

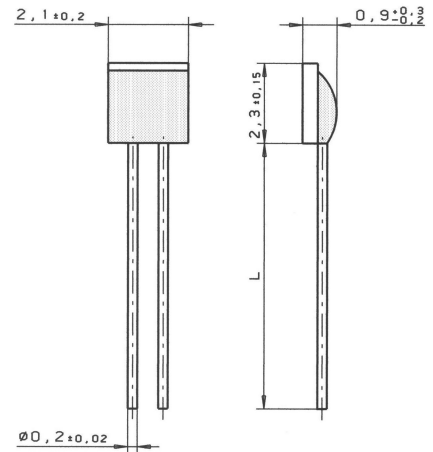
Platinum Resistance Temperature Detector

Mseries PRTDs are designed for large volume applications where long term stability, interchangeability and accuracy over a large temperature range are vital. Typical applications are Automotive, White goods, HVAC, Energy management, Medical and Industrial equipment.

Nominal Resistance R_0	Class	Error ranges
100 Ohm at 0°C	DIN EN 60751, class B DIN EN 60751, class A DIN EN 60751, class 1/3 DIN DIN EN 60751, class 1/10DIN	$\pm (0,3 + 0,005 \cdot \text{temperature})$ $\pm (0,15 + 0,002 \cdot \text{temperature})$ $\pm (0,1 + 0,0017 \text{temperature})$ $\pm (0,03 + 0,0005 \cdot \text{temperature})$
500 Ohm at 0°C	DIN EN 60751, class B	
1000 Ohm at 0°C	DIN EN 60751, class B DIN EN 60751, class A DIN EN 60751, class 1/3 DIN	

The measuring point for the nominal resistance is defined at 8 mm from the end of the sensor body.

Specification	DIN EN 60751 (according to IEC 751)	
Temperature range	-70°C to +500°C (continuous operation) (temporary use to 550 °C possible) Tolerance class B: - 70 °C to + 500 °C Tolerance class A: - 50 °C to + 300 °C Tolerance class 1/3 DIN: 0 °C to + 150 °C Tolerance class 1/10 DIN: 0 °C to + 150 °C TCR = 3850 ppm/K	
Temperature coefficient	TCR = 3850 ppm/K	
Leads	Pt clad Ni wire Recommend connection technology: Welding, Crimping and Brazing	
Lead lengths (L)	10 mm +/- 1 mm	
Long-term stability	max. R_0 -drift 0.04% after 1000 h at 500°C	
Vibration resistance	at least 40 g acceleration at 10 to 2000 Hz, depends on installation	
Shock resistance	at least 100 g acceleration with 8ms half sine wave, depends on installation	
Environmental conditions	unhoused for dry environments only	
Insulation resistance	> 100 M Ω at 20°C; > 2 M Ω at 500°C	
Self heating	0.4 K/mW at 0°C	
Response time	water current ($v = 0.4$ m/s):	$t_{0.5} = 0.05$ s $t_{0.9} = 0.15$ s
	air stream ($v = 2$ m/s):	$t_{0.5} = 3.0$ s $t_{0.9} = 10.0$ s
Measuring current	100 Ω : 0.3 to 1.0 mA 500 Ω : 0.1 to 0.7 mA 1000 Ω : 0.1 bis 0.3 mA (self heating has to be considered)	



Note Other tolerances, values of resistance and wire lengths are available on request.