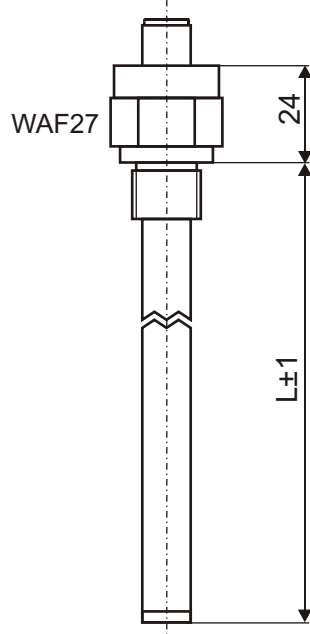


Data sheet

Temperature sensor PT100 in 2-, 3-, and 4- wire technology

Type: PT100..., PT103..., PT104...

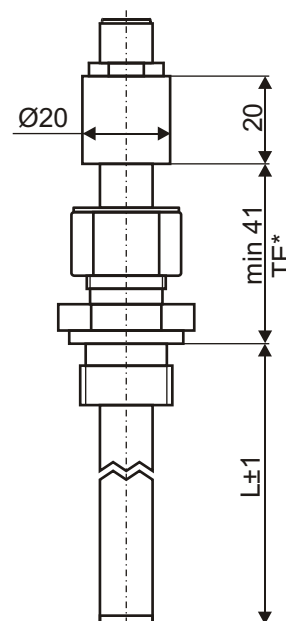
Design / connection 30



Connection:
 plug-type connector M12x1 4-pol, material TPU
Mounting:
 thread 1/2" or 3/8", material alu or stainless steel
Operating temperature:
 BT01
Pressure:
 with brass / alu 1bar
 with stainless steel 35bar

Dimensions in mm

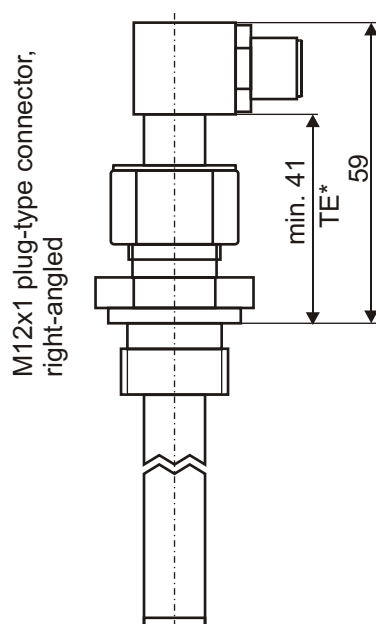
Design / connection 31



Connection:
 plug-type connector M12x1 4-pole, material TPU
Mounting:
 depth setting, thread see order key,
 material brass or stainless steel
Operating temperature:
 BT01 and BT06
Pressure:
 with brass 1bar
 with stainless steel 35bar

(TE) Depth setting on the screw connection can be selected by the customer

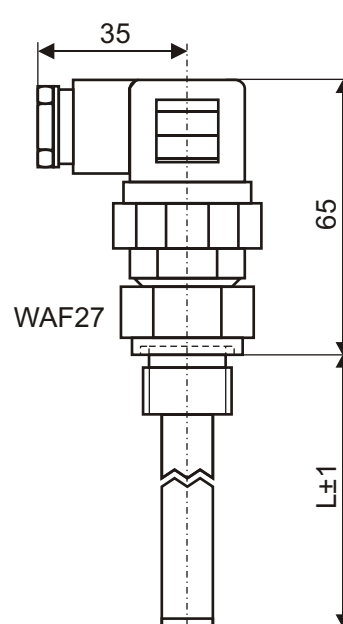
Design / connection 32



Connection:
 plug-type connector M12x1 4-pole right-angled, material TPU
Mounting:
 depth setting, thread see order key,
 material brass or stainless steel
Operating temperature:
 BT01 and BT06
Pressure:
 with brass 1bar
 with stainless steel 35bar

(TE) Depth setting on the screw connection can be selected by the customer

Design / connection 33



Connection:
 plug-type connector 2-, 3pol+ PE, DIN EN 175301-803, material PA
Mounting:
 thread 1/2" or 3/8", material alu or stainless steel
Operating temperature:
 BT01 und BT06
Pressure:
 with brass / alu 1bar
 with stainless steel 35bar

