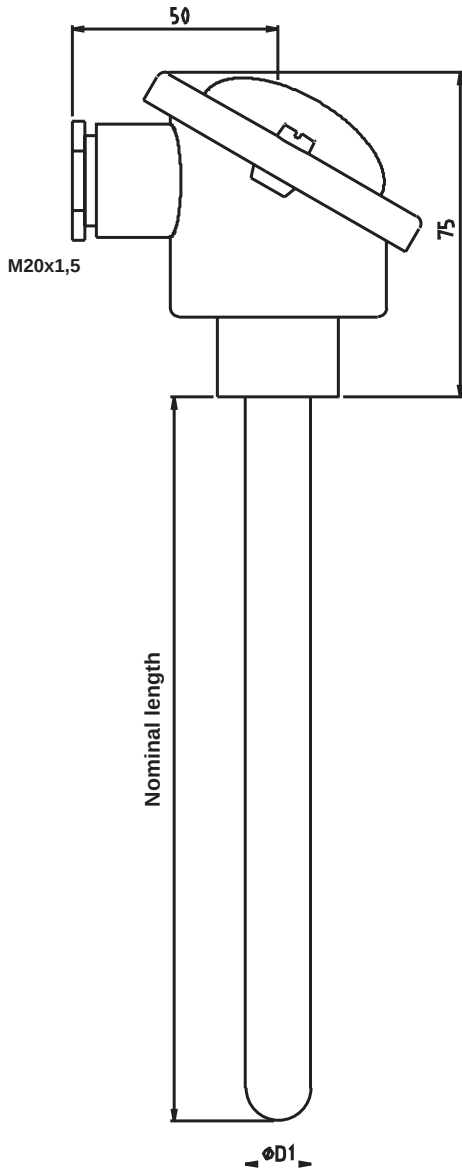




Resistance Thermometer for Flue Gas with Thermowell and terminal head Form B (DIN 43729)

Resistance thermometers can be used for measuring the temperature of gaseous media.

Typical areas of application include red-heat and heat treatment processes, blast furnaces, air heaters, oven and apparatus building industries.

The connecting head without transmitter is suitable for environments with a temperature of up to 100°C. Additional designs other than Modell B include types with a BUZ, BUS, BVA, BUZ-H or A, AUZ, AUS or AUZ-H head.

The protective tubes are normally made out of 1.4571 stainless steel but other protective tube materials or coatings can be delivered on request.

The measuring insert contains as standard a Pt100 sensor according to DIN EN 60751, Class B in a 2-wire circuit.

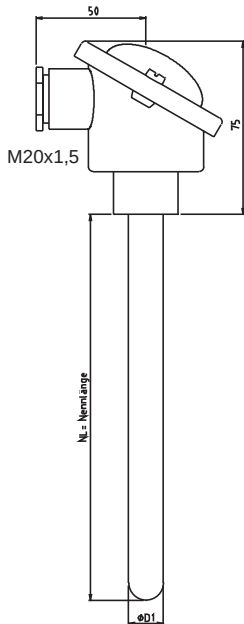
Connection is also possible in a 3-wire circuit or 4 wire circuit. Tolerance classes A

- Temperature range 0...+ 800° C
- Measuring inserts standard up to 400° C also available: vibration resistant and mineral insulated
- Protective tubes made out various materials
- The measuring insert is replaceable
- As a single or a double resistance Thermometer
- Transmitter:
 - digital, 2-/3- wire, 4...20mA
 - digital, 4...20mA, galvanically separated (indirect coupled)
 - digital, galvanically separated with LED-display
 - Profibus-PA-protocol
 - HART-protocol
 - FOUNDATION Fieldbus



BUZ-H head with LED-display

WT 7 0 0 0



1	Sensortype			
	1 = Pt100 ●			
2	Number of sensors			
	1 = single ● 2 = double other on request			
3	Toleranzclass			
	1 = class B DIN EN 60751 ● 2 = class A DIN EN 60751			
4	Sensor connection			
	2 = 2 - wire circuit ● 3 = 3 - wire circuit 4 = 4 - wire circuit			
5	Temperature range			
	1 = -40° C bis +400° C ● 2 = -40° C bis +800° C only mineral-insulated cable			
6	Connection head	Material	Degree of protection	Cable entry M20x1,5
	1 = Form B	Aluminium	IP 54 ●	
	2 = Form BUS	Aluminium	IP 65	
	3 = Form BUZ	Aluminium	IP 65	
	4 = Form BUZ-H	Aluminium	IP 65	
	A = Form A	Aluminium	IP 54	
	6 = Form AUS	Aluminium	IP 65	
	7 = Form AUZ-H	Aluminium	IP 65	
7	8	9	10	
	Nominal length NL (mm)			
	0500 = 500 mm ● 0710 = 710 mm 1000 = 1000 mm 1400 = 1400 mm 2000 = 2000 mm = Please quote any other length required!			
11	Thermowell diameter (mm) D x wall thickness (mm)			
	1 = 15 x 2,5 with measuring insert Ø 6,0 mm ● 2 = 22 x 2,5 with measuring insert other on request			

