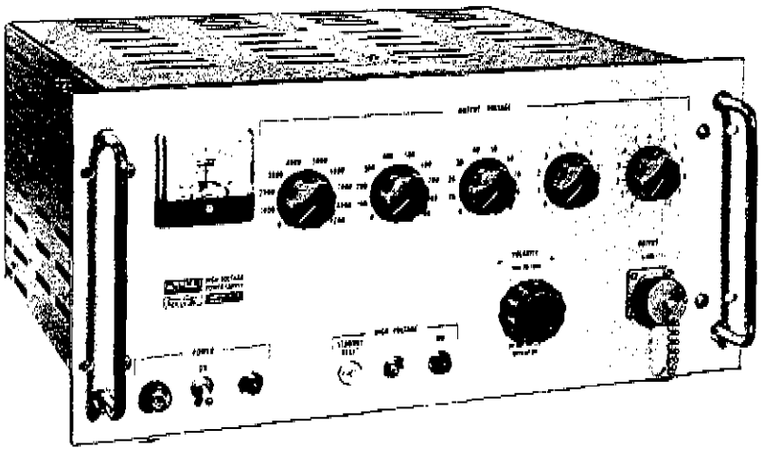
410B

FLUKE

POWER SUPPLY



FEATURES

0 - 10,000 Volts	0.001% Regulation
0 - 10 ma	5 mv Resolution
Adjustable Overcurrent Trip	All-silicon-transistor Amplifiers

Fluke Model 410B is an extremely well regulated, low noise instrument designed to meet the most exacting high voltage DC power supply requirements. The design utilizes a high-gain, all-silicon-transistor amplifier coupled with a single 4-65 series pass tube to provide exceptionally low ripple and high stability. Conservative design and high reliability components ensure stable, maintenance-free service for extended periods of time.

The high voltage source is developed by a voltage doubler utilizing a tapped-primary transformer, high-voltage silicon-rectifier stacks and oilfilled filter capacitors. Output of this DC source is regulated by the type 4-65 series pass tube. The pass tube is controlled by a solid-state feedback amplifier with greater than 130 db of DC gain resulting in 0.001% regulation and less than 1 mv RMS ripple. The switched decade voltage divider which controls output voltage consists of stable, low-temperature-coefficient wirewound resistors manufactured and processed by Fluke. The output of the supply is available at front and rear panels through MS3102A-18-16S connectors. Output polarity may be selected by means of the front panel switch to provide either positive- or negative-grounded operation. A zero-center panel meter monitors output voltage.

The 410B is protected against overcurrent conditions by a current-trip circuit factory set at 12 ma load current. The current-trip level may be internally adjusted to latch off the supply between 5 and 15 ma.

Design development included thorough testing under adverse conditions of temperature, humidity, altitude, shock and vibration to ensure reliable operation under severe environmental conditions. Package design has provided for a sturdy mechanical structure utilizing flow-soldered, glass-epoxy printed circuit boards for component mounting. Interlocks interrupt the high voltage excitation when top or bottom covers are removed. Side panels are tapped to provide for mounting with standard chassis slides or other rack mounting arrangements. Resilient rubber feet are also provided for bench top use.

OUTPUT VOLTAGE: 0 to ±10,000 VDC.

OUTPUT CURRENT: 0 to 10 milliamperes.

OUTPUT POLARITY: + or - grounded via front panel switch.

LINE REGULATION: 0.001% or 2 mv (whichever is greater) for 10% line change from nominal.

LOAD REGULATION: 0.001% or 5 mv (whichever is greater) for full load change.

STABILITY: ±0.005% per hour; ±0.02% per day after warmup.

RESOLUTION: 5 millivolts.

RIPPLE: Less than 1 mv RMS; less than 5 mv peak-to-peak.

VOLTAGE CALIBRATION:
0 to 9000V in 9 steps of 1000V
0 to 900V in 9 steps of 100V
0 to 90V in 9 steps of 10V
0 to 9V in 9 steps of 1V
0 to 1.2V vernier

CALIBRATION ACCURACY: ±0.25% or 250 mv (whichever is greater) with vernier at zero.

RESETABILITY: ±0.05% or 50 mv (whichever is greater).

RECOVERY TIME: Within 50 microseconds.

WARMUP TIME: 30 minutes.

OVERCURRENT TRIP: Set to latch off at 12 ma load current. Internally adjustable from 5 to 15 ma.

METER: 10,000-0-10,000 VDC (±3%).

OUTPUT CONNECTORS: MS3102A-18-16S front and rear (one mating connector supplied).

HUMIDITY: 0 to 80%.

OPERATING TEMPERATURE RANGE: 0°C to 50°C.

STORAGE TEMPERATURE RANGE: -20°C to +70°C.

ALTITUDE, OPERATING: 0 to 10,000 ft.

ALTITUDE, NON-OPERATING: 0 to 50,000 ft.

VIBRATION: Meets MIL-T-945A.

SHOCK: Meets MIL-E-4970A (20 g's, 11 milliseconds in three principal axis).

TEMPERATURE COEFFICIENT OF OUTPUT: Less than 20 ppm per °C from +10°C to +40°C.

INPUT POWER: 115/230 VAC ±10%, 50 - 60 cps, approximately 300 VA at full output. Operation at 400 cps available upon request.

SIZE: 19" wide x 8-3/4" high x 15" behind panel (rack mount with resilient feet for bench use). (48.2 x 22.2 x 38.1 cm)
WEIGHT: Approximately 59 pounds. (26.76 kg)

PRICE: $975.00, all prices are f.o.b. factory, Mountlake Terrace, Washington.