

ATEX/IECEX RTD temperature probe with connecting cable acc. to DIN EN 60751

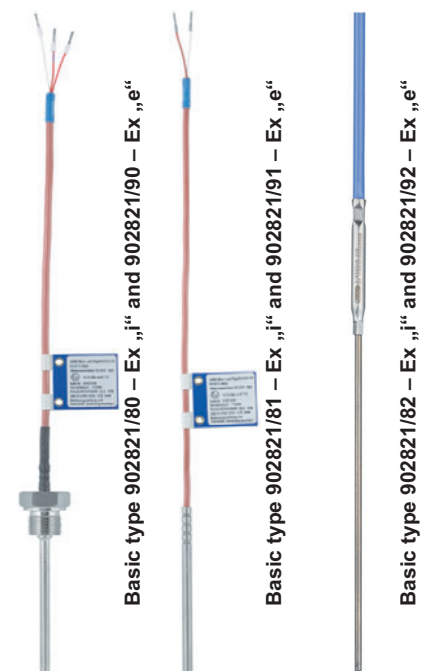
- For temperatures from -100 to +600 °C
- As single, double, or triple RTD temperature probe
In two-wire, three-wire, or four-wire circuit
- Shielded connecting cables
(silicone, PTFE, metal braiding/glass fiber, PVC, PUR, FEP, RADOX®, BETAflam®)
- Application-specific design types

Brief description

Due to their specific features, ATEX/IECEX RTD temperature probes with connecting cables are used in pharmaceutical and chemical plants, power plants, pipelines, on test rigs, in engine manufacturing, and at any measuring locations requiring flexibility and simple replacement.

The good thermal transfer between the protection tube and temperature sensor enables short response times and excellent measuring accuracy. The special construction guarantees a long operating life.

A Pt100 temperature sensor according to DIN EN 60751, class AA, A or B in a two-wire, three-wire or four-wire circuit is used as a measuring insert as standard – versions with Pt500, Pt1000, Ni1000, or NTC are also possible.



Approvals/approval marks (see "Technical data")



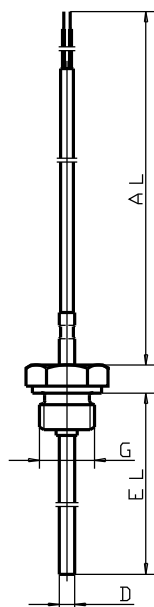
Technical data

Connection	Connecting cable ends stripped bare or with the insulation stripped in part, available with ferrules (standard), with plug-in sleeves, or multi-pole plug connectors
Connecting cable	Silicone Ambient temperature -50 to +180 °C PTFE Ambient temperature -190 to +260 °C Metal braiding/ glass fiber Ambient temperature -50 to +350 °C PUR Ambient temperature -30 to +105 °C PVC Ambient temperature -5 to +80 °C or -5 to +105 °C FEP Ambient temperature -5 to +105 °C RADOX® Ambient temperature -40 to +120 °C BETAflam® Ambient temperature -40 to +120 °C FPM Ambient temperature -50 to +180 °C PEEK Ambient temperature -60 to +180 °C
Protection tube	Stainless steel AISI 316, Ø 3 mm, Ø 4 mm, Ø 5 mm, Ø 6 mm, Ø 7 mm, Ø 8 mm, and Ø 9 mm or in the case of the mineral-insulated RTD temperature probe: stainless steel 1.4541, Ø 1.9 mm, Ø 3 mm, and Ø 6 mm
Protection tube constant	As the diameter of the temperature probe varies, the protection tube constant varies as follows: ≥ 3.0 mm = 220 K/W ≥ 3.3 mm = 180 K/W ≥ 4.0 mm = 110 K/W ≥ 5.0 mm = 80 K/W The protection tube constant describes how the temperature rises on the surface of the probe as work is performed and must be taken into account when dimensioning the intrinsically safe electrical circuit and selecting the temperature class.
Process connection	Thread, clamping socket (clamp), or JUMO PEKA with EHEDG certification
Measuring insert	Standard: Pt100 temperature sensor, DIN EN 60751, class AA (1/3 DIN B), A or B available in two-wire, three-wire, or four-wire circuit NTC upon request

