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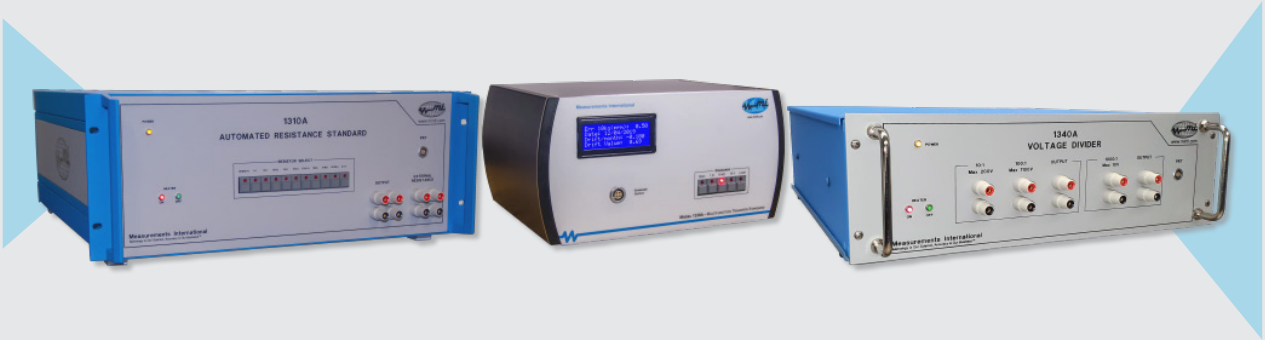
1300 SERIES

1310A Resistance Standard
1330A Artifact Calibrator
1340A Voltage Divider

Measurements International



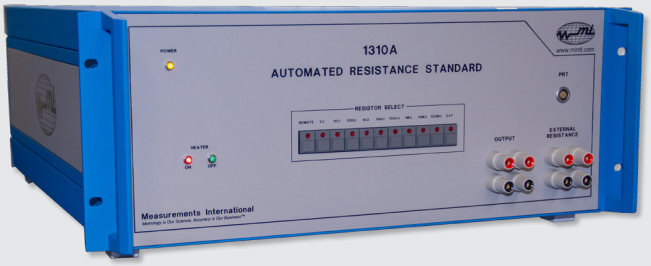
For Calibration and Characterization
of Calibrators and DVM's

Metrology is Our Science, Accuracy is Our Business™

1310A AUTOMATED RESISTANCE STANDARD

Developed & designed by metrologists for metrologists & calibration technicians

- Exceptional Stability
- Cost-effectiveness
- Performance-based Results



Measurements International's new Automated Resistance Standard model 1310A is an easy-to-use, cost-effective calibration instrument that will give the military sector, national and third-party laboratories complete confidence in resistance standards. Designed with input from a world-leading National Measurement Institute, customers can be confident this new design offers exceptional calibration results.

Feature	Benefit
9 resistors 1 Ω, 10 Ω, 100 Ω, 1 kΩ, 10 kΩ, 100 kΩ, 1 MΩ, 10 MΩ, 100 MΩ, 1 external channel.	Complete line of decade value standards in one temperature-controlled enclosure.
Hand-picked high precision resistors in temperature-controlled chamber.	Delivers the highest level of performance from the internal high precision resistors.
Internal resistance elements in a temperature-controlled chamber.	Excellent stability and extremely low-temperature coefficients.
Single output cable for direct plug-in.	Easy operation without the requirement for changing wires.
Built for calibration of calibrators and DVMs.	Best stability < 2.5 μΩ/Ω/Year.
Built-in 4-terminal scanner.	Combining two instruments into one simple-to-use instrument.
External extra channel.	Connect to the resistance value of your choice.
Front panel or GPIB controlled.	Simplifies operation for the user.
Internally mounted temperature sensor PT100.	Users can connect to the front panel and monitor internal oven.

