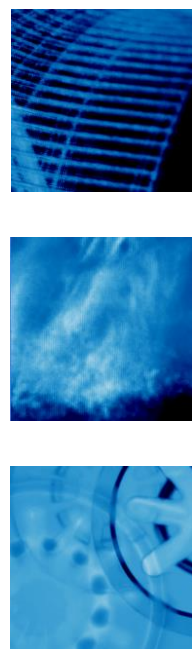


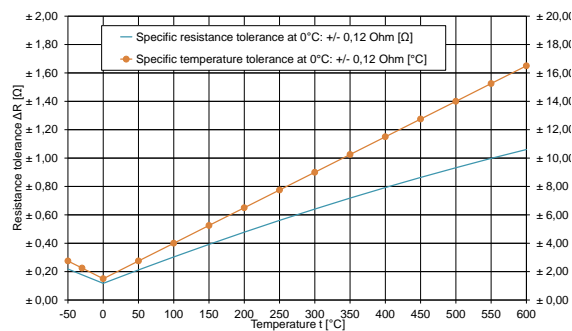
Technical Data

Resistance at 0°C (R ₀)	20 Ω
Temperature coefficient (0°C up to +100°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 °C
Pt-coated Ni-wire (NiPt)	-50 °C up to +500 °C (short-time up to +550 °C)
Pt	-50 °C up to +600 °C
Measurement current (DC) at 25 °C	1.0 mA
Maximal permissible peak current (DC) at 25 °C	3.0 mA
Insulation resistance	> 10 M Ω
Self-heating at 0 °C	< 0.5 K / mW
Thermal response time	
Flowing water (v = 0.2 m/s)	T _{0,5} = 0.07s, T _{0,9} = 0.2s
Flowing air (v = 1 m/s)	T _{0,5} = 4 s, T _{0,9} = 10 s
Resistance value R _t [Ω] at	
Temperature t	Tolerance Specific $\pm 0,12 \Omega$ at 0°C
0 °C	20 \pm 0.12
+100 °C	27.702 \pm 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]							
	Pt20 FMC 0.8x5x0.7 axial	Pt20 FMC 0.8x5x1 axial	Pt20 FMC 0.8x5x1.3 axial	Leads l [mm]	AgPd5 15 \pm 1	NiPt 1) 10 \pm 1	Pt 7 \pm 1
H1 [mm]	0.7 \pm 0.2	1 \pm 0.2	1.3 \pm 0.2				
H2 [mm]	0.27	0.4	0.65	d [mm]	0,15	0,15	0,15
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:

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

Temperature range from 0°C up to +600°C:

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

Whereby:

R_t ... Resistance [Ω] at temperature t

R₀ ... Resistance [Ω] at 0 °C

t ... Temperature [°C]

Δt ... Permissible temperature deviation at t [°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 ($\varnothing d \times l$ [mm] lead material)	Operating temperature range [°C]
Pt20 FMC 0.8x5x1 axial	+/- 0,12 Ohm at 0°C	0.15x15 AgPd5	- 50/+400
Pt20 FMC 0.8x5x1.3 axial	+/- 0,12 Ohm at 0°C	0.15x10 NiPt	- 50/+500

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