

## SRac Series

### Economical high performance ac resistance standards

#### Features:

- Very stable - <20 ppm/year
- Calibrated at dc and 1 kHz
- Excellent temperature coefficient - as low as 1 ppm/°C
- < 20 ppm difference between dc and ac values at 1 kHz for resistances ≤ 100 kΩ
- Wide range of values - 1 mΩ to 10 MΩ
- bnc option (-bnc)
- Custom values are available
- Optional transit case

### SRAC SERIES

Designed for use as a reference or working standard in industrial, research, and educational laboratories.



SRac Series Resistance Standard

#### Frequency response

Frequency response of the foil resistors are given by the formula below:

$$R_s = \frac{R_{dc}}{(1 - \omega^2 LC)^2 + (\omega R_{dc} C)^2}$$

$$R_p = R_{dc}(1 + (\omega L/R_{dc})^2)$$

Where worst case L = 0.1 μH and C = 1 pF

## SPECIFICATIONS

#### Calibration conditions:

At 23°C, low power, traceable to the SI through an NMI. Connections as indicated in table.

#### Terminals:

Gold plated, tellurium copper, high current, heavy duty, low thermal-emf binding position standard 3/4 inch spacing. A case **GROUND** terminal is provided on all units.

**Dimensions:** 8.6 cm H x 10.5 cm W x 12.7 cm D (3.4" x 4.15" x 5")

**Operating temperature range:** 15 to 30°C.

#### Transit case:

Optional **Model SRC-100** lightweight transit case with handle, suitable for transporting and storing two units. The case provides mechanical protection and insulation from temperature changes during transportation or shipping.

Optional **Model SRC-100-5** lightweight transit case with handle, suitable for transporting and storing 5 SRC/SRX resistance standards.

#### bnc option:

Option -bnc changes Hi and Lo binding posts to 4 x bnc connectors plus the ground binding post.



SRC-100-5 Lightweight transit case for 5 standards

Model SRac-	Nominal (Ω)	Initial adjustment to nominal (ppm)	Stability 1 year (ppm)	Tempco (ppm/°C)	Resistor type	Calibration uncertainty dc (Typical) (ppm)	dc to ac change at 1 kHz (Typical) (ppm)	Max. power (W)	Max. voltage (V)	Max. current (A)	Terminals
0.001	0.001	100	20	20	Manganin strip	200	25	0.2	0.015	14	4 bp's + gnd
0.01	0.01			20	Manganin wire	100		0.6	0.15	4.5	
0.1	0.1			1	Foil	60		0.3	0.17	1.7	
1	1			1		10		0.3	0.54	0.54	
10	10			2		5		2.45	0.245		
100	100			1		5		24.5	0.024		
1K	1 k			1		5		77.5	7.7 mA		
10K	10 k			1		2		245	2.5 mA		
100K	100 k			1		2		300	2 mA		
1M	1 M			5		Wirewound		5	250	0.5	
10M	10 M	15	Film	10	2500	0.1	1000	0.1 mA			

Foil resistors have a power coefficient of resistance (PCR) of ±5ppm at rated power due to internal heating

Foil resistors have a voltage coefficient (VC) of < 3ppm/V

## ORDERING INFORMATION

**Standard model** Select from table above  
**Custom value** SRX-XXX or SRC-XXX  
**Transit case for SRac units** SRC-100, for 2 units  
 SRC-100-5, for 5 units

#### Options:

**-bnc** 4 bnc connectors plus ground



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