

# Industrial thermometer

## Filled system



### Features:

- Inert gas filled expansion system
- Stainless steel case and stem
- Silicon oil filled (optional)
- With or without thermowell

### Applications:

- All stainless-steel filled thermometer are suitable for corrosive media / environments in process industry
- Refinery
- Pharmaceuticals
- Cement
- Food
- Pulp
- Paper

### Standard:

- EN 13190

### Standard Parameters

- Accuracy : Class 1 as per EN 13190
- Ambient temperature : -25 to +65°C
- Operating pressure : 15 Kg/cm<sup>2</sup> (without thermowell)
- Over range limit : 120 % of full scale
- Over Pressure Limit : 8 mm
- Process connection : 1/2" BSP [M] Adjustable

### Materials of Construction

- Case & bezel & clamp : AISI 304 SS (bayonet type)
- Stem & connection : AISI 316 SS
- Joints : Tig Argon Arc Welding
- Protection : IP 65
- Dial : Aluminium, black graduation on white background
- Pointer : Aluminium, black coloured, micro zero adjustable
- Window : Plexi glass
- Gasket : Neoprene

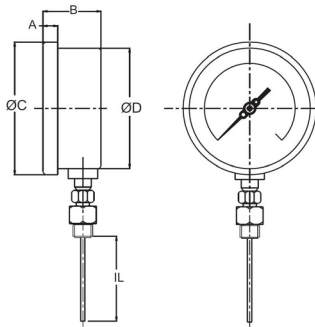
### Silicon Oil Filled Version

- Accuracy : Class 1 as per EN 13190
- Ambient Temperature : Maximum 65°C
- Window : Plexi Glass
- Dampening Liquids : Silicon Oil
- Gasket : Viton
- Filling plug : EPDM

Nominal range, measuring range, and limit of error as per EN 13190

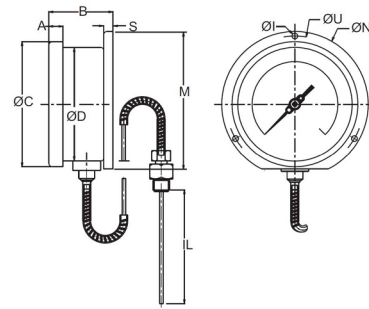
Nominal Range	-20 to +40	-20 to +60	-20 to +120	-30 to +30	-30 to +50	-30 to +70	-40 to +40	-40 to +60	-100 to +60	0 to 60	0 to 80	0 to 100	0 to 120	0 to 160	0 to 200	0 to 250	0 to 300	0 to 400	0 to 500	0 to 600
Measuring Range	-10 to +30	-10 to +50	-10 to +110	-20 to +20	-20 to +40	-20 to +60	-30 to +30	-30 to +50	-80 to +40	10 to 50	10 to 70	10 to 90	10 to 110	20 to 140	20 to 180	30 to 220	30 to 270	50 to 350	50 to 450	100 to 500
Limits of Error °C	1	1	2	1	1	1	1	1	2	1	1	1	2	2	2	2.5	5	5	5	10

## Dimensional drawing

**TYPE 1**


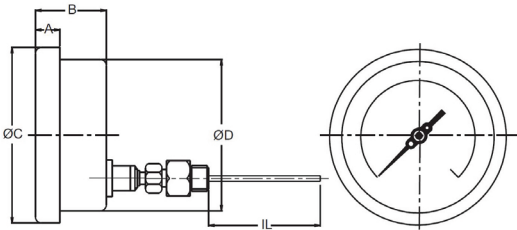
NS	A	B	ØC	ØD	IL	W
100	12.5	47	111	100	*	750
125	15	48	129	119	*	1000
150	15	49	161	149	*	1250
200	18	49	216.5	201.5	*	1500
250	18	52	263	250	*	2000

W = Weight in grams with box for 300mm stem length  
\* As per customer requirements

**TYPE 2**


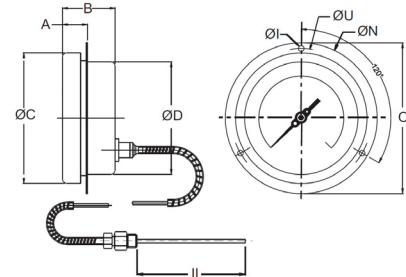
NS	A	B	ØC	ØD	S	M	IL	ØU	ØN	ØI	W
100	12.5	45	111	100	6	128	*	118	134	6	1000
125	15	46	129	119	4	143	*	137	150	6	1250
150	15	46.5	161	149	6	174.5	*	168	186	6	1550
200	18	49	216.5	201.5	1.5	229	*	230	245	7	2000
250	18	52	263	250	1.5	286.5	*	276	290	7	2250

