



DEUTERIUM LAMP POWER SUPPLIES

Heraeus

OFFERING RELIABILITY AND OPTICAL STABILITY

Deuterium lamps were developed for use as ultraviolet light sources in spectrophotometers and HPLC UV detectors and other analytical instrumentation. High stability of the light output together with reliable operation are important requirements for these applications. The electrical characteristics of the power supply have a considerable influence on the operation of the deuterium lamp – its stability, drift, ignition and life-time – and thereby on the functioning of the analytical instrument.

Heraeus has, therefore, developed power supplies which provide the necessary conditions for reliable operation of deuterium lamps, with stable UV output and low noise levels as well as long life as a result of carefully controlled ignition.

The Features

- Automatic mains voltage selection (85 V – 264 V)
- A special circuit for controlled ignition (US patent No. 5.530.319) enhancing lamp life
- Current-stabilised anode circuit with extremely low noise characteristics
- Cathode heating circuit with different voltage levels for warm up and operation phases
- Designed according to European and International standards, fulfill CE-norm
- Suitable for most existing 30 W deuterium lamps

hi-Tech lamps

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Heraeus Noblelight GmbH

Bench-top model

PSD 181

- Three selectable heating voltages for different lamp types
- Adjustable anode current between 100 mA – 400 mA or 300 mA fixed
- Automatic start-up and switching to the operational phase
- Warning of malfunction of the lamp
- LCD readout of lamp current, cathode heating current and lamp voltage

OEM Versions

PSD 182

- Three selectable heating voltages for different lamp types
- Anode current 300 mA
- Automatic start-up and switching to the operational phase
- Remote function control and status monitoring via external terminals

PSD 183

- Heating voltage 2.5 V
- Anode current 300 mA
- Automatic start-up and switching to the operational phase
- Remote function control and status monitoring via external terminals



Type No.	PSD 181 Bench top version P/N 45102463	PSD 182 OEM version P/N 45102464	PSD 183 OEM version P/N 45108500
Anode current	300 mAdc fixed & 100 – 400 mA adjustable	300 mAdc fixed	300 mAdc fixed
Anode voltage (normal operation)	55 – 115 Vdc	55 – 115 Vdc	55 – 115 Vdc
Anode voltage (no load)	140 Vdc typ.	140 Vdc typ.	140 Vdc typ.
Trigger voltage	580 ± 20 V	580 ± 20 V	580 ± 20 V
Anode current stability	≤ 5 x 10 ⁻⁶ p-p (0.1 – 10 Hz) for 300 mAdc fixed	≤ 5 x 10 ⁻⁶ p-p (0.1 – 10 Hz)	≤ 5 x 10 ⁻⁶ p-p (0.1 – 10 Hz)
	≤ 5 x 10 ⁻⁵ p-p (0.1 – 10 Hz) for 100 – 400 mA	—	—
Anode current drift (after 30 min. warm-up)	± 0.01 % h max.	± 0.01 % h max.	± 0.01 % h max.
Heater voltage for warm-up	12 ± 1 Vdc at 0.85 A 2.5 – 0.3 Vdc at 5.7 A 2.0 – 0.3 Vdc at 5.7 A	12 ± 1 Vdc at 0.85 A 2.5 – 0.3 Vdc at 5.7 A 2.0 – 0.3 Vdc at 5.7 A	2.5 – 0.3 Vdc at 5.7 A (2.0 – 0.3 Vdc optional)
Heater voltage for operation	3 ± 0.1 Vdc for 12 V heater	3 ± 0.1 Vdc for 12 V heater	0 Vdc
Warm-up time	approx. 10 s	approx. 10 s	approx. 10 s
Mains supply	85 – 264 Vac, 50/60 Hz	85 – 264 Vac, 50/60 Hz	85 – 264 Vac, 50/60 Hz
Power consumption	approx. 90VA/1A max.	approx. 90VA/1A max.	approx. 78VA/1A max.
Operating temperature range	5 – 35 °C	5 – 35 °C	5 – 35 °C
Real humidity (at 40 °C w/o condensation)	5 – 95 %	5 – 95 %	5 – 95 %
Cooling	not required	not required	not required
Protection type	IP 20	IP 20	IP 00
Low voltage directive			EN 61010, if applicable so far, VDE 0160
EMC-directive	EN 55014 DIN VDE 0875 EN 50082-1 EN 60555-2	EN 55015 DIN VDE 0875 EN 50082-1 EN 60555-2	EN 55015 EN 60555-2 IEC 801-4 IEC 1000-4-11
CE-label	yes	yes	yes
Dimensions (LxWxH) in mm	235 x 260 x 155	200 x 135 x 86	200 x 127 x 55
in inches	9.25 x 10.24 x 6.1	7.88 x 5.32 x 3.39	7.88 x 5.0 x 2.17
Weight (kg)	3.3	1.6	0.6
Applicable lamps	all 30 Watt lamps from HNG and most from other manufacturers	all 30 Watt lamps from HNG and most from other manufacturers	all 30 Watt lamps with 2.5 V heater

Products as supplied may differ from the illustrations and descriptions in this brochure.
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