/50 Screw-in resistance thermometers
with pocket DIN 43 767 Form D1/D2



902820/51 Screw-in resistance thermometers
with pocket DIN 43 767 Form D4/D5



(2) Operating temperature in °C (for restrictions, see DIN 43 763)

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

(3) Measuring insert

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

(4) Tolerance class to EN 60 751

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

(5) Pocket diameter D in mm

x	x	24	24mm, stepped down to 12.5mm
---	---	----	------------------------------

(6) Fitting length EL in mm

x	x	65	65mm for Form D1/D4
x	x	125	125mm for 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

x	x	000	no extra code
x	x	320	terminal head Form BUZ
x	x	321	terminal head Form BUZH
x	x	324	terminal head Form BBKS
x	x	330	1 x analog transmitter, 4 – 20mA output ² , Data Sheet 70.7030 (not with extra code 362)
x	x	331	1 x programmable transmitter, 4 – 20mA / 20 – 4mA output ³ , Data Sheet 70.7010
x	x	333	1 x analog transmitter, 0 – 10V output ² , Data Sheet 70.7030 (not with extra code 362)
x	x	336	1 x programmable transmitter, 4 – 20mA output ³ and HART [®] interface, Data Sheet 70.7010
x	x	365	acceptance test certificate 3.1 EN 10 204: insulation resistance
x	x	367	acceptance test certificate 3.1 EN 10 204: pressure test
x	x	368	acceptance test certificate 3.1 EN 10 204: leakage test
x	x	374	acceptance test certificate 3.1 EN 10 204: 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

Order code (1) (2) (3) (4) (5) (6) (7) (8) / ...
Order example 902820/50 - 402 - 1001 - 1 - 24 - 125 - 26 / 000¹

- List extra codes in sequence, separated by commas.
- Specify range in plain text.
- Specify range and output signal in plain text.

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 CM 20 2TT, UK
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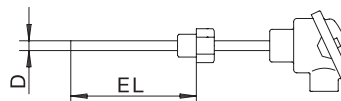


Order details: Resistance thermometers for process technology with Ex (ATEX) approval



(1) Basic versions

902820/10 Screw-in resistance thermometers with continuous protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

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

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

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

(7) Process connection

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

(8) Protection tube 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

- x 320 Caution: for application in Zone 20, 21 and 22, only a terminal head with at least IP65 protection can be used.
- x 321 terminal head Form BUZ
- x 397 terminal head Form BEGF
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³, Data Sheet 70.7010
- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
- x **362 Ex protection Ex i as per EU Directive 94/9/EC (ATEX)**
- x 399 Ex protection **Ex d** flameproof enclosure, terminal head Form XD-AD (ATEX) cable gland for cable dia. D 3.0 – 8.0mm (for cable dia. D 7.5 – 11.9mm, on request), only in conjunction with 362.
- x 365 acceptance test certificate 3.1 EN 10 204: insulation resistance
- x 367 acceptance test certificate 3.1 EN 10 204: pressure test
- x 368 acceptance test certificate 3.1 EN 10 204: leakage test
- x 374 acceptance test certificate 3.1 EN 10 204: 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 will the resistance thermometer be used?

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9)
 - - - - - - - / 362¹ ...

Order example 902820/10 - 415 - 1001 - 1 - 9 - 250 - 104 - 26 / 362¹

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

Note:

It is not possible to illustrate all variations, because of the wide variety of combinations that can be implemented. We must draw your attention to the fact that not all combinations can be supplied for all ATEX categories.

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 CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

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 8 Technology Boulevard
 Canastota, NY 13031, USA
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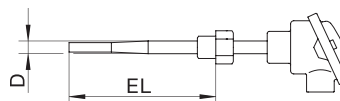


Order details: Resistance thermometers for process technology with Ex (ATEX) approval



(1) Basic versions

902820/11 Screw-in resistance thermometers with stepped protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

- x 12 12 x 2.5mm, stepped down to 9mm (for use in Zone 0 or 20, on request)

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

- x 160 160mm
- x 220 220mm
- x 250 250mm
- x 280 280mm
- x 400 400mm

(7) Process connection

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

(8) Protection tube material

- x 26 stainless steel 1.4571

(9) Extra codes

Caution: for application in Zone 20, 21 and 22, only a terminal head with at least IP65 protection can be used.

- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 397 terminal head Form BEGF
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³ Data Sheet 70.7010
- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
- x **362 Ex protection Ex i as per EU Directive 94/9/EC (ATEX)**
- x 399 Ex protection **Ex d** flameproof enclosure, terminal head Form XD-AD (ATEX) cable gland for cable dia. D 3.0 – 8.0mm (for cable dia. D 7.5 – 11.9mm, on request), only in conjunction with 362.
- x 365 acceptance test certificate 3.1 EN 10 204: insulation resistance
- x 367 acceptance test certificate 3.1 EN 10 204: pressure test
- x 368 acceptance test certificate 3.1 EN 10 204: leakage test
- x 374 acceptance test certificate 3.1 EN 10 204: 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 will the resistance thermometer be used?

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) / 362 ,...

Order example 902820/11 - 415 - 1001 - 1 - 12 - 250 - 104 - 26 / 362¹

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

Note:
 It is not possible to illustrate all variations, because of the wide variety of combinations that can be implemented. We must draw your attention to the fact that not all combinations can be supplied for all ATEX categories.

JUMO GmbH & Co. KG
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 JUMO House
 Temple Bank, Riverway
 Harlow, Essex CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

JUMO Process Control, Inc.
 8 Technology Boulevard
 Canastota, NY 13031, USA
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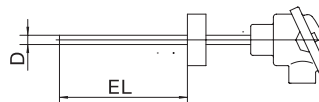


Order details: Resistance thermometers for process technology with Ex (ATEX) approval



(1) Basic versions

902820/20 Push-in resistance thermometers with continuous protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

- x 9 9 x 1mm (for use in Zone 0 or 20, on request)
- x 11 11 x 2mm

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

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

(7) Process connection

- x 000 no process connection
- x 642 flange C DN 25 PN 40, DIN 25 01
- x 644 flange C DN 40 PN 40, DIN 25 01

(8) Protection tube material

- 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 320 Caution: for application in Zone 20, 21 and 22, only a terminal head with at least IP65 protection can be used. terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 397 terminal head Form BEGF
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³, Data Sheet 70.7010
- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
- x **362 Ex protection Ex i as per EU Directive 94/9/EC (ATEX)**
- x 399 Ex protection **Ex d** flameproof enclosure, terminal head Form XD-AD (ATEX) cable gland for cable dia. D 3.0 – 8.0mm (for cable dia. D 7.5 – 11.9mm, on request), only in conjunction with 362.
- x 365 acceptance test certificate 3.1 EN 10 204: insulation resistance
- x 367 acceptance test certificate 3.1 EN 10 204: pressure test
- x 368 acceptance test certificate 3.1 EN 10 204: leakage test
- x 374 acceptance test certificate 3.1 EN 10 204: 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 will the resistance thermometer be used?

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9)
 - - - - - - - / / **362** ...

Order example 902820/20 - 415 - 1001 - 1 - 9 - 250 - 642 - 26 / 362¹

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

Note:

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 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 CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

JUMO Process Control, Inc.
 8 Technology Boulevard
 Canastota, NY 13031, USA
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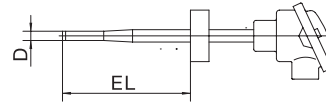


Order details: Resistance thermometers for process technology with Ex (ATEX) approval



(1) Basic versions

902820/21 Push-in resistance thermometers with stepped protection tube



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

(4) Tolerance class to EN 60 751

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

(5) Protection tube diameter D in mm

- x 12 12 x 2.5mm, stepped down to 9mm (for use in Zone 0 or 20, on request)

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

- x 160 160mm
- x 225 225mm
- x 250 250mm
- x 285 285mm
- x 345 345mm
- x 400 400mm

(7) Process connection

- x 000 no process connection
- x 642 flange C DN 25 PN 40, DIN 25 01
- x 644 flange C DN 40 PN 40, DIN 25 01

(8) Protection tube material

- x 26 stainless steel 1.4571

(9) Extra codes

Caution: for application in Zone 20, 21 and 22, only a terminal head with at least IP65 protection can be used.

