

LPS-100
Lamp Power Supply
OPERATION MANUAL



Photon Technology International

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PTI Standard Instrument Warranty

Warranty Period and Extent

Photon Technology International (PTI) warrants that its instruments will be delivered in a functional state and free from defect, and will meet stated specifications for a period of one (1) year. The warranty period will start on the date of shipment by PTI. In case of systems that include installation by PTI, the warranty will start from the date of installation or thirty (30) days after the shipping date, whichever is earlier.

This warranty is in lieu of all other warranties, expressed or implied, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose, nor will PTI provide training on its use free of charge. PTI shall not be responsible for any liability, loss or damages, caused or alleged to be caused, by the system, as a result of use or operation including, without limitation, consequential damages and loss of profit.

Specific Exclusions and Limitations

1. It is recognized that the performance of consumable items will diminish as a function of use, and that it may be necessary to replace such items to restore the stated specifications. Consumable items (arc lamps, filters, cuvettes, lenses, etc.) are not covered by the warranty.
2. The original manufacturer's warranty will be maintained for major system components not manufactured by PTI (e.g. computers, printers, microscopes, cameras and components thereof).
3. Fiber optic bundles are not covered by the warranty.
4. The use of arc lamps not supplied by PTI (or approved in writing by PTI) will void PTI's warranty on all illuminator subsystem components.
5. If there is any evidence of physical contact with coated optics (e.g. fingerprints), the warranty on that item will be voided.
6. If the optical components are realigned by the customer without specific permission from PTI, the warranty will be voided. Please note that the customer is responsible for changing lamps and aligning the lamp after installation. Aligning the lamp will not void the warranty unless other exclusions are applicable (nos. 4 and 5).
7. Instrument systems that are not authorized to be installed by anyone other than PTI service personnel will not be warranted.
8. In case of systems that include installation as part of the original purchase, unpacking the instrument by anyone other than PTI personnel will void the warranty.
9. Moving systems to another site within a facility or to another location, without specific permission from PTI, will void the warranty.
10. Damage or loss caused by shipping is not covered by the warranty.
11. Damage caused by improper operation of the instrument will void the warranty.
12. Damage caused by equipment not purchased from PTI that is attached to the instrument is not covered by the warranty.
13. Warranty is valid only in the state, province or country of the original purchase.
14. Warranty is valid only on systems having a computer supplied by PTI.
15. Software upgrades performed on the PTI computer workstation (e.g., adding word processors, image editors, etc.) not authorized by PTI will void the warranty.
16. Hardware upgrades performed on the PTI computer workstation (e.g., adding network boards, sound cards, etc.) not authorized by PTI will void the warranty.

Warranty Returns

A Return Material Authorization (RMA) Number must be obtained from the PTI Service Department before any items can be shipped to the factory. Returned goods will not be accepted without an RMA Number. Customer will bear all shipping charges for warranty repairs. All goods returned to the factory for warranty repair should be properly packed to avoid damage and clearly marked with the RMA Number.

Warranty Repairs

Warranty repairs will be done either at the customer's site or at the PTI plant, at our option. All service rendered by PTI will be performed in a professional manner by qualified personnel.

Software

PTI makes no warranties regarding either the satisfactory performance of the software or the fitness of the software for any specific purpose. PTI shall not be responsible for any liability, loss or damages caused or alleged to be caused by our software as a result of its use, including, without limitation, consequential damages and loss of profit, nor will PTI provide training on its use free of charge.

Safety Symbols Used In This Manual

(NOTE: Not all may be present in this manual)



(DANGER)

This symbol indicates the potential for serious bodily harm. Extreme care should be taken when performing the task and all warnings should be strictly adhered to. All possible steps should be taken to ensure safety.



(WARNING)

This symbol represents the potential for electrical shock and/or other bodily harm. Care should be taken when performing the task. There is also the potential for damage to equipment if warnings are not taken seriously.



(CAUTION)

This symbol represents the potential for equipment damage. The user is expected to use care when performing the task.



(RADIATION)

This symbol represents the risk of UV radiation. User must take all appropriate steps to protect eyes and exposed areas of the skin.

