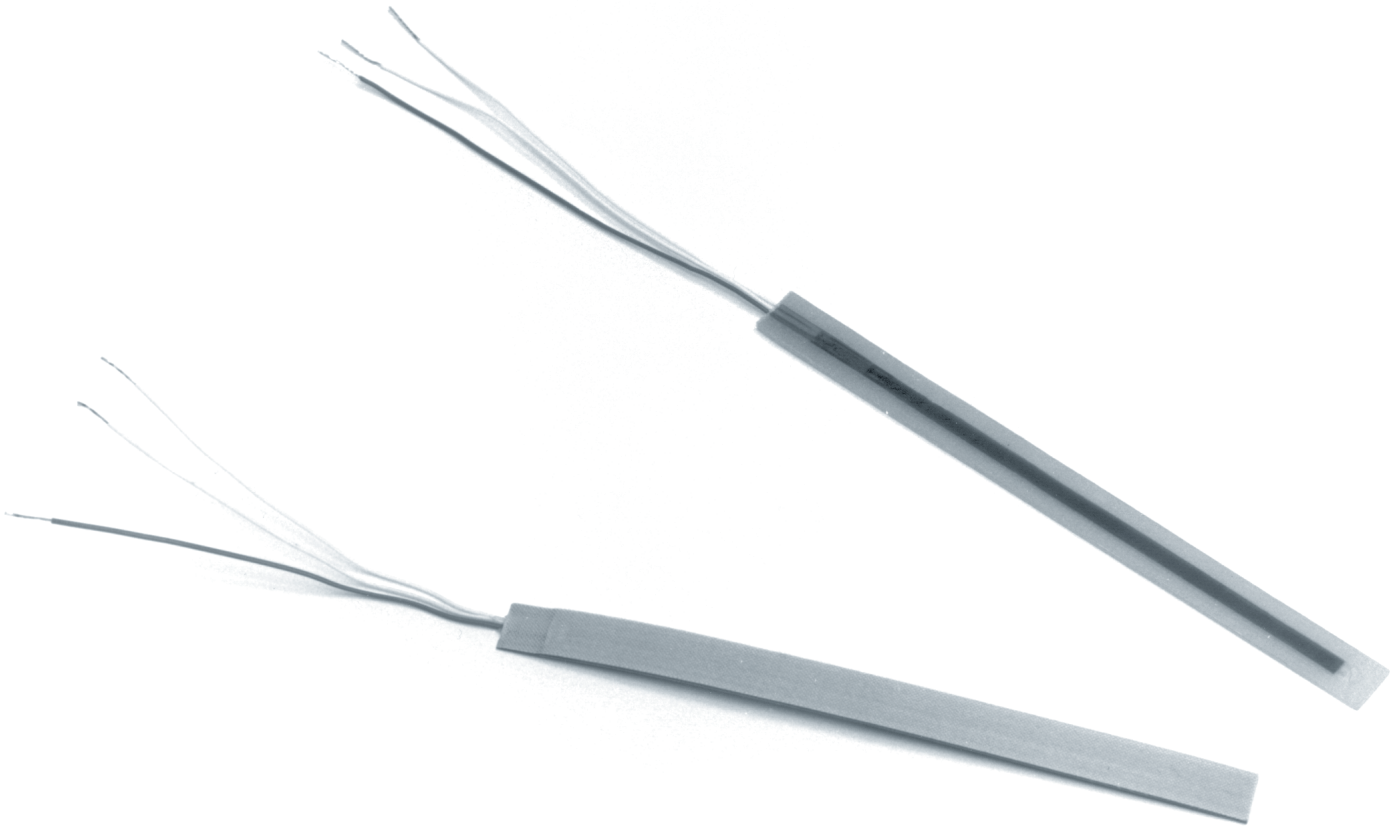
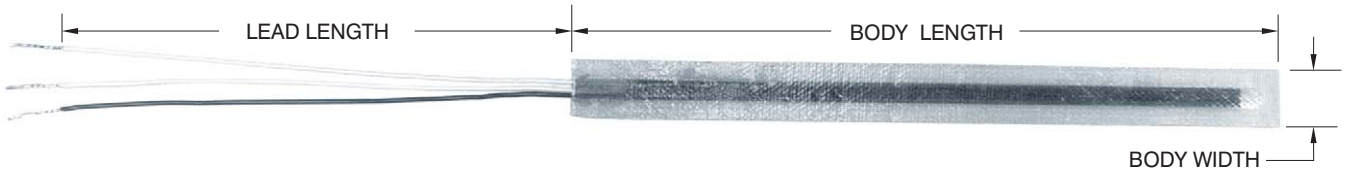


