



OPERATING MANUAL

PORTABLE / RECHARGEABLE UV LATERNS



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81-0005-01 REV B

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1.0 General Information

1.1 Introduction

Thank you for choosing Ultra-Lum, Inc. for your Instrument needs. We strive to build quality into each and every product we manufacture. We all hope that the product purchased meets and exceeds your goals and expectations. Please feel free to contact us with any questions as our knowledgeable sales and customer support staff are ready and willing to work with you. Please refer to the following contact information:

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Ultra-Lum's Portable / Rechargeable UV Lamp models can operate one or both lamps simultaneously. Single lamp operation extends operation time and battery life while dual lamp operation provides considerable increase in UV output intensity. The Portable /Rechargeable lanterns should be fully charged upon receipt. However it is recommended that the lantern be plugged into the electrical outlet for a minimum of 20-24 hours prior to initial use to ensure a full charge has been received. The Portable / Rechargeable lanterns utilize a built in recharging circuit with sealed lead acid battery. The lead acid battery can never be overcharged, thus you can place your new lantern in the recharging mode at anytime without fear of overcharging and / or the battery retaining a new memory. All Portable / Rechargeable lanterns utilize two 6-watt UV lamps. Models with UVB or UVC lamps installed have a UV transmitting glass filter installed. The light output is single wavelength ultraviolet at 254nm (UVC), 300nm (UVB), or 365nm (UVA) only. Designed to run using a single AC line voltage 115, or 230 VAC 50/60Hz. This product is intended for indoor use only.

Unpacking and inspection

- 1.1.1 Opening the shipping container.
 - 1.1.1.1 Using a utility knife or equivalent cut through the packing tape that secures the flaps together.
- 1.1.2 Carefully remove the Portable / Rechargeable lantern from the container and place the container aside.
 - 1.1.2.1 We suggest saving the container for later instrument storage, moving from one lab to another, or returning the unit for service if required.
- 1.1.3 Inspect the unit for damage.
 - 1.1.3.1 Broken lamps.
 - 1.1.3.2 Dented or damaged enclosure.
 - 1.1.3.3 Fractured or cracked filter glass.
 - 1.1.3.4 Anything else that may be considered unacceptable.
- 1.1.4 Ensure that all of the items purchased are included with the shipment. Listed here are the standard items that ship with each unit.
 - 1.1.4.1 This operation manual..... 81-0005-23
- 1.1.5 If any items are missing or damaged please contact customer service so that the apparent problems may be addressed.

1.2 Warranty

Ultra-Lum, Inc. products are guaranteed to be free of defects in materials, workmanship, and manufacture for a period of two (2) years from the date purchased. Consumable and disposable products including but not limited to Ultraviolet lamps are guaranteed to be free from defects in materials and manufacture for a period of ninety (90) days from the date purchased. If a product failure should occur during the warranty periods listed above Ultra-Lum, Inc. will examine the inoperative product and have the option of repairing or replacing any parts which in the judgment of Ultra-Lum, Inc. were originally defective or became so under conditions of normal usage and service.

No warranty shall apply to any product or part thereof that has been subjected to accident, negligence, alteration, abuse, or misuse by the end-user. However, Ultra-Lum, Inc. makes no warranties, whatsoever, with respect to parts not supplied by Ultra-Lum Inc. or that have been installed, used or serviced, other than in strict compliance with the instructions appearing in the operating manual supplied by Ultra-Lum, Inc.

In no event shall Ultra-Lum, Inc. be responsible to the end user for any incidental or consequential damages, whether foreseeable or not, including but not limited to property damage, inability to use equipment, lost business, lost profits, or inconvenience arising out of or connected with the use of products supplied by Ultra-Lum, Inc., nor is Ultra-Lum, Inc. liable for or responsible for any personal injuries occurring as a result of the use, installation, or servicing of products.

