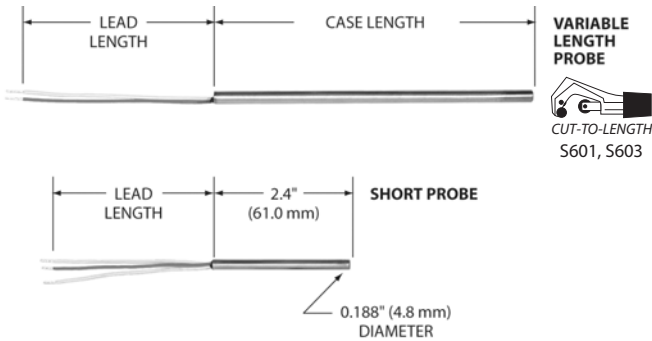


# Fast Response RTDs



## Overview

These probes have rugged stainless steel cases for use in high pressures or corrosive fluids. Yet their time constants are comparable to copper-tipped probes at 2 to 4 seconds, compared to 8 to 10 seconds for other all-stainless probes.

- All-stainless steel probes for use to 260°C (500°F)
- Unique low-mass element reacts quickly to temperature changes

## Specifications

**Temperature range:** -269 to 260°C (-452 to 500°F).

### Case material:

S601, S603, S604: 316 stainless steel.

S602, S614: 304/305 stainless steel.

### Case length:

Minimum case length:

S602, S604: 2.0" (50.8 mm) with PTFE insulated leads;  
3.0" (76.2 mm) with SS braid over leads.

S601, S603: 3.0" (76.2 mm).

Maximum case length:

48" (1220 mm), longer on special order.

**Time constant:** Typical in moving water:

S602, S604, S614: 2 seconds.

S601: 3 seconds.

S603: 4 seconds.

**Pressure rating:** 1500 psi (103 bar).

**Leads:** 2, 3, or 4 leadwires, AWG 22, stranded copper with PTFE insulation, stainless steel braid, or stainless steel armor. For 2-lead RTDs add 0.03 Ω per foot of combined case and lead length to element tolerance (model S602 has AWG 26; add 0.08 Ω per foot for 2-lead).

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

**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.

## Sensing elements

RTD sensing element		Code
Platinum (0.00392 TCR)	100 Ω ±0.5% at 0°C	PA
Platinum (0.00385 TCR) (Meets EN60751, Class B)	100 Ω ±0.1% at 0°C	PD
Platinum (0.00385 TCR)	100 Ω ±0.5% at 0°C	PE
Platinum (0.00385 TCR) (N/A for model S602)	1000 Ω ±0.1% at 0°C	PF
Copper (0.00427 TCR)	10 Ω ±0.2% at 25°C	CA
Nickel (0.00672 TCR)	120 Ω ±0.5% at 0°C	NA

## Specification and order options:

### Fast response probes

Specify 0.125" or 0.188" for fastest response, 0.250" or 0.215" for greater strength and cut-to-length capability (PTFE and SS braid models).

S604	<b>Model number:</b> S601: Ø 0.215" (5.5 mm) Cut-to-length probe S602: Ø 0.125" (3.2 mm) S603: Ø 0.250" (6.4 mm) Cut-to-length probe S604: Ø 0.188" (4.8 mm)
PD	Sensing element from table
140	<b>Case length:</b> Specify in 0.1" increments (Ex: 140 = 14.0 inches)
X	<b>Number of leadwires:</b> Y = 2 leads Z = 3 leads X = 4 leads (PD only)
36	<b>Lead length in inches</b>
T	<b>Covering over leadwires:</b> T = PTFE only S = Stainless steel braid A = Stainless steel armor (S, A not available on S602)
S604PD140X36T = Sample part number	

### Short probes

This model has a case with fixed length of 2.4" (61 mm).

Use it as an all-purpose sensing element.

S614	<b>Model number</b>
PA	Sensing element from table
Z	<b>Number of leadwires:</b> Y = 2 leads Z = 3 leads X = 4 leads (PD only)
12	<b>Lead length in inches</b>
S	<b>Covering over leadwires:</b> T = PTFE only S = Stainless steel braid
S614PAZ12S = Sample part number	