W = Weight in grams with box for 300mm stem length & 3-meter capillary  
\* As per customer requirements

**TYPE 3**


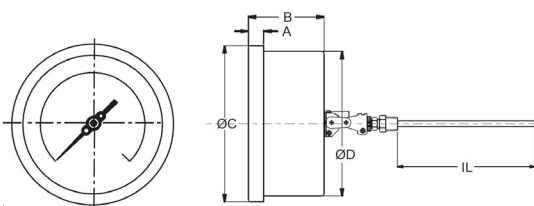
NS	A	B	ØC	ØD	IL	W
100	12.5	47	111	100	*	750
125	15	49	129	119	*	1000
150	15	49	161	149	*	1250
200	18	49	216.5	201.5	*	1500
250	18	52	263	250	*	2000

W = Weight in grams with box for 300mm stem length  
\* As per customer requirements

**TYPE 5**


NS	A	B	ØC	ØD	S	IL	ØU	ØN	ØI	W
100	12.5	47	111	100	1	*	118	134	6	1000
125	15	49	129	119	4	*	137	150	6	1250
150	15	49	161	149	1	*	168	186	6	1550
200	18	49	216.5	201.5	1.5	*	230	245	7	2000
250	18	52	263	250	1.5	*	276	290	7	2250

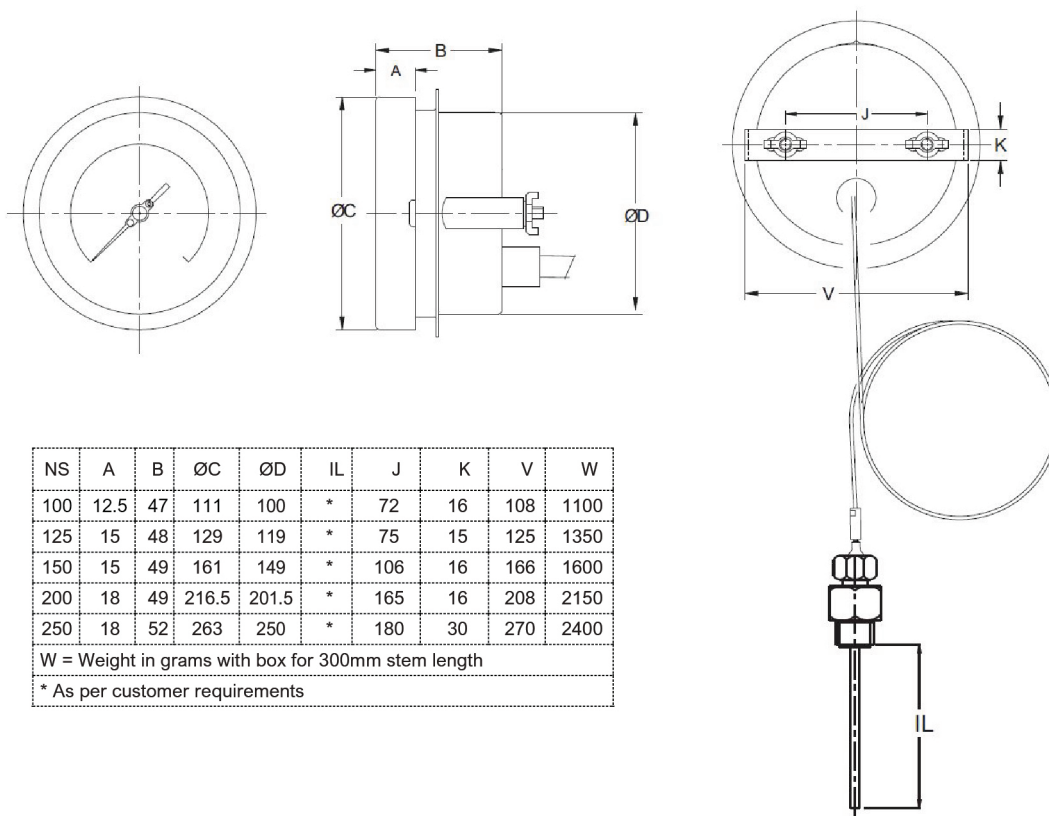
W = Weight in grams with box for 300mm stem length & 3-meter capillary  
\* As per customer requirements