2.0 Specifications

2.1 Safety Precautions

2.1.1 **CAUTION:** Dangerous Ultraviolet Radiation



- 2.1.1.1 Ultraviolet transilluminators are a powerful source of dangerous ultraviolet radiation. It is **VERY IMPORTANT** to protect your eyes and skin from exposure.
- 2.1.1.2 The **UV blocking shield** blocks some of the dangerous ultraviolet radiation from exiting the UV transilluminator, but under no circumstances should the unprotected eyes or skin be exposed to the radiation. Ultra-Lum UV blocking covers, UV blocking shields, UV blocking glasses, UV blocking goggles, and UV blocking full face shields are available which when used in conjunction with long sleeve shirts or lab coats and gloves should provide and allow safe handling of ultraviolet products without adverse effects. Ensure that all personnel in the area who are using or observing this equipment are adequately protected.
- 2.1.1.3 **DO NOT** attempt to use an ultraviolet transilluminator without the UV blocking shield, as this will cause undesired exposure to dangerous Ultraviolet radiation.
- 2.1.1.4 Refer to accessories section 2.6 for recommended ultra-violet safety equipment.

2.1.2 **CAUTION:** Electrical Exposure



- 2.1.2.1 Do not attempt to operate the transilluminator with the filter enclosure cover removed as this will expose the user to the **HIGH VOLTAGE** lamp power supply output circuitry as well as the **HIGH VOLTAGE** AC main's circuitry.
- 2.1.2.2 When lamp replacement is required, ensure that the AC mains line cord is **NOT** plugged into the AC wall receptacle. If the AC line cord is plugged in, there may be **DANGEROUS HIGH VOLTAGE** present at the lamp connectors.
- 2.1.2.3 Never operate the system in or near water or in environments with high levels of moisture in the air.

2.1.3 **CAUTION:** Read Manual



- 2.1.3.1 Refer to the Portable / Rechargeable lantern manual before operating the device.

2.1.4 **CAUTION:** Lamps contain Mercury



- 2.1.4.1 Dispose according to Local, State, or Federal Laws

2.2 Safety Features

2.2.1 AC Mains Switch

- 2.2.1.1 The Main power switch can be used at any time to turn off and shut down the lantern.

2.3 Electrical Ratings

- 2.3.1 Input AC Line Voltage 115VAC, or 230VAC
- 2.3.2 AC Line Frequency 50/60Hz

2.4 Mechanical

- 2.4.1 Exterior Dimensions 10.5" D x 5.5" H x 3" W (27 cm x 14 cm x 8 cm)
- 2.4.2 Weight 3 lbs. (1.4 Kg)
- 2.4.3 UV Glass Filter Size 5 x 15 cm
- 2.4.4 AC line Cord Hard wired and stored inside the enclosure.
- 2.4.5 Battery 12VDC Sealed Gel Based / Lead Acid

2.5 Environmental Conditions for Instrument Operation

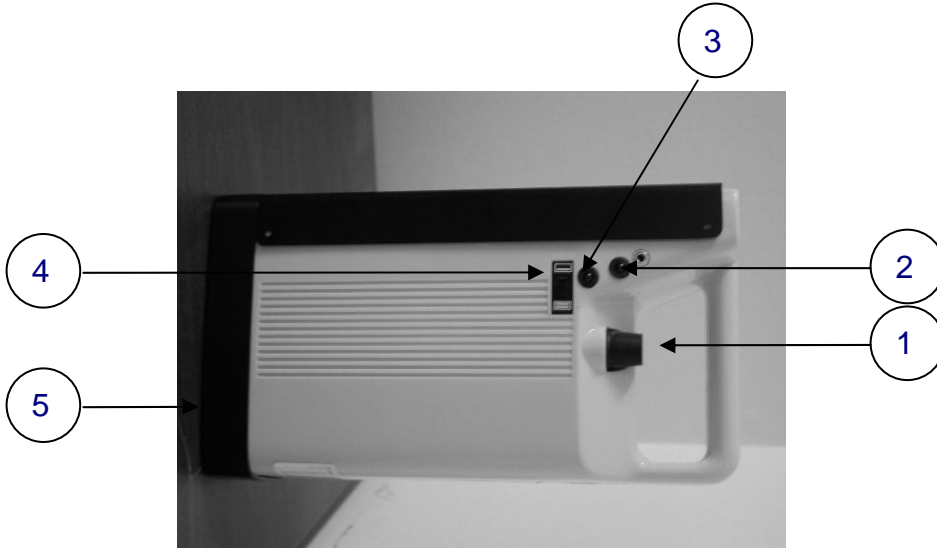
- 2.5.1 Relative Humidity 5-95%
- 2.5.2 Temperature 10-40 Degree's C
- 2.5.3 Installation category II
- 2.5.4 Pollution Degree 2

