

## MULTIPLE RESISTANCE STANDARD – TEMPERATURE STABILIZED

- *MULTIPLE RESISTANCE STANDARD*
- *TEMPERATURE CONTROLLED*
- *DECADE OR THERMOMETRY VALUES AVAILABLE*
- *TRANSPORTABLE*



Model MRS Temperature Stabilized Multiple Resistance Standard

Ohm-Labs Multiple Resistance Standard contains decade standards from 1 Ω to 1 MΩ. Models can be provided with any resistances from 0.1 Ω to 100 MΩ.

Any resistance value may be specified. For example, thermometry or strain gage ratio models can be supplied.

The temperature coefficient of resistance is largely eliminated by the constant temperature housing, controlled and monitored by a precision temperature control circuit. Relative humidity and pressure effects are negligible.

A precision thermometer indicates resistor temperature. A thermistor and two ports are provided for an external monitoring. The MRS may be set from 18 to 30 °C to further characterize the resistors.

Gold plated tellurium copper binding posts reduce thermal emf errors.

The MRS temperature stabilizes in about one hour, allowing resistance standards to be used in the field or on-site with high accuracy.

The MRS temperature bath has  $\pm 0.01$  °C stability over a 1 year period.

ISO 17025 accredited, NIST traceable calibration is included.

The MRS is warranted for two years.

For less than the cost of seven resistance standards, the model MRS provides superior performance and versatility. With models MCS and MHS, resistance may be maintained from 0.1 milli-ohm to 1 teraohm without the need for constant temperature baths or precision thermometers.

Specifications						
Nominal Resistance	Initial Tolerance	Temperature Coefficient	24 hour Stability	12 month Stability	Current	Max Volts
0.1 Ohm	<10 ppm	<0.01	<0.1 ppm	<5 ppm	2 A	0.2
1 Ohm	<5 ppm	<0.005 ppm per °C	<0.05 ppm	2	100 mA	0.32
10 Ohm				2	30	1.0
100 Ohm				2	10	3.2
1 K				2	3	10
10 K				2	1	32
100 K	<10 ppm			2	0.3	100
1 Meg	<15 ppm	<0.01	<0.15	2	0.1	100
10 Meg	<20 ppm	<0.02	<0.2	10	0.03	300
100 Meg	<30 ppm	<0.02	<0.2	10	0.01	1000

Stated tolerances are at time of manufacture

Temperature coefficient is 18-30 °C

Operating: 18-30 °C, 15-60 %RH; storage 0-40 °C, 5-98 %RH

Physical: 471 x 147 x 463 (17.75" x 5.25" x 18.25") 3U; 16 kg / 35 lbs

Accessories available:

Thermistor cable (2 mm plug to 4 mm plug or to spade lugs)

Optional: MRS-AF configuration: (10) standards, 0.1 Ω to 100 MΩ;

rear terminal connections; front panel 100 Ω RTD; no display or pushbuttons; 30 °C bath temperature

