



Features

- Case and wetted parts of stainless steel
- Different connections can be supplied
- Accuracy class 1 or 2 per DIN 16196, depending on range
- Micro adjustment pointer for indication correction
- Electrical contact device per DIN 16196:
 - slow acting contact
 - magnetic snap contact
 - inductive contact devices

Options

- Explosion protection
- Material certificate per DIN EN 10204
- Connection to Zone 0 with thermowells upon request

Application area

- Chemical and petrochemical industry
- Machinery construction
- General process technology
- Shipping

Application

These thermometers with integrated contact device are suitable for use outdoors and in aggressive environments. The temperature detecting element is susceptible to bending, therefore, fitting with thermowell is recommended. Further information on mounting see operating instructions BTA-066. See data sheets T5-... for suitable thermowells per DIN 43772.

Technical Data

Case

high quality bayonet ring case DN 100
material: st. steel mat.-no. 1.4301 (304)

Degree of protection (EN 60529)
IP 66

Measuring element

helix from thermostatic bimetal per DIN 1715 with good adjusting power and fast acting, thermally aged, base and connection piece laser welded

Temperature detecting element

stainless steel mat. no. 1.4571 (316Ti). Diameter 6 and 8 mm. Can be supplied in standard lengths, see order details; other sizes upon request.

Process connection

rigid temperature detecting element, vertical resp. axial protruding at rear.
Different connections available, see order details

Pointer shaft

stainless steel mat.-no. 1.4571 (316Ti), with multiple bearings

Scale

pure aluminium, white with black inscription

Pointer

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

Window

instrument glass, alternatively macrolon with contact lock

Case seal

sealing ring: Perbunan

Nominal ranges

per EN 13190
see order details. Special ranges upon request

Accuracy

see table on side 2.

Ambient temperature

per EN 13190
ambient temperatures that deviate from EN are to be specified

Storage and transport temperature

per EN 13190
max. -20...+60 °C

Electrical connection

connection plug with cable gland M 20 x 1.5 and removable test cover, mat. Macrolon

Electrical contact device

Touch contacts or inductive contact devices see order code.
Further technical details see operating instructions BTA-066.

Explosion protection

magnet snap contact

Simple electrical apparatus per IEC/DIN EN 60079-11 suitable for intrinsically safe circuits Ex IIC T6.

inductive contact device

contact device suitable for intrinsically safe circuits

Ex II 2G Ex ia/ib IIC T4/T5/T6

Reg.-no.: PTB 99 ATEX 2219X

PTB 00 ATEX 2049X

Further details see operating instructions BTA-066.

Weight

DN 100: approx. 0.6 kg

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

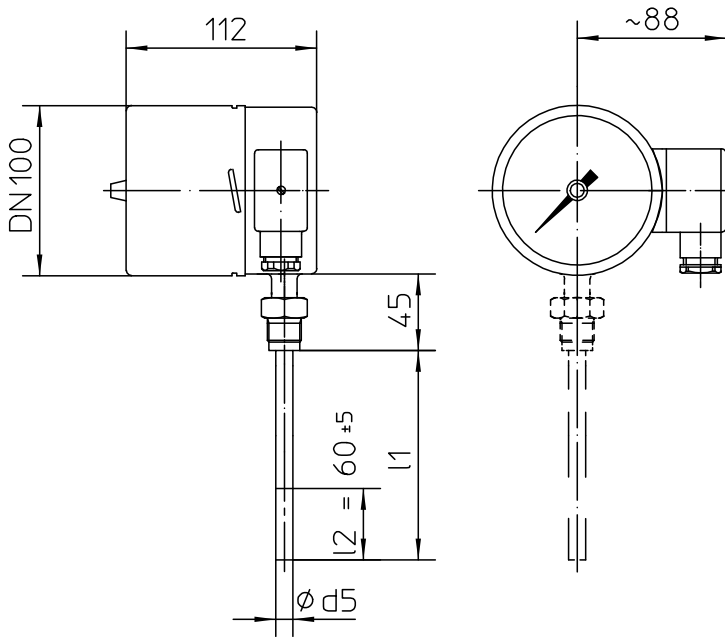
Accuracy

nominal size	tempera- ture detecting element	type of contact					
		touch contacts				inductive contacts	
		slow acting single	contact double	magnetic snap single	contact double	single	double
DN 100	∅ 8	class 1	class 2	class 2	class 2*	class 1	class 2
	∅ 6	class 2	class 2	class 2	> class 2	class 2	class 2

