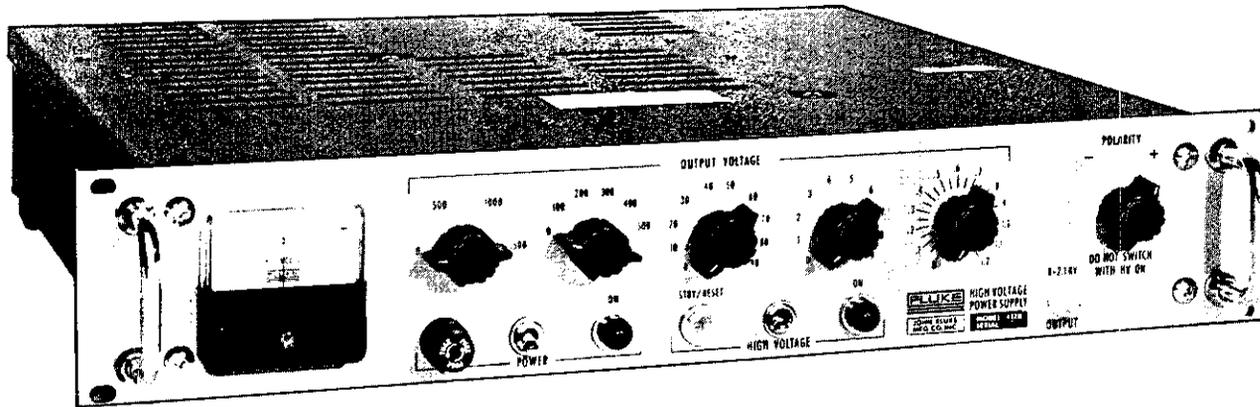


412B**FLUKE**

POWER SUPPLY



FEATURES

- 0-2100 VDC
- 0-30 ma
- Overcurrent Protection
- 1 mv Peak-to-peak Ripple
- 0.001% Regulation
- 5 mv Resolution
- 3-1/2" Panel Height
- All-Silicon Transistor Amplifiers

Model 412B combines the high reliability of silicon transistor amplifiers with the high voltage capability of series pass tubes to provide a conservatively rated 0 to 2100 volt, 30 ma power supply. Careful attention to mechanical layout combined with the high gain feedback amplifier results in extremely low ripple and excellent regulation characteristics. Conservative design and high reliability components ensure stable, maintenance-free service for extended periods of time.

The high voltage supply is developed by a voltage doubler circuit using a switched secondary high voltage transformer, high voltage silicon rectifier stacks and oil-filled filter capacitors. Output of this supply is regulated by parallel type 8068 series pass tubes. The tubes are in turn controlled by a solid-state feedback amplifier with greater than 130 db of DC gain. The variable voltage divider sampling string, which is switched to change output voltage, consists of stable, low temperature coefficient, wirewound resistors manufactured by Fluke. Output of the supply is available at both the front panel and rear panel through UG 931/U connectors. Output polarity is controlled by a front panel switch to provide either positive or negative grounded operation. A zero center panel meter monitors output voltage.

The 412B is protected against overcurrent conditions by a circuit which opens the input to the high voltage rectifier in the event that output current exceeds 32 milliamps. This circuit may be internally adjusted to trip at other current levels as required.

The instrument has been thoroughly tested under extreme conditions of temperature, humidity, altitude, shock and vibration to ensure reliable operation under severe environmental conditions. Package design has provided a sturdy mechanical structure. Side panels are tapped to provide for mounting with a standard chassis slide or other rack mounting arrangements. Resilient rubber feet are also provided for bench top use.

OUTPUT VOLTAGE: 0 to ± 2100 VDC.

OUTPUT CURRENT: 0 to 30 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: $\pm 0.005\%$ per hour; $\pm 0.02\%$ per day after warmup.

RESOLUTION: 5 millivolts.

RIPPLE: Less than 500 uv RMS; less than 1 mv peak-to-peak.

VOLTAGE CALIBRATION:

0 to 1500V in 3 steps of 500V

0 to 500V in 5 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: $\pm 0.25\%$ or 100 mv (whichever is greater) with vernier at zero.

RESETABILITY: $\pm 0.05\%$ or 50 mv (whichever is greater).

RECOVERY TIME: Within 50 microseconds.

WARMUP TIME: 30 minutes to meet specifications.

OVERCURRENT PROTECTION: Set to latch off at 32 ma load current.

METER: 2100-0-2100 VDC ($\pm 3\%$).

OUTPUT CONNECTORS: UG931/U 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 $+70^{\circ}\text{C}$.

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 $^{\circ}\text{C}$ from $+10^{\circ}\text{C}$ to $+40^{\circ}\text{C}$.

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

SIZE: 19" wide x 3-1/2" high x 15" behind panel (rack mount with resilient feet for bench use). (48.2 x 8.9 x 38.1 cm)

WEIGHT: Approximately 28 pounds. (12.70 kg)

PRICE: \$450.00, all prices are f. o. b. factory, Mountlake Terrace, Washington.