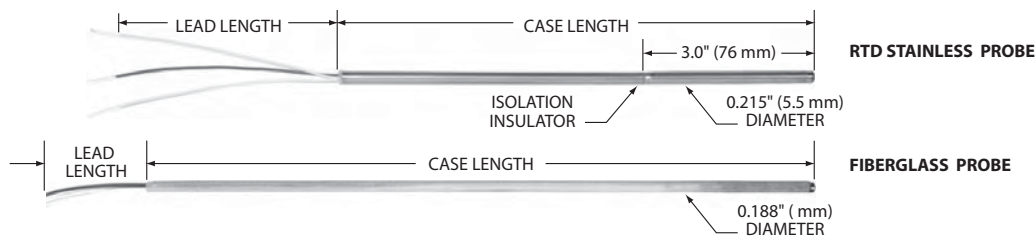


# Electrically Isolated RTDs



## Overview

- Electrically isolated sensing tip for “hot” bearings.
- Accurate sensing to 260°C (500°F), 155°C (311°F) for fiberglass probes.
- Copper alloy tip for fast time response and increased tip sensitivity.

## Specifications

**Dielectric strength of isolation insulator and fiberglass tubing:** 1000 volts RMS at 60 Hz for 30 seconds, between case sections, 1 mA max. leakage current.

**Pressure rating:** 30 psi (2.1 bar).

**Vibration:** Withstands 10 to 2000 Hz at 20 G’s minimum per MIL-STD-202, Method 204, Test Condition D.

**Shock:** Withstands 100 G’s minimum sine wave shock of 8 milliseconds duration.

## Fiberglass sheath RTDs

RTD sensing element	Model
Platinum (0.00392 TCR) 100 Ω ±0.5% at 0°C	S101659PA
Platinum (0.00385 TCR) 100 Ω ±0.1% at 0°C (Meets EN60751, Class B)	S101659PD
Platinum (0.00385 TCR) 100 Ω ±0.5% at 0°C	S101659PE
Copper (0.00427 TCR) 10 Ω ±0.2% at 25°C	S101659CA
Nickel (0.00672 TCR) 120 Ω ±0.5% at 0°C	S101659NA

**Temperature Range:** -50 to 155°C (-58 to 311°F).

**Case:** Filament braided glass/epoxy tubing with copper alloy tip. Minimum case length: 3.0" (101.6 mm). Maximum case length: 40" (1220 mm).

**Leads:** 2 (not available with CA element models), 3, or 4 leadwires, AWG 22, stranded copper with PTFE insulation. For 2-lead RTDs add 0.03 Ω per foot of combined case and lead length to element tolerance.

**Time constant:** 2.5 seconds typical in moving water.

**Insulation resistance:** 1000 megohms min. at 500 VDC, leads to tip.

## Isolated tip RTDs

RTD sensing element	Model
Platinum (0.00392 TCR) 100 Ω ±0.5% at 0°C	S52PA
Platinum (0.00385 TCR) 100 Ω ±0.1% at 0°C (Meets EN60751, Class B)	S852PD
Platinum (0.00385 TCR) 100 Ω ±0.5% at 0°C	S882PE
Copper (0.00427 TCR) 10 Ω ±0.2% at 25°C	S52CA
Nickel (0.00672 TCR) 120 Ω ±0.5% at 0°C	S52NA

**Temp. Range:** -50 to 260°C (-58 to 500°F).

**Case:** Stainless steel with copper alloy tip.

Minimum case length: 4.0" (101.6 mm).

Maximum case length: 48" (1220 mm), longer on special order.

**Leads:** 2, 3, or 4 leadwires, AWG 22, stranded copper with PTFE insulation. For 2-lead RTDs add 0.03 Ω per foot of combined case and lead length to element tolerance.

**Time constant:** 2 seconds typical in moving water.

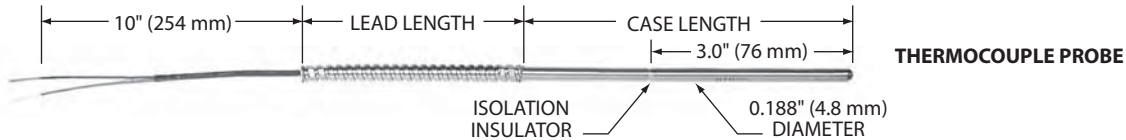
**Insulation resistance:** 1000 megohms min. at 500 VDC, leads to case.

## Specification and order options

S52CA	Model number from isolated tip or fiberglass sheath table
355	Case length: Specify in 0.1" increments (Ex: 355 = 35.5 inches)
Z	Number of leads: Y = 2 leads Z = 3 leads X = 4 leads (PD only)
36	Lead length in inches
S52CA355Z36 = Sample part number	

Specifications subject to change

# Electrically Isolated Thermocouples



## Overview

- Electrically isolated sensing tip for “hot” bearings
- Accurate sensing to 260°C (500°F)
- Copper alloy tip for fast time response and increased tip sensitivity

**Time constant:** Typical value in moving water:  
 Grounded junction: 1.5 seconds.  
 Ungrounded junction: 7 seconds.

**Insulation resistance:** 10 megohms min. at 100 VDC, leads to case, ungrounded junctions only.

## Specifications

**Dielectric strength of isolation insulator:** 1000 volts RMS at 60 Hz for 30 seconds, between case sections, 1 mA max. leakage current.

**Pressure rating:** 30 psi (2.1 bar).

**Vibration:** Withstands 10 to 2000 Hz at 20 G's minimum per MIL-STD-202, Method 204, Test Condition D.

**Shock:** Withstands 100 G's minimum sine wave shock of 8 milliseconds duration.

**Temp. Range:** -50 to 260°C (-58 to 500°F).

**Case:** Stainless steel with copper alloy tip.  
 Minimum case length: 4.0" (101.6 mm).  
 Maximum case length: 48" (1220 mm), longer on special order.

**Leads:** Solid thermocouple wire, AWG 20 (AWG 24 for stainless steel braid option). Specify PTFE insulation or PTFE with stainless steel armor and shrink tubing over all.

## Specification and order options

TC2198	Model number: TC2198
E	Junction type: E = Chromel-Constantan J = Iron-Constantan K = Chromel-Alumel T = Copper-Constantan
U	Junction grounding: G = Grounded U = Ungrounded
225	Case length: Specify in 0.1" increments (Ex: 225 = 22.5 inches)
T	Covering over leadwires: T = PTFE only A = Stainless steel armor plus shrink tubing S = SS braid over PTFE (5" min. case length)
48	Lead length in inches
TC2198EU225T48 = Sample part number	

Specifications subject to change