



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
- Switch functions (electrical contact device) per DIN 16196:
 - slow acting contact
 - magnetic snap contact
 - inductive contact devices

Options

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

Application area

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

Technical Data

Case

high quality bayonet ring case NS 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

For measuring devices with inductive contact type SJ2-S1N (NS 100, double contact): For safe operation refer to TA_044!

Electrical connection

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

Switch functions

Touch contacts or inductive contact devices see order code.
Further technical details see operating instructions BA_066 and TA_039.

Application

These thermometers with switch function (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 BA_066. See data sheets T5-... for suitable thermowells per DIN 43772.

Explosion protection

magnetic snap contact

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

inductive contact

contact device suitable for intrinsically safe circuits

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

Reg.-no.: PTB 99 ATEX 2219X

PTB 00 ATEX 2049X

Further details see operating instructions BA_066.

Weight

NS 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

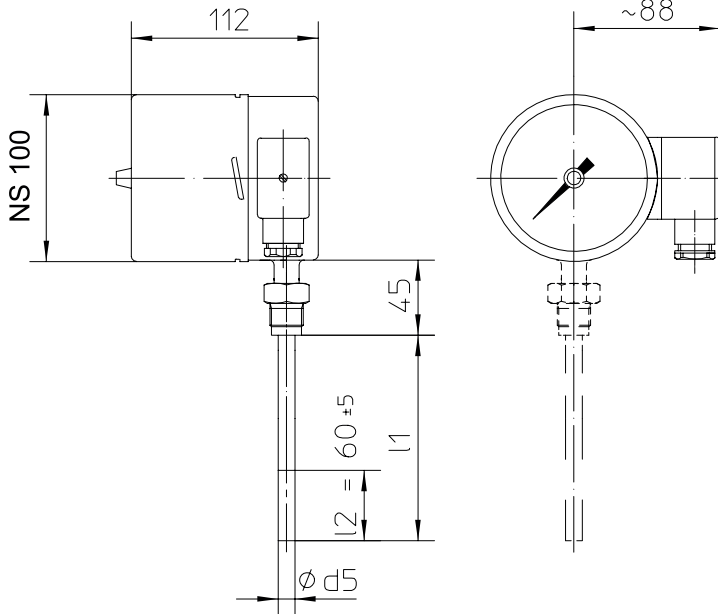
Accuracy

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
NS 100	Ø 8	class 1	class 2	class 2	class 2*	class 1	class 2
	Ø 6	class 2	class 2	class 2	> class 2	class 2	class 2

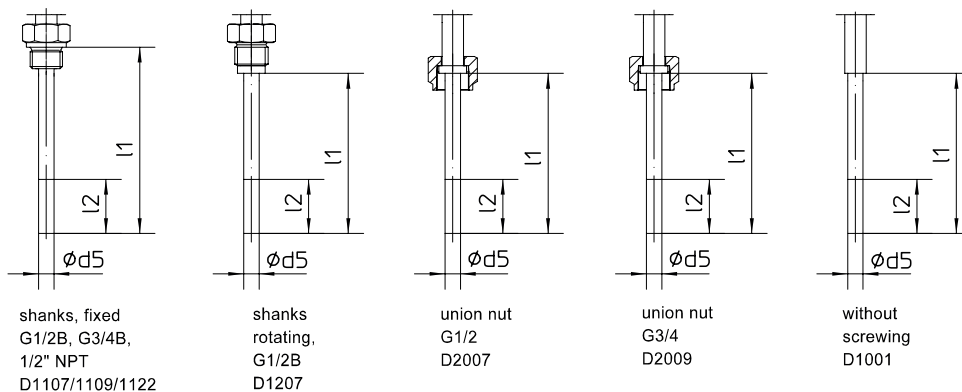
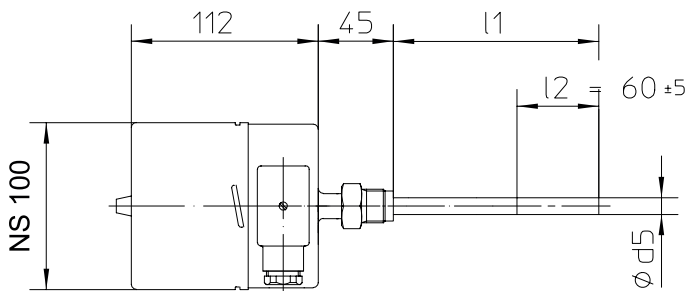
* pls indicate switch point, if no switch points are specified, the venfor will set 30 % or 70 % of the measuring range.

Dimensions

process connection radial vertical



process connection axial at rear



Order Details

- please give additional specifications for models not listed -

Bimetal thermometer with switch function, radial bottom or centre back connection

case design	NS 100	· process connection axial		FP230 .		A2...
	IP 66	· process connection vertical		FP240 .		
design	· standard					0
	· ex-protection					1
nominal range	· see table					
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		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</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) ⁵					.0

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

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 NS 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

⁵ for NS 100, type SJ2-S1N: for safe operation refer to TA_044!