### **Type SR Precision Current Sense Resistors**

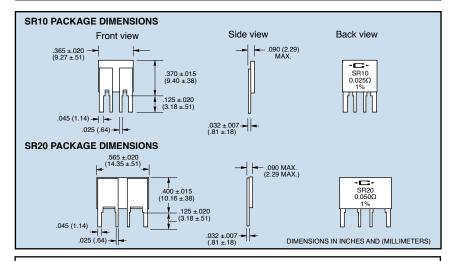
## Non-inductive Design - Compact Footprint Minimizes Circuit Board Space Kelvin Terminals (Four Wire) - Resistance Values $0.005\Omega$ to $1.00\Omega$

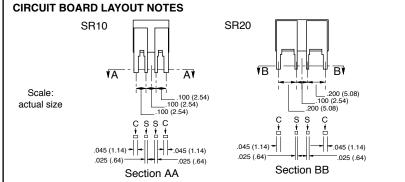
Type SR Current Sense Resistors utilize Caddock's Micronox® resistance films to achieve a low cost resistor with Non-inductive Performance. This compact construction makes this sense resistor ideal for many current monitoring or control applications.

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.

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





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;  $0.005\Omega$  operated at 2.0 Watts would have 20 amps flowing through the circuit board traces into the current terminals.

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

# Type SR Current Sense



#### SR10 Standard Resistance Values:

0.008 Ω 0.010 Ω 0.012 Ω 0.015 Ω	0.020 Ω 0.025 Ω 0.030 Ω 0.033 Ω	0.040 Ω 0.050 Ω 0.075 Ω 0.10 Ω	0.15 Ω 0.20 Ω 0.25 Ω 0.30 Ω	0.40 Ω 0.50 Ω 0.75 Ω 1.00 Ω
SR20 5	Standard	Resista	ance Va	alues:
0.005 Ω	0.020 Ω	0.040 Ω	0.15 Ω	0.40 Ω
0.008 Ω	0.025 Ω	0.050 Ω	0.20 Ω	0.50 Ω
0.008 Ω 0.010 Ω	0.025 Ω 0.030 Ω	0.050 Ω 0.075 Ω	0.20 Ω 0.25 Ω	0.50 Ω 0.75 Ω

Custom resistance values can be manufactured for high quantity applications. Please contact Caddock Applications Engineering.

#### Specifications:

#### **Resistance Tolerance:** ±1.0%

**Temperature Coefficient:** TC referenced to +25°C,  $\Delta$ R 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°C,  $\Delta R \pm (0.2 \text{ percent} + 0.00001 \text{ ohm}) \text{ max.}$ 

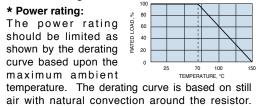
Thermal Shock: Mil-Std-202, Method 107, Cond. A,  $\Delta R \pm (0.2 \text{ percent} + 0.00001 \text{ ohm}) \text{ max}.$ 

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

ΔR ±(0.2 percent + 0.00001 ohm) max.

**Encapsulation:** Polymer over resistance element.

#### Power Derating Curve:

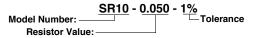


#### Ordering Information:

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For Caddock Distributors listed by country see caddock.com/contact/dist.html



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