**TYPE 9**


NS	A	B	ØC	ØD	IL	W
100	12.5	48	111	100	*	750
125	15	49	129	119	*	1000
150	15	49	161	149	*	1250
200	18	49	216.5	201.5	*	1500
250	18	52	263	250	*	2000

W = Weight in grams with box for 300mm stem length  
\* As per customer requirements

Note: ● Drawings are not to scale ● All dimensions are in mm

**TYPE 8**


NS	A	B	ØC	ØD	IL	J	K	V	W
100	12.5	47	111	100	*	72	16	108	1100
125	15	48	129	119	*	75	15	125	1350
150	15	49	161	149	*	106	16	166	1600
200	18	49	216.5	201.5	*	165	16	208	2150
250	18	52	263	250	*	180	30	270	2400

W = Weight in grams with box for 300mm stem length  
 \* As per customer requirements

**Range table**

**Note:** We offer national/ International scales like °C, °F and dual scale in °C & °F and scales as per the requirement can be provided on request. Following are the example tables for range in °C.

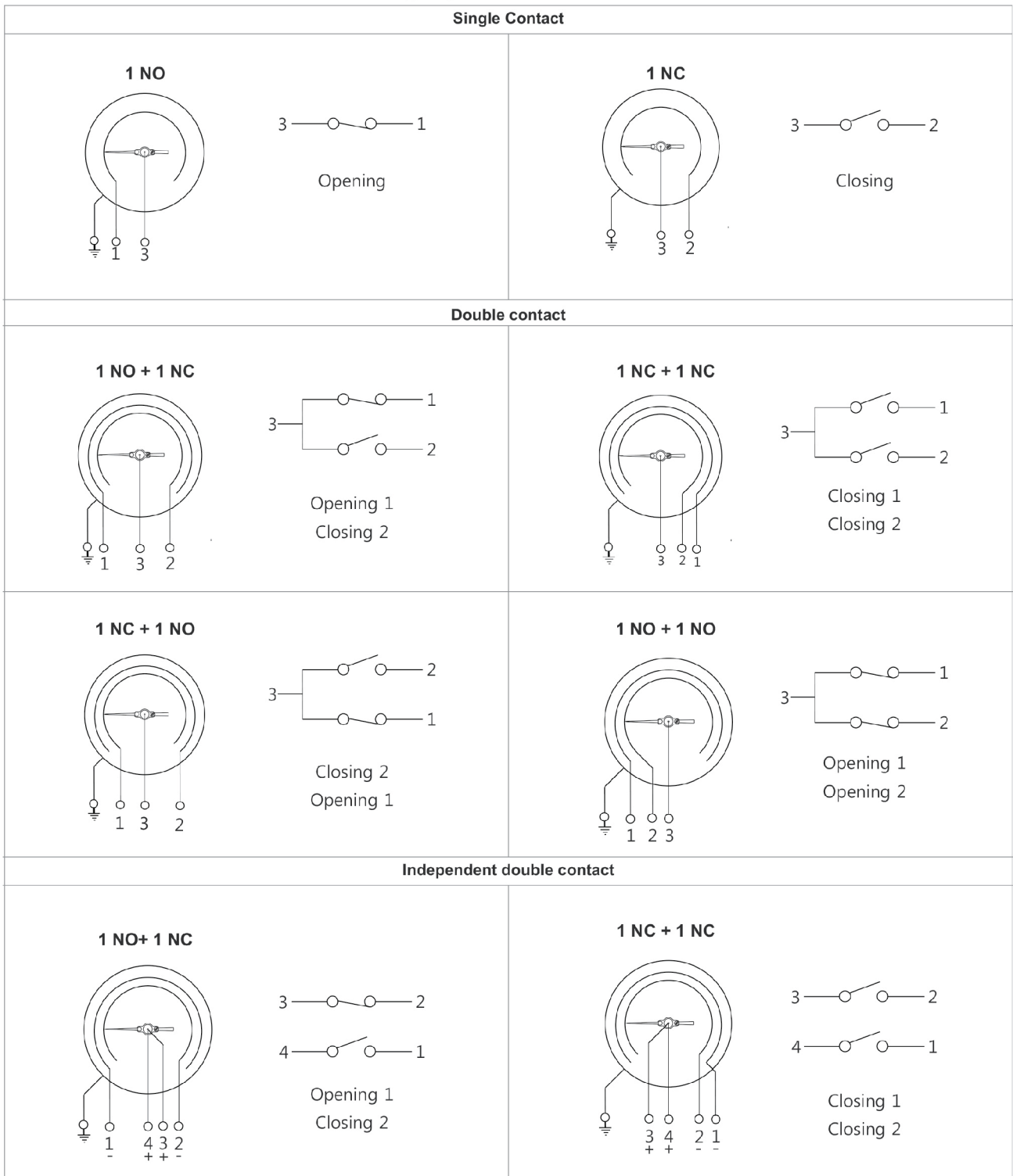
**Standard Ranges**

Positive Range single scale in °C			
0 / 60	0 / 120	0 / 250	0 / 500
0 / 80	0 / 160	0 / 300	0 / 600
0 / 100	0 / 200	0 / 400	50 / 650
Compound range single scale in °C			
-80 / 60	-20 / 60	-40 / 60	-20 / 180
-60 / 40	-20 / 80	-30 / 50	-20 / 100

**Note:** other scales are available on request

**Accessories**

Thermowell

**Wiring diagrams for electric contacts**


### Ordering codes

<b>1. Dial Size</b>		<b>E</b>	<b>6. Stem Length</b>					<b>100mm</b>												
<b>Code</b>	<b>Nominal size</b>		Below thread Max 600mm. Please specify in mm																	
E	100 mm	<b>1</b>	<table border="1"> <tr> <td>Min Stem length</td> <td>130</td> <td>120</td> <td>120</td> <td>120</td> <td>110</td> </tr> <tr> <td>Stem OD</td> <td>6/6.35</td> <td>8</td> <td>9.5</td> <td>10</td> <td>12</td> </tr> </table>					Min Stem length	130	120	120	120	110	Stem OD	6/6.35	8	9.5	10	12	<b>A1</b>
Min Stem length	130		120	120	120	110														
Stem OD	6/6.35		8	9.5	10	12														
F	125 mm		<b>7. Type</b>																	
G	150 mm		A1 With rigid stem																	
H	200 mm	A2 With Capillary																		
I	250 mm	<b>8. Capillary Length</b>																		
<b>2. Mounting</b>		<b>10B</b>	Please mention in meters (e.g., 1 meter = 1M)					<b>2M</b>												
1	Direct bottom*		<b>9. Capillary Material</b>																	
2	Bottom surface		S4 AISI 304 SS																	
