

SR-1050 Series

Make accurate calibrations and transfer measurements over three decades of resistance with the SR-1050 Series.

- Steps from 1 M Ω to 10 M Ω
- Transfers from 0.1 M Ω to 100 M Ω
- 11 precisely matched resistors
- High transfer accuracy - better than 2 ppm

The Benefits of Using Transfer Standards

In order to perform calibrations with a high degree of accuracy, reference standards must be employed at every range or decade of the measuring or calibration instrumentation. Clearly, this can be difficult and costly since these standards must be highly stable and their precise values must be known with a high degree of certainty and sufficient resolution. To minimize the cost and difficulty, more practical means of performing such calibrations would be to use transfer standards.

If one has a single standard that is calibrated by a national laboratory, one can then compare the transfer standards to the certified standard by ratio techniques.

The **SR-1050** Series of transfer standards consist of 11 matched resistors, of value R, which may be connected in series or parallel combinations to produce any number of values such as R/10, R, and 10R, all with the *same* known deviation, thereby allowing progressive transfers to higher and lower decades. For example, the 1 M Ω transfer standard may be used to transfer calibrations across 100 k Ω , 1 M Ω and 10 M Ω .

The **SR-1010** and **SR-1030** Series of transfer standards may be used for resistances 100 k Ω and under.

These transfer standards may also be employed as very precise and stable voltage dividers.

SPECIFICATIONS

Step Size	1 M	10 M
Adjustment (Initial) Accuracy	± 25 ppm	± 30 ppm
Transfer (short-term) Accuracy*	± 2 ppm	± 2 ppm
1-year Stability (ppm/year)	± 30 ppm	± 30 ppm
2-year Stability (ppm/2 years)	± 50 ppm	± 50 ppm
Temperature Coefficient	± 5 ppm/ $^{\circ}$ C	± 5 ppm/ $^{\circ}$ C
Matching		
(Initial) Adj. Acc.	± 10 ppm	± 10 ppm
	TC	± 5 ppm
Calibration Uncertainty	± 10 ppm	± 10 ppm

*Short-term accuracy applies for 48 hours within $\pm 1^{\circ}$ C of initial measurement

Calibration Conditions: 23 $^{\circ}$ C, meter guard applied to **COMMON** and ground applied to **G**, at low power, traceable to SI. Initial calibration data for each resistor supplied with instrument.

Leakage Resistance: >10 T Ω from terminal to case.

Power Coefficient: $< \pm 0.05$ ppm/mW per resistor.

Maximum Applied Input: 2500 V, or 1 W per resistor, whichever limit applies first.

Breakdown Voltage: 5000 V peak, between any terminal and case

Environmental conditions:

Operating: 18 $^{\circ}$ C to 28 $^{\circ}$ C; 20-50% RH

Storage: 0 $^{\circ}$ C to 50 $^{\circ}$ C, 15-80% RH

Dimensions: 35.6 cm W x 16.5 cm H x 10.2 cm D (14" x 6.5" x 4").

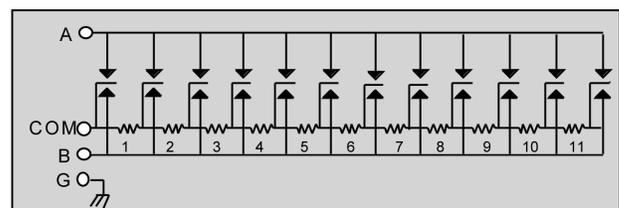
Weight: 5 kg (11 lb.).

Operation: (Switch 0 is left most switch).

To set standard to R/10, set Switch 0 down, Switch 1 up, switch 2 down and so on; Switch 11 off.

To set standard to 10R, set Switch 0 down, Switch 10 up, all other switches off.

To set standard to 1R, set Switches 0 and 6 down, Switches 3 and 9 up, all other switches off.



ORDERING INFORMATION

SR-1050-1M 1 M Ω /Step Resistance Transfer Standard
SR-1050-10M 10 M Ω /Step Resistance Transfer Standard

OPTIONS

- **RM** Rack mountable case for standard 19" rack