



(NSN 6625-00-238-1283) 343A

343A DC Voltage Calibrator

0 to 1100V output, 0 to 25 mA

0.1 ppm resolution, seven decades

20 ppm basic accuracy

Stability better than 5 ppm/hour, 15 ppm/month

The 343A is a 7-digit instrument with a basic accuracy of 20 ppm and a resolution of 1 μ V on the 10 μ V range.

Cleanliness of the dc output is evident in the combined ripple and noise specifications of 50 μ V rms from the 343A. Short term jitter and other random excursions are almost non-existent, less than 1 ppm.

A simple amplifier/comparator circuit is utilized to establish a convenient, variable, current limiter. Any maximum current output from 1 to 30 mA may be set via a front panel control. In addition to providing for current protection to the load, a failsafe "crowbar" protects the series-pass elements from damage should the total voltage across the elements exceed a safe level.

Specifications

Output Voltage: 0 to 1100 dV

Resolution: 1 μ V on 10V range, 10 μ V on 100V range, 100 μ V on 1000V range

Uncertainty, 90 Days

10V Range: $\pm 0.002\%$ of setting

or $\pm 0.0002\%$ of range*

100V Range: $\pm 0.002\%$ of setting

or $\pm 0.0001\%$ of range*

1000V Range: Same as 100V range

*Whichever is greater

NOTE: The above accuracies are absolute, relative to NIST standards, and include effects of stability, line regulation, load regulation, and calibration uncertainties under standard reference conditions of 23°C \pm 1°C and up to 70% relative humidity after 30 minute warm-up. Apply for 90 days.

Stability: $\pm\%$ of Setting or \pm Microvolts*

Time	10V Range	100V Range	1000V Range
Per Hour	0.005% or 5 μ V	0.0005% or 10 μ V	0.0005% or 20 μ V
Per Month	0.0015% or 15 μ V	0.0015% or 25 μ V	0.0015% or 50 μ V
Per 6 Months	0.0025% or 30 μ V	0.0025% or 40 μ V	0.0025% or 60 μ V

*Whichever is greater

Temperature Coefficient: $\pm(3$ ppm of setting +0.1 ppm of range +2 μ V) per degree Celsius from 24°C to 15°C or 25°C to 35°C

Regulation: <0.0005% of setting +25 μ V for a 10% line voltage change or a full-load to no-load change

Isolation: May be floated 500 dV from chassis

Settling Time: Within 15 ppm of final output in 5 seconds

Overcurrent Protection: Automatically limits output current at any preset level between 1 mA and 30 mA via continuously variable front panel control. Panel lamp illuminates during limiting.

Meter: Switch-selectable to full range voltage or full range current

Remote Sense: Separate terminals are provided for sensing the output voltage directly at the load

Temperature: 0°C to 50°C, operating

Power: 115 or 230V ac $\pm 10\%$, 50 to 440 Hz, approximately 60 VA fully loaded

Size: 8.9 cm H x 43.2 cm W x 45.7 cm D (3.5 in H x 17 in W x 18 in D)

Weight: 10.43 kg (23 lb)

Included with Instrument: Instruction Manual, power cord, serialized and dated calibration certificate

Ordering Information

Model

January 1990 prices

343A DC Voltage Calibrator \$6350

Accessories (Also see Section 17)

MEE-7001 3 1/2" Rackmount Kit \$ 120

MEE-8078 24" Rack Slide

for rackmount kit 140

MEE-8079 18" Rack Slide

for rackmount kit 150

Customer Support Services

Warranty

One-year product warranty. See Section 16 for further information on warranty terms and conditions.

Extended Warranty

A 10% discount is available when you order the following at the time of the instrument purchase or when ordered within the factory warranty period.

SC1-343A Repair \$ 231

SC2-343A Calibration 252

SC3-343A Full Service 455

SC4-343A Performance Verification-Plus 151

Note: Incoming and/or outgoing calibration readings are available as an option.