3	Direct lower back entry*		S6 AISI 316 SS																	
5	Flush back panel with front flange		<b>10. Capillary covered with armour</b>																	
9	Every angle back entry*		S4 AISI 304 SS																	
8	Back entry with mounting bracket		S6 AISI 316 SS																	
* Without capillary option			PV PVC (Ambient Temp. Max. 60°C)																	
<b>3. Gauge Connection</b>			<b>11. Electric Contacts (NS 100mm &amp; 150mm only)</b>																	
10B	3/8" BSP[M]◆		M Single; normally closed (1 NC)																	
10N	3/8" NPT[M]◆#	MB Double; normally closed + normally open (1 NC + 1 NO)																		
10BT	3/8" BSPT[M]◆#	B Single; normally open (1 NO)																		
15B	1/2" BSP[M] (Standard)◆	BM Double; normally open + normally closed (1 NO + 1 NC)																		
15N	1/2" NPT[M]◆#	2M Double; normally closed (both NC)																		
15BT	1/2" BSPT[M]◆#	2B Double; normally open (both NO)																		
20B	3/4" BSP[M]	N NIL																		
M20	M20 X 1.5[M]◆	<b>12. Options</b>																		
◆Suitable for stem diameter 6 & 10mm		S6 AISI 316 SS case & bezel																		
# Not recommended for revolving or swivel connection		LG Dampening liquid glycerine (ambient temp. max. 65°C)																		
<b>4. Process Connection Type</b>		<b>AD</b>	5C Five-point calibration certificate																	
AD	Adjustable		LS Dampening liquid Silicon (ambient temp. max. 65°C)																	
FI	Fixed		MP Maximum reading pointer with plexi glass (for dry version)																	
RV	Revolving	<b>8mm</b>	MT Material test certificate*																	
<b>5. Stem Diameter</b>			CD Custom designed dial																	
6mm	6 mm		SG Shatterproof glass																	
6.35mm	6.35 mm		TG Toughened glass																	
8mm	8 mm (Standard)		DT Dial tag marking																	
9.5mm	9.5 mm		ST SS tag plate																	
10mm	10 mm		<b>13. Range</b>																	
12mm	12 mm	Refer range table																		
			<b>0/100°C</b>																	

**Ordering Example: TG-E-1-10B-AD-8mm-100mmA1-2M-S6-S6-N-5C-0/100°C**

\*Material test certificate will be provided for wetted parts only. For others, pls contact factory.

Note: Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.