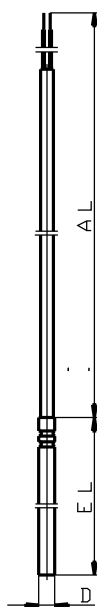
Approvals/approval marks

Approval mark	Testing agency	Certificates/ Certification numbers	Inspection basis
 II 1/2 G Ex ia IIC T1 ... T6 Ga/Gb  II 1/2 G Ex ib IIC T1 ... T6 Ga/Gb	Electrosuisse	SEV 13 ATEX 0197	EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-26:2007
 II 1/2 D Ex ia IIIC T60°C ... T80°C Da/Db IP6X  II 1/2 D Ex ib IIIC T60°C ... T80°C Da/Db IP6X			
 II 2 G Ex ia IIC T1 ... T6 Gb  II 2 G Ex ib IIC T1 ... T6 Gb	Electrosuisse	SEV 13 ATEX 0197	EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-26:2007
 II 2 D Ex ia IIIC T60°C ... T80°C Db IP6X  II 2 D Ex ib IIIC T60°C ... T80°C Db IP6X			
II 1/2 G Ex ia IIC T1 ... T6 Ga/Gb II 1/2 G Ex ib IIC T1 ... T6 Ga/Gb II 1/2 D Ex ia IIIC T60°C ... T80°C Da/Db IP6X II 1/2 D Ex ib IIIC T60°C ... T80°C Da/Db IP6X	Electrosuisse	IECEX SEV 13.0010	IEC 60079-0:2011 IEC 60079-11:2011 IEC 60079-26:2006
II 2 G Ex ia IIC T1 ... T6 Gb II 2 G Ex ib IIC T1 ... T6 Gb II 2 D Ex ia IIIC T60°C ... T80°C Db IP6X II 2 D Ex ib IIIC T60°C ... T80°C Db IP6X	Electrosuisse	IECEX SEV 13.0010	IEC 60079-0:2011 IEC 60079-11:2011 IEC 60079-26:2006
 II 1/2 G Ex e IIC T1 ... T6 Ga/Gb  II 1/2 D Ex tb IIIC T60°C ... T80°C IP65 Da/Db	Electrosuisse	SEV 05 ATEX 0137	EN 60079-0:2009 EN 60079-7:2007 EN 60079-26:2007 EN 60079-31:2009
 II 2 G Ex e IIC T1 ... T6 Gb  II 2 D Ex tb IIIC T60°C ... T80°C IP65 Db	Electrosuisse	SEV 05 ATEX 0137	EN 60079-0:2009 EN 60079-7:2007 EN 60079-26:2007 EN 60079-31:2009
EHEDG For process connection 997 JUMO PEKA	TUM MAK	No. 02/2006	Document No. 8

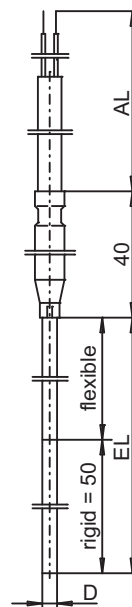
Dimensions



Basic type 902821/80
Basic type 902821/90

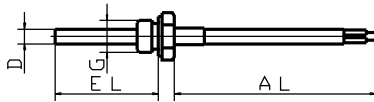
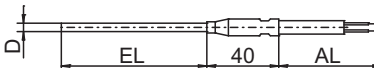


Basic type 902821/81
Basic type 902821/91



Basic type 902821/82
Basic type 902821/92

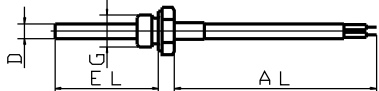
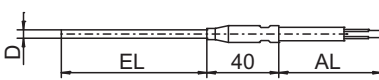
Order details

(1) Basic type			
902821/80		Ex "i" – Screw-in RTD temperature probe With connecting cable	
902821/81		Ex "i" – Push-in RTD temperature probes With connecting cable	
902821/82		Ex "i" – Mineral-insulated RTD temperature probes With connecting cable (operating temperature in area of the sheath cable: -50 to +600 °C)	
(2) Operating temperature in °C (connecting cable)			
x	x	x	317 -60 to +180 °C (PEEK)
x	x	x	373 -50 to +180 °C (FPM)
x	x	x	378 -50 to +180 °C (silicone)
x	x	x	386 -50 to +260 °C (PTFE)
x	x	x	402 -50 to +400 °C (metal braiding/glass fiber)
x	x	x	478 -40 to +120 °C (RADOX®)
x	x	x	484 -40 to +120 °C (BETAflam®)
x	x	x	724 -5 to +80 °C (PVC)
x	x	x	730 -5 to +105 °C (PVC)
x	x	x	908 5 to 105 °C (PUR)
x	x	x	912 5 to 105 °C (FEP)
(3) Measuring insert			
x	x	x	1001 1× Pt100 in three-wire circuit
x	x	x	1003 1× Pt100 in two-wire circuit
x	x	x	1005 1× Pt1000 in two-wire circuit
x	x	x	1011 1× Pt100 in four-wire circuit
x	x	x	2001 2× Pt100 in three-wire circuit (protection tube diameter as of 6 mm with basic type 902821/82)
x	x	x	2003 2× Pt100 in two-wire circuit
x	x	x	2005 2× Pt1000 in two-wire circuit
x	x		2011 2× Pt100 in four-wire circuit
x	x		3028 3× Pt100 in 2× three-wire and 1× two-wire circuit
(4) Tolerance class according to DIN EN 60751			
x	x	x	1 Class B
x	x	x	2 Class A
x	x	x	3 Class AA (1/3 DIN B)
(5) Protection tube diameter D in mm			
		x	1.9 Ø 1.9 mm (sheath cable Ø 1.5 mm)
x	x	x	3 Ø 3 mm
x	x		4 Ø 4 mm
x	x		5 Ø 5 mm
x	x	x	6 Ø 6 mm
x	x		7 Ø 7 mm
x	x		8 Ø 8 mm
x	x		9 Ø 9 mm
(6) Insertion length EL in mm (20 to 50000 mm)			

