

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/cm² (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

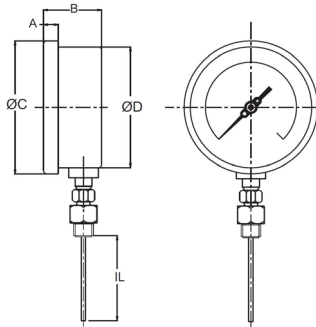
- Accuracy : Class 1 as per EN 13190
- Ambient Temperature : Maximum 65°C
- Window : Plexi Glass
- Dampening Liquids : Silicon Oil
- Gasket : Viton
- Filling plug : EPDM

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

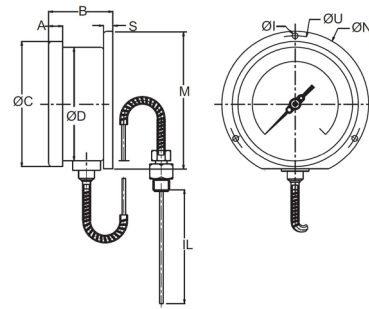
TYPE 1



| 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

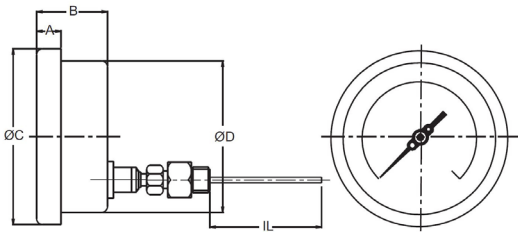
TYPE 2



| 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

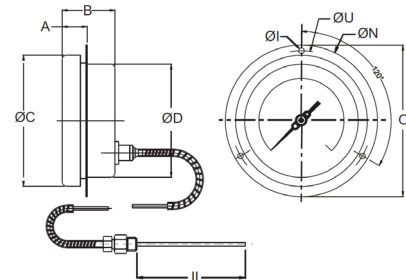
TYPE 3



| 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

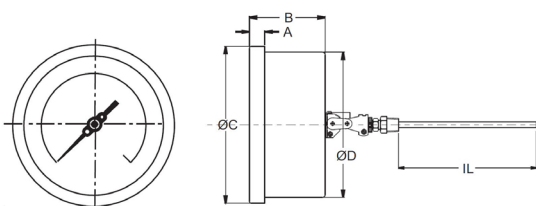
