

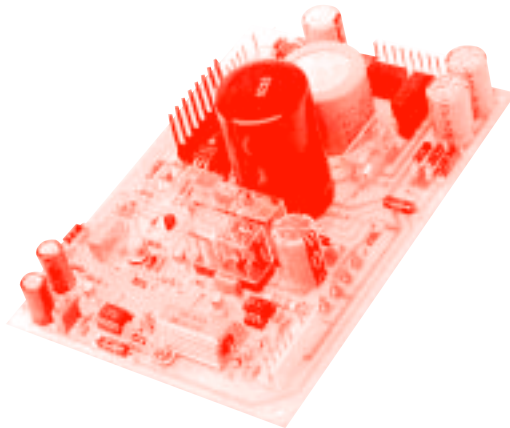
# POWER SUPPLY FOR PULSED DEUTERIUM LAMPS

## INTRODUCTION

The Cathodeon pulsed deuterium lamp power supply C720 is fully automatic in operation and is specifically designed to operate the Cathodeon pulsed deuterium lamp (J05) in the recommended manner. The supply is current stabilised and is designed to have low noise and drift characteristics. It is short circuit protected and uses a novel circuit to ensure reliable arc initiation at every pulse.

Initially, the lamp heater supply is switched on for a timed period of 60 seconds, to allow the cathode to reach optimum temperature. After this initial period the anode voltage and box voltage are applied. When the lamp strikes, a timer holds the heater on at full voltage for a further 30 seconds, after which time the heater is switched to a reduced voltage of up to 7V, dependent on mean operating current. If the mains voltage is interrupted the warm up cycle is automatically restarted. Pulsing is achieved by modulating the anode current. An additional box supply ensures a continuous discharge within the lamp. This avoids any requirement for a high strike voltage at the anode, which would otherwise be necessary to initiate the arc at every pulse. The supply requires an external TTL drive. A high level of TTL at this input turns the lamp current on to the preset value. The supply operates from 0-500Hz.

Fig 45 C720 B2 OEM Power Supply



## SPECIFICATIONS

<b>Heater voltage</b>	10V for starting.
<b>Anode current</b>	Adjustable by front panel control over the range 80mA-1.1A (other ranges up to 3A peak are available on request). Lamp current sampling point with a sensitivity of 1A/V.
<b>Current stability</b>	Long term drift less than 0.2%. Short term noise and ripple less than 0.1%.

<b>Maximum lamp operating voltage</b>	100V at 300mA
<b>Maximum frequency</b>	500Hz. (NB: Operation up to 2kHz is possible with a degraded waveform)

<b>Indicator</b>	Mains on: green
<b>Mains input</b>	110, 130, 220, 240V ( $\pm 10\%$ rms), selected externally. 50/60Hz.

<b>Lamp output</b>	Socket at rear, mating plug provided. Neutrix "AXR"/"XLR" series Type Xconn4MX.
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<b>Dimensions</b>	260mm x 262mm x 140mm high
<b>Weight</b>	4.85kg

## OEM VERSION

The Cathodeon pulsed deuterium lamp power supply is available for OEM use in board form for building into original equipment. The package available is as follows: C720B2 - Printed circuit control unit, series regulating transistor on heatsink, mains transformer, interconnecting lead assemblies.

## SPECIFICATIONS:

<b>Input requirements</b>	110, 130, 220, 240V ( $\pm 10\%$ rms) 50/60 Hz
<b>Lamp output</b>	9" flying lead terminated in Molex connector, mating plug provided. Molex 0.093" range. Body 03-09-2041 Insert 02-09-2118

## DIMENSIONS

<b>Circuit control unit</b>	177mm x 123mm x 62mm high
<b>Series regulating transistor on heatsink</b>	130mm x 103mm x 32mm high
<b>Mains transformer</b>	98mm x 75mm x 82mm high (universal mounting)

## WEIGHTS

<b>Circuit control unit</b>	0.314kg
<b>Series regulating transistor on heatsink</b>	0.300kg
<b>Mains transformer</b>	1.92kg

## ORDERING CODES

PRODUCT	ORDERING CODE
Power supply for pulsed deuterium lamp	C720
OEM Power supply for pulsed deuterium lamp	C720 B2

## LIFETIME AND WARRANTY

The C720 series power supplies are covered by warranty for 1 year.

## APPLICATIONS

The supply is current stabilised and is designed to have low noise and drift characteristics. It uses a novel circuit to ensure reliable arc initiation at every pulse.

**hi-Tech lamps**

**800-229-6509**

[info@hi-techlamps.com](mailto:info@hi-techlamps.com)