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

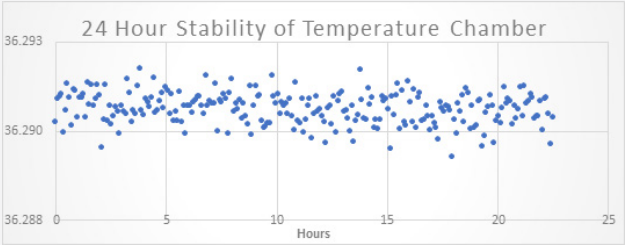


Figure 3. 24-Hour Stability Testing Internal Temperature Chamber

1330A AUTOMATED ARTIFACT CALIBRATOR

Three Standards – One Box

- Fully Automated Artifact Calibration of Calibrators and DMMs from a Single Instrument
- Three Standards – One Box

Measurements International's recently launched Automated Artifact Calibrator (1330A) is a highly versatile, accurate instrument that meets laboratory requirements for automated artifact calibration (to assign values to internally generated parameters) on calibrators and DMMs.

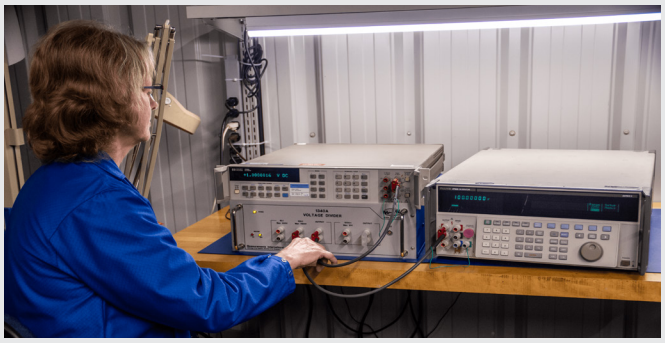
This process is typically performed using a small number of standards at recommended calibration intervals indicated in the calibrator or DMM manufacturers manual. The 1330A is composed of a temperature-controlled instrument enclosure, three reference standards, and a battery backup. A power supply is external (part of the power cable).

Feature	Benefit
Primary 1 Ω, 10 kΩ and 10 V references.	All standards provided in one temperature-controlled enclosure.
Clear connection for JVolt Comparison of 10 V Zener.	Providing highest level traceability.
Manual (push buttons on the front panel) or automated control (select by GPIB interface).	Ability to select appropriate standard (choice of 3) for calibration.
Output connections to calibrator or DMM on the front panel.	Choice of cables available (and supplied) feature direct plug-in for 57XX series calibrators or to the 3458A DMM.
Current standard value is extrapolated from prior calibrations.	Enhanced automation and improved accuracy.
Oven temperature monitored by internal PRT.	Provides better performance of artifacts as the temperature environment is stable and controlled to less than 100 m°C.
Calibrated values of the standards entered in the unit.	No requirement for set-up.
Front panel display showing certification value.	Quick access and reference to information.

1340A HIGH PRECISION VOLTAGE DIVIDER

Simplify Your Procedures.
Simplify Your Work.

- Stability
- Cost-effectiveness
- Performance-based Results
- No Self-Alignment Required



Never before has DC voltage calibration and/or verification of DVMs and calibrators been so easy or reliable. Measurement International's recently launched 1340A is the metrology industry's leading choice thanks to its simplistic design, backed with the best features for optimal performance.

Model 1340A is another fine example of MI's history and world-leading experience in resistance. We invite metrologists and calibration technicians in national, military and third-party calibration laboratories to compare the performance of the 1340A against any products on the market today.

