

## SR1 Series

The SR1 is a versatile, rugged resistance standard. After inheriting the SR1 series from esi, IET took the opportunity to significantly improve its long-term stability and temperature coefficient. The result is a resistance standard with stability of as low as  $\pm 10$  ppm/year and a TC as low as 3 ppm/°C.

### Features:

- Versatile, rugged working standard
- Improved long-term accuracy: as low as  $\pm 10$  ppm/year
- Improved temperature coefficient: as low as 3 ppm/°C
- Available in values from 0.01  $\Omega$  to 10 M $\Omega$

Model SR1 has been constructed to meet today's high standards of performance. The resistance wire used is a modern alloy with excellent stability improved further by an extremely low temperature coefficient over a wide range of temperatures, and very low thermal EMF to copper -- features that have been further improved by IET Labs.

The durable aluminum case provides electrostatic shielding. Gold-plated, tellurium-copper, low-thermal-emf binding posts reduce connection errors.



Model **SR1** Standard Resistor

## SPECIFICATIONS

Nominal Value	Model Number	Adjustment to nominal	Stability per year	Temperature coefficient	Power ** coefficient	Max * power	Max current	Max voltage	Terminals
0.01 $\Omega$	SR1-0.01	200 ppm	50 ppm	20 ppm/°C	0.1 ppm/mW	2 W	14 A	0.15 V	4 bp's + gnd
0.1 $\Omega$	SR1-0.1	200 ppm	50 ppm	20 ppm/°C	0.1 ppm/mW	1 W	3.0 A	0.3 V	4 bp's + gnd
1 $\Omega$	SR1-1	20 ppm	20 ppm	10 ppm/°C	0.5 ppm/mW	0.25 W	0.5 A	0.5 V	4 bp's + gnd
10 $\Omega$	SR1-10	10 ppm	10 ppm	3 ppm/°C	0.15 ppm/mW	0.1 W	0.1 A	1 V	4 bp's + gnd
100 $\Omega$	SR1-100	10 ppm	10 ppm	1 ppm/°C	0.05 ppm/mW	0.1 W	30 mA	3 V	4 bp's + gnd
1 k $\Omega$	SR1-1k	10 ppm	10 ppm	1 ppm/°C	0.05 ppm/mW	0.1 W	10 mA	10 V	4 bp's + gnd
10 k $\Omega$	SR1-10k	10 ppm	10 ppm	1 ppm/°C	0.05 ppm/mW	0.1 W	3 mA	30 V	4 bp's + gnd
100 k $\Omega$	SR1-100k	10 ppm	10 ppm	1 ppm/°C	0.05 ppm/mW	0.1 W	1 mA	100 V	4 bp's + gnd
1 M $\Omega$	SR1-1M	20 ppm	15 ppm	3 ppm/°C	0.15 ppm/mW	0.1 W	0.3 mA	316 V	2 bp's + gnd
10 M $\Omega$	SR1-10M	20 ppm	20 ppm	5 ppm/°C	0.25 ppm/mW	0.1 W	0.1 mA	2000 V	2 bp's + gnd

\* Max. power is specified for no change in resistance value beyond stated stability. See \*\* Power Coefficient note for maximum rated power.

\*\*Power Coefficient: Resistances of 1  $\Omega$  and higher use hermetically sealed wirewound resistors that have a maximum rated power of 1.0 W. Operation at values higher than 0.1 W will cause self-heating effects on the order of 50 °C/W, assuming a 23°C ambient temperature. This will cause a reversible change in resistance beyond stated stability.

### Calibration conditions:

- At 23°C, low power, traceable to SI
- <1 M $\Omega$ : 5-terminal
- $\geq 1$  M $\Omega$ : 3-terminal

### Terminals:

Gold-plated, tellurium-copper, low-thermal-emf binding posts on standard 3/4 inch spacing. A **GROUND** terminal is provided on all units

### Mechanical:

#### Dimensions:

10.2 cm W x 8.9 cm H x 14.0 cm D  
(4.0" W x 3.5" H x 5.5" D)

Weight: 0.9 kg (2 lbs)

## ESI-STYLE UNITS



esi **SR1** Standard Resistor

IET is able to offer SR1 Standard Resistors in optional esi-style configuration. These standards come in smaller housings with binding posts on the top and banana plugs on the bottom. This configuration allows the plugging of two or more units

together in either series or parallel for a wider variety of resistance values. Both top and bottom terminal connections provide a terminal grounded to the case.



**IET LABS, INC.** in the **GenRad** Tradition

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