TYPE 5



| 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

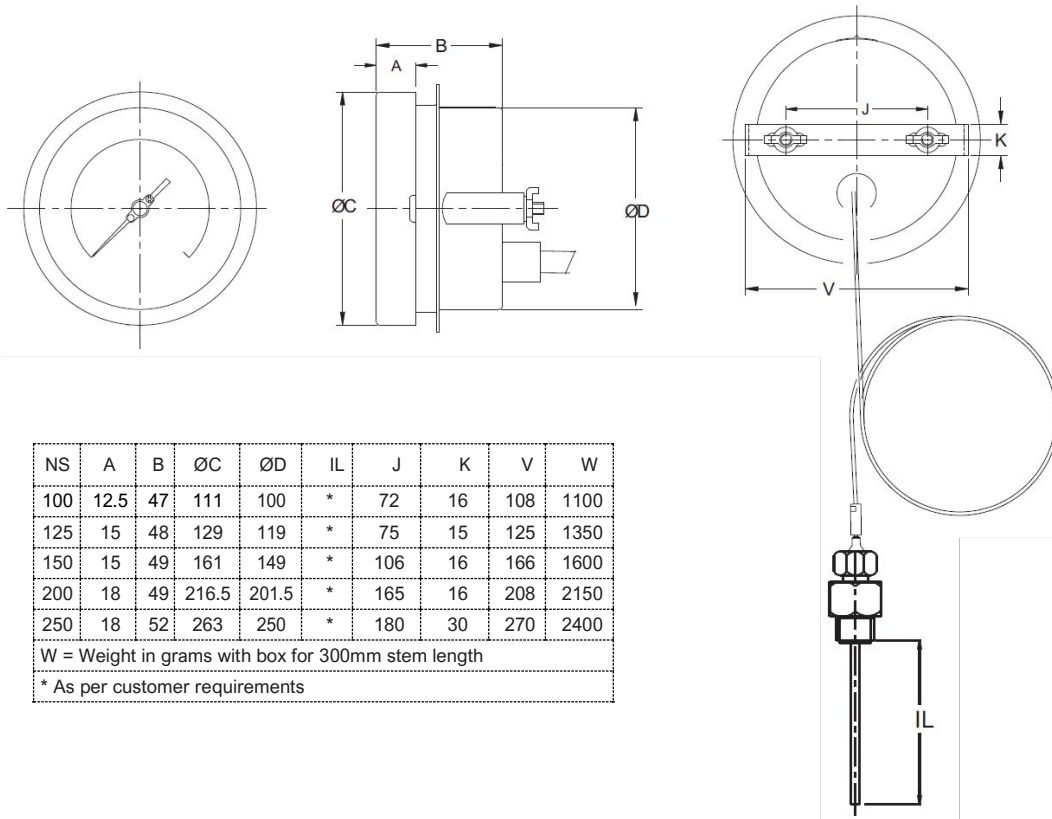


| NS | A | B | ØC | ØD | IL | W |
|-----|------|----|-------|-------|----|------|
| 100 | 12.5 | 48 | 111 | 100 | * | 750 |
| 125 | 15 | 49 | 129 | 119 | * | 1000 |
| 150 | 15 | 49 | 161 | 149 | * | 1250 |
| 200 | 18 | 49 | 216.5 | 201.5 | * | 1500 |
| 250 | 18 | 52 | 263 | 250 | * | 2000 |

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



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

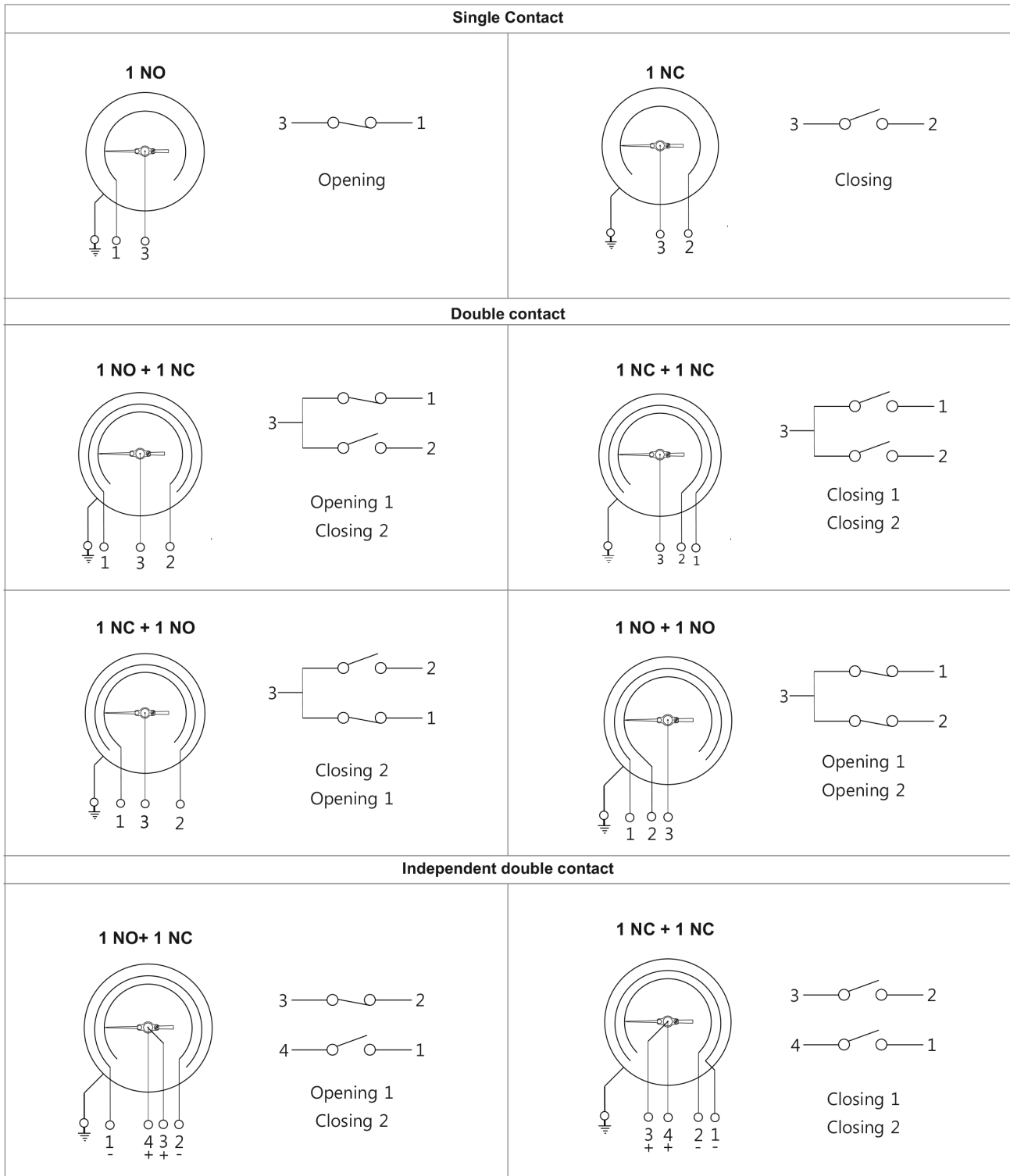
| | | | |
|----------|----------|----------|-----------|
| -80 / 60 | -20 / 60 | -40 / 60 | -20 / 180 |
| -60 / 40 | -20 / 80 | -30 / 50 | -20 / 100 |

