



AUTOMATED ARTIFACT CALIBRATOR

- Primary 1 Ω , 10 k Ω and 10 V References
- 3 Standards in One Box Inside a Temperature-Controlled Chamber
- Direct Plug-in Cable to 57XX Terminals
- Front Panel or GPIB Controlled to Select Output
- Front Panel Display Showing Certification Value
- Clear Connection for JVolt Comparison of 10 V Zener
- Battery Backup Option > 72 Hours

MODEL 1330A



MODEL 1330A AUTOMATED ARTIFACT CALIBRATOR

The 1300 series of products were developed for the calibration of DMMs and calibrators. These products consist of the 1330A Artifact Calibrator, the 1310A Automated Resistance Standard and the 1340A Voltage Divider. They are designed to provide customers with a user-friendly, cost-efficient alternative to calibrating DMMs and calibrators according to manufacturers' procedures.

FULLY AUTOMATED ARTIFACT CALIBRATION OF CALIBRATORS AND DMM'S FROM A SINGLE INSTRUMENT

The model 1330A is a highly versatile, accurate instrument that meets laboratory requirements for automation of artifact calibration on calibrators and DMMs. The model 1330A Artifact Calibrator is made up of one instrument enclosure and three reference standards. Artifact calibration is used to assign values to internally generated parameters of the calibrator or DMM. It is a process that is typically performed in calibrating an instrument using a small number of standards. Artifact calibration is typically performed at the recommended calibration intervals as indicated in the calibrator or DMM manufacturers manual.

The MI 1330A can be operated both manually and under automated control to select the appropriate standard. Under manual mode, the selection is done via push buttons on the front panel. Under automated control, the standards can be selected via the GPIB interface. Calibrated values and uncertainties for the artifacts are entered over the IEEE-488 bus. The extrapolated current standard value of the artifacts in the 1330A, based on past calibrations, is used for enhanced automation and improved accuracy.

Output connections to the calibrator or DMM are made from the front panel of the 1330A. The output cable (supplied) features a direct plug-in cable for the 57XX series calibrators or to the 3458A DMM. Other cables can be supplied.

The model 1330A comes equipped with an internal battery that will last up to 24 hours. For extended battery operation, an optional battery pack, model 1330A-PS power supply, contained in its own enclosure, plugs into the rear of the 1330A, is available.

The 1330A is shipped cold and requires about 12 hours of warm-up to reach its operating temperature. The temperature of the oven is monitored by an internal PRT. The 1330A comes with the calibrated values of the standards entered in the unit and is supplied (shipped) in a reusable container.





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Specifications: Rev 0

Artifact Standard	TC ⁽¹⁾	Stability per Year	Dissipation
10 V	0.1 $\mu\text{V}/\text{V}/^\circ\text{C}$	30 Days: 0.25 $\mu\text{V}/\text{V}$ 90 days: 0.75 $\mu\text{V}/\text{V}$ 1 Year: 2 $\mu\text{V}/\text{V}$	
1 Ω	0.1 $\mu\Omega/\Omega/^\circ\text{C}$	1 Year: 0.5 $\mu\Omega/\Omega$	10 mW
10 k Ω	0.1 $\mu\Omega/\Omega/^\circ\text{C}$	1 Year: 0.5 $\mu\Omega/\Omega$	10 mW
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 90 % Non-condensing	
Storage (with Battery Removed)		-50 $^\circ\text{C}$ to +50 $^\circ\text{C}$	
Isolation to Earth		$> 10^{12} \Omega$	
Direct Cable to 57XX		Provided	
Warranty		Standard 2 Year Parts & Labour	

¹ Temperature Coefficient: 0.2 ppm/ $^\circ\text{C}$ for ambient temperatures outside $\pm 5^\circ\text{C}$

Options:

PN: 1330-0 Output cable to bare ends

PN: 1330-C Output cable to custom

PN: 1330-BP Battery pack

Other: Contact MI

Dimensions (D × W × H):

225 × 305 × 150 (mm)

Weight:

10 kg

Shipping Weight:

15 kg

Main Power:

85 to 264 V – 47 to 440 Hz

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