

# Model SR1

RESISTANCE STANDARDS & INSTRUMENTS

- **Versatile working standard**
- **50 ppm long-term accuracy for most values**

## Standard Resistor

The Model SR1 Standard Resistor is a laboratory standard of high accuracy and stability. The resistance of most values is initially adjusted to an accuracy of 20 ppm of nominal, with long-term accuracy guaranteed to better than 50 ppm. Other values have initial accuracy from 50 ppm to 200 ppm.

Model SR1 has been constructed to meet today's high standards of performance. The resistance wire used is a modern alloy with excellent stability, an extremely low temperature coefficient over a wide range of temperatures, and very low thermal EMF to copper. A unifilar winding on a flat mica card is used to minimize both series inductance and shunt capacitance. The durable aluminum case provides electrostatic shielding. Gold plated terminals reduce connection errors.

Terminals appear on the top of each unit. They are also brought out the bottom of the case on removable banana plugs. This allows plugging two or more units together in either series or parallel for a wide variety of resistance values. Four-terminal resistance measurements are easily made by using the banana plugs on the bottom of the case as two of the terminals. 0.01  $\Omega$  and 0.1  $\Omega$  values have four terminals on the top and should only be used in four-wire configurations.

For three-terminal or five-terminal guarded measurements, a binding post on top and a banana plug on the bottom provide connections to the case.



# Model SR1

## STANDARD RESISTOR

### Specifications

#### Standard Values

0.01 Ω, 0.1 Ω, 1 Ω, 10 Ω, 100 Ω,  
1 kΩ, 10 kΩ, 100 kΩ, 1 MΩ, 10 MΩ

#### Accuracy

See table to the right

#### Calibration Conditions

23 °C, low power, four-terminal  
measurement

#### Temperature Coefficient

See Table

#### Power Coefficient

See Table

#### Terminal Resistance

Units with 1 Ω or higher resistance:  
Binding posts add 0.1 to 0.2 mΩ to  
four-terminal resistance value;  
banana plugs add 2 to 3 mΩ  
additional resistance

#### Maximum Ratings

See Table

#### Breakdown Voltage

1500 V peak to case

#### Calibration Data

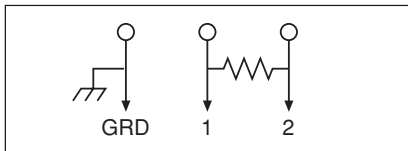
Initial calibration readings are affixed  
to instrument

#### Dimensions

Height: 5.3 cm (2.1 in)  
Width: 9.65 cm (3.8 in)  
Depth: 6.1 cm (2.4 in)  
Weight: 227 gm (8 oz)

#### Included Accessories

Instruction Sheet P/N 8234  
Z540 Compliant Calibration with  
Certificate and Data for SR1  
P/N OPT-Z540



Value (Ω)	Accuracy			Coefficients		Maximum Ratings		
	Initial (ppm)	Long Term (ppm)	Cali- bration (ppm)	Temp. (ppm/°C)	Power (ppm/mW)	Power (mW)	Current (mA)	Voltage (peak V)
0.01	200	500	50	60	20	60	2500	
0.1	100	300	30	40	2.5	250	1600	
1	20	50	10	15	0.3	1000	1000	
10	20	50	10	15	0.3	1000	320	
100	20	50	10	5	0.1	1000	100	
1 k	20	50	10	5	0.1	1000	32	
10 k	20	50	10	5	0.1	1000	10	
100 k	20	50	10	5	0.1	1000	3.2	
1 M	50	100	20	5	0.1	100	0.3	300
10 M	50	100	20	5	0.1	10	0.03	300

#### Initial Accuracy:

The specifications stated in the TEGAM instrument catalogs and data sheets are intended as acceptance specifications and are guaranteed for 60 days from the date of shipment. They are typically maintained for a much longer period of time.

#### Long-Term Accuracy:

These specifications are guaranteed for the standard warranty period, and are typically maintained for the life of the instrument. Long-term accuracy is implied when not otherwise stated.

#### Calibration Accuracy:

Calibration accuracy is the accuracy of TEGAM calibration data relative to the legal units maintained by the U.S. National Institute of Standards and Technology.



YOUR GLOBAL SOURCE FOR TEST  
AND MEASUREMENT SOLUTIONS

10 TEGAM WAY • GENEVA, OHIO 44041  
440-466-6100 • FAX 440-466-6110  
www.tegam.com • e-mail: sales@tegam.com