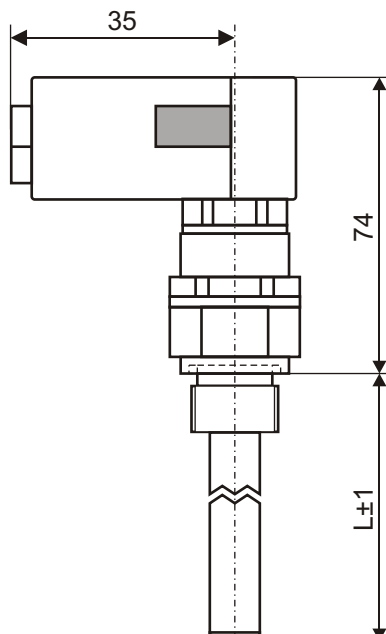
-Further version in plastic see page 5

Data sheet

Temperature sensor PT100 in 2-, 3-, and 4- wire technology

Type: PT100..., PT103..., PT104...

Design / connection 34



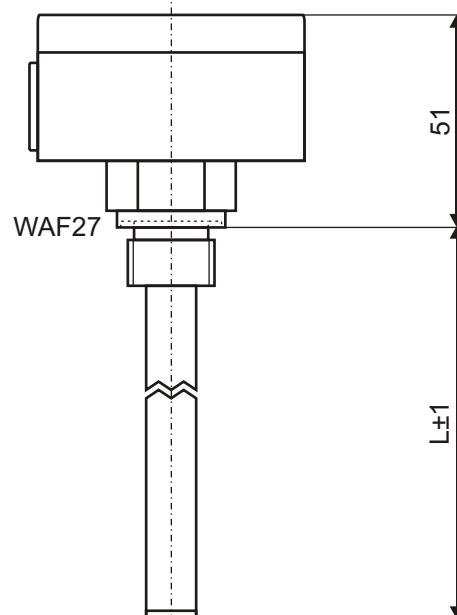
Connection:
 plug-type connector 6pol+ PE, DIN EN 175201-804
 material PA or DIN EN 175201-804 (DIN 43651), material PET

Mounting:
 thread 1/2" or 3/8", material alu or stainless steel

Operating temperature:
 BT01

Pressure:
 with brass / alu 1bar
 with stainless steel 35bar

Design / connection 35



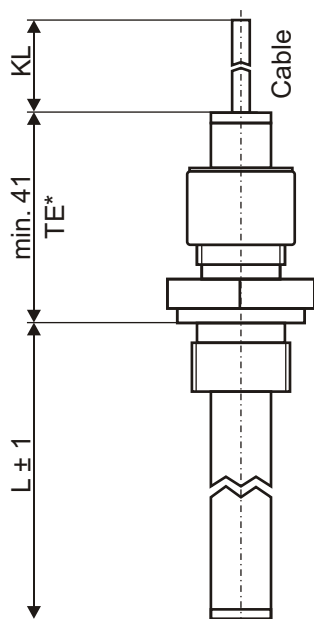
Connection:
 terminal connection 1,5mm² in the housing 64x58x35mm (hwxwxh)
 cable entry over M16x1,5 screwed cable glands

Mounting:
 thread 1/2" or 3/8", material alu or stainless steel

Operating temperature:
 BT01 und BT06

Pressure:
 with brass / alu 1bar
 with stainless steel 35 bar

Design / connection 36



(TE) Depth setting on the screw connection can be selected by the customer

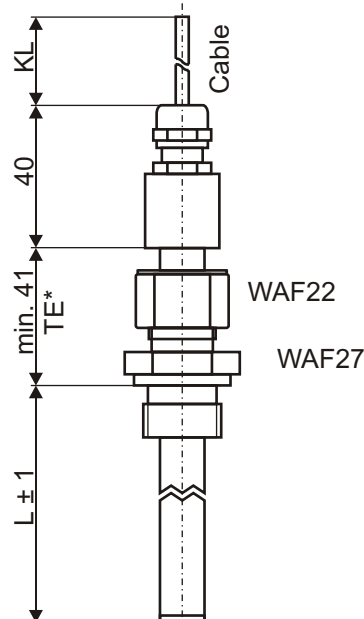
Connection:
 oil-resistant FDCP-cable, shielded
 without cable strain relief, length according to specification

