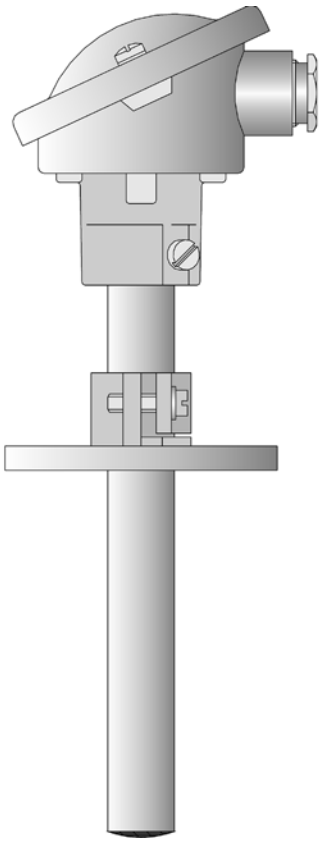
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Push-in thermocouples with terminal head form A



- **For temperatures from -200 to +1600 °C**
- **With thermowells made of various materials**
- **As single or double thermocouple**
- **Available with transmitter**

Push-in thermocouples are preferentially used for measuring temperatures in liquids and gases. The application areas are, among others, in the HVAC, kiln and apparatus engineering sector.

The connection head form A is suitable for ambient temperatures up to +100 °C. The support tube is made of steel. When using a counter flange, see data sheet 90.9750 (90.9725), the installation point can be sealed up to 1 bar.

Sheaths made of various ceramic materials and heat resistant steels protect the measuring insert against chemical influences and mechanical damage. The selection of a suitable sheath material depends on the conditions on site.

Thermocouples (elements) as per DIN EN 60584 and DIN 43710, class 2, are set into the measuring insert. Versions with two thermocouples are also possible.

Technical data

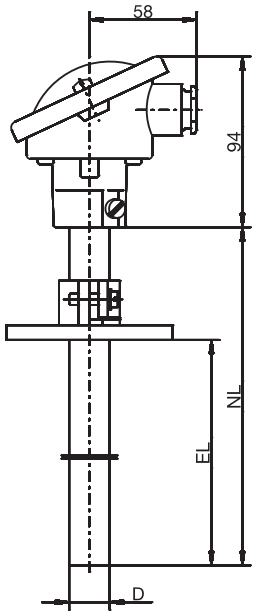
Terminal head	Form A DIN 43729, die-cast aluminum, M 20x1.5; IP54, ambient temperature -40 to +100 °C Caution: reduced ambient temperature when using connection head transmitters, data sheets 70.7010 and 70.7060
Process connection	Sheath screw-connection G 1 Stop flange Ø 22 mm, DIN 43734 Stop flange Ø 32 mm, DIN 43734
Sheath	Steel 1.4749, Ø 22 mm, operating temperature up to +1150 °C (seamless) Steel 1.4841, Ø 22 mm, operating temperature up to +1150 °C (seamless) Ceramic C 610 (KER 610), Ø 15 mm, Ø 24 mm, operating temperatures up to +1300 °C Ceramic C 799 (KER 710), Ø 15 mm, Ø 24 mm, operating temperatures up to +1600 °C
Measuring insert	Insulated structure: 1x Fe-CuNi „J“, DIN EN 60584, cl. 2, operating temperature -200 to +600 °C 1x Fe-CuNi „L“, DIN 43710, cl. 2, operating temperature -200 to +600 °C 1x NiCr-Ni „K“, DIN EN 60584, cl. 2, operating temperature -200 to +1200 °C 1x Pt10Rh-Pt „S“, DIN EN 60584, cl. 2, operating temperature 0 to 1300 °C 1x Pt30Rh-Pt6Rh „B“, DIN EN 60584, cl. 2, operating temperature 600 to 1600 °C 2x Fe-CuNi „J“, DIN EN 60584, cl. 2, operating temperature -200 to +600 °C 2x Fe-CuNi „L“, DIN 43710, cl. 2, operating temperature -200 to +600 °C 2x NiCr-Ni „K“, DIN EN 60584, cl. 2, operating temperature -200 to +1200 °C 2x Pt10Rh-Pt „S“, DIN EN 60584, cl. 2, operating temperature 0 to 1300 °C 2x Pt30Rh-Pt6Rh „B“, DIN EN 60584, cl. 2, operating temperature 600 to 1600 °C
Transmitter	Programmable transmitter, 4 to 20 mA/20 to 4 mA output, data sheet 70.7010 Wtrans B programmable head transducer with radio transmission, data sheet 70.7060 (suitable Wtrans receivers, data sheet 90.2931)