x	x	x	...	Specification in plain text
(7) Process connection				
	x	x	000	None
x			102	Screw connection G 1/4
x			104	Screw connection G 1/2
x			106	Screw connection G 1
x			114	Screw connection M10 × 1
x			115	Screw connection M10 × 1.5
x			121	Screw connection M14 × 1.5
x			163	Union nut G 3/8
x			164	Union nut G 1/2
x			165	Union nut G 3/4
	x		254	Compression fitting G 1/2
	x		611	Clamping socket (clamp) DN 10/20 DIN 32676 (AISI 316 L)
	x		613	Clamping socket (clamp) DN 25/40 (1"/1.5") DIN 32676 (AISI 316 L)
	x		616	Clamping socket (clamp) DN 50 (2") DIN 32676 (AISI 316 L)
	x		617	Clamping socket (clamp) 2.5" similar to DIN 32676 (AISI 316 L)
x			997	JUMO PEKA with EHEDG certification (AISI 316 L) (suitable process connection adapters, data sheet 409711)
(8) Process connection material				
x	x	x	00	None
x	x		24	CrNi 1.4404 (AISI 316 L)
x	x		26	CrNi 1.4571 (AISI 316 Ti)
x	x		31	CrNi 1.4435 (AISI 316 L)
x	x		46	CuZn (brass)
(9) Connecting cable end				
x	x	x	03	Bare connection wires
x	x	x	05	Part stripping of the insulation
x	x	x	11	Ferrules (standard)
x	x	x	13	Plug-in sleeve 6.3
x	x	x	23	Tab connector 6.3
x	x	x	42	Lemosa coupling
x	x	x	56	Machine connector M12 × 1
x	x	x	57	Machine connector M8 × 1
(10) Connecting cable length AL in mm (20 to 100000 mm)				
x	x	x	...	Specification in plain text
(11) Extra codes				
x	x	x	000	None
x	x	x	058	SIL- and PL-compatible
x	x		310	Protection tube stepped down from Ø 6 mm to Ø 4 mm
x	x		315	Strain-relief spring
x	x		316	Strain-relief hose
x	x	x	317	Shielded connecting cable

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)
 Order example 902821/80 - 317 - 1001 - 1 - 3 - 200 - 104 - 26 - 11 - 2500 / 315 , ...^a

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

(1) Basic type			
902821/90		Ex "e" – Screw-in RTD temperature probe With connecting cable	
902821/91		Ex "e" – Push-in RTD temperature probes With connecting cable	
902821/92		Ex "e" – Mineral-insulated RTD temperature probes With connecting cable (operating temperature in area of the sheath cable: -50 to +600 °C)	
(2) Operating temperature in °C (connecting cable)			
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x	x	x	2001 2 × Pt100 in three-wire circuit (protection tube diameter as of 6 mm with basic type 902821/92)
x	x	x	2003 2× Pt100 in two-wire circuit
x	x	x	2005 2× Pt1000 in two-wire circuit
x	x		2011 2× Pt100 in four-wire circuit
x	x		3028 3× Pt100 in 2× three-wire and 1× two-wire circuit
(4) Tolerance class according to DIN EN 60751			
x	x	x	1 Class B
x	x	x	2 Class A
x	x	x	3 Class AA (1/3 DIN B)
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x	x		4 Ø 4 mm
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x	x	x	6 Ø 6 mm
x	x		7 Ø 7 mm
x	x		8 Ø 8 mm
x	x		9 Ø 9 mm
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x	x	x	... Specification in plain text
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x			104	Screw connection G 1/2
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(10) Connecting cable length AL in mm (20 to 100000 mm)				
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(11) Extra codes				
x	x	x	000	None
x	x	x	058	SIL- and PL-compatible
x	x		310	Protection tube stepped down from Ø 6 mm to Ø 4 mm
x	x		315	Strain-relief spring
x	x		316	Strain-relief hose
x	x	x	317	Shielded connecting cable

Order code (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)
 Order example 902821/90 - 317 - 1001 - 1 - 3 - 200 - 104 - 26 - 11 - 2500 / 315 , ...^a

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