

# 610 Constant Current Power Supply

## User Notes

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The Bentham 610 is a constant current power supply designed for use with stabilised light sources and calibration standard sources. The unit is capable of sourcing 10.4 A DC current at a voltage of up to 26 V.

### Front Panel

The front panel of the 610 Constant Current PSU has a number of features:

- A Power switch and output button allows the user to switch the unit on without powering on the source
- A rotary switch allows the user to select:
  - One of five calibrated current settings (4.00 A, 5.40 A, 6.30 A, 8.50 A and 10.40 A)
  - A local variable setting which can be set using the potentiometer
  - A PC setting which can be controlled via the USB port in the rear of the PSU
  - Preset setting which can be set using the USB port
- LCD screen showing set output, voltage, power and burn time
- 3 pin, 12V fan connector
- Negative and positive 4mm banana socket terminals

### Lamp Operation

1. Respecting the polarity of the lamp connect the lamp to the PSU and connect any fans on the lamp using the 3 pin connector

2. Power on the unit and then using the rotary switch, select the correct current for the lamp. Alternatively, users can set their own current value using the variable setting, PC setting or preset settings
3. Press the output button to power on the lamp
4. Allow the lamp to stabilise before commencing measurements
5. When finished, press the output button to extinguish the lamp

## 610 Compatible Lamps

### Calibrated Sources

Source	Current Setting (A)	Nominal Voltage (V)	Fan
CL2	8.50	12	No
CL2-250	10.40	24	No
CL2-Nernst	8.50	4	No
CL7	6.30	24	Yes
SRS8	4.00	12	No
SRS12	8.50	12	No
TSRF/TLF (20W)	3.20	6	No
TSRF/TLF 1000	8.50	12	No
TSRF/TLF 1800	10.40	24	No

### General Illuminators

Source	Current Setting (A)	Nominal Voltage (V)	Fan
IL1	8.50	12	Yes
IL6	8.50	12	Yes
IL6 250	10.40	24	Yes
IL6 Nernst	8.50	4	Yes
IL7 Xe	8.50	-	Yes
IL75 Xe	5.40	-	No

All sources:

- Ensure the correct polarity is respected at all times, connecting red to red and black to black from lamp to 605
- Do not touch bulb with bare fingers
- Do not run the lamp at a current lower than that at which it is specified
- The lamp should be operated in configuration in which calibrated i.e. pins up or pins down. Operation in any other sense may invalidate calibration and curtail lamp life
- In general bare lamps require around a 5 minute warm up time, housed lamp up to 15 minutes for optimal stability
- It is of use to note the voltage as this can be used to determine whether the lamp has failed due to bridging of the filaments, as a drop in light output would be shown as a drop in voltage. Note also that these lamps are operated at slightly under their nominal rating, and as such the voltage readings may be lower than nominal voltage

Calibrated sources:

- Do not remove bulb from holder
- Bentham recommend that the device should be re-calibrated every 100 hrs use or 1 year, whichever comes first

## **Programming the 610 Power Supply**

The 610 Constant Current Power Supply is fully programmable and has a software constant voltage mode suitable for the control of driver-free sources. To do program the 610 please refer to the 610 and 610 4WS Communications manual found on the Bentham Support page.

## Guarantee

BENTHAM INSTRUMENTS warrants each instrument to be free of defects in material and workmanship for a period of **one** year after shipment to the original purchaser. Liability under this warranty is limited to repairing or adjusting any instrument returned to the factory for that purpose.

The warranty of this instrument is void if the instrument has been modified other than in accordance with written instructions from BENTHAM, or if defect or failure is judged by BENTHAM to be caused by abnormal conditions of operation, storage or transportation.

This warranty is subject to verification by BENTHAM, that a defect or failure exists, and to compliance by the original purchaser with the following instructions:

1. Before returning the instrument, notify BENTHAM with full details of the problem; including model number and serial number of the instrument involved.
2. After receiving the above information, BENTHAM will give you shipping instructions or service instructions. After receipt of Shipping instructions, ship the instrument "carriage paid" to BENTHAM. Full liability for damage during shipment is borne by the purchaser. It is recommended that instruments shipped to us be fully insured and packed surrounded by at least 2 inches of shock-absorbing material. Specific transit packaging as used in monochromators etc. must be installed.

BENTHAM reserves the right to make changes in design at any time without incurring any obligation to install same on units previously purchased.

This warranty is expressly in lieu of all other obligations or liabilities on the part of BENTHAM, and BENTHAM neither assumes, nor authorises any other person to assume for it, any liability in connection with the sales of BENTHAM'S products.

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## WEEE statement

Bentham are fully WEEE compliant, registration number is WEE/CB0003ZR. Should you need to dispose of our equipment please telephone 0113 385 4352 or 4356, quoting account number 135419.