Order example next Page 3/4

WT 7 0 0 0

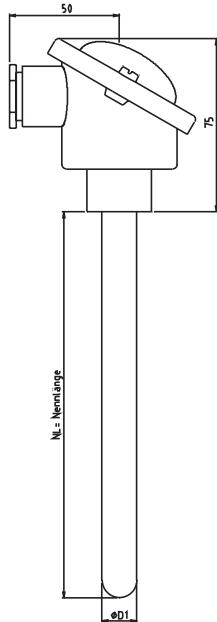
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Protection tube	material	Temperature range
1 = St 35.8	carbon steel 1.0305	up to 550°C ● Standard
2 = St 35.8	carbon steel 1.0305, enamelled	up to 550°C
3 = 1.4762	stainless steel X 10 CrAl 24	up to 1200°C
5 = 1.4571	stainless steel X 10 CrNi MoTi 1810	up to 800°C
8 = 1.4841	stainless steel X 15 CrNiSi 25-20,	up to 1100°C

13 14 15 16

Process connection

0000 = without ●	
9039 = stop flange Ø 15 mm	9040 = stop flange Ø 22 mm
9042 = mating flange Ø 15 mm	9043 = mating flange Ø 22 mm
9045 = threaded sleeve G 1/2" Ø 15 mm	9046 = threaded sleeve Ø 22mm
9174 = compression fitting G 1/2" steel / steel Ø 15 mm	
9178 = compression fitting G 1/2" VA / VA Ø 15 mm	



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Transmitter

For environmental temperatures of the electronics > 75°C at the connection head we recommend the use of a measurement transmitter in the field housing or the assembly of a mounting rail.

0 = without ●
A = analogue, 4...20mA, non isolated
D = digital, 4...20mA, programable isolated
F = FOUNDATION Fieldbus
L = digital, isolated, with LCD-display
(only connection head BGT)
P = Profibus-PA-protocol
H = HART-protocol
W = Wireless

Messuring range: from °C to °C
output signal: 4-20 mA!

Attention:

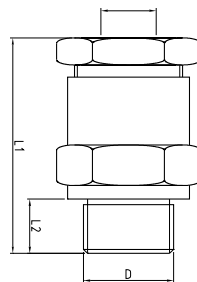
Transmitter number 5,7 and 8 can be mounted in connection head modell BUZ-H only
Transmitter with explosion protection EEx ia configured to customer specification
See Register 4, Measurement Transmitter, for further technical information.

WT 7 0 0 0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

● Order example

1 1 1 2 1 1 0 3 0 0 1 1 0 0 0 0 0



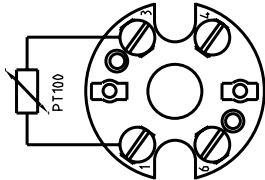
threaded sleeve gastight up to 1 bar

G 1/2 15mm order Nr.: 904500

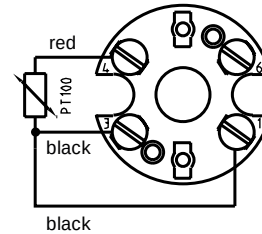
G 1 22mm order Nr.: 904600

Resistance Thermometer Connection

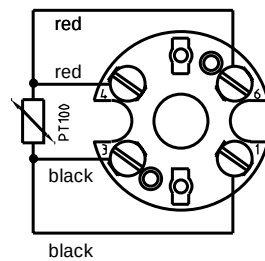
1xPT100-2 wire circuit



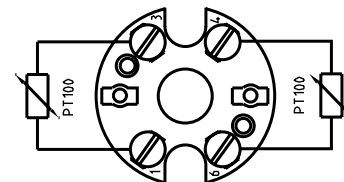
1xPT100-3 wire circuit



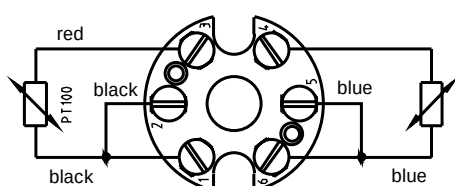
1xPT100- 4 wire circuit



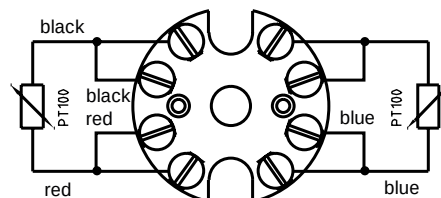
2xPT100-2 wire circuit



2xPT100-3 wire circuit



2xPt100-4 wire circuit



Basic values, deviations from platinum measuring resistances according to DIN EN 60751

Temperature	0° C	100° C	200° C	300° C	400° C	500° C	600° C
Basic value (Ohm)	100,00	138,50	175,84	212,02	247,04	280,90	313,59
Tolerance (K) Class B	0,3	0,8	1,3	1,8	2,3	2,8	3,3
Class A	0,15	0,35	0,75	0,75	0,95	1,15	–

Elementart Temperature	PT 100	PT 500	PT 1000
0° C	100,000	500,000	1000,000
50° C	119,397	596,986	1193,971
100° C	138,506	692,528	1385,055
150° C	157,325	786,626	1573,251
200° C	175,856	879,280	1758,560
250° C	194,098	970,491	1940,981
300° C	212,052	1060,258	2120,515
350° C	229,716	1148,581	2297,161
400° C	247,092	1235,460	2470,920
450° C	264,179	1320,896	2641,791
500° C	280,978	1404,888	2809,775
550° C	297,487	1487,436	2974,871
600° C	313,708	1568,540	3137,080
650° C	329,640	1648,201	3296,401
700° C	345,284	1726,418	3452,835
750° C	360,638	1803,191	3606,381
800° C	375,704	1878,520	3757,040