

# Wire-wound & Thin-film Elements

## Overview: Wire-wound Elements

Use these elements for general purpose sensing in probes or equipment. PD models meet EN60751, Class B.

### Specifications

**Temperature range:** See table below. Some elements may be used down to -269°C in certain applications. Contact factory for advice on cryogenic use.

**Element Body:** Glass-coated ceramic

**Resistance Tolerance:** ± 0.1% at 0°C

**Lead Length Tolerance:** ± 0.4" (10.2mm)

**TCR:** 0.00385 Ω/Ω/°C

**Element Diameter tolerance:** ±0.005" (0.13 mm)

**Element Length tolerance:** ±0.06 (1.5 mm)

**Repeatability:** ±0.1°C or better

**Stability:** Drift less than 0.1°C/year (normal use)

**Vibration:** Withstands 20 G's minimum at 10 to 2,000 Hz.

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

## Overview: Thin-film Elements

Thin film elements offer low cost and resistances to 10k Ω.

### Specifications

**Tolerance:** ±0.12% (EN60751 Class B) To order optional ±0.06% tolerance (EN60751 Class A), change 12 to 06 for ±0.06% (EN60751 Class A). Not available with S101162PD, S101163PF, or S19827PS.

**Material:** Aluminum oxide substrate with fused glass cover.

### Dimensional tolerance:

400, 600°C elements: ±0.02" (0.5 mm).

SMT models: Length x Width ±0.008 (0.2 mm),

Thickness ±0.004 (0.1 mm).

**TCR:** 0.00385 Ω/Ω/°C.


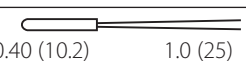
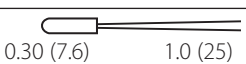
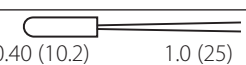
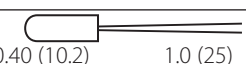
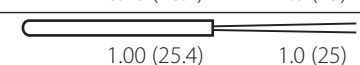
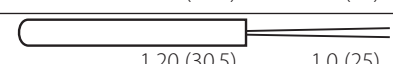
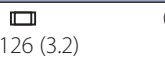
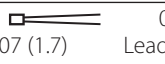
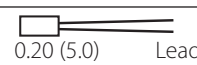
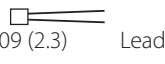
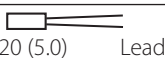
**Repeatability:** ±0.1°C or better.

**Stability:** Drift less than 0.1°C/year in normal use.

**Vibration:** Withstands 20 G's minimum at 10 to 2,000 Hz.

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

**Order options: order part number from table.**

Dimensions in inches (mm)	R (0°C)	Temp. range	Leads	Model
<b>550°C wire-wound elements</b>				
0.040 ø (1.020) 	100 Ω	-20 to 550°C (-4 to 1022°F)	0.006" (0.15 mm) ø Platinum	S200PD
0.058 ø (1.47) 			0.010" (0.25 mm) ø Platinum clad palladium	S201PD
0.077 ø (1.96) 			S202PD	
0.100 ø (2.54) 			S203PD	
0.135 ø (3.43) 			S204PD	
0.077 ø (1.96) 			500 Ω	-100 to 550°C (-148 to 1022°F)
0.135 ø (3.43) 	0.014" (0.35 mm) ø Platinum clad palladium	S214PG		
<b>400°C and 600°C thin-film elements</b>				
0.063 (1.6)  0.016 (41) THICK	100 Ω	-50 to 150°C (-58 to 302°F) SMT (surface mount technology)	Solder contacts: Tin plated, 0.020" (.51 mm)	S101162PD
	1000 Ω			S101163PF
0.05 (1.3)  0.025 (0.7) THICK Lead length: 0.4 (10)	100 Ω	-50 to 400°C (-58 to 752°F)	0.010" (0.25 mm) ø Ag .0004 Ω / mm / lead	S100144PD12
	1000 Ω			S101503PF12
0.10 (2.5)  0.04 (1.1) THICK Lead length: 0.6 (15)	10000 Ω			S19827PS12
0.08 (2.0)  0.05 (1.3) THICK Lead length S245: 0.6 (15) S249: 0.4 (10)	100 Ω	-70 to 400°C (-94 to 752°F)	0.010" (0.25 mm) ø Ag .0004 Ω / mm / lead	S245PD12
		-70 to 600°C (-94 to 1112°F)	0.008" (0.20 mm) ø Pt/Ni .003 Ω / mm / lead	S249PD12
0.08 (2.0)  0.05 (1.3) THICK Lead length S247: 0.6 (15) S251: 0.4 (10)	1000 Ω	-70 to 400°C (-94 to 752°F)	0.010" (0.25 mm) ø Ag .0004 Ω / mm / lead	S247PF12
		-70 to 600°C (-94 to 1112°F)	0.008" (0.20 mm) ø Pt/Ni .003 Ω / mm / lead	S251PF12

Note: Contact Minco Customer Service for quantities available

Specifications subject to change