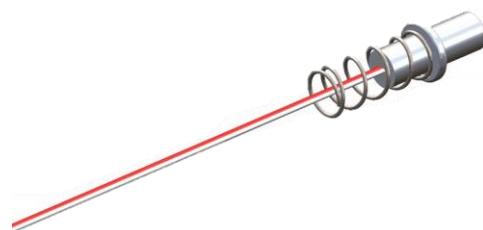




## Spring Loaded Miniature Sensors

### Overview

Spring-loaded miniature sensors feature a flanged design tailored for applications requiring spring-loaded contact. These sensors are seamlessly installed into drilled holes within components such as semiconductor test sockets, burn-in fixtures, or other manufacturing equipment. The integration of a spring ensures consistent contact between the sensors and the device under test. Standard cases are crafted from plated copper alloys or aluminum.



These sensors, with their small diameters, are ideal for applications where devices have limited surface area for temperature measurement. They offer cost-effective solutions across a range of sizes and element configurations.

Platinum RTD elements deliver stable and reliable outputs compatible with a wide array of control and monitoring systems. Alternatively, thermistor designs offer high resolution across critical temperature ranges. The availability of both standard and custom elements ensures compatibility with most existing instrumentation.

### Key Features

- Wide temperature ranges.
- Configurations to suit various applications.
- Standard options include 100 ohm and 1000 ohm platinum RTD elements, as well as standard thermistors.

### Case Styles

The illustrations on the right depict Minco's standard case styles, available in a variety of sizes for direct insertion into drilled holes. Central flanges accommodate the included spring for optimal thermal contact with the device. Minco offers flexible configuration options, including choices for the number and length of lead wires for RTD elements.

Minco also offers custom solutions tailored to specific sensor requirements, including non-standard elements, custom dimensions, and diverse case materials. Sensors can be supplied with retainers or integral connectors, providing complete sensor assemblies for simplified installation.

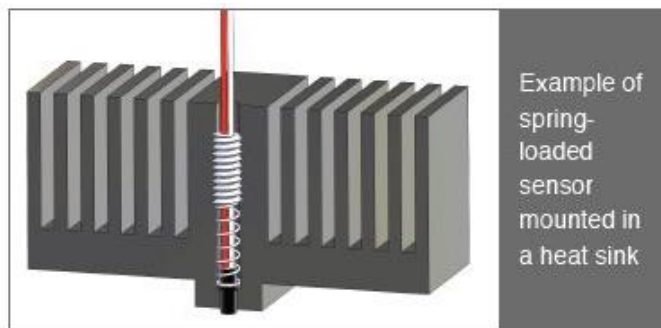
### Specifications

- **Time Constant:** Less than 10 seconds in moving water.
- **Insulation Resistance:** Minimum 10 megohms at 100 VDC, leads to outer surface of the case.
- **Dielectric Strength:** 1500 Volts RMS at 60 Hz, leads to outer surface of the case.
- **Vibration:** Withstands 10 to 2000 Hz at 20 G's minimum per MIL-STD-202, Method 204, test condition D.



## Installation

An example of a typical installation can be found in the illustration on the right. The spring-loaded sensor is positioned strategically within semiconductor test sockets and burn-in heat sinks. These sensors are equipped with varying types of retainers and mounting mechanisms, chosen to suit the characteristics of each application. The spring-loaded design facilitates precise contact with the semiconductor chip, enabling real-time temperature data collection. Installation methods can vary for different types of heat sinks or test fixtures.



## RTD Specifications and Options

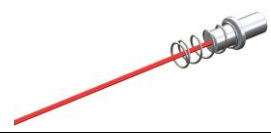
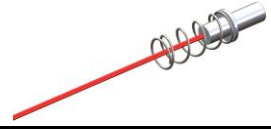
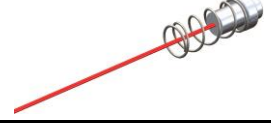
	Model number	Material	Case dimensions	RTD element options	# of leads	Lead wire	AWG size	Temp range	Spring	
	S239743	Nickel plated copper	.080" diameter, .236" long, .125" flange	PD, PF, PE, PM	Y, Z	T	30	-50 to 260°C (-58 to 500°F)	.102" OD X .25" free length K = 1.59 lb/in	
	S239744	Tin plated copper	.093" diameter, .323" long, .157" flange						30	.156" OD X .375" free length K = 1.62 lb/in
	S239745	Aluminum	.109" diameter, .248" long, .58" flange						28	.156" OD X .375" free length K = 1.62 lb/in

### S239743 Model number from table

PD	Sensing Element <ul style="list-style-type: none"> <li>PD: Platinum (0.00385 TCR), 100Ω ± .12% at 0°C (Meets EN60751, Class B)</li> <li>PF: Platinum (.00385 TCR), 1000 Ω ± .12% at 0°C (Meets EN60751, Class B)</li> <li>PE: Platinum (.00385 TCR) 100 Ω ± .36% at 0°C</li> <li>PM: Platinum (.00385 TCR) 100 Ω ± .06% at 0°C (Meets EN60751, Class A)</li> </ul>
Z	Number of Leads Y: 2 Leads Z: 3 Leads <i>12" maximum lead length for 2 lead option in PD or PM elements</i>
T	Leadwire: T: PTFE Insulated Leads
12	Lead Length in Inches
S239743PDZT12 = Sample Part Number	



## Thermistor Specifications and Options

	Model number	Material	Case dimensions	Thermistor element options	# of leads	AWG	Temp range	Spring
	TS239743	Nickel plated copper	.080" diameter, .236" long, .125" flange	TE, TU, TW	Y	30	-50 to 200°C (-58 to 392°F)	.102" OD X .25" free length K = 1.59 lb/in
	TS239744	Tin plated copper	.093" diameter, .323" long, .157" flange			28		.156" OD X .375" free length, K = 1.62 lb/in
	TS239745	Aluminum	.109" diameter, .248" long, .158" flange			28		.156" OD X .375" free length K = 1.62 lb/in

### TS239743 Model number from table

TE	Thermistor Element <ul style="list-style-type: none"> <li>TE: 10,000 Ω ± 1%, β<sub>25-85</sub> = 3977 K</li> <li>TU: 30,000 Ω ± 1%, β<sub>25-85</sub> = 3977 K</li> <li>TW: 50,000 Ω ± 1%, β<sub>25-85</sub> = 3977 K</li> </ul>
Y	Number of Leads: Y: 2 Leads
12	Lead Length in Inches
TC239743TEY12 = Sample Part Number	

