

Temperature Sensors with Replaceable Measuring Inserts **TOPGB-11, TTJGB-11, TTKGB-11**

Technical description

| Measuring range* / sensing element | | |
|---|--------------|---------|
| (-200 ÷ 150) °C | Pt100 | class B |
| (-40 ÷ 150) °C | J, K | class 2 |
| Measuring insert – p. 43+44 | | |
| – tube W1 or mineral insulated W2 i W3 | | |
| – 2-, 3-, 4-wire connection (for Pt100) | | |
| – 2-, 3-wire connection (for 2xPt100) | | |
| – insert length: L _w = L + 43 mm | | |
| Sheath | | |
| – material: steel 1.4541 | | |
| – length L [mm]: 50+2000 | | |
| Connection head | | |
| – BA, IP55, (-40 ÷ 100) °C | | |
| Options | | |
| – local display in connection head DANAWwin – p. 220 | | |
| – Pt500, Pt1000, Ni100, Ni1000, N, T | | |
| – other threads (inch and metric) acc. to requirements | | |
| – measuring junction types – p. 13 | | |
| – connection heads: p. 217+218 (eg. stainless steel BEG; aluminium NA, IP65; aluminium NA with snap lock) | | |
| – Pt100: class A (-100 ÷ 150) °C, class AA (-50 ÷ 150) °C; TC: class 1 | | |
| Additional accessories | | |
| – temperature transmitters – p. 225+241 | | |
| – compensation cable – p. 197 | | |

* for clean air

Time response T05/T09

| Sensor type | ø9 | ø11 |
|-------------------------|---------|----------|
| Pt | ≤33/≤95 | ≤40/≤120 |
| J, K insulated junction | ≤22/≤62 | ≤27/≤90 |
| J, K grounded junction | ≤3/≤8 | ≤6/≤15 |

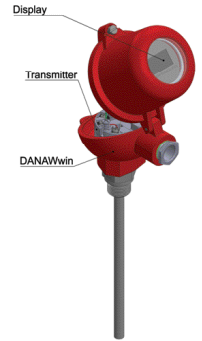
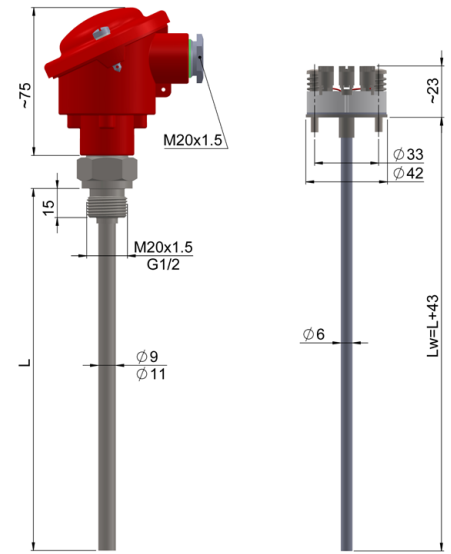
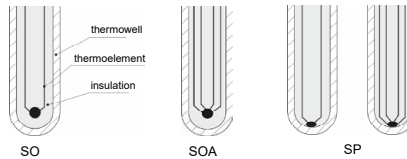
Resistor tolerance acc. to PN-EN 60751

| Class | Wire wound resistor | |
|-------|---------------------|-------------------|
| | Range [°C] | Tolerance [°C] |
| AA | (-50÷250) | ±(0,1+0,0017· t) |
| A | (-100÷450) | ±(0,15+0,002· t) |
| B | (-196÷600) | ±(0,3+0,005· t) |

Tolerance for thermocouples class acc. to PN-EN 60584

| Thermocouple | Class 1 | | Class 2 | |
|----------------|-------------------------|-------------------|---------------------------------|--------------------|
| | Range [°C] | Tolerance [°C] | Range [°C] | Tolerance [°C] |
| J Fe-CuNi | (-40÷375) (375÷750) | ±1,5 ±0,004 t | (-40÷333) (333÷750) | ±2,5 ±0,0075 t |
| K NiCr-NiAl | (-40÷375) (375÷1000) | ±1,5 ±0,004 t | from (-40÷333) (333÷1200) | ±2,5 ±0,0075 t |

Types of measuring hot junction



Ordering code

| Temperature sensors | ... | T | ... | GB-11 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
|--|-----|---------|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|
| Single | | no sign | | | | | | | | | | | | | |
| Double | | 2 | | | | | | | | | | | | | |
| Single with transmitter | | AP | | | | | | | | | | | | | |
| Double with transmitter (only one circuit) | | AP2 | | | | | | | | | | | | | |
| Double with two transmitters | | 2AP2 | | | | | | | | | | | | | |
| With local display (single) | | APW | | | | | | | | | | | | | |
| Resistor Pt | | | | | | | | | | | | | | | |
| Thermocouple Fe-CuNi | | | 2 | | | | | | | | | | | | |
| Thermocouple NiCr-NiAl | | | | | | | | | | | | | | | |
| Sheath length L [mm] | | | | | | | | AP | | | | | | | |
| Thermowell diameter [mm] | | | | | | | | AP2 | | | | | | | |
| Thread dimension | | | | | | | | | APW | | | | | | |
| Junction insulated from the sheath | | | | | | | | | | | | | | SO | |
| Double junction insulated from the sheath | | for | | | | | | | | | | | | SOA | |
| Grounded junction | | TC | | | | | | | | | | | | SP | |
| Resistor class | | | | | | | | | | | | | | | A, B* |
| Thermocouple class | | | | | | | | | | | | | | | 1, 2 |
| Measuring circuit for RTD | | | | | | | | | | | | | | | 2, 3, 4 |
| Type of transmitter | | | | | | | | | | | | | | | RT-01* |
| Setting of transmitter temperature | | | | | | | | | | | | | | | (0 ÷ 400) °C* |

* or other acc. to requirements

Ordering example

2TOPGB-11-160-9-G½-A-3