

JUMO GmbH & Co. KG

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JUMO Instrument Co. Ltd.

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JUMO Process Control, Inc.

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JUMO railTEMP

Wheelset temperature probe

Special features

- For use in rail vehicles according to DIN EN 50155
- For continuous temperature monitoring and hot box detection at difficult-to-access or remote measuring points
- Robust sensor with optional cable protection for use under harsh environmental influences
- Various high-quality connectors available
- Customer-specific versions possible

Design

The wheelset temperature probe features a qualified measuring insert specially developed for this application with up to two sensing elements. The measuring insert is installed in a straight or angled brass process connection. The firmly attached connection line can be ordered with a variety of different connection line ends or high-quality connectors. The connection line can be supplied with cable protection and/or shielding as an optional extra.

Function

The wheelset temperature probe works according to the principle of an RTD temperature probe in a two, three, or four-wire circuit.



Type 902195/...


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Approvals

	Designation	Railway application
	Test facility	RST Rail System Testing, JUMO
	Certificate no.	CH 23-04-26-004 railway application
	Inspection basis	DIN EN 50155; DIN 61373, Cat. 3; DIN EN 50121-3-2; EN 45545-1; EN 45545-2

Technical data

Electrical data

Sensing element	Pt100 or Pt1000 or NTC (5 kΩ)
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Measuring range and accuracy

Measuring range	
with Pt100/Pt1000 measuring insert	-50 to +200 °C
with NTC measuring insert	-50 to +150 °C
Tolerance class	According to DIN EN 60751
Pt100/Pt1000 measuring insert	B (standard), A, or AA
NTC measuring insert	±0.2 K (at 25 °C)

Environmental influences

Protection type	IP68, IP69
Insulation resistance	
AC	2500 V
DC	500 V
Vibration resistance	EN 61373 Cat. 3
Shock resistance	EN 61373 Cat. 3
Operating temperature range	
Connection line	
Pt100/Pt1000 measuring insert	-60 to +260 °C
NTC measuring insert	-60 to +180 °C
Cable protection	
Plastic corrugated hose	-55 to +95 °C
Rubber fabric hose	-40 to +100 °C
Storage temperature range	Same as operating temperature range
Fire behavior	DIN EN 45545-2

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Mechanical features

Material	
Process connection	Brass
Protection tube	Stainless steel
Connection line	Halogen-free
Outer diameter	
Connection line	3.75 mm
Cable protection	
Plastic corrugated hose	Approx. 10 mm with NW 07 Approx. 12.8 mm with NW 10
Rubber fabric hose	14.2 mm
Protection tube	5 mm
Core cross-section of the connection line	4 × 0.24 mm ²

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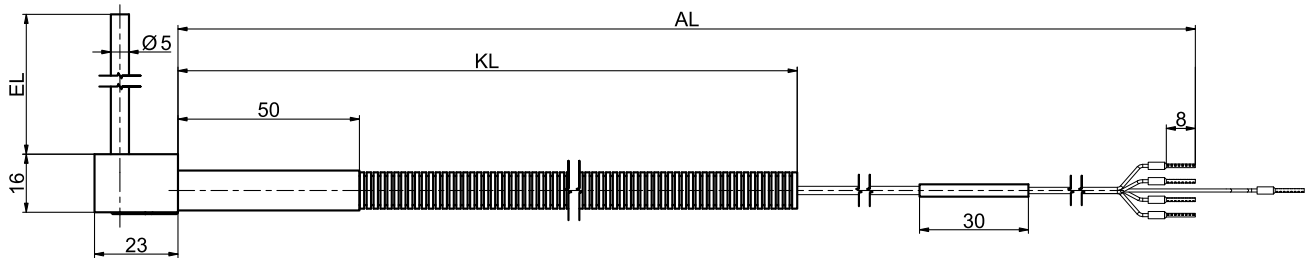
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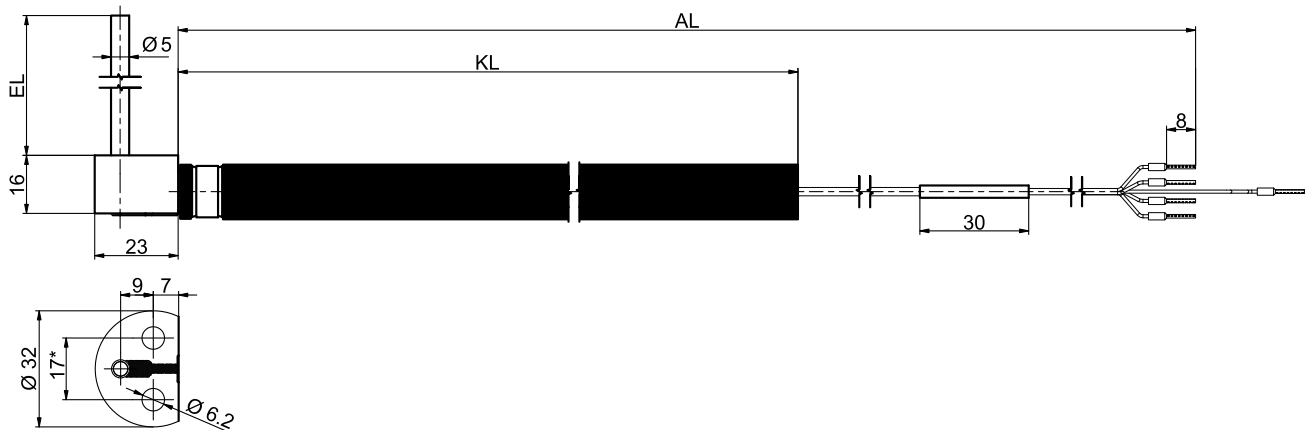
Dimensions