2.6 Accessories and Parts

- 2.6.1 UVC 6 Watt lamp 990-1060-01
- 2.6.2 UVB 6 Watt lamp 990-1060-02
- 2.6.3 UVA 6 Watt lamp 990-1060-03

2.7 Side Panel Symbols and Controls Defined

1. AC Mains power switch.
2. Charge Green Led Indicator
3. Operate Red Led Indicator
4. Lamp Selector switch
5. AC line cord compartment



3.0 Operating Instructions

3.1 Setting up and using the Portable / Rechargeable Lantern

- 3.1.1 This is a hand held portable device. It can be set down on a flat surface and operated or set to charge the battery.
- 3.1.2 The Portable / Rechargeable Lantern has a charging circuit designed to operate with one of the following Voltages: 115 VAC, or 230 VAC line from 47 to 63 Hz. Refer to the ratings label located next to the AC line cord storage compartment on the bottom of the lantern for correct voltage requirement.
- 3.1.3 Plug the lantern into the appropriate AC wall receptacle for charging. The Charge circuit will automatically begin the charging process when the lantern is plugged in. When in charge mode the red led charge indicator will be lit. The unit will not allow the lamps to operate while plugged into the wall.
- 3.1.4 Ensure that both the product user and any personnel in the area are adequately protected from ultraviolet radiation. See the Safety Precautions section 2.1 of this manual for further information. Never look at UV light with unprotected eyes.
- 3.1.5 Turn on black power switch located on the top of the lantern. The green led indicator should light. To select (1) or (2) lamp operation move the lamp selector switch to the (1) lamp symbol or the (2) lamp symbol. There is a warm up period of approximately 5 minutes for the UV lamps to reach maximum intensity.

4.0 Care and Maintenance

4.1 Cleaning Recommendations

- 4.1.1 Clean all exterior surfaces using a mild non-abrasive cleaner such as glass cleaner with soft paper towels.

4.2 Lamp replacement

- 4.2.1.1 Turn off the power switch.
- 4.2.1.2 Remove the filter glass cover by unscrewing the four screws located on the sides of the unit.
- 4.2.1.3 Carefully lift up and remove the filter cover and place it out of the way. Be careful not to scratch the glass filter or place it on a surface that could cause it to fracture or crack.
- 4.2.1.4 The lamps need to be rotated in the socket to remove and replace. To remove rotate lamp then pull to remove.
- 4.2.1.5 When installing the lamps ensure that the lamps are seated correctly in the lamp sockets.
- 4.2.1.6 Reassemble the filter cover and ensure that the screws are tight and secure.
- 4.2.1.7 Turn ON the power switch.
- 4.2.1.8 Check to see if all of the lamps have lit.

5.0 Service

5.1 Trouble shooting

5.1.1 **Problem:** Unit does not operate.

- 5.1.1.1 Contact the Ultra-Lum for repair or replacement.

5.1.2 **Problem:** One or more lamps won't light with the power switch on and the power switch indicator is illuminated.

- 5.1.2.1 Turn off the power switch.
- 5.1.2.2 The lamp needs to be rotated in the socket to remove or replace.
- 5.1.2.3 Ensure that the lamp or lamps are seated correctly in the lamp sockets.
- 5.1.2.4 Turn ON the power switch.
- 5.1.2.5 If the Lamps still don't light, repeat the procedure, but this time, swap out a lamp that lights with one that does not light.
- 5.1.2.6 If the problem follows the lamp then the lamp should be replaced.

5.2 Customer Service

5.3.1 Contact Information

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