



# Heraeus

## PSD 185 – smallest 24 Volt OEM Power Supply For Deuterium Lamps

[www.heraeus-noblelight.com](http://www.heraeus-noblelight.com)

Deuterium lamps are part of high value analytical instruments with high specifications in terms of reliability, accuracy and reproducibility. These specifications apply equally well to the deuterium lamps and their power supplies, as the stability of the UV radiation is an important factor for the reliability of the measurement data.

Modern deuterium lamps meet strict requirements with regard to noise, long term stability and operating life. Power supplies should in no way limit or affect the quality of the lamp parameters.

Consequently, Heraeus offers its own power supplies, which have been specially developed through the long experience with deuterium lamps. Such devices are used in large numbers during the testing of new lamps. Their optimum operation in the field is guaranteed because of this regular practical usage.

Heraeus power supplies distinguish themselves by the stability of their electrical parameters and by their ignition properties, which protect the lamps, improve operating life and ensure reliable starting.

Instrument manufacturers can save the cost of developing their own power supplies and make use of the experience of the lamp manufacturer, who is dedicated to ensuring the optimum performance of the deuterium lamps.

For Best Performance of Deuterium Lamps.

**hi-Tech lamps**

**800-229-6509**

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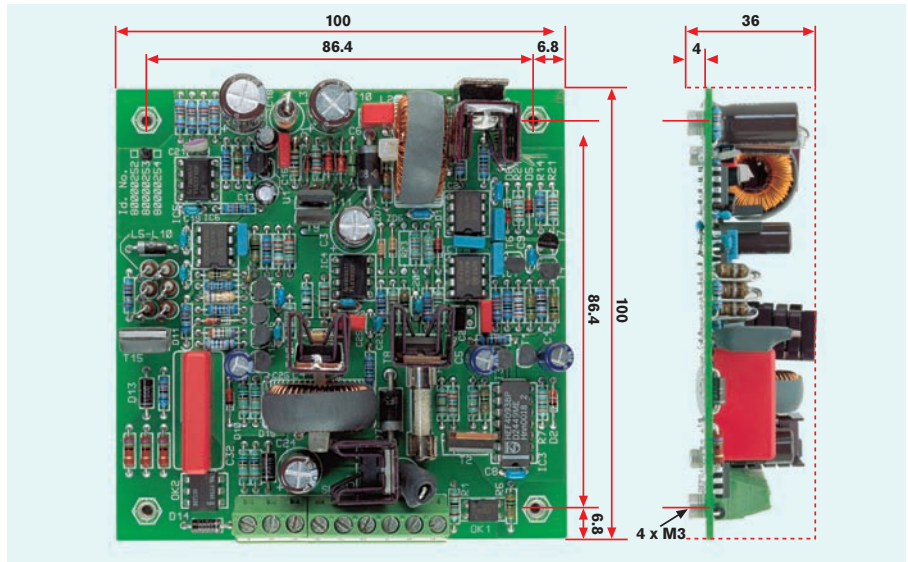
**Heraeus Noblelight**

The model PSD 185 is a high performance, low cost, compact and highly reliable switching power supply. It is designed to operate on a 24Vdc input voltage.

The PSD 185 runs all Heraeus 30Watt deuterium lamps with stabilized direct current heaters and is available for 2.0V, 2.5V and 12V versions. In addition, they can also be used with most lamps made by other manufacturers.

The supply has very low noise and drift characteristics and uses a novel ignition circuit (US patent No.5.530.319) to ensure a soft and reliable arc initiation of the lamp, even if the lamp is hot.

The power supply is fully automatic in operation. The small size facilitates integration of the power supply and lamp in a compact system for flexibility and reduced cost.



### Lamp Operation Sequence

The automatic ignition process is started by connecting the external 24V to the Deuterium Lamp Power Supply.

The lamp heater supply is switched to its starting level for a timed period of 10 seconds. After this initial period the ignition voltage puls is applied. When the lamp strikes the heater voltage is switched down to a preset level which can range from 0V to 3V depending on the lamp type used. Should the lamp not strike immediately, further attempts are made automatically.

The supply is preset to run the lamp at an anode current of 300mA. The anode voltage then decreases from 140V (no load) to about 80V.

Optional disable control is available by applying an external 5Vdc to the "disable" input.

### Type No.

**PSD 185 OEM Version**  
P/N 80000252, 8000253 & 8000254

	Parameter	Description / Value
Input	Input voltage	24 ± 2.4 Vdc
	Input current	2 Adc min.
	Input power	< 45 W
	Mains fusing	On PCB 2 Amp, 250 V
Output	Anode voltage (with load)	60 – 110 Vdc
	Anode voltage (w/o load)	140 ± 5 Vdc
	Anode current	300 mAdc ± 2.5%
	Anode current stability	≤ 5 x 10 <sup>-4</sup> p-p @ 300 mA
	Anode current drift (after 30 min warm-up)	≤ ± 0.1 % / h
	Heater voltage	See below
	Heater current	See below
	Warm-up time	10 s
	Trigger voltage	600 – 50 V
Environmental Characteristics		
● Operating specifications	Temperature range	0 to 40 °C
	Humidity	< 95% non-condensing
	Altitude	0 to 3,000 meters
● Storage specifications	Temperature range	-40 to 60 °C
	Humidity	< 95% non-condensing
	Altitude	< 12,000 m
Cooling requirements	20 CFM of forced air across the component side of board from any direction	
Low voltage directive	EN 601010-1 1993	
Electrical Safety	EN 61010/March 1995 & amendment	
	EN 61010/A2 May 1996	
EMC-directive	EN 55011 Class B	
Dimensions (L x W x H)	100 x 100 x 36 mm	
Weight	160 g	

### Heater Voltage and Current

Type No.	Warm-up		Operation	
	Voltage (Vdc -5%)	Current (Adc)	Voltage (Vdc ± 5%)	Current (Adc)
PSD 185 / 2 Volt	2.0	6	0*	0
80000252	2.0	6	1.0**	1.8
PSD 185 / 2,5 Volt	2.5	4	0*	0
80000253	2.5	4	1.0**	1.8
PSD 185 / 12 Volt	12	0.87	3*	0.32
80000254				

\* factory set, \*\* adjustable by jumper

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We reserve the right to change the pictures and technical data of this brochure.

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