Type 902195/10

Versions with plastic corrugated hose



Versions with rubber fabric hose



* Other hole spacing upon request.

Abbreviation	Meaning	Customer-specific value range
AL	Connection line length	100 to 15000 mm
KL	Cable protection length	50 to 15000 mm
EL	Insertion length	25 to 200 mm (installation in drilled hole or thermowell required)

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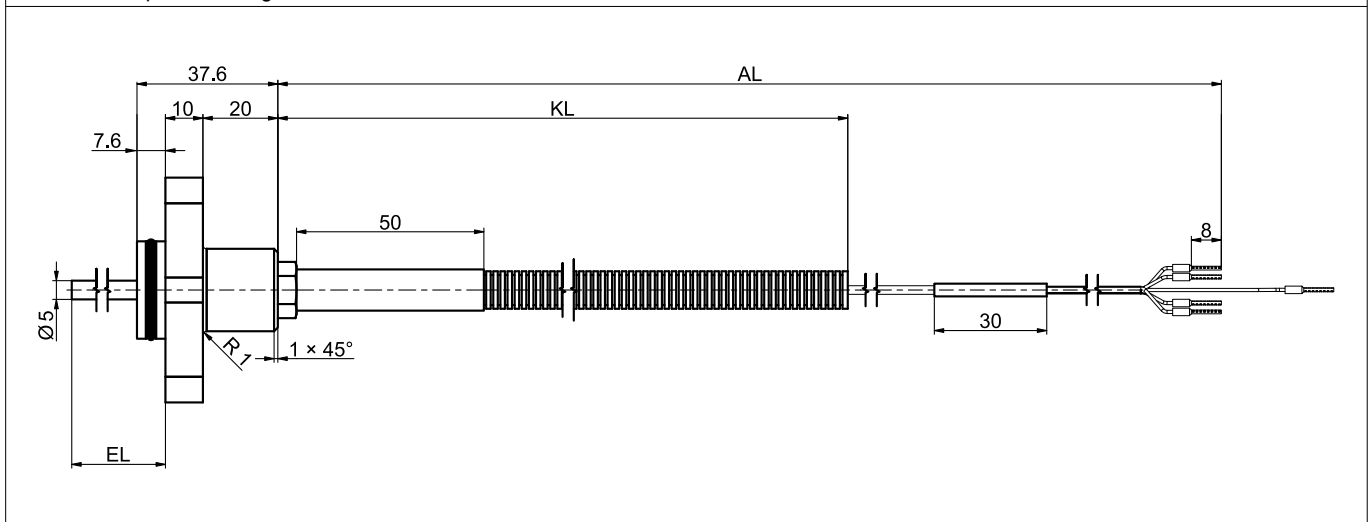
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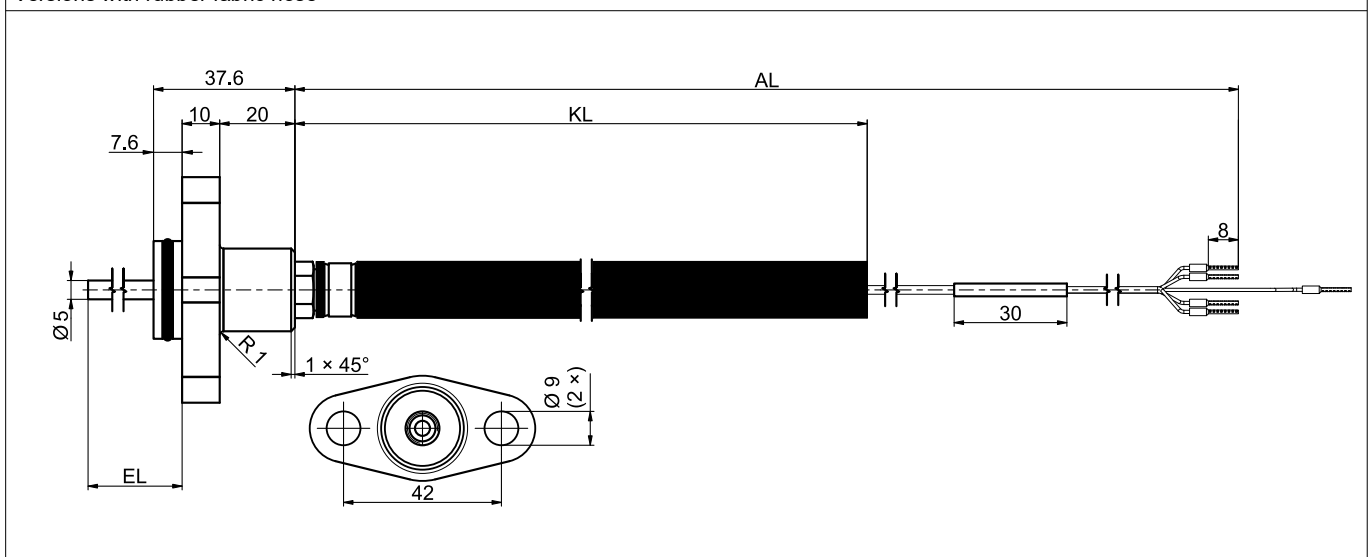


