Increased Safety Stator Winding Temp. Sensors

ATEX ⟨Ex⟩ II 2 G Ex e IIC Gb

ATEX ⟨Ex⟩ II 1 G Ex ia IIC Ga

IECEx Ex e IIC Gb

IECEx Ex ia IIC Ga

CSA Ex e IIC Gb

Overview

Insert these thin, laminated RTDs in winding slots to detect high temperatures before insulation damage occurs. RTD temperature sensors continuously monitor conditions and provide the long term trend data that is necessary for making adjustments before unexpected alarms occur. These models are designed for use in hazardous areas, where there may be a presence of flammable gas under normal operating conditions. Strict construction guidelines prevent arcing. These RTDs are certified as "increased safety" and "intrinsic safety" devices.

• Pt100, Ni100, or U.S. curves

• EC-Type Examination Certificate KEMA 03ATEX2240 U

• Complies with European standards for electrical apparatus for potentially explosive atmospheres: ATEX Directive 94/9/EC and International IEC certification schemes for explosive atmospheres.

Specifications

Temperature limit: -50 to180°C (-58 to 356°F), class H

Body material: High temperature epoxy glass.

Leadwires: 2, 3, or 4 leads, stranded copper, AWG #22 (0.35 mm², with TFE or polyimide insulation).

Dielectric strength: 3,200 VRMS at 60 Hz, 1 mA maximum leakage current, tested momentarily (1–5 seconds), between the leads and external flat body surface.

Specification and order options

S100050 PD	Model number from table on next page

60	RTD length in .1" increments:
	    Example: 79 = 7.9" (200 mm)
	    Minimum length = 20 (2.0" [51 mm])
	    Maximum length= 232 (23.2" [590 mm])
	▼: 60, 110, 200

T	Lead insulation: ▼T = TFE

236	RTD width in .001" increments:
	    Example: 394 = .394" (10 mm)
	    Minimum width
	     = .219" (5.6 mm) for 2 or 3 leads;
	     = .285" (7.25 mm) for 4 leads
	    Maximum width = .956" (25.4 mm)
	▼ : 236, 315

Z	Number of leads: Y = 2 leads ▼ Z = 3 leads ▼ X = 4 leads
118	Lead length in inches ▼ : 118, 237
F	Lead configuration: ▼ T = Twisted leads ▼ F = Flat leads
N	Lead covering: ▼ N = No jacket ▼ S = FEP jacket overall (available only with twisted lead configuration option "T")
S100050PD60T236Z118FN = Sample part number	

▼ = *STANDARD OPTIONS*
Specifications subject to change

Wire-wound or thin-film RTD element

Wire-wound RTDs, embedded in stator slots, are the most common method for measuring winding temperature in large motors. The wire-wound element extends through most of the body length and measures the average temperature of the winding.

Thin-film RTDs are identical, except for the size of the sensing element. Because the thin-film element is small, approximately 0.08" x 0.09" (2.0 mm x 2.3 mm), it senses the temperature in only one small spot of the winding. Thin-film elements are best suited for shorter length stator sensors.

Wire-wound RTD elements

Thickness	Platinum (0.00385 TCR) 100Ω ±0.12 at 0°C Meets IEC 751, Class B	Platinum (0.00385 TCR) 100Ω ±0.5 at 0°C	Nickel (0.00618 TCR) 100Ω ±0.2 at 0 C Meets DIN 43760	Platinum (0.00392 TCR) 100Ω ±0.5 at 0°C
0.079" [2.0 mm]	▼ S100050PD	S100050PE	S100050NB	▼ S100050PA
0.098" [2.5 mm]	S100051PD	S100051PE	S100051NB	S100051PA
0.118" [3.0 mm]	S100052PD	S100052PE	S100052NB	S100052PA
0.138" [3.5 mm]	S100053PD	S100053PE	S100053NB	S100053PA
0.157" [4.0 mm]	S100054PD	S100054PE	S100054NB	S100054PA

Thin-film RTD elements

Thickness	Platinum (0.00385 TCR) 100Ω ±0.12 at 0°C Meets IEC 751, Class B	Platinum (0.00385 TCR) 100Ω ±0.5 at 0°C	Nickel (0.00618 TCR) 100Ω ±0.2 at 0 C Meets DIN 43760	Platinum (0.00392 TCR) 100Ω ±0.5 at 0°C
0.079" [2.0 mm]	S200050PD	S200050PE	S200050NB	S200050PA
0.098" [2.5 mm]	S200051PD	S200051PE	S200051NB	S200051PA
0.118" [3.0 mm]	S200052PD	S200052PE	S200052NB	S200052PA
0.138" [3.5 mm]	S200053PD	S200053PE	S200053NB	S200053PA
0.157" [4.0 mm]	S200054PD	S200054PE	S200054NB	S200054PA

▼= *STANDARD OPTIONS*
Specifications subject to change