Section 8: Stator Winding Detectors

- Install between stator windings for continuous protection of motors and generators
- Single and dual element RTDs
- Class F or Class H
- Dimensions to fit any machine
- Extensive stock inventory for urgent requirements



Single Element Stator Winding RTDs

Element	TCR Ω/Ω/°C	Class F (155°C) RTDs				Class H (180°C) RTDs			
		0.125" thick	0.078" thick	0.050" thick	0.030" thick*	0.125" thick	0.078" thick	0.050" thick	0.030" thick*
Platinum, 100 Ω ±0.5% at 0°C	.00392	S8015PA	S11PA	S7682PA	S1320PA	S8016PA	S13PA	S7401PA	S1420PA
Platinum, 100 Ω ±0.12% at 0°C (Meets EN60751, Class B)	.00385	S8015PD	S8011PD	S8013PD	S8009PD	S8016PD	S11016PD	S8014PD	S8010PD
Platinum, 100 Ω ±0.5% at 0°C	.00385	S8015PE	S8011PE	S8013PE	S8009PE	S8016PE	S8012PE	S8014PE	S8010PE
Copper, 10 Ω ±0.2% at 25°C	.00427	S8015CA	S3CA	S23CA	S1120CA	S8016CA	S18CA	S7401CA	S1220CA
Nickel, 120 Ω ±0.5% at 0°C	.00672	S8015NA	S4NA	S24NA	S1140NA	S8016NA	S15NA	S7401NA	S1240NA

* These models have a lead bulge 0.045" thick, extending into the body a maximum of 0.62".

Flat, laminated "stick" RTDs fit in slots between stator windings to monitor temperature rise and prevent overheating. The National Electrical Manufacturers Association (NEMA) recognizes embedded detectors as a standard protection for motor and generator insulation. Unlike on-off devices, RTDs provide continuous sensing for earlier warning without unnecessary tripouts.

The sensing elements of stator RTDs extend through most of the body length to provide an average temperature reading. This eliminates the danger of a point-type sensor missing a localized hot spot. Six sensors are recommended for each motor, two per phase. Locate sensors near the hottest point of the windings for best performance.

Minco stator RTDs meet the specifications of ANSI C50.10-1990, general requirements for synchronous motors.

IN STOCK

Most models available from stock in a variety of sizes

Specifications

Temperature limit:
Class F: 155°C (311°F).
Class H: 180°C (356°F).
Body material: Class F: Epoxy glass.
Class H: High temperature epoxy glass.
Standard sizes (others available):

Thickness (inches)	0.030	0.050	0.078	0.125
Length (inches)	6.0	10.0	11.0	12.0
Standard body width* (inches)	0.219 0.344 0.563 1.000	0.260 0.406 0.656	0.305 0.455 0.750	0.315 0.500 0.875

*4 lead models: 0.320 minimum width

⚠ Custom order any width from 0.219" to 2.500"

Leadwires: 2, 3, or 4, stranded copper with PTFE or polyimide insulation. Other leadwire coverings available.
0.125" thick: AWG 18.
0.078" thick: AWG 22.
0.050" thick: AWG 26.
0.030" thick: AWG 30.
Dielectric strength: 3200 VRMS at 60 Hz, tested between the leads and external flat body surface for 1 to 5 seconds.

