

731B DV Reference Standard

Outputs at 10, 1, 1.018, and delta E

10 ppm output accuracy

Guarded floating output up to 500V above ground

Line and battery powered

The Fluke Model 731B DC Reference Standard is a versatile instrument providing stability, while utilizing the excellent performance capabilities of solid-state technology. The instrument furnishes a variety of precision voltages with switched output ranges including 10, 1.018 + ΔE, 10.0, and ΔE volts. Delta E (ΔE) provides a variable output of 0 through 999 μV which is either added to the voltage of a standard cell transfer or may be used directly as a low-level, stable direct voltage source.

Specifications

Output Ranges: 10V, 1V, 1.018 + ΔE, 1.019 + ΔE, ΔE
Output Accuracy:*

Range	30 Days	90 Days	1 Year
10V	±10 ppm	±15 ppm	±30 ppm
1V	±10 ppm	±15 ppm	±30 ppm
1.018+ΔE	±10 ppm	±15 ppm	±30 ppm
1.019+ΔE	±10 ppm	±15 ppm	±30 ppm
ΔE	—	—	±2 μV

*Absolute accuracy at 23°C ±1°C after 30 minutes warm-up

Transfer Accuracy (Stability)

Between	4 Hours
Standard cells on 1.018V + ΔE ranges or 1.019V + ΔE ranges	2 ppm
Standard cell and 1V output	3 ppm
10V output and standard cell or 1V output	5 ppm

Source Resistance: 10V range is <0.07Ω. The 1V, 1.018V, 1.019V, and ΔE ranges are <1 kΩ

Output Protection: The output may be shorted indefinitely without damage to instrument

Line Regulation: <1 ppm for ±10% line voltage variation

Ripple & Noise: <1 ppm peak-to-peak 0 to 1 Hz, <20 μV rms 1 Hz to 1 MHz, except <70 μV rms at 10V output

Common Mode Noise Rejection: ≥120 dB at 0 Hz, ≥100 dB at 60 Hz, ≥85 dB at 400 Hz

Isolation: Output may be floated up to 500 V between chassis ground and guard

Temperature: 0°C to 55°C, operating

Power: 115V or 230V ac ±10V, 50 to 400 Hz or internal rechargeable batteries, 6W max, 120 mA max

Size: 8.8 cm H x 10.7 cm W x 30.4 cm D (3.5 in H x 4.5 in W x 12 in D)

Weight: 2.26 kg (5 lb)

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

Ordering Information

Models

January 1990 prices

731B DC Reference Standard \$1850

Accessories (Also see Section 17)

M03-201-601 3 1/2" Rackmount Kit, Single	\$ 160
M03-202-603 3 1/2" Rackmount Kit, Dual	110
M03-206-604 3 1/2" Rackmount Kit, Triple	180
M03-205-605 3 1/2" Rackmount Kit, Quad	105

Maximum Divider Voltage: 1500V dc
Size: 8.8 cm H x 48.2 cm W x 15.2 cm D (3 1/2 in H x 19 in W x 6 in D)
Weight: 2.72 kg (6 lb)

Ordering Information

Model

January 1990 prices

721A Lead Compensator \$1850

Customer Support Services

Warranty

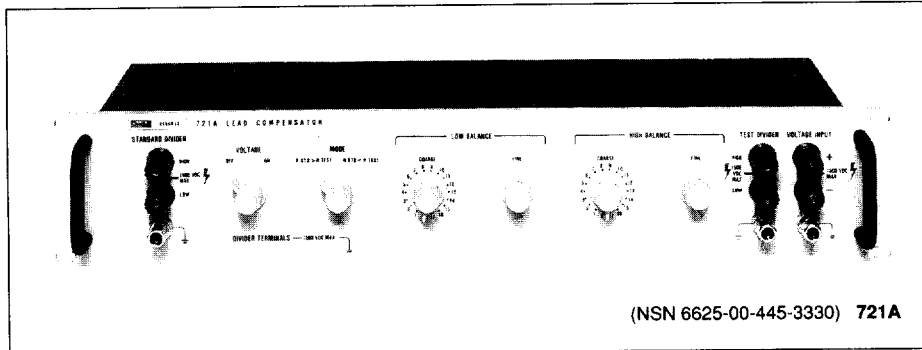
One-year product warranty. See Section 16 for further information on warranty terms and conditions

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.

SC1-721A Repair	\$ 65
SC2-721A Calibration	31
SC3-721A Full Service	89

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



721A Lead Compensator

The 721A Lead Compensator equalizes the voltage drop across two resistive dividers connected in parallel for calibration. The errors due to contact and lead resistance are eliminated.

Specifications

Resolution of Resistance Compensation:

0.1 mΩ

Maximum Ratio Between Divider Resistance:

4000:1

Maximum Allowable Lead Resistance:

150 mΩ