BT-01

Bimetallic Thermometer

Features

/ Affordable price

/ Robust

/ Accuracy Class 1.0

/ Bayonet ring housing

/ Many possibilities of connection

/ Switching contacts

Description:

In bimetallic thermometers, varying thermal expansion of metals is utilized to measure and regulate temperatures. A spring element is present in an immersible brass or stainless steel tube that consists of two curved metallic strips rolled over each other, possessing different coefficients of thermal expansion. When the temperature rises the outer metallic strip expands more than the inner strip. The torsion of the spiral resulting from this action directly influences an indicator movement that displays the temperature on a dial.

Application:

The BT-01 series of precision bimetallic thermometers offers an excellent alternative to machine or glass thermometers considering the fact that they are just as cost-effective and accurate as their siblings, however, offer better reading comfort. The design of the bimetallic thermometer is extremely robust and the protection tubes which can be supplied in brass or stainless steel, are resistant to hostile media. These thermometers are available for direct mounting as well as for inserting into protection tubes, optionally with a smooth shaft, permanently fixed threaded stem or swivel nut in all commonly used thread variants. This makes the BT-01 compatible with nearly any type of processes. Starting from a minimum temperature of -50°C up to a maximum temperature of +500°C, the BT-01 series of thermometers is capable of recording a temperature range that covers a large section of all applications.

Versions:

BT-01 Bimetallic Thermometer

Mounting position: The mounting position of BT-01 can be selected between axial and vertical positions. For most of the versions a pivoted housing that can be tilted in both directions is available on request.

Nominal size: The housing diameters can be selected between 63, 80, 100 und 160 mm.

Process connection: All versions are available with smooth shaft, permanently fixed screw on pin, turnable screw on pin or with loose-fitting swivel nut where only the variants with permanently fixed pin can be provided with NPT thread.

Immersion tube diameter: The immersion tube diameters can be selected between 6, 8 and 10 mm to facilitate mounting in protection tube as well as for direct mounting.

Shaft length: The immersion shaft is manufactured as per customer's specification for length which must be indicated in mm from the point of sealing surface.

Neck tube: If the housing and process connection are separated, for example, by means of an insulating layer, the thermometer can be fitted with a neck tube. Normally, these extensions protect the display from extreme axcess heat. The lengths are displayed in a table.

Housing material: St. steel – other materials on request.

Operating range: The operating ranges are between -50°C and +500°C.

Additional features: For all devices marking or maximum value indicators and fluid filled housings are available (for 4" and 6" diameters only).

Connecting thread: With regard to connecting threads various cylindrical or conical thread standards can be selected.

Material: As materials for the immersion tube and thread brass or stainless steel can be selected.

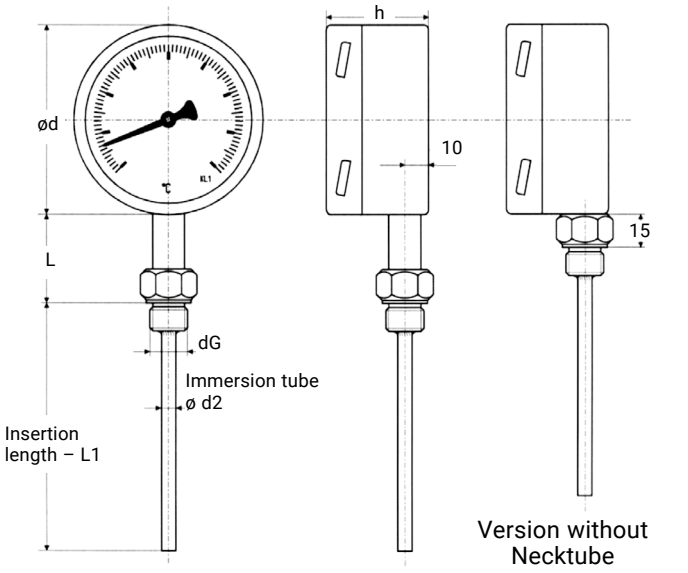
Neck tube lengths (standard):

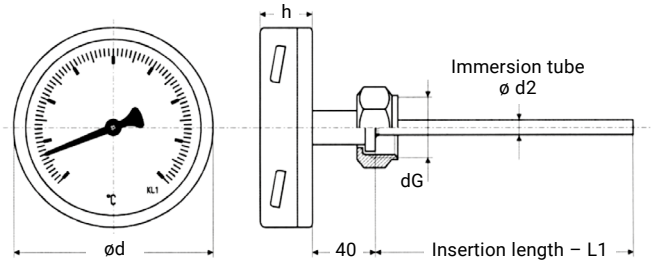
Temperature	Length for vertical thread	Length for axial thread	Length for immersion tube
< 300 °C	37 mm	12 mm	11 mm
> 300 °C	60 mm	37 mm	37 mm
500 °C	-	60 mm	57 mm

Technical Specifications:

Ambient temp. /	-25. . .+70°C
Pressure /	PN16 without immersion tube PN50 with immersion tube
Accuracy /	Class 1 according to DIN EN 13190
Housing /	Bayonet ringcap, 63, 80, 100, or 160 mm diameter
Housing material /	St. Steel 1.4301 – other materials on request
Protection class /	IP 65 according to EN 60529
Options /	· crimped ring housing with/without oil filling · Low-cost-version

Dimensions in mm:





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Ordering Codes:

Order number	BT-01.	A.	F.	80.	2.	1.	[][][][].	1.	E.	04.	B.	2.	1.	0

BT-01 Bimetallic Thermometer

Mounting position /
A = axial
V = vertikal
Z = tilted (special order)

Housing style /
B = bayonet ringcap
F = crimped ring

Nominal size /
63 = 63 mm diameter
80 = 80 mm diameter
100 = 100 mm diameter
160 = 160 mm diameter

Process connection /
1 = smooth shaft
2 = smooth with screw fitting
3 = fixed screw on pin
4 = turnable screw on pin
5 = loose swivel nut

Immersion tube diameter /
1 = 6 mm
2 = 8 mm
3 = 10 mm

Shaft length /
[][][][] please specify shaft length in mm

Neck tube /
1 = standard length (siehe Tabelle)
9 = special lengths on request

Housing material /
E = Stainless steel
9 = other materials on request

Measuring range /
01 = -50...+50 °C
02 = -30...+50 °C
03 = -20...+40 °C
04 = -20...+60 °C
05 = 0...+60 °C
06 = 0...+80 °C
07 = 0...+100 °C
08 = 0...+120 °C
09 = 0...+160 °C
10 = 0...+200 °C
11 = 0...+250 °C
12 = 0...+300 °C
13 = 0...+400 °C
14 = 0...+500 °C
99 = other ranges on request

Additional features /
A = none
B = marking indicator
C = flyback hand indicator with max. value pointer
D = oil filling (up to 200 °C)

Connecting thread /
1 = none (smooth shaft)
2 = G 1/2"
3 = G 3/4"
4 = G 1"
5 = 1/2"-NPT
6 = 3/4"-NPT
7 = M20 x 1,5
8 = M24 x 1,5
9 = special thread (please specify)

Material (immersion tube and thread) /
1 = st. steel

Immersion tube from st. steel /
0 = none
1 = screw-in
2 = weld-on

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