

OL 45D

Deuterium Lamp Precision Current Source



The OL 45D Deuterium Lamp Precision Current Source is specifically designed to operate deuterium lamp standards of spectral irradiance (Optronic Laboratories OL UV-40 and OL 752-12). The OL UV-40 deuterium lamp standard must be operated at the same current used during the calibration in order to realize the calibration accuracy. Accordingly, the OL 45D provides a constant lamp current of either 300 or 500 mA with an uncertainty of $\pm 0.1\%$.

The OL 45D features complex automatic lamp starting and operating supplies. Its dual filament design can operate lamps with high or low filament current requirements. When the supply is turned on, a current is supplied to the starting filament. After 20 seconds, the regulated filament current is reduced 40% of the initial value and the high voltage circuit is switched on. Following the high voltage pulse, the lamp arc strikes and a precision lamp current is established. The circuit is designed to provide a stable, reliable discharge without subjecting the lamp to undue stress.

The OL 45D can be ordered for operation at 115 V/60 Hz or 220 V/50 Hz. The regulated power supply maintains its accuracy during power line transients of $\pm 10\%$. The supply will also operate over a $\pm 10\%$ load variance, which allows it to accommodate different operating voltages from one lamp to another.

SPECIFICATIONS

Output Current	300 or 500 mA $\pm 0.1\%$
Starting Filament Voltage	2.5 V (4A) or 10V (0.8A)
Operating Filament Voltage	1 V (1.6A) or 4V (1.3A)
High Voltage Starting Pulse	450 volts
Lamp Voltage	80 volts $\pm 10\%$
Regulation (line and Load)	$\pm 0.05\%$
Input Voltage	105 to 125 VAC, 60 Hz or 210 to 240 VAC, 50 Hz
Weight	24 lbs (11 Kg.)
Size	16½" x 12½" x 5" (42 x 32 x 13 cm)



OPTRONIC LABORATORIES

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