Main Safety Precautions

UV PRECAUTIONS

- Never look directly at an operating lamp; severe eye injury will result. Wear UV protective lenses, such as a welder's helmet, when working around operating lamps. Care should also be taken to ensure that exposed areas of the skin are protected.

HANDLING OF LAMPS

- Compact arc lamps contain a highly pressurized gas, and present an explosion hazard *even when cold*. Wear face protection, such as a welder's helmet, whenever handling lamps.
- Some lamps can only be mounted one way in the lamp housing since the anode (+) and cathode (-) have different diameters. However, some lamps have the same diameter anode and cathode that could lead to an orientation error. **OBSERVE POLARITY!**
- The anode adapter should not put any mechanical stress on the lamp. It may be necessary to bend the electrical wire connected to the adapter slightly in order to relieve any stress on the lamp.
- Never touch the quartz envelope with bare hands; such handling may lead to deterioration and premature failure of the arc lamp, and consequentially, a potential for the lamp to explode. Soft cotton gloves should be worn when removing and installing lamps.
- Pressurized lamps operate at **VERY HIGH TEMPERATURES** and therefore care must be taken when handling the lamps.

POWER SUPPLY PRECAUTIONS

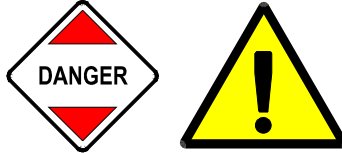
- Never operate a lamp power supply without a lamp attached. Otherwise the voltage rises to a lethal level, and may cause damage to the components.
- Do not open the power supply case. High voltage is present, and there are no user-serviceable parts inside.
- It is strongly recommended that the lamp power supply be connected to an isolated line supply to minimize electrical interference with other devices such as computers, photomultiplier detectors, etc. Also, physically position the power supply and igniter as far away as possible from computers, signal cables and other electrically sensitive items.

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1 Description

1.1 Introduction



Never operate a lamp power supply without a lamp attached. Otherwise the voltage rises to a lethal level, and may cause damage to the components.

Do not open the power supply case. High voltage is present, and there are no user-serviceable parts inside.

The LPS-100 Lamp Power Supply is a highly regulated DC power supply that provides very stable power for 75 W Xenon compact arc lamps.

The unit is air cooled with an internal fan. Proper ventilation is required for reliable operation; the unit should not be placed directly against a wall or another device.

1.2 Specifications

Electrical

Input Voltage (VAC):	100 - 240
Line (Mains) Fuses (105-264 V):	1.5 Amp, 250 V slow blow (2 fuses required)
Power Rating (W):	123
Line Frequency (Hz):	50/60

