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## Push-in thermocouples with terminal head Form B

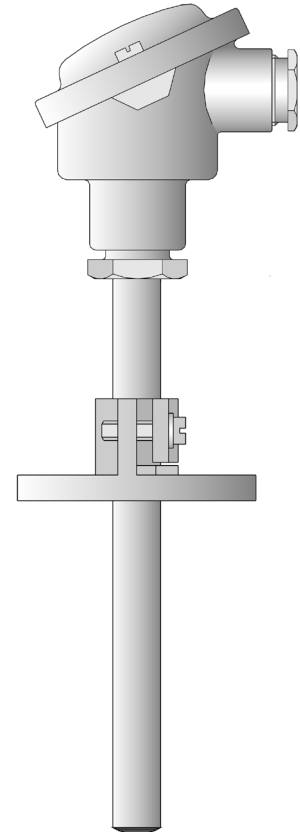
- for temperatures from -200 to +1600°C
- with protection tubes in different materials
- as single or twin thermocouple
- terminal head Form B, BUZ, BUZH, BBK
- available with transmitter

Push-in thermocouples are preferred for measuring temperatures in liquids and gases. Applications include heating installations, ovens, furnaces and plant engineering.

Terminal head Form B is suitable for ambient temperatures up to +100°C. The support tube is made from steel. When using a backing flange (see Data Sheet 90.9725), the mounting location can be sealed against 1bar max.

Protection tubes in different materials protect the measuring insert from chemical effects and mechanical damage. The choice of the appropriate protection tube material depends on the site conditions.

The measuring insert is fitted with thermocouples according to Class 2 of EN 60 584 and DIN 43 710 respectively. Versions with two thermocouples can also be supplied.



### Technical data

#### Terminal head

Form B DIN 43 729, aluminium die-casting, M 20x1.5; IP54, ambient temp. -40 to +100°C  
Form BUZ, aluminium die-casting, M 20x1.5; IP65, ambient temperature -40 to +100°C  
Form BUZH, aluminium die-casting, M 20x1.5; IP65, ambient temperature -40 to +100°C  
Form BBK, plastic, M 20x1.5; IP54, ambient temperature -30 to +130°C  
Caution: reduced ambient temperature when using head-mounted transmitters  
Data Sheet 70.7010

#### Process connection

screwed pipe joint 1/2"  
stop flange 15mm dia. to DIN 43 734

#### Protection tube

steel 1.4749, 15mm dia., operating temperature up to +1150°C (seamless drawn)  
steel 1.4841, 15mm dia., operating temperature up to +1150°C (seamless drawn)  
ceramic KER 710, 6mm, 8mm and 10mm dia., operating temperature up to +1600°C

#### Measuring insert

insulated assembly:  
1 x Fe-Con J, EN 60 584, Cl. 2, operating temperature -200 to +600°C  
1 x Fe-Con L, DIN 43 710, Cl. 2, operating temperature -200 to +600°C  
1 x NiCr-Ni K, EN 60 584, Cl. 2, operating temperature -200 to +1200°C  
1 x Pt10Rh-Pt S, EN 60 584, Cl. 2, operating temperature 0 to 1300°C  
1 x Pt30Rh-Pt6Rh B, EN 60 584, Cl. 2, operating temperature 600 to 1600°C  
2 x Fe-Con J, EN 60 584, Cl. 2, operating temperature -200 to +600°C  
2 x Fe-Con L, DIN 43 710, Cl. 2, operating temperature -200 to +600°C  
2 x NiCr-Ni K, EN 60 584, Cl. 2, operating temperature -200 to +1200°C  
2 x Pt10Rh-Pt S, EN 60 584, Cl. 2, operating temperature 0 to 1300°C  
2 x Pt30Rh-Pt6Rh B, EN 60 584, Cl. 2, operating temperature 600 to 1600°C