- x 320 terminal head Form BUZ
- x 321 terminal head Form BUZH
- x 397 terminal head Form BEGF
- x 331 1 x programmable transmitter, 4 – 20mA / 20 – 4mA output³ Data Sheet 70.7010
- x 336 1 x programmable transmitter, 4 – 20mA output³ and HART[®] interface, Data Sheet 70.7010
- x **362 Ex protection Ex i as per EU Directive 94/9/EC (ATEX)**
- x 399 Ex protection **Ex d** flameproof enclosure, terminal head Form XD-AD (ATEX) cable gland for cable dia. D 3.0 – 8.0mm (for cable dia. D 7.5 – 11.9mm, on request) Only in conjunction with 362.
- x 365 acceptance test certificate 3.1 EN 10 204: insulation resistance
- x 367 acceptance test certificate 3.1 EN 10 204: pressure test
- x 368 acceptance test certificate 3.1 EN 10 204: leakage test
- x 374 acceptance test certificate 3.1 EN 10 204: 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 will the resistance thermometer be used?

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) / 362 ,...

Order example 902820/21 - 415 - 1001 - 1 - 12 - 250 - 642 - 26 / 362¹

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

Note:

It is not possible to illustrate all variations, because of the wide variety of combinations that can be implemented. We must draw your attention to the fact that not all combinations can be supplied for all ATEX categories.

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 Temple Bank, Riverway
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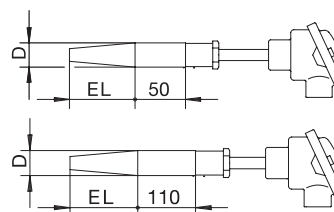


Order details: Resistance thermometers for process technology with Ex (ATEX) approval



(1) Basic versions

902820/50	Screw-in resistance thermometers with pocket DIN 43 767 Form D1/D2
902820/51	Screw-in resistance thermometers with pocket DIN 43 767 Form D4/D5



(2) Operating temperature in °C (for restrictions, see DIN 43 763)

x x	150	-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	1 x Pt100 in 3-wire circuit (not in conjunction with transmitter 331, 336)
x x	1003	1 x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)
x x	1011	1 x Pt100 in 4-wire circuit
x x	2001	2 x Pt100 in 3-wire circuit
x x	2003	2 x Pt100 in 2-wire circuit (not in conjunction with transmitter 331, 336)

(4) Tolerance class to EN 60 751

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

(5) Pocket diameter D in mm

x x	24	24mm, stepped down to 12.5mm
-----	----	------------------------------

(6) Fitting length EL in mm

x x	65	65mm for Form D1/D4
x x	125	125mm for 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

x x	320	Caution: for application in Zone 20, 21 and 22, only a terminal head with at least IP65 protection can be used. terminal head Form BUZ
x x	321	terminal head Form BUZH
x x	397	terminal head Form BEGF
x x	331	1 x programmable transmitter, 4 – 20mA / 20 – 4mA output ³ , Data Sheet 70.7010
x x	336	1 x programmable transmitter, 4 – 20mA output ³ and HART [®] interface, Data Sheet 70.7010
x x	362	Ex protection Ex i as per EU Directive 94/9/EC (ATEX)
x x	399	Ex protection Ex d flameproof enclosure, terminal head Form XD-AD (ATEX) cable gland for cable dia. D 3.0 – 8.0mm (for cable dia. D 7.5 – 11.9mm, on request), only in conjunction with 362.
x x	365	acceptance test certificate 3.1 EN 10 204: insulation resistance
x x	367	acceptance test certificate 3.1 EN 10 204: pressure test
x x	368	acceptance test certificate 3.1 EN 10 204: leakage test
x x	374	acceptance test certificate 3.1 EN 10 204: 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 will the resistance thermometer be used?

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

- List extra codes in sequence, separated by commas.
- Specify range and output signal in plain text.

Note:

It is not possible to illustrate all variations, because of the wide variety of combinations that can be implemented. We must draw your attention to the fact that not all combinations can be supplied for all ATEX categories.