How to order

S3CA	**Model number from table**
110	**Body length:** Specify in 0.1" increments (Example: 110 = 11.0 inches)
T	**Leadwire insulation:** T = PTFE, K = Polyimide
344	**Body width:** Specify in 0.001" increments (Example: 344 = 0.344 inches)
Z	**Number of leads:** Y = 2 leads (PA, PE, NA only), Z = 3 leads, X = 4 leads (0.320" min. width)
36	**Lead length in inches**
S3CA110T344Z36 ← Sample P/N	

CENELEC approved/ATEX compliant sensors

Request Bulletin STD-5 for stator RTDs certified to European CENELEC/ATEX standards for increased safety in hazardous areas.

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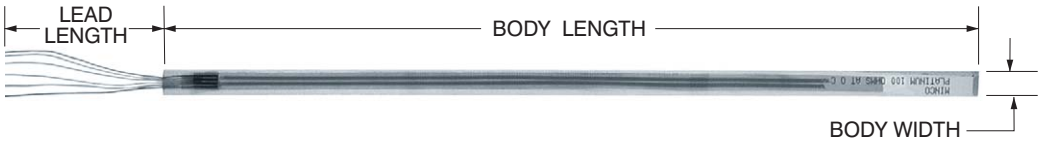


Dual Element Stator Winding RTDs

Dual element stator winding RTDs provide extra protection for motors and generators. The second element can be a back up in case of damage, or use one element for input to a temperature display at the machine and the other for control room monitoring.

Standard models are available with thickness options of 0.030 to 0.125", with sensing elements to match most instrumentation.

Custom designs

Minco designs and builds custom models for many applications. Because we control all steps of the production from element to finished product we have unmatched capabilities. Examples of special options we can make include:

- Thermocouple elements
- Thermistor elements (PTC or NTC)
- Dual sensors with different elements (for example, one copper and one platinum element)
- EEx rated sensors for equipment in hazardous areas. Request bulletin STD-5 for information on these sensors
- Electrically conductive coating
- Special leadwire or cable

Call Minco for the exact solution to your sensing problem.

Element	TCR Ω/Ω/°C	Class H (180°C) RTDs			
		0.125" thick	0.078" thick	0.050" thick	0.030" thick*
Platinum, 100 Ω ±0.5% at 0°C	.00392	S9125PAPA	S9078PAPA	S9050PAPA	S9030PAPA
Platinum, 100 Ω ±0.12% at 0°C (Meets EN60751, Class B)	.00385	S9125PDPD	S9078PDPD	S9050PDPD	S9030PDPD
Platinum, 100 Ω ±0.5% at 0°C	.00385	S9125PEPE	S9078PEPE	S9050PEPE	S9030PEPE
Copper, 10 Ω ±0.2% at 25°C	.00427	S9125CACA	S9078CACA	S9050CACA	S9030CACA
Nickel, 120 Ω ±0.5% at 0°C	.00672	S9125NANA	S9078NANA	S9050NANA	S9030NANA

*Model has a lead bulge 0.045" thick, extending into the body a maximum of 0.62".

Specifications

Temperature limit: 180°C (356°F), class H.
Body material: High temperature epoxy glass.
Standard sizes:

Thickness (inches)	0.030 0.050 0.078 0.125
Length (inches)	2.0 to 35.0" (51 to 899 mm)
Body width (inches)	Models S9078 and S9125: 0.425 to 2.500 (10.8 to 63.5 mm) Models S9030 and S9050: 0.425 to 1.065 (10.8 to 27.0 mm)

Leadwires: 2 or 3 (per element) stranded copper with PTFE or polyimide insulation. Other leadwire coverings available.
0.125" thick: AWG 18.
0.078" thick: AWG 22.
0.050" thick: AWG 26.
0.030" thick: AWG 30.