Mounting:
 depth setting, thread see order key,
 material brass or stainless steel

Operating temperature:
 BT01

Pressure:
 with brass 1bar
 with stainless steel 35 bar

Design / connection 37



(TE) Depth setting on the screw connection can be selected by the customer

Connection:
 oil-resistant FDCP-cable, shielded
 with cable strain relief, length according to specification

Mounting:
 depth setting, thread see order key,
 material brass or stainless steel

Operating temperature:
 BT01

Pressure:
 with brass 1bar
 with stainless steel 35 bar

Data sheet

Temperature sensor PT100 in 2-, 3-, and 4- wire technology

Type: PT100..., PT103..., PT104...

Order key

Sensor element

PT100 = 2-wire technology

PT103 = 3-wire technology

PT104 = 4-wire technology

Mounting

14 = thread 1/4" (only in connection with sensor tube Ø6 and Ø8mm)

38 = thread 3/8"

12 = thread 1/2"

Sensor tube:

outer diameter: 06 = ø6mm

08 = ø8mm

10 = ø10mm

12 = ø12mm

material: M = brass

E = stainless steel

sensor tube length L in mm

Design / connection

30 = M12 plug-type connector 4-pole

31 = M12 plug-type connector 4-pole, adjustable

32 = M12 plug-type connector right-angled

33 = plug-type connector 2-, 3 pole

34 = plug-type connector 6-pole

35 = terminal connection in the housing

36 = cable connection

37 = cable connection, cable strain relief

Cable length

KL = L in mm (Specification only for design 36 and 37 required)

Operating temperature

BT...

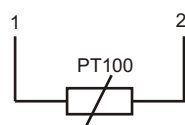
Example: PT104. 12. 12E. 100. 30. KL1000. BT01

Note: Material brass and stainless steel are not combinable

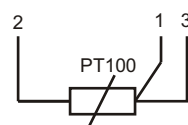
Terminal diagrams

2-wire technology

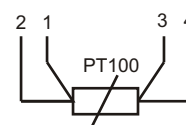
Plug connector



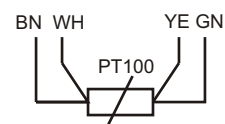
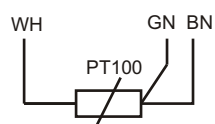
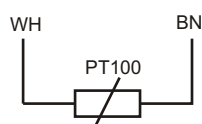
3-wire technology



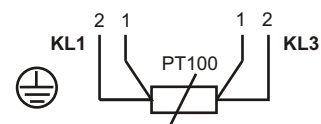
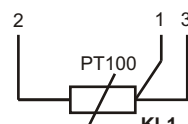
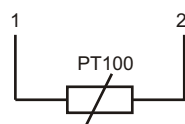
4-wire technology



Cable connector



Housing connector



Data sheet

Temperature sensor PT100 in 2-, 3-, and 4- wire technology

Type: PT100..., PT103..., PT104...

