Type SR Precision Current Sense Resistors

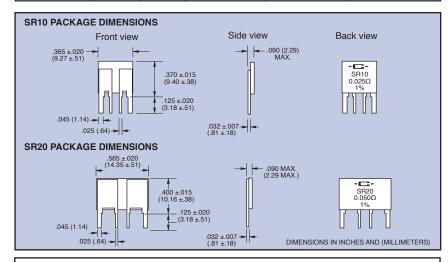
Non-inductive Design - Compact Footprint Minimizes Circuit Board Space Kelvin Terminals (Four Wire) - Resistance Values 0.005 Ω to 1.00 Ω

Type SR Current Sense Resistors utilize Caddock's Micronox® resistance films to achieve a low cost resistor with Non-inductive Performance. This compact construction makes this sense resistor ideal for many current monitoring or control applications.

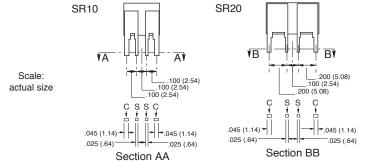
The special performance features of these Type SR Current Sense Resistors include:

- · Available in Standard Resistances down to 5 milliohm.
- · Non-Inductive Design.
- · Terminals are constructed for Kelvin connections to the circuit board.
- · Compact footprint.

Γ	Model No.	Resistance		Power Rating at	Voltage Rating	Terminal Material
		Min.	Max.	70°C*	Voltage Hatting	reminal material
	SR10	0.008 Ω	1.00 Ω	1.0 Watt	Power Limited	Solderable
ſ	SR20	0.005 Ω	1.00 Ω	2.0 Watts	Power Limited	Solderable



CIRCUIT BOARD LAYOUT NOTES



Measurement note: For purposes of these specifications, resistance measurement shall be made using Kelvin connections (four wire) with appropriate current and sense connections to the device terminals.

C = Current connection S = Sense connection

Circuit Board Layout: The circuit board traces connecting to the current terminals must be sized appropriately for the current flowing through the trace. For example; 0.005Ω operated at 2.0 Watts would have 20 amps flowing through the circuit board traces into the current terminals.





SR10 Standard Resistance Values: 0.008 Ω 0.020 Ω 0.040 Ω 0.15 Ω 0.40 Ω

0.010 Ω	0.025 Ω	0.050 Ω	0.20 Ω	0.50 Ω
0.012 Ω	0.030 Ω	0.075 Ω	0.25 Ω	0.75 Ω
0.015 Ω	0.033 Ω	0.10 Ω	0.30 Ω	1.00 Ω
SR20 S 0.005 Ω 0.008 Ω 0.010 Ω 0.015 Ω	tandard 0.020 Ω 0.025 Ω 0.030 Ω 0.033 Ω	Resista 0.040 Ω 0.050 Ω 0.075 Ω 0.10 Ω	0.15 Ω 0.20 Ω 0.25 Ω 0.30 Ω	alues: 0.40 Ω 0.50 Ω 0.75 Ω 1.00 Ω

Custom resistance values can be manufactured for Applications Engineering.

Specifications:

Resistance Tolerance: ±1.0%

Temperature Coefficient: TC referenced to +25°C, AR taken at -15°C and +105°C.

0.081 to 1.00 ohm	-50 to +100 ppm/°C
0.025 to 0.080 ohm	0 to +150 ppm/°C
0.008 to 0.024 ohm	0 to +200 ppm/°C
0.005 to 0.007 ohm	0 to +300 ppm/°C
Load Life: 1000 hours	at rated power at +70

J°C, $\Delta R \pm (0.2 \text{ percent} + 0.00001 \text{ ohm}) \text{ max}.$

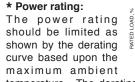
Thermal Shock: Mil-Std-202, Method 107, Cond. A, ΔR ±(0.2 percent + 0.00001 ohm) max.

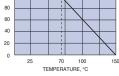
Moisture Resistance: Mil-Std-202, Method 106,

 $\Delta R \pm (0.2 \text{ percent} + 0.00001 \text{ ohm}) \text{ max.}$

Encapsulation: Polymer over resistance element.

Power Derating Curve:





temperature. The derating curve is based on still air with natural convection around the resistor.

RATED I

Ordering Information:

SR10 - 0.050 - 1% Model Number: **Resistor Value:**

> Sales and Applications Engineering 17271 North Umpqua Hwy. Roseburg, Oregon 97470-9422 Phone: (541) 496-0700 Fax: (541) 496-0408

Tolerance