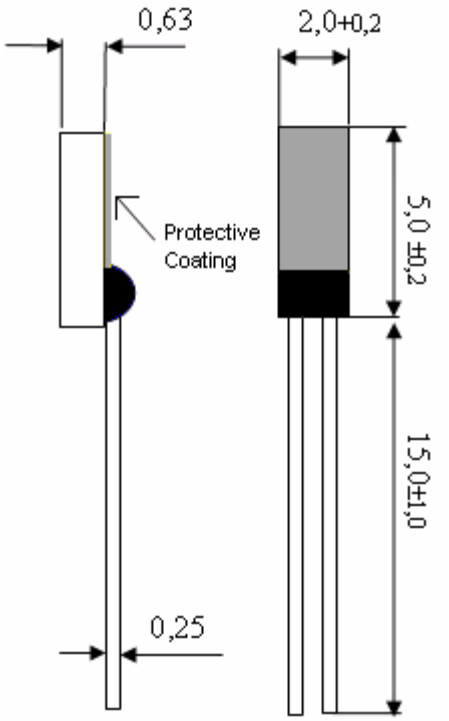
Nickel Thin Film Temperature Sensor

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:
$R(\vartheta) = R_0 \times (1 + 5{,}481\times10^{-3}\times\vartheta + 6{,}650\times10^{-6}\times\vartheta^2 + 2{,}805\times10^{-11}\times\vartheta^4 + 2{,}000\times10^{-17}\times\vartheta^6)$

Maximum permissible tolerance as a function of temperature (DIN 43760):
ϑ<0°C: F = ±(0,4 + 0,028 x ϑ) °C
ϑ>0°C: F = ±(0,4 + 0,007 x ϑ) °C

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

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