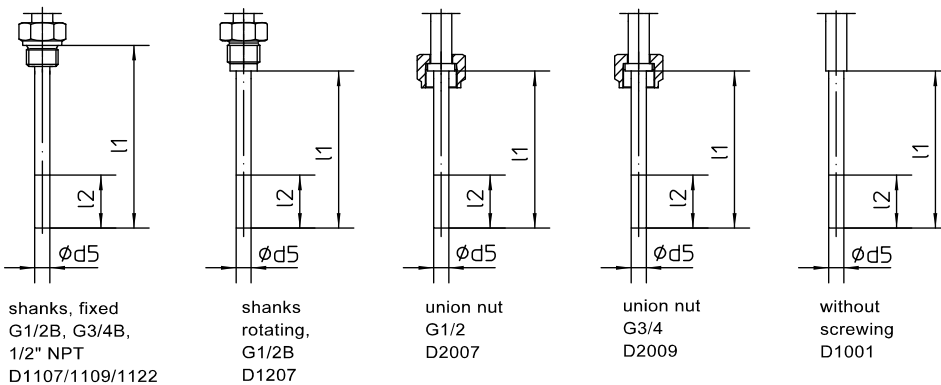
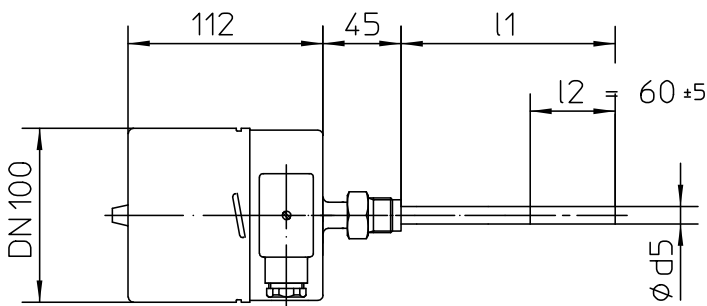
* pls indicate switch point, if no switch points are specified, the venfor will set 30 % or 70 % of the measuring range.

Dimensions

process connection radial vertical



process connection axial at rear



shanks, fixed
G1/2B, G3/4B,
1/2" NPT
D1107/1109/1122

shanks
rotating,
G1/2B
D1207

union nut
G1/2
D2007

union nut
G3/4
D2009

without
screwing
D1001

Order Details

- please give additional specifications for models not listed -

Bimetal thermometer with electrical contact device radial bottom or centre back connection

standard measuring and nominal ranges °C per EN 13190		
nominal range °C	meas. range °C	order code
-20...+40	-10...+30	340
-20...+60	-10...+50	346
-30...+50	-20...+40	322
-40...+40	-30...+30	220
-40...+60	-30...+50	222
0...60	10...50	520
0...80	10...70	522
0...100	10...90	524
0...120	20...100	540
0...160	20...140	544
0...200	20...180	548
0...250	30...220	560
0...300	30...270	565
0...400	50...350	627
0...500	50...450	630
0...600	100...500	640

case design	DN 100 IP 66	· process connection axial · process connection vertical		FP230 . FP240 .					
design	· standard · ex-protection			0 1					
nominal range	· see table					A2...			
process connection	· shanks fixed		· G 1/2 B				D1107		
			· G 3/4 B				D1109		
			· 1/2" NPT				D1122		
	· shanks rotating		· G 1/2 B				D1207		
			· union nut	· G 1/2			D2007		
			· without screwing	· G 3/4			D2009		
		· OV				D1001			
temperature detecting element Ø d5	· 6 mm (l2 ~ 60 mm) ³						F6 ...		
	· 8 mm (l2 ~ 60 mm) ³						F8 ...		
immersion length l1 (mm) ⁴	D 11... shanks fixed	D1207 shanks rotating G 1/2 B	D2007 union nut G 1/2	D2009 union nut 3/4	D1001 without screwing				
	100	080	089	093	100			...	
	160	140	126	130	160			...	
	250	230	186	190	250			...	
	400	380	276	280	400			...	
	--	--	426	430	--			...	
deviating length: pls specify								999	
contact	<i>touch contact</i>								
	· slow acting contact							L2 ...	
	· magnetic snap contact							L4 ...	
	· slow acting contact, separated circuits							M2 ...	
	· magnetic snap contact, separated circuits							M4 ...	
	<i>inductive contact device</i>								
	· standard initiator							N4 ...	
· safety initiator SJ2 - SN / SJ3.5 - SN							N1 ...		
· safety initiator invers SJ2 - S1N / SJ 3.5 - S1N ²							N2 ...		
· with integrated switching amplifier ¹							N6 ...		
switch function	· single contact (1st figure per table)							.00	
	· double contact (1st + 2nd figure per table)							.0	

switch function	fig.
· increasing temperature makes contact	1
· increasing temperature breaks contact	2
· decreasing temperature makes contact	4
· decreasing temperature breaks contact	5

additional features (to be indicated in case of need, only):

window	· macrolon							R11
marking	· on scale (pls. specify)							T2
Order code (example):		FP2400	A2540	D1109	F8100	N4100		

¹ not with ex-protection
² with DN 100: one contact device, only
³ the active length l2 must completely reach the process temperature that is to be measured. The depth of immersion length l1 should be increased accordingly.
⁴ standard immersion length to be specified in order code, e.g. l1 100 mm: order code 100