Ballast Lifetime (h):	25,000
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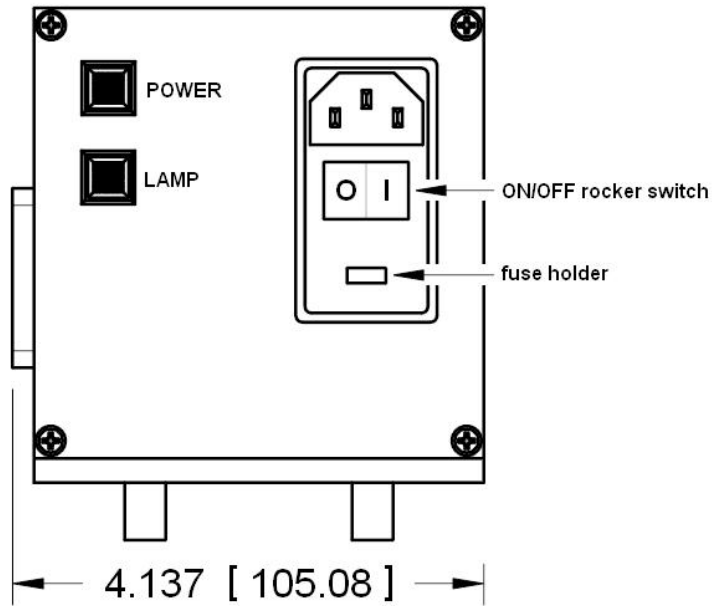
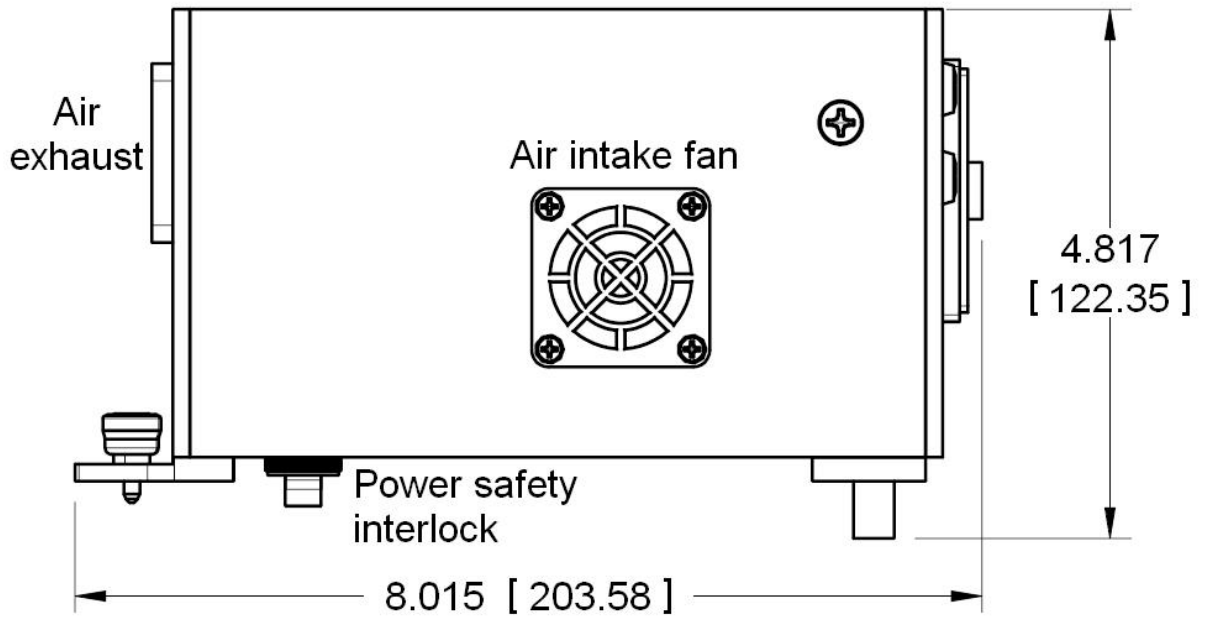
Environmental Requirements

Storage Temperature Range (° C):	-20 to +50
Operating Temperature Range (° C):	0 to +60
Humidity Range:	20% to 95% non-condensing
Altitude (operating):	0 – 3,000 m (0 - 10,000 ft)

Physical

Dimensions:	4.82 H x 4.14 W x 8.02 D inches 122 H x 105 W x 204 D mm 4.17 inches, 106 mm H above the lamp housing
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Weight:	4 pounds 2 kg
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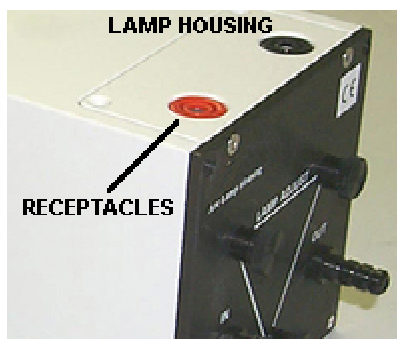


2 Installation

2.1 Attaching the power supply to the lamp housing

The power supply is shipped from the factory unattached to the lamp housing. To attach the it to the lamp housing, follow these steps:

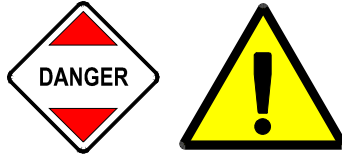
1. Observe the shielded red and black banana plugs on the bottom of the power supply and the same colored sockets on the lamp housing.
2. Place the power supply on top of the lamp housing such that the red and black shielded plugs on the bottom of the power supply fit into the same colored receptacles on the lamp housing (see figure below).



