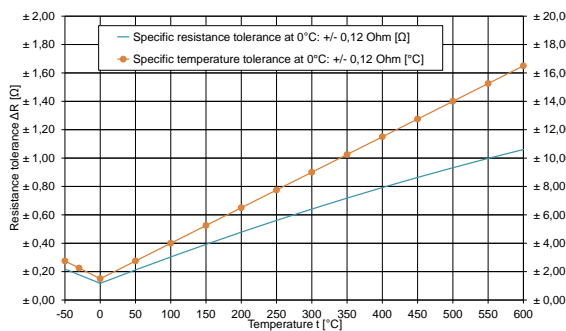


Technical Data

Resistance at 0°C (R_0)	20 Ω
Temperature coefficient (0°C up to $+100^\circ\text{C}$)	$3.85 \cdot 10^{-3} \text{ K}^{-1}$
Specific R_0 tolerance at 0°C	$\pm 0,12 \Omega$
Operating temperature range depending on lead material:	
AgPd5	-50°C up to $+400^\circ\text{C}$
Pt-coated Ni-wire(NiPt)	-50°C up to $+500^\circ\text{C}$ (short-time up to $+550^\circ\text{C}$)
Pt	-50°C up to $+600^\circ\text{C}$
Measurement current (DC) at 25°C	1.0 mA
Maximal permissible peak current (DC) at 25°C	3.0 mA
Insulation resistance	$> 10 \text{ M}\Omega$
Self-heating at 0°C	$< 0.5 \text{ K} / \text{mW}$
Thermal response time	
Flowing water ($v = 0.2 \text{ m/s}$)	$T_{0,5} = 0.07\text{s}$, $T_{0,9} = 0.2\text{s}$
Flowing air ($v = 1 \text{ m/s}$)	$T_{0,5} = 4 \text{ s}$, $T_{0,9} = 10 \text{ s}$
Resistance value R_t [Ω] at	
Temperature t	Tolerance Specific $\pm 0,12 \Omega$ at 0°C
0°C	20 ± 0.12
$+100^\circ\text{C}$	27.702 ± 0.3
R_t measuring point	2 mm from wire end

Maximal Resistance Change at UCT 250 h	$< 0.1 \%$																								
Specification	DIN EN 60751																								
Type	Film sensor																								
Technology: Advanced thin-film-technology (ceramic carrier with a structured platinum layer, covered with a passivating layer)																									
Operating conditions: Unprotected application only in dry environments without any contamination																									
Conformity: 2011/65/EU: Restriction of the use of Hazardous Substances Directive (RoHS)																									
Dimensions [mm]																									
	<table border="1"> <thead> <tr> <th></th> <th>Pt20 FMC 0.8x5x0.7 axial</th> <th>Pt20 FMC 0.8x5x1 axial</th> <th>Pt20 FMC 0.8x5x1.3 axial</th> <th>Leads</th> <th>AgPd5</th> <th>NiPt 1)</th> <th>Pt</th> </tr> </thead> <tbody> <tr> <td>H1 [mm]</td> <td>0.7 ± 0.2</td> <td>1 ± 0.2</td> <td>1.3 ± 0.2</td> <td>l [mm]</td> <td>15 ± 1</td> <td>10 ± 1</td> <td>7 ± 1</td> </tr> <tr> <td>H2 [mm]</td> <td>0.27</td> <td>0.4</td> <td>0.65</td> <td>d [mm]</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> </tr> </tbody> </table>		Pt20 FMC 0.8x5x0.7 axial	Pt20 FMC 0.8x5x1 axial	Pt20 FMC 0.8x5x1.3 axial	Leads	AgPd5	NiPt 1)	Pt	H1 [mm]	0.7 ± 0.2	1 ± 0.2	1.3 ± 0.2	l [mm]	15 ± 1	10 ± 1	7 ± 1	H2 [mm]	0.27	0.4	0.65	d [mm]	0.15	0.15	0.15
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1) not available with H1 = 0.7 mm and H2 = 0.27 mm																									

Functional performance



Picture 1: Resistance and temperature tolerances of Pt20 $\pm 0,12 \Omega$ at 0°C (Please note - the operating temperature range depends on lead material!)

Temperature range from -50°C up to 0°C :

$$R_t = R_0 \cdot (1 + A \cdot t + B \cdot t^2 + C \cdot (t - 100^\circ\text{C}) \cdot t^3)$$

Temperature range from 0°C up to $+600^\circ\text{C}$:

$$R_t = R_0 \cdot (1 + A \cdot t + B \cdot t^2)$$

Whereby:

R_t ... Resistance [Ω] at temperature t

R_0 ... Resistance [Ω] at 0°C

t ... Temperature [$^\circ\text{C}$]

Δt ... Permissible temperature deviation at t [$^\circ\text{C}$]

$$A = 3.9083 \cdot 10^{-3} \text{ }^\circ\text{C}^{-1}$$

$$B = -5.775 \cdot 10^{-7} \text{ }^\circ\text{C}^{-2}$$

$$C = -4.183 \cdot 10^{-12} \text{ }^\circ\text{C}^{-4}$$

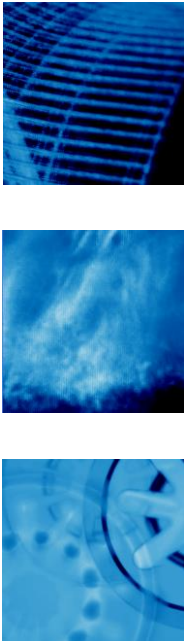
Fields of application

- Industrial electronics
- Building automation
- Automotive electronics
- Energy and environmental engineering
- Safety and medical engineering

Ordering examples

Construction	Class of accuracy	Leads ($\phi \text{ d} \times \text{l}$ [mm] lead material)	Operating temperature range [$^\circ\text{C}$]
Pt20 FMC 0.8x5x1 axial	$\pm 0,12 \text{ Ohm}$ at 0°C	0.15x15 AgPd5	- 50/+400
Pt20 FMC 0.8x5x1.3 axial	$\pm 0,12 \text{ Ohm}$ at 0°C	0.15x10 NiPt	- 50/+500

Other classes of accuracy and wire lengths are available on request.



UST Umweltsensortechnik GmbH is certified according to