#### Transmitter

programmable transmitter, output 4 - 20mA/20 - 4mA, Data Sheet 70.7010

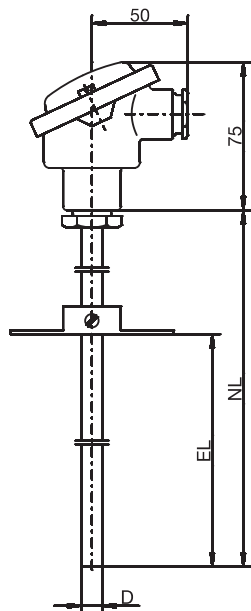
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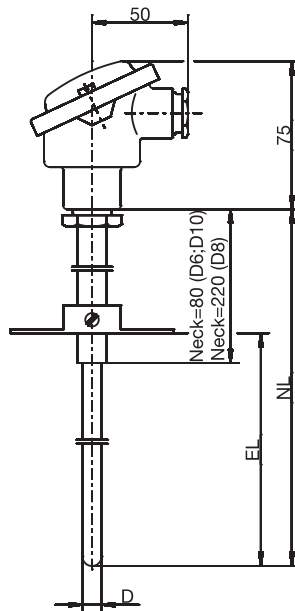
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## Dimensions



Type 901102/10



Type 901102/20

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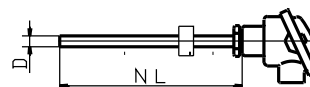
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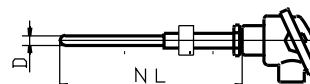
**Order details: Push-in thermocouples with terminal head Form B**

**(1) Basic version**

901102/10 Push-in thermocouple with continuous protection tube in heat-resistant steel



901102/20 Push-in thermocouple with stepped ceramic protection tube



**(2) Measuring insert / operating temperature in °C**

x	1040	1 x Fe-Con J, operating temperature -200 to +600°C
x	1042	1 x Fe-Con L, operating temperature -200 to +600°C
x	1043	1 x NiCr-Ni K, operating temperature -200 to +1200°C
x	1044	1 x Pt 10 Rh-Pt S, operating temperature 0 to 1300°C
x	1046	1 x Pt 30 Rh-Pt 6 Rh B, operating temperature 600 to 1600°C
x	2040	2 x Fe-Con J, operating temperature -200 to +600°C
x	2042	2 x Fe-Con L, operating temperature -200 to +600°C
x	2043	2 x NiCr-Ni K, operating temperature -200 to +1200°C
x	2044	2 x Pt 10 Rh-Pt S, operating temperature 0 to 1300°C
x	2046	2 x Pt 30 Rh-Pt 6 Rh B, operating temperature 600 to 1600°C

**(3) Protection tube diameter D in mm**

x	6	6mm (support tube 15mm dia.)
x	8	8mm (support tube 15mm dia.)
x	10	10mm (support tube 15mm dia.)
x	15	15mm

**(4) Nominal length NL in mm (180 ≤ NL ≤ 200, NL ≤ 1000 for type 901102/20)**

x	180	180mm, fitting length (EL) 100 - 140mm
x	250	250mm, fitting length (EL) 100 - 210mm
x	355	355mm, fitting length (EL) 100 - 315mm
x	500	500mm, fitting length (EL) 100 - 460mm
x	710	710mm, fitting length (EL) 100 - 670mm only with D=8mm
x	1000	1000mm, fitting length (EL) 100 - 960mm only with D=8mm
x	...	please specify in plain text (50mm steps)

**(5) Process connection**

x	000	no process connection
x	254	screwed pipe joint 1/2"
x	668	stop flange 15mm dia., DIN 43 734

**(6) Protection tube material**

x	27	steel X 18 CrNi 28 Mat. Ref. 1.4749 (operating temp. up to +1150°C)
x	28	steel X 15 CrNiSi 25 20 Mat. Ref. 1.4841 (operating temp. up to +1150°C)
x	94	ceramic KER 710 (operating temperature up to +1600°C)

**(7) Extra codes**

x	x	000	no extra code
x	x	320	terminal head Form BUZ
x	x	321	terminal head Form BUZH
x	x	322	terminal head Form BBK
x	x	331	1 x programmable transmitter, output 4 - 20mA/20 - 4mA <sup>2</sup> , Data Sheet 70.7010
x	x	335	2 x programmable transmitter, output 4 - 20mA/20 - 4mA <sup>2</sup> , Data Sheet 70.7010

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

Order example            901102/10 - 1042 - 15 - 250 - 668 - 27 / 000<sup>1</sup>

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

**Stock versions**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	Sales No.						
901102/10	-	1043	-	15	-	500	-	668	-	27	/	000	90/00054589
901102/10	-	2043	-	15	-	500	-	668	-	27	/	000	90/00054593