

Advanced-Design Surface-Mount RTD Provides **Class A Accuracy**

“Stick-On” or “Cement-On” to Target Device

260°C (500°F) Continuous Operation Self-Adhesive or Cement-On! Use on Flat or Curved Surfaces

SA1-RTD

- ✓ 100 Ω DIN Class A ($\pm 0.06 \Omega$ or $\pm 0.15^\circ\text{C}$ at 0°C) Accuracy Standard
- ✓ Easy-Installation Silicone-Based, Self-Adhesive Backing Rated to 260°C (500°F)
- ✓ Sensor Can be Reapplied
- ✓ 290°C (554°F) Short-Term Operation When Used as a “Cement-On” (OMEGABOND® Air Set Cements)
- ✓ Stripped 3- or 4-Wire Leads Standard (Connectors Optional)
- ✓ Stocked in 1 m (40") Lengths; Also Available in 2 and 3 m (80 and 120") and Custom Length Lead Wires
- ✓ Other Resistances/Accuracies Available on Request

The SA1-RTD surface-mount RTD temperature sensor mounts on flat or curved surfaces and provides Class A accuracy for critical temperature monitoring applications. Based on a $2 \times 2 \times 0.8$ mm thin-film platinum RTD and supplied in PFA-insulated 3- or 4-wire configurations (connectors optional), it can be customized for use in a wide variety of applications. The sensor can be easily applied using its self-adhesive backing, or permanently mounted using OMEGABOND® cements.

Use the SA1-RTD to monitor chip, heat sink, and environmental temperatures in electronic devices; check piping or ducting temperatures; monitor motor and transformer core



Class A accuracy of $\pm 0.06 \Omega$ at 0°C . Thin film element is $2 \times 2 \times 0.8$ mm in a 25×19 mm self-adhesive carrier.

Extra Accuracy for Critical Measurements!

1 m (40"), 26 AWG stranded nickel-plated copper, PFA-insulated and jacketed cable.

SA1-RTD shown actual size.

Quick Delivery on Custom Lead Wire Lengths

heat; test insulation capabilities; and check other applications in which surface and/or gradient temperatures need to be monitored or controlled.

Specifications

Minimum/Maximum Temperature:

-73°C to 260°C (-100°F to 500°F) continuous, 290°C (554°F) short-term (when cemented in place)

Sensing Element: 100 Ω at 0°C (32°F), temp coefficient of $0.00385 \Omega/\Omega/^\circ\text{C}$ (IEC60751)

Accuracy:

$\pm 0.06 \Omega$ at 0°C (DIN Class A)

Stability: Less than 0.2°C drift/year

Response Time: Less than 0.9 s (63% response time in water immersion), less than 2 s response time on a hot plate

Self-Heating Effect: 2.5 mW/ $^\circ\text{C}$

Lead Wire: 1 m (40"), 26 AWG stranded nickel-plated copper, PFA-insulated and jacketed cable

Available with Stainless Steel Overbraid!



For applications where electrical noise is prevalent, or where the sensor lead wires may be routed around sharp objects, consider the stainless steel overbraid option. To specify this option, add “SB” to the end of the model number for an additional cost per meter (foot). Ordering example: SA1-RTD-80-SB.

The Self-Adhesive Backing is Ideal for Targeted Class A Sensor Elements on Curved and Flat Surfaces.

IEC 751 Class A/B Standard Tolerances

Temp. in °C	Tolerance			
	Class A		Class B	
	±°C	±Ω	±°C	±Ω
-200	0.55	0.24	1.3	0.56
-100	0.35	0.14	0.8	0.32
0.0	0.15	0.06	0.3	0.12
100	0.35	0.13	0.8	0.30
200	0.55	0.20	1.3	0.48
300	0.75	0.27	1.8	0.64
400	0.95	0.33	2.3	0.79
500	1.15	0.38	2.8	0.93
600	1.35	0.43	3.3	1.06

The IEC-751/BS EN60751 1996 standard tolerances for Pt 100 Ω RTD elements. Class A devices have an accuracy of ±0.35° at 100°C.



The self-adhesive sensor is ideal for “targeted” placement on curved or flat surfaces. Once in place, it can be used “as is” for measuring temperatures in applications such as machine tools, electronic products, structures or other places where temperatures need to be monitored and controlled.

Thin-Film RTDs Ensure Trouble-Free Connection to Flat or Curved Surfaces. Perfect for High-Vibration Environments!



All products shown smaller than actual size.

Make Your Sensor Into a Complete Measurement System!



OM-SQ2020-2F8 data logger shown smaller than actual size, visit newportUS.com/om-sq2020

TA4F connector included with meter.



HH804U handheld, shown smaller than actual size, visit newportUS.com/hh804_805

OMEGABOND®, Visit newportUS.com



OMEGABOND® for Permanent Mounting Options

Model No.	Description
OB-100-16	OMEGABOND® 100: 1 lb kit, fast-setting, 2-part epoxy (sets in 8 to 12 min); 130°C (265°F) maximum
OB-200-16	OMEGABOND® 200: 1 lb kit, high temperature, 2-part epoxy; 260°C (500°F) maximum
OB-700	OMEGABOND® 700: powder, 8 fluid oz (one part cement; just mix with water); 871°C (1600°F)

To Order Visit newportUS.com/sa1-rtd for Pricing and Details

Model Number	Style	Length: m (inch)	Cold End Termination
SA1-RTD	3-wire	1 (40)	Stripped leads, 1½" (1" insulated, singles ½" bare), 3 wires
SA1-RTD-80	3-wire	2 (80)	
SA1-RTD-120	3-wire	3 (120)	
SA1-RTD-MTP	3-wire	1 (40)	“MTP” style miniature flat 3-pin connector
SA1-RTD-80-MTP	3-wire	2 (80)	
SA1-RTD-120-MTP	3-wire	3 (120)	
SA1-RTD-4W	4-wire	1 (40)	Stripped leads, 1½" (1" insulated, singles ½" bare), 4 wires
SA1-RTD-4W-80	4-wire	2 (80)	
SA1-RTD-4W-120	4-wire	3 (120)	
SA1-RTD-4W-TA4F	4-wire	1 (40)	TA4F connector; pins 1 and 2, common 3 and 4 common
SA1-RTD-4W-80-TA4F	4-wire	2 (80)	
SA1-RTD-4W-120-TA4F	4-wire	3 (120)	

Ordering Examples: SA1-RTD-80-MTP, Class A, surface-mount RTD sensor, 3-wire leads, 2 m (80") lead-wire length with a miniature 3-pin MTP connector. SA1-RTD-4W-80-TA4F, Class A, surface-mount RTD sensor, 4 wire leads, 2 m (80") lead-wire length with a 4-pin audio-style connector. For special lengths, add additional cost. For the “-SB” option, add additional cost.