

# Non-sparking Embedment Sensors



**ATEX  
II 3G Ex e II**



## Overview

- Non-sparking embedment sensors for monitoring the temperature of thrust bearings
- Four case styles offer a variety of installation options
- Certified for use in Zone 2, Group IIC hazardous areas

## Specifications

**Temperature range:** -50 to 200°C (-58 to 392°F), reducing to 125°C (257°F) when elastomer filled cable is ordered.

**Case:** Tin plated copper alloy.

**Babbitt tip:** Factory applied babbitt tip, available on case style A, B, and short style B, reduces the danger of overheating the sensor when installed in babbitt layer.

### Leads:

RTD: stranded copper with PTFE insulation.

Stainless steel braid, FEP over PTFE and FEP over stainless steel braid with elastomer fill are optional.

Thermocouple: stranded, PTFE insulated, twisted pairs.

Stainless steel braid, FEP over PTFE and FEP over stainless steel braid with elastomer fill are optional.

### Leadwire size (AWG):

RTD					
Case style	Number of leads				
	2	3	4	6	8
A	24	24	24	24	
B	24	24	28	28	28
C	24	26	30	30	
Short B	24	26	28	30	
Thermocouple					
All cases	24		24		

**Time constant:** 3.0 seconds (case style A), typical in moving water.

**Insulation resistance:** 10 megohms minimum at 100 VDC, leads to case.

**Specify and order products at:**  
[www.minco.com/sensors\\_config](http://www.minco.com/sensors_config)

*Specifications subject to change*

## Specification and order options:

### RTD non-sparking embedment sensors

S102617PD	Model number from next page
3	Number of leads per sensing element (2, 3 or 4): CA or PD elements not available with 2 leads 4 leads available on all single elements and dual S102618 only
F	Covering over leadwires: T = PTFE insulated leads only S = Stainless steel overbraid with PTFE insulated leads F = FEP over PTFE insulated leads E = FEP over stainless steel braid, with elastomer fill and PTFE insulated leads (max. fill length 144")
48	Lead length in inches
(Stop here for case style C or D; no installation variable)	
B0	Optional Installation/Accessory option B0 = No babbitt metal or accessories B1 = Babbitt metal applied AC1 = Supplied with AC171 spring and AC172 series ring (case style B only) AC2 = Supplied with AC171 spring and AC1038 ring (case style B only) AC3 = Supplied with AC171 spring and AC915-1 ring (case style B only)
S102617PD3F48B0 = Sample part number	

### Thermocouple non-sparking embedment sensors

TC102621E	Model number from next page
U	Junction grounding: G = Grounded U = Ungrounded
48	Lead length in inches
F	Covering over leadwires: T = PTFE insulated leads only S = Stainless steel overbraid with PTFE insulated leads F = FEP over PTFE insulated leads E = FEP over stainless steel braid, with elastomer fill and PTFE insulated leads (max fill length 144")
(Stop here for case style C or D; no installation variable)	
B0	Optional Installation/Accessory option B0 = No babbitt metal or accessories B1 = Babbitt metal applied AC1 = Supplied with AC171 spring and AC172 series ring (case style B only) AC2 = Supplied with AC171 spring and AC1038 ring (case style B only) AC3 = Supplied with AC171 spring and AC915-1 ring (case style B only)
TC102621EU48FB0 = Sample part number	

RTD Element	TCR $\Omega/\Omega/^{\circ}\text{C}$	Case style A		Case style B		Case style C		Short case style B	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual
Platinum, 100 $\Omega$ $\pm 0.36\%$ at 0°C	.00392	S102617PA	S102617PAPA	S102618PA	S102618PAPA	S102619PA	S102619PAPA	S102662PA	S102662PAPA
Platinum, 100 $\Omega$ $\pm 0.12\%$ at 0°C (Meets EN60751, Class B)	.00385	S102617PD	S102617PDPD	S102618PD	S102618PDPD	S102619PD	S102619PDPD	S102662PD	S102662PDPD
Platinum, 100 $\Omega$ $\pm 0.36\%$ at 0°C	.00385	S102617PE	S102617PEPE	S102618PE	S102618PEPE	S102619PE	S102619PEPE	S102662PE	S102662PEPE
Platinum, 1000 $\Omega$ $\pm 0.12\%$ at 0°C	.00385	S102617PF	S102617PFPF	S102618PF	S102618PFPF	S102619PF	S102619PFPF	S102662PF	S102662PFPF
Copper, 10 $\Omega$ $\pm 0.2\%$ at 25°C	.00427	S102617CA	S102617CACA	S102618CA		S102619CA		S102662CA	
Nickel, 120 $\Omega$ $\pm 0.5\%$ at 0°C	.00672	S102617NA	S102617NANA	S102618NA	S102618NANA	S102619NA		S102662NA	S102662NANA

Thermocouple Junction Type	Case style A		Case style B		Case style C		Short case style B	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual
E = Chromel-Constantan	TC102620E	TC102620EE	TC102621E	TC102621EE	TC102622E	TC102622EE	TC102663E	TC102663EE
J = Iron-Constantan	TC102620J	TC102620JJ	TC102621J	TC102621JJ	TC102622J	TC102622JJ	TC102663J	TC102663JJ
K = Chromel-Alumel	TC102620K	TC102620KK	TC102621K	TC102621KK	TC102622K	TC102622KK	TC102663K	TC102663KK
T = Copper-Constantan	TC102620T	TC102620TT	TC102621T	TC102621TT	TC102622T	TC102622TT	TC102663T	TC102663TT

### STOP OIL SEEPAGE!

**Feedthroughs** provide an oil tight seal where a cable exits a machine housing. The stainless steel tube is epoxy filled and each wire is sealed to the individual conductor. This prevents wicking of oil inside the wires as well as leakage around the wire insulation. Pressure rating to 25 psi (1.7 bar.) See page 4-11 for details.

**Leadwire and cable seal** models FG1015 and FG3015 seal RTD or thermocouple leadwires where they exit oil-filled bearing housings of rotating equipment. Both versions include a grommet that provides the seal and allows adjustment of the wire or cable position. See page 4-12 for details.

**Elastomer rubber-filled cable** has elastomer fill between the wires, stainless steel braid, and outer jacket. This fill can extend along the entire length of the cable, or a specified portion. The outside of the cable can be sealed with an FG1015 or FG3015 fitting. See Sensor Ordering Options on page 4-13 for additional details.

Minco Application Aid #27 provides more information on the problems of oil seepage and various solutions. Download AA#27 at [www.minco.com/sensoraid/](http://www.minco.com/sensoraid/)



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