Note: other scales are available on request

Accessories

Thermowell

Wiring diagrams for electric contacts



Ordering codes

| | | | | | | | | | | | | | | | | | | | | |
|--|------------------------------------|--|--|-----|-----|-----|----------------|-----------------|-----|-----|-----|-----|-----|---------|--------|---|-----|----|----|-----------|
| 1. Dial Size | | E | 6. Stem Length | | | | | 100mm | | | | | | | | | | | | |
| Code | Nominal size | | Below thread Max 600mm. Please specify in mm | | | | | | | | | | | | | | | | | |
| E | 100 mm | 1 | <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 | A1 |
| Min Stem length | 130 | | 120 | 120 | 120 | 110 | | | | | | | | | | | | | | |
| Stem OD | 6/6.35 | | 8 | 9.5 | 10 | 12 | | | | | | | | | | | | | | |
| F | 125 mm | | 7. Type | | | | | | | | | | | | | | | | | |
| G | 150 mm | | A1 With rigid stem | | | | | | | | | | | | | | | | | |
| H | 200 mm | A2 With Capillary | | | | | | | | | | | | | | | | | | |
| I | 250 mm | 8. Capillary Length | | | | | | | | | | | | | | | | | | |
| 2. Mounting | | 10B | Please mention in meters (e.g., 1 meter = 1M) | | | | | 2M | | | | | | | | | | | | |
| 1 | Direct bottom* | | 9. Capillary Material | | | | | | | | | | | | | | | | | |
| 2 | Bottom surface | | S4 AISI 304 SS | | | | | | | | | | | | | | | | | |
| 3 | Direct lower back entry* | | S6 AISI 316 SS | | | | | | | | | | | | | | | | | |
| 5 | Flush back panel with front flange | | 10. Capillary covered with armour | | | | | | | | | | | | | | | | | |
| 9 | Every angle back entry* | AD | S4 AISI 304 SS | | | | | S6 | | | | | | | | | | | | |
| 8 | Back entry with mounting bracket | | S6 AISI 316 SS | | | | | | | | | | | | | | | | | |
| * Without capillary option | | | PV PVC (Ambient Temp. Max. 60°C) | | | | | | | | | | | | | | | | | |
| 3. Gauge Connection | | | 11. Electric Contacts (NS 100mm & 150mm only) | | | | | | | | | | | | | | | | | |
| 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]◆ | 12. Options | | | | | | | | | | | | | | | | | | |
| ◆Suitable for stem diameter 6 & 10mm | | 8mm | S6 AISI 316 SS case & bezel | | | | | 5C | | | | | | | | | | | | |
| # Not recommended for revolving or swivel connection | | | LG Dampening liquid glycerine (ambient temp. max. 65°C) | | | | | | | | | | | | | | | | | |
| 4. Process Connection Type | | | 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 | MT Material test certificate* | | | | | | | | | | | | | | | | | | |
| 5. Stem Diameter | | CD Custom designed dial | | | | | 0/100°C | | | | | | | | | | | | | |
| 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 | 13. Range | | | | | | | | | | | | | | | | | | |
| 12mm | 12 mm | Refer range table | | | | | | | | | | | | | | | | | | |

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.