

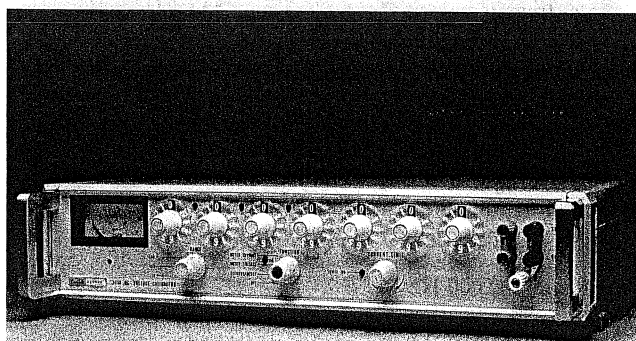
CALIBRATORS AND STANDARDS

DC Voltage Calibrator

341A/343A

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341A



343A

341A & 343A DC Voltage Calibrators

The Fluke 341A and 343A differ only in the accuracy and resolution they provide. The 341A offers 6-digit (10 μ V) resolution with a basic accuracy of 50 ppm while the Model 343A is a 7-digit (1 μ V resolution) instrument with a 20 ppm basic accuracy.

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 nonexistent (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 of the load, a failsafe "crowbar" protects the series pass elements from damage should the total voltage across the elements exceed a safe level.

Specifications

	Range	341A	343A
Accuracy for 90 days	10	$\pm 0.005\%$ of setting or $\pm 0.0003\%$ of range*	$\pm 0.002\%$ of setting or $\pm 0.0002\%$ of range*
	100	$\pm 0.005\%$ of setting or $\pm 0.0002\%$ of range*	$\pm 0.002\%$ of setting or $\pm 0.0001\%$ of range*
	1000	$\pm 0.005\%$ of setting or $\pm 0.0002\%$ of range*	$\pm 0.002\%$ of setting or $\pm 0.0001\%$ of range*
Resolution	10	10 μ V	1 μ V
	100	100 μ V	10 μ V
	1000	1 mV	100 μ V

	Range	341A	343A
Stability at 23°C $\pm 1^\circ$ C	10	per hr, $\pm 0.0005\%$ of setting or 5 μ V* per mo, $\pm 0.002\%$ of setting or 15 μ V* per 6 mo, $\pm 0.004\%$ of setting or 30 μ V*	per hr, $\pm 0.005\%$ of setting or 5 μ V* per mo, $\pm 0.0015\%$ of setting or 15 μ V* per 6 mo, $\pm 0.0025\%$ of setting or 30 μ V*
	100	per hr, $\pm 0.0005\%$ of setting or 10 μ V* per mo, $\pm 0.002\%$ of setting or 25 μ V* per 6 mo, $\pm 0.004\%$ of setting or 50 μ V*	per hr, $\pm 0.0005\%$ of setting or 10 μ V* per mo, $\pm 0.0015\%$ of setting or 25 μ V* per 6 mo, $\pm 0.0025\%$ of setting or 40 μ V*
	1000	per hr, $\pm 0.0005\%$ of setting or 20 μ V* per mo, $\pm 0.002\%$ of setting or 50 μ V* per 6 mo, $\pm 0.004\%$ of setting or 100 μ V*	per hr, $\pm 0.0005\%$ of setting or 20 μ V* per mo, $\pm 0.0015\%$ of setting or 50 μ V* per 6 mo, $\pm 0.0025\%$ of setting or 60 μ V*
Temperature Coefficient	10	+15°C to +35°C: (5 ppm of setting +0.1 ppm of range +2 μ V)/°C	+15°C to +35°C: (3 ppm of setting +0.1 ppm of range +2 μ V)/°C
	100	0°C to +50°C: (8 ppm of setting +0.1 ppm of range +2 μ V)/°C	0°C to 50°C: (5 ppm of setting +0.1 ppm of range +2 μ V)/°C
Output Current		0 to 25 mA	0 to 25 mA
Settling Time		Within 50 ppm of final output in 5s	Within 15 ppm of final output in 5s
Ripple & Noise (All Frequencies)		100 μ V rms	< 50 μ V rms
Regulation		< 0.0005% of setting +25 μ V for a 10% line voltage change or a full load change	
Isolation		Output may be floated 500V dc from chassis	

*Whichever is greater

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

General

Output Voltage: 0 to 1100V dc

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 lbs.)

Model

341A DC Voltage Calibrator \$2450
 343A DC Voltage Calibrator 2750

Accessories

MEE-7001 3½ Rack Adapter 50
 M00-260-610 18" Rack Slides 90
 M00-280-610 24" Rack Slides 95

See page 152 for more accessory information.