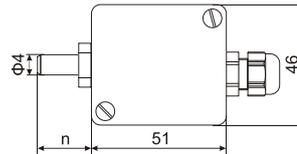


## Outdoor RTD Probe (Transmitter) TS(O)P

- ◆ Low cost
- ◆ Ptx sensitive element
- ◆ 2-wire 4...20 mA output available
- ◆ IP66 protection class
- ◆ Robust aluminum enclosure
- ◆ Ready to use - no adjustments

The outdoor temperature probes TSP and TSOP measure temperature by means of a Ptx sensitive element mounted in a thin stainless steel stem for fast response. The TSOP model, in addition, converts the measured temperature into standard 4...20 mA 2-wire signal. Both models are enclosed in a freely mountable robust aluminum enclosure with IP66 protection class and are equipped with a PG7 cable gland for stable and protected electrical decoupling. Five different temperature measurement ranges from -50 °C and up to 100 °C as well as customer specified ranges are available. Thanks to their simplicity, small size, and affordable price, TSP and TSOP are applicable for various outdoor applications, environment temperature control, climatic temperature measurement, etc.



### Technical specifications

Input	
<b>Incorporated RTD</b>	Pt100 or Pt1000 (w=1.385)
<b>Measurement range</b>	-50...50 °C; 0...50 °C; -20...60 °C; 0...100 °C <sup>(1)</sup> ; -50...100 °C <sup>(1)</sup>
<b>Range on request</b>	minimum span 50 °C
Output	
<b>Signal type</b>	4...20 mA, 2-wire
<b>Linearity proportional to</b>	measured value
<b>Output at sensor burnout</b>	32 mA
<b>Output at sensor shorted</b>	0.2 mA
Accuracy	
<b>Electronic measurement error</b>	0.2% from span or 0.2 °C <sup>(2)</sup>
<b>RTD measurement error</b>	according to accuracy class
<b>Non-linearity</b>	within measurement error
<b>Self-heating error</b>	0.02%/mA at 24 V
<b>Temperature drift</b>	0.02% from span for 1 °C

<sup>(1)</sup> Not available for TSOP

<sup>(2)</sup> Which is greater

### Power supply

<b>Loop voltage</b>	10...32 VDC
<b>Admissible variations</b>	1 Vp-p at 50 Hz
<b>Maximum line load</b>	750 Ω at 24V/20mA

### Operating conditions

<b>Ambient temperature</b>	-30...65 °C
<b>Ambient humidity</b>	5...95 %RH
<b>EM compatibility</b>	according to EN 61326

### Design and materials

<b>Stem diameter</b>	4 mm	5 mm
<b>Stem length</b>	20...60 mm	60...200 mm
<b>Sensor sheath</b>	stainless steel	
<b>Housing material</b>	aluminum	
<b>Wiring</b>	PG7 metal cable gland	
<b>Mounting</b>	free	
<b>Protection class</b>	IP66	

### Ordering code TS(O)P - G2.G3.G6.G11 - #1

Code	Feature or option	Code values
<b>G2</b>	Sensor <sup>(3)</sup>	<b>RD</b> - Pt100, <b>RG</b> - Pt1000
<b>G3</b>	Temperature range	<b>T25</b> - -20...60 °C, <b>T17</b> - -50...50 °C, <b>T18</b> - 0...50 °C, <b>T19</b> - 0...100 °C <sup>(1)</sup> , <b>T12</b> - -50...100 °C <sup>(1)</sup> , <b>TZ</b> - other (specify, ΔT ≥ 50 °C)
<b>G6</b>	Stem length 'n' [mm]	<b>20...200</b> (see table above)
<b>G11</b>	Accuracy class	<b>A</b> - 'A', <b>B</b> - 'B', <b>C</b> - '2xB'
<b>#1</b>	Options	<b>X</b> - none, <b>OP</b> - electrochemically polished sheath surface

<sup>(3)</sup> Do not code for TSOP