

WARRANTY OF QUALITY

Electro Scientific Industries, Inc. warrants its products to be free from defects in material and workmanship. Rigorous quality control permits the following standard new equipment warranties:

1. Two years for components and instruments utilizing passive circuitry.
2. One year on components and instruments utilizing active circuitry. One year on test fixtures.

During the in-warranty periods, we will service or, at our option, replace, at the factory, any device that fails in normal use to meet its published specifications. Batteries, tubes and relays that have given normal service are excepted.

WARRANTY OF TRACEABILITY

The reference standards of measurement of Electro Scientific Industries, Inc., are compared with the U.S. National Standards through frequent tests by the U.S. National Institute of Standards and Technology. The ESI working standards and testing apparatus used are calibrated against the reference standards in a rigorously maintained program of measurement control.

The manufacture and final calibration of all ESI instruments are controlled by use of the ESI reference and working standards and testing apparatus in accordance with established procedures and documented results. (Reference MIL-C-45662)

DISCLAIMER OF IMPLIED WARRANTIES

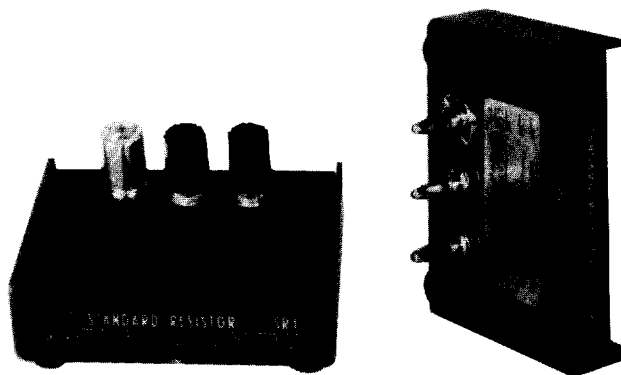
THE FOREGOING WARRANTIES OF ESI ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ESI SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. In no event will ESI be liable for special or consequential damages. Purchaser's sole and exclusive remedy in the event any item fails to comply with the foregoing express warranties of ESI shall be to return the item to ESI, shipping charges prepaid, and at the option of ESI obtain a replacement item or a refund of the purchase price.

Where ESI product will interconnect with components not supplied by ESI, ESI does not warrant the ESI product against failures caused by mismatch of the non-ESI component to the ESI product nor will ESI be liable for damages to the non-ESI component resulting from mismatch.



Electro Scientific Industries, Inc.

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Description

The Model SR 1 Standard Resistor is a laboratory standard of high accuracy and stability. The resistance value 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.

The resistance wire used is a modern alloy having excellent stability, extremely low temperature coefficient over a wide range of temperature, 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. The

excellence of this type of construction has been confirmed by the independent work of a widely recognized national standards laboratory.

Terminals appear on the top of each unit and 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.

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

*1 M Ω and 10 M Ω values are bobbin wound on ceramic forms with alternate pies reversed for inductance cancellation.

Specifications

Standard Values:

1, 10 and 100 Ω ; 1, 10 and 100 k Ω ; 1 and 10 M Ω .

Nonstandard Values:

On request.

Accuracy:

VALUE (Ω)	ACCURACY			COEFFICIENTS		MAXIMUM RATINGS		
	INITIAL (ppm)	LONG-TERM (ppm)	CALIBRATION (ppm)	TEMP (ppm/ $^{\circ}$ C)	POWER (ppm/mW)	POWER (mW)	CURRENT (mA)	VOLTAGE (peak V)
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

Calibration Conditions:

23 $^{\circ}$ C, low power, four-terminal measurement.

Temperature Coefficient:

See table above.

Power Coefficient:

See table above.

Terminal Resistance:

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

Maximum Ratings:

See table above.

Breakdown Voltage:

1500 V peak to case.

Calibration Data:

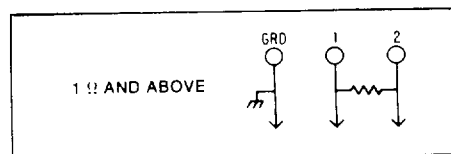
Initial calibration readings are affixed to instrument.

Dimensions:

Height	5.3 cm (2.1 inches)
Width	9.65 cm (3.8 inches)
Depth	6.1 cm (2.4 inches)

Weight:

227 gm (8 oz) net.



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1. Two years for components and instruments utilizing passive circuitry. One year on repairs of out-of-warranty items.
2. One year on components and instruments utilizing active circuitry as identified in the price list. Six months on repair of out-of-warranty items.

During the in-warranty periods, we will service or, at our option, replace any device that fails in normal use to meet its published specifications. Batteries, tubes and relays that have given normal service are excepted. Special systems will have warranty periods as listed in their quotation.

WARRANTY OF TRACEABILITY

The reference standards of measurement of Electro Scientific Industries, Inc., are compared with the U.S. National Standards through frequent tests by the U.S. National Bureau of Standards. The ESI working standards and testing apparatus used are calibrated against the reference standards in a rigorously maintained program of measurement control.

The manufacture and final calibration of all ESI instruments are controlled by the use of ESI reference and working standards and testing apparatus in accordance with established procedures and with documented results. (Reference MIL-C 45662)

Final calibration of this instrument was performed with reference to the mean values of the ESI reference standards or to ratio devices that were verified at the time and place of use.

DISCLAIMER OF IMPLIED WARRANTIES

THE FOREGOING WARRANTY OF ESI[®] IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ESI SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. In no event will ESI be liable for special or consequential damages. Purchaser's sole and exclusive remedy in the event any item fails to comply with the foregoing express warranty of ESI shall be to return the item to ESI, shipping charges prepaid, and at the option of ESI obtain a replacement item or a refund of the purchase price.



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