Feature	Benefit
10:1, 100:1 and 1000:1 reference divider outputs to 1100 V	Extreme precision to compare direct voltage levels of various sources to a 10 V voltage reference standard like a 1330A, 732B or 732C.
Industry-leading specifications require no self-alignment or calibration prior to use.	Customers no longer need to self-align or calibrate prior to each use. Saves time and money and frustration!
Utilizes a special design network of high precision resistors mounted in a temperature-controlled chamber.	Shields divider resistors from outside noise and provides temperature stability to improve performance.
Front panel direct connection to calibrator; divider output connection to DVM for testing; both done with supplied cables.	Ease of use, saves time and money.
Internally mounted temperature sensor PT100.	Users can connect to the front panel and monitor internal oven.
New special hand-selected resistors and configuration.	Lengthy, self-alignment *no longer* required to create divider network.
Calibration of divider performed directly against a 1330A, 732B or 732C reference.	Industry-leading advancement in the DC voltage divider commercial products which delivers exceptional performance.

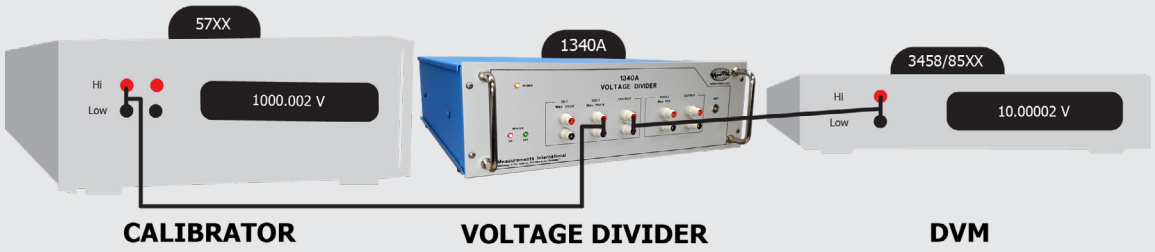


Figure 1. Example: 1000 V in divided to 10 V out to be measured!

Offering the easiest-to-use instrument with complete confidence.

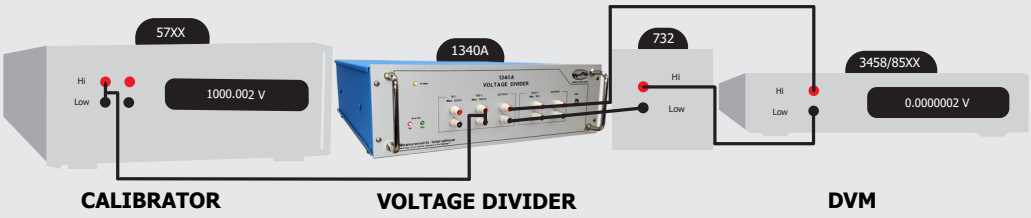


Figure 2. The above diagram illustrates using a 1330A, 732B or 732C reference in the connection sequence. A DVM can be used as a NULL detector to determine the offset of the 57XX series on the 10:1 and 100:1 ratio.

No Self-Alignment Required.

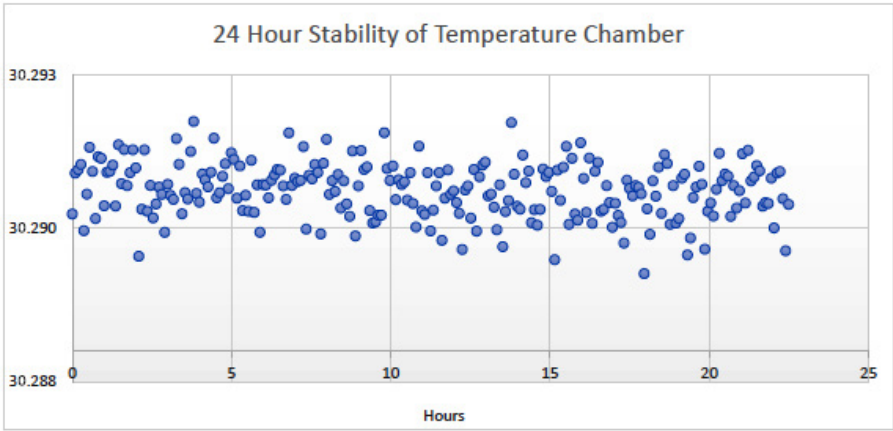


Figure 3. 24 Hour Stability of Temperature Chamber

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