3. Slightly rock the power supply side-to-side while pushing down until the power supply is firmly in position and flat against the lamp housing.
4. Tighten the lock screw that is located on the top side of the power supply. It may help to slightly rock the power supply side-to-side while tightening the power supply lock screw. You should be able to turn it 3 to 4 turns. Do not over-tighten or you may strip the threads.

3 Operation

3.1 Arc Lamps



Never operate the lamp power supply without a lamp attached, otherwise the voltage will rise to a lethal level, and may cause damage to the components.

1. Turn on the lamp power supply by pushing in the 'I' on the rocker switch.
2. The lamp is extinguished by pushing in the 'O' on the rocker switch.
3. If you want to turn on the lamp again, wait at least 60 seconds before restarting the lamp.

4 Service

4.1 Troubleshooting

4.1.1 If the lamp fails to ignite

1. **Turn off the power** switch on front panel.
2. Remove the lamp power supply AC cord from both the wall plug and the rear panel.
3. Check the Line (Mains) Fuses for visual defects and/or test with an ohm meter. Replace as necessary (see 4.2 [Replacing The Fuses](#))
4. Check the condition of the lamp and replace as necessary.
5. Reconnect the lamp power supply AC cord to both the wall plug and the rear panel.
6. Turn on power switch on front panel.
7. Check the volts/watts/amps settings as specified in the *Operation* section.
8. If the lamp still fails to ignite, call PTI for assistance.

4.1.2 If the indicator lights or fan do not work

1. Call PTI for assistance.



Do not open the power supply or igniter cases. High voltage is present, and there are no user-serviceable parts inside.

4.2 Replacing the fuses

4.2.1 Line (Mains) Fuse



Any fuse that fails repeatedly is potentially indicating a problem of a serious nature. In the event that a fuse fails shortly after, or upon replacement, contact PTI for assistance.

1. **Turn off the power** switch on front panel.
Remove the lamp power supply AC cord from both the wall plug and the rear panel.
2. Insert the blade of a small flat blade screwdriver in one of the two slots under the bottom of the black fuse cover. Twist the screwdriver to pop open the fuse cover. Lift up the edge of the fuse cover to fully expose the red fuse holder.
3. Insert the screwdriver blade under the bottom edge of the red fuse holder and twist the screwdriver to lift the fuse holder. Pull the fuse holder out of the socket.
4. Insert the screwdriver blade under the metal end on the bottom of the fuse holder and pop the fuse end out of the holder. Repeat for the other fuse.
5. Replace with 1.5 Amp, 250 V slow blow fuses
6. Hold the bottom ends of the fuses in the fuse holder and slide the bottom of the fuse holder into the fuse holder socket (the bottom of the fuse holder has tabs sticking out; the top of the fuse holder is flat). Push the fuse holder down into the socket. You may have to wiggle the top of the fuse holder until it falls into place in the socket. Push the top of the fuse holder down so that it is below the level of the black rim. Lower the black fuse cover over the rocker switch and fuse holder. Carefully push both corners of the fuse cover so that it fits flush into the black rim.

5 Service Calls to PTI

Before calling for service, please review the **Troubleshooting** section. To aid our Service Department in discussing your questions, as well as to aid in the timely solution of any problems, please assemble as much as possible of the following information before calling PTI.

- Your system serial number, or as many other component serial numbers as possible
- The name of the purchaser or principal investigator, and the company or institution where the instrument is located.
- Your instrument type and hardware configuration
- The software name and version (in the program window, click on Help | About to find the software name and version information).
- The date on which your instrument was installed
- As much detail as possible on the particular chain of events or circumstances that led to the problem. This information should include the complete instrument status and data gathering protocol.
- If possible, be prepared to send sample data and hardware and acquisition setup files as email attachments to PTI service personnel.

Contact PTI Service at
Toll Free: 877-784-4349 US/Canada
Phone: 609-894-4420 Ext 115
Fax: 609-894-1579
Email: PTIService@pti-nj.com

VISIT OUR WEBSITE AT
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