



**Design Features**

- Case with medium-contacting parts from stainless steel
- Different connections can be supplied
- Accuracy class 1 as per EN 13190
- Micro adjusting pointer for indication correction
- Indicator damping

**Application**

These thermometers are suitable for use outdoors and in aggressive environments. The devices can also be supplied with additional liquid damping for use in extreme conditions. The temperature detecting element is susceptible to bending, therefore, fitting with thermowell is recommended. See data sheet no. T5-025 for suitable thermowells.

**Design and Function**

The bimetal thermometer consists mainly of a temperature detecting element with bimetal helix welded into it and an indicating unit fixed to it. The 270° rotation motion of the bimetal helix is directly transmitted to the pointer via a shaft. Unless otherwise specified, the minimum immersion depth is the lower edge of the screwing.

**Technical Data**

**Case**

stainless steel material no. 1.4301, nominal size 100 and 160 mm

**Process connection**

rigid temperature detecting element, centrally protruding at rear. Different connections can be supplied, see order details

**Case design**

degree of protection IP 66 per EN 60529, alternatively with liquid filling

**Measuring element**

helix from thermostatic bimetal per DIN 1715 with good adjusting power and fast acting, thermally aged

**Pointer shaft**

stainless steel material no. 1.4571, with multiple bearings

**Temperature detecting element**

stainless steel material no. 1.4571, diameter 8 or 6 mm, can be supplied in standard lengths, see order details, other sizes upon request

**Scale**

aluminium, white with black inscription

**Pointer**

aluminium, black with micro adjusting device for zero-point correction

**Window**

instrument glass, alternatively macrolon

**Case seal**

Buna N

**Measuring system damping**

indicator damping as standard, additionally liquid filling for damping the whole system can be supplied optional for nominal ranges from - 40 °C up to 160 °C

**Nominal ranges**

per EN 13190 from -40...+500 °C (with restrictions also 600 °C), other values upon request. For nominal ranges above 400 °C, we recommend the use of a thermowell per DIN 43772

**Accuracy**

per EN 13190, class 1

**Storage or transport temperature**

max. -20...+60 °C, other values upon request

**Weights**

DN 100, without filling: approx. 0.4 kg  
 DN 100, with filling: approx. 0.5 kg  
 DN 160, without filling: approx. 0.8 kg  
 DN 160, with filling: approx. 0.9 kg

**Special design**

- with construction type approval for connection to zone 0 with thermowells per DIN 43772 upon request
- marking on scale
- fixed reference pointer on scale
- design without screwing (D1001) also available with sliding screwing

**Instructions for use**

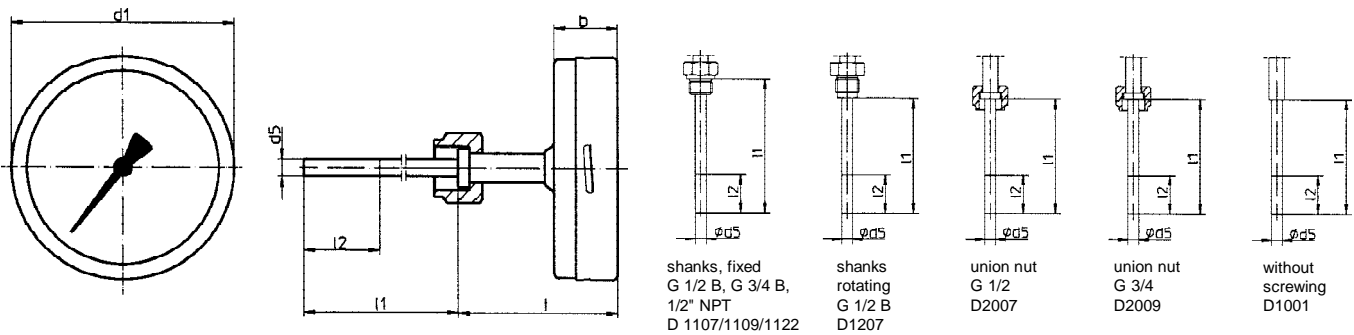
the loading capacity of the temperature detecting element depends on the following parameters:

1. measured medium
2. measured medium pressure
3. measured medium temperature
4. flow velocity
5. immersion length
6. material

A technical test is necessary where required.

**Information on other models upon request or see order details**

## Dimensions



The sensitive portion I2 shall reach the process temperature completely. The insertion length I1 should have adequate size.

Dimensions (mm)				t (up to sensor)					the necktubes (dimension t) are extended by 40 mm for nominal range > 300 °C
case	d1	b	I2	D1001	D1107/1109/1122	D1207	D2007	D2009	
DN 100	101	28	60 ± 5	104	89	104	104	104	
DN 160	182	29	60 ± 5	104	89	104	104	104	

## Order Details - please give additional specifications for models not listed -

Bimetal thermometer with axial bulb										standard measuring and nominal ranges °C, per EN 13190		
case	· DN 100				FA2					nominal range °C	meas. range °C	order code
case design	· DN 160				FA3					-20...+40 <sup>2</sup>	-10...+30	340
accuracy	· IP 66				300					-20...+60 <sup>2</sup>	-10...+50	346
measuring range	· IP 66 with liquid filling				500					-30...+50 <sup>2</sup>	-20...+40	322
process connection	· standard class 1 (full range)				A2					-40...+40 <sup>2</sup>	-30...+30	220
immersion length I1 (mm) <sup>3</sup>	· per table				...					-40...+60 <sup>2</sup>	-30...+50	222
	· shanks, fixed G 1/2 B				D1107					0...60	10...50	520
	· shanks, fixed G 3/4 B				D1109					0...80	10...70	522
	· shanks, fixed 1/2 NPT				D1122					0...100	10...90	524
	· shanks, rotating G 1/2 B				D1207					0...120	20...100	540
	· union nut G 1/2				D2007					0...160	20...140	544
	· union nut G 3/4				D2009					0...200 <sup>1</sup>	20...180 <sup>1</sup>	548
temperature detecting element Ø d5	· 6 mm				F6					0...250 <sup>1</sup>	30...220 <sup>1</sup>	560
· 8 mm				F8					0...300 <sup>1</sup>	30...270 <sup>1</sup>	565	
immersion length I1 (mm) <sup>3</sup>	<u>D 11...</u>	<u>D1207</u>	<u>D2007</u>	<u>D2009</u>	<u>D1001</u>				0...400 <sup>1</sup>	50...350 <sup>1</sup>	627	
	shanks fixed	shanks rotating G 1/2 B	union nut G 1/2	union nut G 3/4	without screwing				0...500 <sup>1</sup>	50...450 <sup>1</sup>	630	
	100	080	089	093	100				0...600 <sup>1</sup>	100...500 <sup>1</sup>	640	
	160	140	126	130	160						...	
	250	230	186	190	250						...	
	400	380	276	280	400						...	
--	--	426	430	--						...		
deviating length: pls specify									999			
additional features (to be indicated in case of need, only)												
window	· macrolon with adjustable reference pointer				R13							
marking	· on scale (pls specify)				T2							
Order code (example):						FA2300	A2222	D1109	F8100			

<sup>1</sup> measuring range without case filling, only

<sup>2</sup> with liquid filling, only

<sup>3</sup> standard immersion length to be specified in order code, e.g. I1 80 mm: order code 080