Type 902195/20

Versions with plastic corrugated hose



Versions with rubber fabric hose



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Connection diagram

Versions without connector

Connection technology	Connection diagram
Two-wire	
Three-wire	
Four-wire	
2 × two-wire	

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Order details

	(1) Basic type
902195	JUMO railTEMP – wheelset temperature probe for railway applications according to DIN EN 50155
	(2) Basic type extension
10	Version with angled screwed flange
20	Version with straight screwed flange
	(3) Version
0	Standard version
	(4) Operating temperature
370	-50 to +150 °C ^a
380	-50 to +200 °C ^b
	(5) Measuring insert^c
1001	1 × P100 in three-wire circuit
1003	1 × P100 in two-wire circuit
1011	1 × P100 in four-wire circuit
2003	2 × P100 in two-wire circuit
1005	1 × Pt1000 in two-wire circuit
1738	1 × NTC 5 kΩ in two-wire circuit
2738	2 × NTC 5 kΩ in two-wire circuit
	(6) Tolerance class
0	Without tolerance specification ^a
1	Class B ^b
2	Class A
3	Class AA
	(7) Protection tube diameter
5	5 mm
	(8) Insertion length (EL)
XXX	Specify in plain text (XXX = 25 to 200 mm, installation in drilled hole or thermowell required)
	(9) Connection line end^c
01	Cut off smoothly
03	Bare connection wires
05	Half stripped
67	Harting connector according to customer specifications
70	Gimota connector according to customer specifications
11	Ferrules
	(10) Connection line length (AL)
XXX	Specify in plain text (XXX = 100 to 15000 mm)
	(11) Cable protection
00	None
10	Plastic corrugated hose
20	Rubber fabric hose (hydraulic hose)
	(12) Cable protection length (KL)
XXX	Specify in plain text (XXX = 50 to 15000 mm)
	(13) Extra codes
317	Shielded connection line, not connected to process connection
519	With fastening screws
093	Shielding connected to process connection
094	Shielding fed out on the connection side with grounding wire

^a With NTC measuring inserts (1738 and 2738).

^b Standard.

^c Other variants upon request.

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)								
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			XX	-	XXX	-	XX	-	XXX	-	XXX					

^a List extra codes in sequence and separate using commas.