Technical data

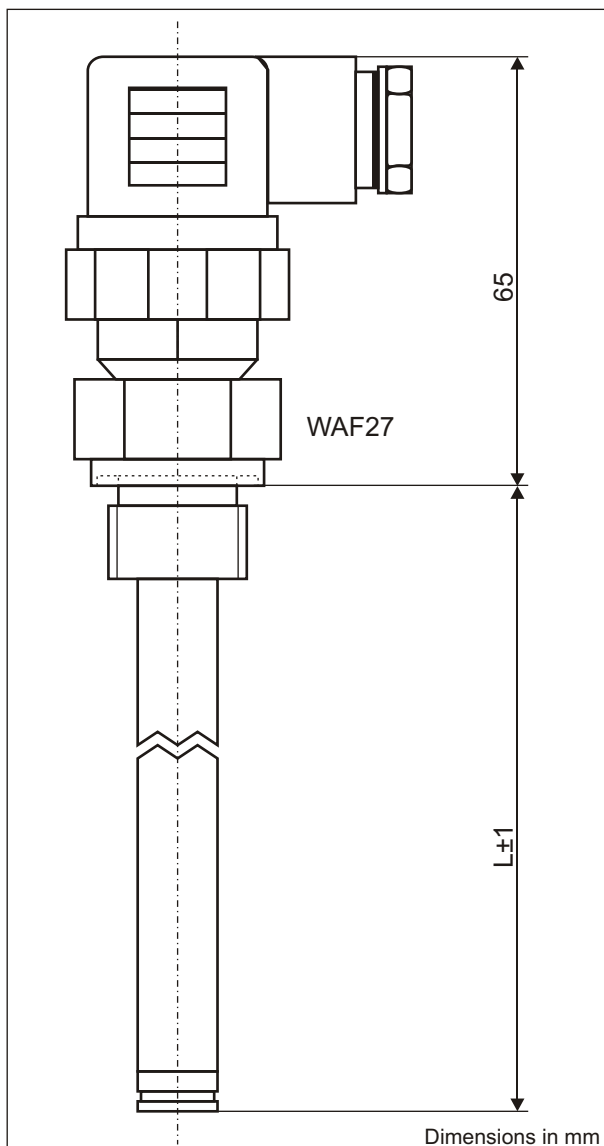
Connection:	see respective design / connection, further connections on request
Mounting:	see respective design / connection, further mountings on request
Sensor tube:	ø6mm, ø8mm, ø10mm or ø12mm, length L±1mm according to specification, material brass or stainless steel, other materials available on request
Temperature sensor:	platinum resistor PT100 in 2-, 3- and 4-wire technology
Tolerance class:	DIN EN 60751, class B
Nominal resistance:	100 Ohm at 0°C
Temperature coefficient:	3850ppm/K
Inductance of the measuring element:	0,03 µH
Self-heating:	0,4K/mW
Long-term stability after 1000h at 150°C:	R ₀ -Drift < 0,06 %
Pressure:	see design / connection
Operating temperature:	see design / connection BT01: -15°C to 100°C in medium, -20°C to 70°C above mounting BT06: -30°C to 180°C in medium, -20°C to 70°C above mounting (only in connection with stainless steel) BT08: -30°C to 150°C in medium, -20°C to 70°C above mounting (only in connection with stainless steel) higher temperatures on request
Protection rating:	IP 65

Comment: For further protection, a thermowell can be used, see additional data sheet THE..., select sensor tube 16mm longer than protective tube of thermowell.

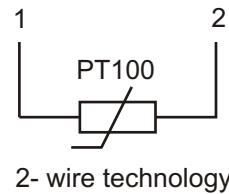
Data sheet

Temperature sensor PT100 in 2-, 3-, and 4- wire technology

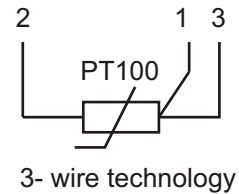
Type: PT100..., PT103..., PT104...



Terminal diagram



2- wire technology



3- wire technology

Order key

Example: **PT103. 12. 12PP. 100. 33. BT01**

Sensor element

PT100 = 2-wire technology
 PT103 = 3-wire technology

Mounting

38 = thread 3/8"*
 12 = thread 1/2"

Sensor tube

outer diameter 12 = Ø12mm
 16 = Ø16mm

Material PP = polypropylene
 PVDF = polyvinyliden fluoride

Sensor tube length L in mm

Design - 33

Operating temperature - BT...
 - see techn. data

* 3/8" only in connection with PP tube

Technical data

Connection:	plug-type connection 2-, 3-pole + PE DIN EN 175301-803, material PA
Mounting:	thread 1/2" material PP or PVDF
Seal:	thread 3/8", material PP
Sensor tube:	material NBR
Temperature sensor:	ø12mm, length L±1mm acc. to customer specification, material PP
Tolerance class:	ø16mm, length L±1mm acc. to customer specification, material PVDF
Nominal resistance:	platinum measuring resistor PT100 in 2-, 3- wire technology
Temperature coefficient:	DIN EN 60751, class B
Inductance of the measuring element:	100Ohm at 0°C
Self-heating:	38850ppm/K
Long-term stability after 1000h at 150°C:	0,03µH
Pressure:	0,4K/mW
Operating temperature:	Long-term stability after 1000h at 150°C: R ₀ -Drift < 0,06 %
Protection rating:	max. 5bar
	BT03: -15°C to 80°C in medium, -20°C to 70°C above mounting
	(only in connection with PP)
	BT01: -15°C to 100°C in medium, -20°C to 70°C above mounting
	(only in connection with PVDF)
	IP65