

Non-Metallic Case Miniature Sensors

Overview

Non-metallic case miniature sensors are designed for easy installation for industrial and commercial applications. These sensors can be installed directly into drilled holes in components such as bearings or machined parts, as well as onto surfaces of existing equipment. Non-metallic sensors can also be installed into end turn windings of motors and in other equipment. Standard cases are manufactured from DAP (Diallyl Phthalate) and elements are fully encapsulated with high temperature, thermally conductive epoxy.

Due to the electrical insulation properties of the case material, these sensors are ideal for high voltage applications. Standard designs provide low cost options in a variety of sizes and configurations.

Platinum RTD elements provide stable and reliable output compatible with most control and monitoring systems. Alternatively, interchangeable thermocouple designs allow you to easily customize your installation to different instrumentation.

- Wide temperature ranges
- Configurations to fit most applications
- Standard 100 ohms platinum and 1,000 ohm platinum RTD elements, as well as nickel element options.
- Type E, J, K, or T thermocouple options

Case Styles

The illustrations to the right show Minco's standard case styles. Sensors are available in a variety of cylindrical cases for inserting directly into drilled holes, or rectangular cases for mounting on surfaces or embedding into a process. In addition, Minco offers several configuration options, including choices for leadwire lengths and leadwire coverings.

We can also provide custom solutions for your sensor needs, including non-standard elements (such as thermistors) and custom sensor dimensions and materials.

Specifications

Time Constant: Less than 10 seconds in moving water.

Insulation Resistance: 10 megohms minimum 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.

Case Styles



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RTD Specification and Options

	Model number	Case dimensions	RTD Element options	Leadwire options	AWG Single 2 lead	AWG Single 3 lead	AWG Single 4 lead	AWG Dual element	Temp range	Lead Covering options
	S239391	.125" diameter, .250" length	PA, PD, PE, PF, PM, NA	V,W,X,Y,Z	24	26	30	30	-50 to 200°C (-58 to 392°F)	T, S, F, R, E
	S239392	.125" diameter, .375" length								
	S239393	.125" diameter, .500" length								
	S239394	.188" diameter, .500" length	PA, PD, PE, PF, PM, NA	U,V,W,X,Y,Z	24	24	28	28	-50 to 200°C (-58 to 392°F)	T, S, F, R, E
	S239395	.188" diameter, .500" length								
	S239396	.188" diameter, .500" length								
	S239397	.250" diameter, .500" length	PA, PD, PE, PF, PM, NA	U,V,W,X,Y,Z	24	24	24	28	-50 to 200°C (-58 to 392°F)	T, S, F, R, E
	S239398	.250" diameter, .500" length								
	S239399	.250" diameter, .500" length								
	S239447	.177" wide X .110" thick X .500 Long	PA, PD, PE, PF, PM, NA	U,V,W,X,Y,Z	24	26	26	NA	-50 to 200°C (-58 to 392°F)	T, S, F, R, E
	S239448	.155" wide X .155" thick X .495 Long	PA, PD, PE, PF, PM, NA	U,V,W,X,Y,Z	24	26	30	30	-50 to 200°C (-58 to 392°F)	T, S, F, R, E

S239394 Model number from table

PD	RTD sensing element PD: Platinum (0.00385 TCR), 100Ω ± .12% at 0°C (Meets EN60751, Class B) PF: Platinum (.00385 TCR), 1000 Ω ± .12% at 0°C (Meets EN60751, Class B) PE: Platinum (.00385 TCR) 100 Ω ± .36% at 0°C PM: Platinum (.00385 TCR) 100 Ω ± .06% at 0°C (Meets EN60751, Class A) PA: Platinum (.00392 TCR) 100 Ω ± .36% at 0°C NA: Nickel (.00672 TCR) 120 Ω ± .50% at 0°C *Repeated Element Code (i.e., PDPD) Indicates Dual Sensing Elements
Z	Number of leads, 2, 3 or 4 (4 leads not available on all models). 2 leads not available on PD or PM elements Single element: Y: 2 leads, RW Z: 3 leads, RWW (Minco US lead colors) W: 3 leads, WRR (IEC 60751 lead colors) X: 4 leads, RRWW Dual element: Y: 2 leads/element, RW/BIY V: 2 leads per element, WR/YBk (IEC 60751 lead colors) Z: 3 leads per element, RWW/BIYY (Minco U.S. lead colors) W: 3 leads per element, WRR/YBk (IEC 60751 lead colors) X: 4 leads per element, RRWW/BIYY (Minco U.S. lead colors) U: 4 leads per element, WWRR/YBk (IEC 60751 lead colors)
S	Leadwire Covering: F: FEP Jacket over PTFE Insulated Leads T: PTFE Insulated Leads Only (No Covering) S: Stainless Steel Braid over PTFE Insulated Leads R: FEP Jacket over Stainless Steel Braid and PTFE Insulated Leads E: FEP Jacket over Stainless Steel Braid and PTFE Insulated Leads with Elastomer Fill
36	Length in inches
S239394PDZS36 = Sample Part Number	

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Thermocouple Specification and Options

	Model number	Case dimensions	Junction type	Leadwire covering	AWG	Temp range
	TC239391	.125" diameter, .250" length	E,J,K,T (available in single element configurations)	T,S,F,R,E	24	-184 to 200°C (-299 to 392°F)
	TC239392	.125" diameter, .375" length				
	TC239393	.125" diameter, .500" length				
	TC239394	.188" diameter, .250" length	E,J,K,T (available in single element configurations)	T,S,F,R,E	24	-184 to 200°C (-299 to 392°F)
	TC239395	.188" diameter, .375" length				
	TC239396	.188" diameter, .500" length				
	TC239397	.250" diameter, .250" length	E,J,K,T (available in single element configurations)	T,S,F,R,E	24	-184 to 200°C (-299 to 392°F)
	TC239398	.250" diameter, .375" length				
	TC239399	.250" diameter, .500" length				
	TC239447	.177" wide X .110" thick X .500 Long	E,J,K,T (available in single element configurations)	T,S,F,R,E	24	-184 to 200°C (-299 to 392°F)
	TC239448	.155" wide X .155" thick X .495 Long	E,J,K,T (available in single element configurations)	T,S,F,R,E	24	-184 to 200°C (-299 to 392°F)

TC239394 Model number from table

K	Thermocouple Type: E, J, K or T
U	Ungrounded thermocouple junction
S	Leadwire Covering: F: FEP Jacket over PTFE Insulated Leads T: PTFE Insulated Leads Only (No Covering) S: Stainless Steel Braid over PTFE Insulated Leads R: FEP Jacket over Stainless Steel Braid and PTFE Insulated Leads E: FEP Jacket over Stainless Steel Braid and PTFE Insulated Leads with Elastomer Fill
36	Length in inches
TC239394KUS36 = Sample Part Number	