

power supply unit **type 8619** Stabilized D.C.



*for constant voltage power supply
to a variety of electronic circuits,
for calibrating measuring instruments, etc.*

important features:

- stabilization against mains voltage fluctuations
- constant output voltage with variable load
- output continuously variable between 0 and 350 volts
- maximum d.c. output 150 milliamperes
- separate negative voltage for grid bias
- two separate filament windings
- large, easy-to-read meter with meter function switch
- strong metal cabinet for mounting in standard racks or for bench-use
- high efficiency
- small number of valves

Description:

The unit consists of a power supply section and a regulator section. The power supply section is fitted with a heavy-duty transformer with metal rectifiers and a dual smoothing filter with chokes and high capacity electrolytic capacitors.

The regulator section is provided with two EL 34 valves in parallel which are connected in series with the load and whose internal resistance is controlled by means of an EF 94 amplifier valve, an 85 A2 voltage stabilizing tube supplying the reference voltage.

The current through this tube is stabilized by means of a stabilizing tube OA2.

The transformer has, in addition to the filament windings for the tubes in the apparatus, two other 6.3 volt windings, one of which having a 4 volts tapping; these windings are connected to terminals on the front and can supply 3 amperes each. They may be connected in series or in parallel or be used separately.

With a knob the desired d.c. output voltage can be set at any value between 0—35 V, 20 V—190 V or 180 V—350 V. These ranges can be selected with a switch, also for switching off the d.c. voltage.

With a knob the grid bias may be adjusted between 0 and 40 volts. The various output voltages of the unit and the 6.3 V filament voltage are connected to the corresponding terminals, as well as to an octal base socket, for a convenient connection of apparatus which is used frequently, in conjunction with the power supply.

The terminals for connecting two power supply units in parallel are also connected to this socket.

The unit has been designed for continuous of supply the maximum current.

Technical data

D.C. voltage

Continuously variable in 3 ranges:
0—35 V, 20—190 V and 180—350 V.

Range	Unloaded	150 mA loaded
0— 35 V	325 V	245 V
20—190 V	450 V	375 V
180—350 V	640 V	540 V

Direct current

0—150 mA.
(The total of stabilized and unstabilized output currents may be 150 mA max.).

Meter

A function switch has the following positions:

1. Negative voltage 0—40 V
2. Positive voltage 0—40 V, 0—200 V or 0—400 V, in accordance with selected voltage range.
3. Output current 0—200 mA
4. Output current 0— 40 mA

Stabilization

Between no load and full load the output voltage varies less than 0,25 per cent. of the set value, plus or minus 0.1 V.

At a 10 per cent. variation in mains voltage the output voltage remains constant within 0.25 per cent., plus or minus 0.1 V.

Internal impedance

For mains and audio frequency currents less than 3 ohms. An internal 50 μ F capacitor is connected in parallel with the output terminals. In measuring current the internal resistance is increased by 0.67 ohms alternatively by 3.33 ohms.

Ripple voltage

Range 0— 35 V less than 0.5 mV
Range 20—190 V less than 2 mV
Range 180—350 V less than 3 mV

Short-circuits

Occasional overloads up to and including short-circuits are not harmful. The maximum short-circuiting current varies between 0.3 and 0.5 Amp, depending on the setting.

Filament voltage (A.C.)

Two separate windings of 6.3 V, 3 Amp. each (un-stabilized), one of which having a tap at 4 V. Each insulated for 700 V A.C. (1,000 V D.C.) between winding and chassis or neutral terminal.

Negative voltage

Stabilized against variations in mains voltage. Continuously variable between 0—40 volts. Internal resistance approx. 25,000 ohms. Max. output current 2 mA. Short-circuit proof.

Mains voltage

Change-overs for 110, 125 or 220 volts, 40—100 c/s.
Power consumption at no load: 50 watts.
Power consumption at full load: 200 watts.

Protection

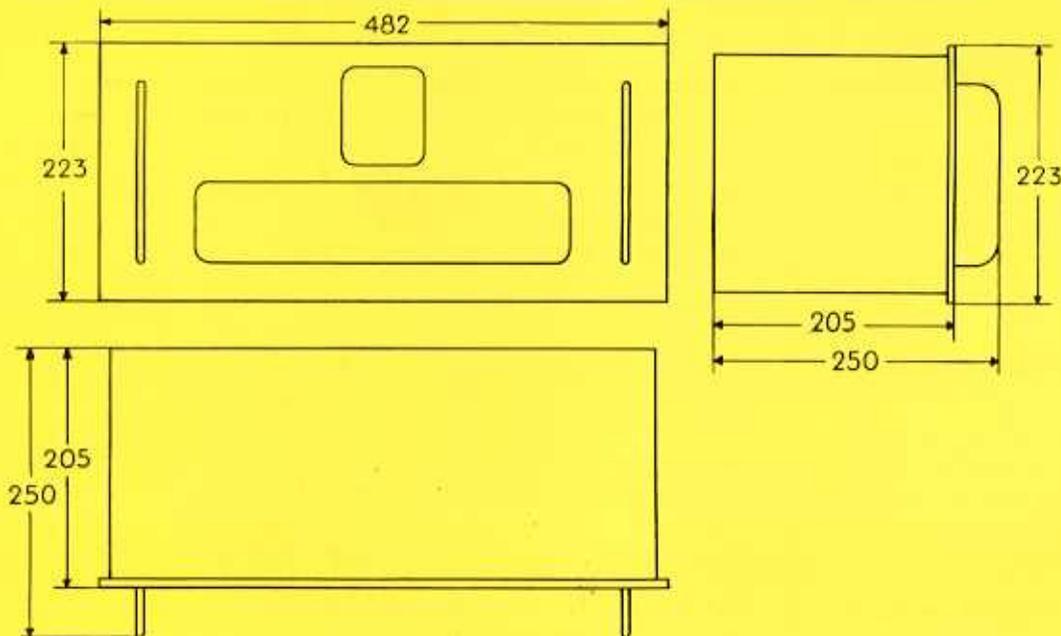
Two glass-tube fuses, replaceable from the front.

Valves

OA2 voltage stabilizer.
85 A2 voltage stabilizer.
EF 94 pentode amplifier.
2 x EL 34 control tubes.

Series connection of two units

To obtain voltages ranging from 350 V to 700 V, two units may be connected in series. (The D.C. neutral terminal is not connected with the chassis).

**Parallel connection**

Two units may be connected in parallel by means of a connecting cord.

Dimensions

482 x 223 x 250 mms
19 x 8³/₄ x 9⁷/₈ in.

Weight

12 kg (26.4 lb) net