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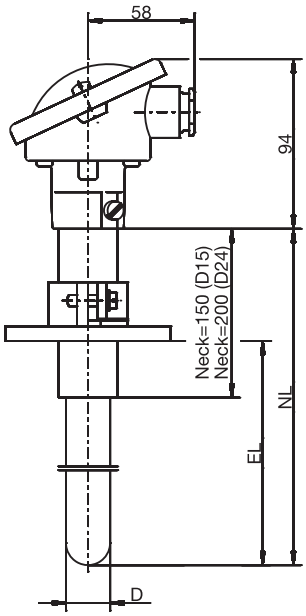
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Dimensions



Basic type 901110/10



Basic type 901110/20

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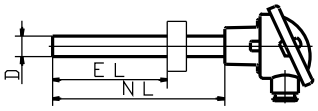
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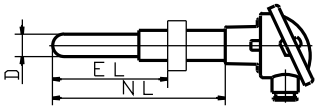
Order specifications: Push-in thermocouples with form A connection head

(1) Basic type

901110/10 Push-in thermocouple with continuous sheath made of heat resistant steel



901110/20 Push-in thermocouple with stepped sheath made of ceramic



(2) Measuring insert / operating temperature in °C

x		1040	1x Fe-CuNi „J“, operating temperature -200 to +600 °C
x		1042	1x Fe-CuNi „L“, operating temperature -200 to +600 °C
x	x	1043	1x NiCr-Ni „K“, operating temperature -200 to +1200 °C
	x	1044	1x Pt10Rh-Pt „S“, operating temperature 0 to 1300 °C
	x	1046	1x Pt30Rh-Pt 6 Rh „B“, operating temperature 600 to 1600 °C
x		2040	2x Fe-CuNi „J“, operating temperature -200 to +600 °C
x		2042	2x Fe-CuNi „L“, operating temperature -200 to +600 °C
x	x	2043	2x NiCr-Ni „K“, operating temperature -200 to +1200 °C
	x	2044	2x Pt10Rh-Pt „S“, operating temperature 0 to 1300 °C
	x	2046	2x Pt30Rh-Pt 6 Rh „B“, operating temperature 600 to 1600 °C

(3) Sheath diameter D in mm

	x	15	Ø 15 mm (support tube Ø 22 mm)
x		22	Ø 22 mm
	x	24	Ø 24 mm (support tube Ø 32 mm)

(4) Nominal length NL in mm (180 ≤ NL ≤ 1400)

x	x	500	500 mm, fitting length (EL) 100 to 460 mm
x	x	710	710 mm, fitting length (EL) 100 to 670 mm
x	x	1000	1000 mm, fitting length (EL) 100 to 960 mm
x	x	1400	1400 mm, fitting length (EL) 100 to 1360 mm
x	x	...	Specification in plain text (100 mm steps)

(5) Process connection

x	x	000	None
x		256	Sheath screw-connection G 1 (for a 22 mm diameter only), steel
x	x	669	Stop flange Ø 22 mm, DIN 43734
	x	671	Stop flange Ø 32 mm, DIN 43734

(6) Sheath material

x		27	Steel X 18 CrNi 28 Mat. No. 1.4749 (operating temperature up to +1150 °C)
x		28	Steel X 15 CrNiSi 25 20 Mat. No. 1.4841 (operating temperature up to +1150 °C)
	x	93	Ceramic C 610 (KER 610) (operating temperature up to +1300 °C)
	x	94	Ceramic C 799 (KER 710) (operating temperature up to +1600 °C)

(7) Extra codes

x	x	000	None
x	x	331	1x transmitter programmable output 4 to 20 mA/20 to 4 mA[1], data sheet 70.7010
x	x	859	1x Wtrans B programmable head transducer with radio transmission, data sheet 70.7060

	(1)		(2)		(3)		(4)		(5)		(6)		(7)
Order code		-		-		-		-		-		/	
Order example	901110/10	-	1042	-	22	-	710	-	669	-	27	/	000

[1] Specify measuring range and output signal in plain text.

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Stock versions

(1)		(2)		(3)		(4)		(5)		(6)		(7)	Sales No.:
901110/10	-	1043	-	22	-	500	-	669	-	27	/	000	90/00054836
901110/10	-	1043	-	22	-	710	-	669	-	27	/	000	90/00054837
901110/10	-	1043	-	22	-	1000	-	669	-	27	/	000	90/00054838
901110/10	-	2043	-	22	-	710	-	669	-	27	/	000	90/00054842
901110/20	-	1043	-	15	-	500	-	669	-	93	/	000	90/00054846

Accessories for programmable 2-wire transmitter type 707010 in the accessories data sheet 70.9770

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