

Nickel Thin Film Temperature Sensor

Nickel thin film elements are characterized by a relatively high temperature coefficient. Typical applications include bearing temperature monitoring, HVAC temperature monitoring, and stator winding temperature monitoring

Nominal Resistance R ₀	Accuracy	Part Number
1000	DIN 43760	100 489-6

Specification DIN 43760

Temperature Range -60 °C to +250 °C

Temperature Coefficient 6180 ppm/K

Lead wire material silver

Protective coating high-temperature epoxy

Self-heating 0,3K/mW in air

Response time Water (v = 0,2m/sec.) $t_{0,9} = 0.3$ sec.

Air (v= 1m/sec.) $t_{0,9} = 9$ sec.

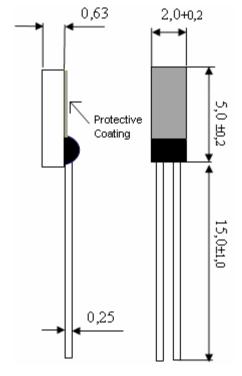
Operating Current, Maximum 5 mA

Polynomial of a nickel resistor in accordance with DIN 43760:

 $R(9) = R_0 \times (1 + 5.481 \times 10^{-3} \times 9 + 6.650 \times 10^{-6} \times 9^2 + 2.805 \times 10^{-11} \times 9^4 + 2.000 \times 10^{-17} \times 9^6)$

Maximum permissible tolerance as a function of temperature (DIN 43760):

9<0°C: $F = \pm(0.4 + 0.028 \times 9)$ °C 9>0°C: $F = \pm(0.4 + 0.007 \times 9)$ °C



All technical data serves as a guideline and does not guarantee any particular properties to the product.

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