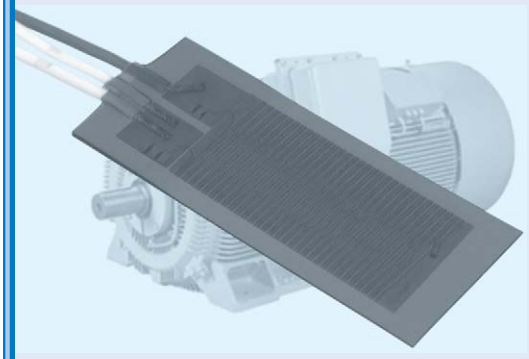
Dielectric strength: 3200 VRMS at 60 Hz, tested between the leads and external flat body surface for 1 to 5 seconds.

How to order

S9078PAPA	**Model number from table**
120	**Body length:** Specify in 0.1" increments (Example: 120 = 12.0")
T	**Leadwire insulation:** T = PTFE, K = Polyimide
500	**Body width:** Specify in 0.001" increments (Example: 500= 0.500")
Z	**Number of leads per element:** Y = 2 leads (PA, PE, NA only), Z = 3 leads
36	**Lead length in inches**
S9078PAPA120T500Z36 ← Sample P/N	

End turn RTD

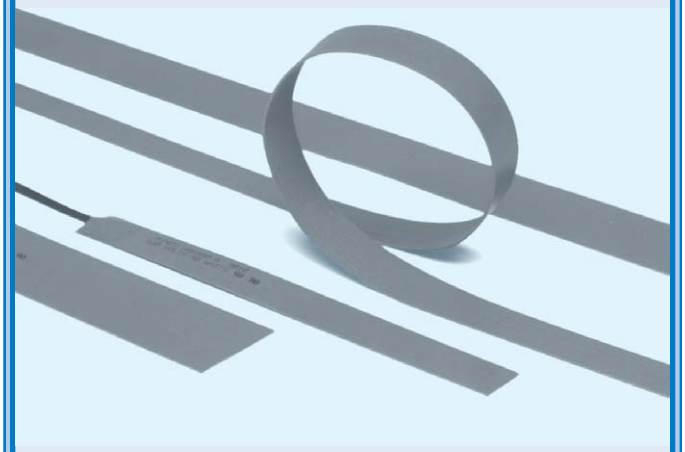
Model S3238 Thermal-Ribbon is designed to sense stator temperatures in motors and generators. With an alternative installation method to the “stick-type” sensors in this section, S3238 is used on the end turns of stator windings and provides an easy way to add overtemperature protection when the stator is not being rewound.



See page 10-4 for details.

Anti-condensation space heaters

- Flexible silicone rubber insulation
- Mount on windings or housings to prevent moisture buildup
- 2.5 to 10 watts per square inch at 120 or 240 volts
- Variety of sizes to 60" (1.5 m)
- UL component recognition
- Available from stock



Request Bulletin HS-202 for more information.

CT124 8-channel temperature alarm

- Monitor 1 to 8 platinum, nickel, or copper RTDs
- 4 internal relays and audible alarm with independent trip points
- Microprocessor based, fully programmable
- Large, bright LED shows °C or °F

- Stores high and low temperature peaks
- Programs and parameters stored in non-volatile memory
- Rugged enclosure with sealed front panel

The CT124 alarm offers flexible and reliable protection of large rotating equipment. It scans up to eight points in stators and bearings. Independently programmable trip points let you configure your system for fan control, audible alarms, and shutdown. The CT124 is the perfect companion to Minco sensors for safeguarding of valuable equipment.

See page 5-18 for details.

CT15 temperature alarm

- Alarm shuts down motor on over-temperature to prevent catastrophic failure
- Monitors single 100 Ω platinum RTD (PD or PE)

- 1 or 2 relays with independent trip points for warning and shutdown
- Microprocessor-based
- Front panel programmable with four security levels
- 100 to 240 VAC supply power
- Compact DIN case with water resistant front panel

See page 5-15 for details.