



AUTOMATED RESISTANCE STANDARD

MODEL 1310A

- 9 Resistors 1 Ω , 10 Ω , 100 Ω , 1 k Ω , 10 k Ω , 100 k Ω , 1 M Ω , 10 M Ω , 100 M Ω , 1 External Channel
- Front Panel or GPIB Controlled
- Single Output Cable for Direct Plug-in
- Maintained in Temperature-Controlled Chamber
- Built for Calibration of Calibrators and DVM's
- Best Stability < 2.5 $\mu\Omega/\Omega/\text{Year}$ (< 2.5 ppm/Year)
- Other Resistor Elements Available



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The MI model 1310A was designed to provide customers with a user-friendly, cost-efficient 9-element resistance standard with a built-in scanner to be used in the characterization of DVM's and calibrators. Procedures are supplied with units and follow the manufacturers' guidelines for calibration and verification.

The MI model 1310A was designed and developed by metrologists for metrologists! The ease of use of the 1310A makes it the ideal choice for use in the calibration and maintenance of calibrators. Metrologists and calibration technicians in national laboratories, the military, and third party calibration laboratories will be greatly impressed with the performance of the 1310A.

The nine-resistance elements cover the range from 1 Ω to 100 M Ω . Other resistor elements such as the 25 Ω and 400 Ω are available. An external extra channel is included which allows users to connect a resistance value of their choice. The internal resistance elements are housed in a single temperature-controlled chamber and feature excellent stability and extremely low-temperature coefficients.

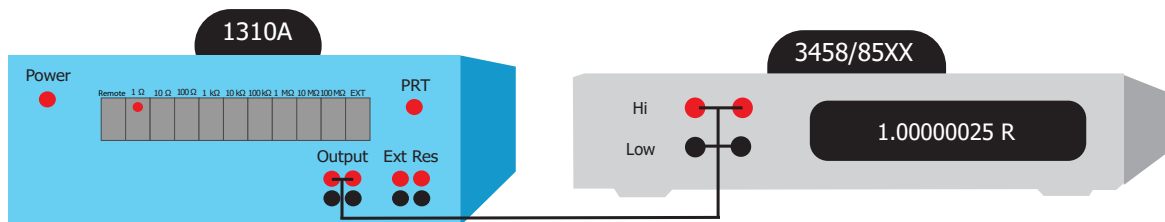


Figure 1. Resistance Box

A few companies claim unproven specifications, we ask you to talk to your NMI or other NMI's about which product is proven and meets its specifications!





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The 1310A uses high precision resistors mounted in a temperature-controlled chamber. This allows for the highest level of performance from the internal high precision resistors. The operation was designed to offer customers the easiest-to-use instrument with complete confidence. An internally mounted temperature sensor PT100 allows users to connect to the front panel and monitor the internal oven.

The 1310A uses high precision handpicked resistors mounted in a temperature-controlled chamber. This allows for the highest level of performance from the internal high precision resistors. For years, MI has been providing the very best in resistance standards to metrologists and calibration technicians in national laboratories, the military, and third-party calibration laboratories.



Figure 2. Drift of MI Resistor Over a 10 Year Period

The operation was designed to offer customers the easiest-to-use instrument with complete confidence. A new design on temperature enclosure based on input from a world-leading NMI, provides customers with the very best in temperature stability.

Take a look at just how good the 1310A performs over 24 hours!

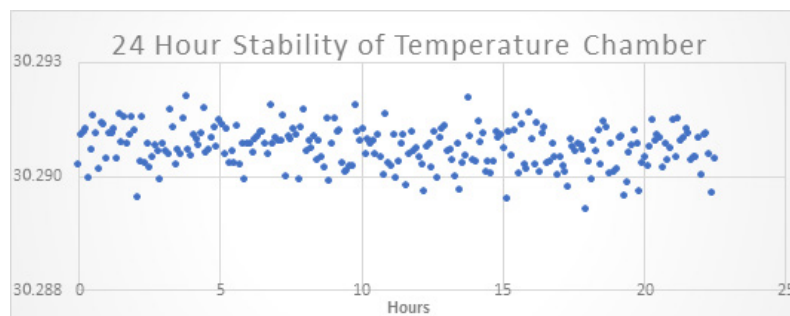


Figure 3. 24 Hour Stability Testing Internal Temperature Chamber





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Specifications: Rev 0

Nominal Resistance (Ohms)	Nominal Resistance ($\pm \mu\Omega/\Omega$) ($\pm \text{ppm}$)	24 Hour Stability ($\pm \mu\Omega/\Omega$) ($\pm \text{ppm}$)	12 Month Stability ($\pm \mu\Omega/\Omega$) ($\pm \text{ppm}$)	Temperature Coefficient ($\pm \mu\Omega/\Omega/^\circ\text{C}$) ($\pm \text{ppm}/^\circ\text{C}$)	Max. Voltage (Volts)
100 M Ω	50	0.4	10	0.025	100
10 M Ω	35	0.25	10	0.025	100
1 M Ω	25	0.03	2.5	0.02	100
100 k Ω	15	0.02	2.5	0.01	100
10 k Ω	10	0.01	2.5	0.005	32
1 k Ω	10	0.01	2.5	0.005	10
100 Ω	10	0.01	2.5	0.005	3.2
10 Ω	10	0.01	2.5	0.005	1.0
1 Ω	10	0.01	2.5	0.005	0.32
Temperature Stability			$\pm 0.1^\circ\text{C}$ Over a 1 Year Period		
Ambient Temperature Range			23 $^\circ\text{C}$ \pm 5 $^\circ\text{C}$		
Ambient Humidity Range			20 to 70 % RH		
Warranty			Standard 2 Year Parts & Labour		

Dimensions (L x W x H):
445 x 432 x 127 (mm)

Weight:
9 kg

Shipping Weight:
13 kg

Main Power:
85 to 264 V – 47 to 440 Hz

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