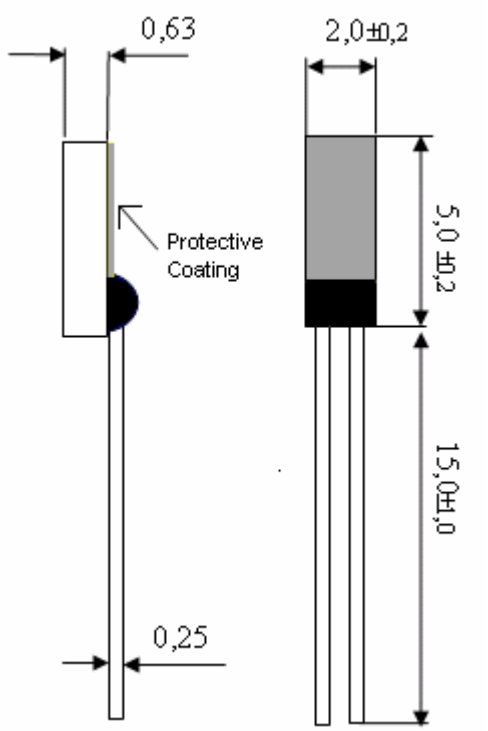
Nickel Thin Film Temperature Sensor

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
120 ohms at 0 °C	2 X DIN 43760	100 485-4

Specification	ANSI
Temperature Range	-60 °C to +250 °C*
Temperature Coefficient	6720ppm/K
Lead wire material	Nickel
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 the resistive characteristic:
$R(\vartheta) = R_0 \times (1 + 5{,}88\times10^{-3}\times\vartheta + 7{,}872\times10^{-6}\times\vartheta^2 + 4{,}71\times10^{-9}\times\vartheta^3)$

Maximum permissible tolerance as a function of temperature (accuracy defined as 2 x DIN 43760):
ϑ<0°C: $F = \pm(0{,}8 + 0{,}056 \times \vartheta)$ °C
ϑ>0°C: $F = \pm(0{,}8 + 0{,}014 \times \vartheta)$ °C

*At temperatures above 180 Deg. C. tensile loads on connection wires must be avoided for proper function.

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

Heraeus Sensor Technology USA
770 Township Line Road, Suite 300
Yardley, PA 19067 USA
Phone 1-215-944-9010 Fax 1-215-944-9392
Email info.hst-us@heraeus.com
www.hst-us.com