



Installation, Operation and Maintenance Guide

Ultraviolet Emitter Series

OUR MISSION

To design and build quality engineered air cleaning systems to provide indoor comfort, protect occupants, and ensure the reliability of critical systems and processes.

IMPORTANT

Save this Document for Future Reference & Warranty Information



Bioclimatic.com
331-JAN-2022

!IMPORTANT!

READ THIS BEFORE STARTING INSTALLATION.
DO NOT THROW AWAY THIS GUIDE.

For installation you **MUST**:

- Always disconnect power to the unit before handling any of the components.
 - **DO NOT** connect to the power before the installation is complete and personnel are aware of the imminent operation.
 - Carefully read this instruction booklet before beginning the installation.
 - Follow each installation or repair step exactly as shown and explained in this guide.
 - Observe all local, state, national and international electrical codes.
 - Pay close attention to all warnings and caution notices given in this guide.
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How to Contact Us: If you need help, please contact a Bioclimatic Air Systems Representative for technical assistance.

!CAUTION!

Do not touch while in operation shut off electricity before servicing!

This equipment should be inspected frequently and collected dirt removed from it regularly to prevent excessive accumulation that may result in flashover or risk of fire.

!MISE EN GARDE!

Ne touchez pas pendant le fonctionnement couper l'électricité avant l'entretien

Cet équipement doit être inspecté fréquemment et la saleté collectée doit être retirée régulièrement pour éviter toute accumulation excessive pouvant entraîner un court-circuit ou un risque d'incendie.

Table of Contents

01 INTRODUCTION	4
1.1 Disclaimer	4
1.2 Receiving	4
1.3 Storage	4
1.4 Warranty	5
02 GENERAL INSTALLATION	6
2.1 Considerations	6
2.2 Installation	6
2.3 Mounting	7
2.4 Mounting Power Supplies	8
2.5 RLM Wire Loom	9
2.6 RLM Options	10
2.7 Cleaning	10
2.8 Lamp Disposal	11
03 PRODUCT NUMBERS	12

01 INTRODUCTION

1.1 Disclaimer

These instructions are submitted with the implicit understanding that:

1. This manual is to guide the user of Bioclimatic equipment in the proper installation, operation and maintenance procedures to insure maximum equipment life with efficient operation.
2. The customer has assigned competent maintenance and operating personnel to the system described herein and will assume operational and maintenance responsibility upon start-up of the system.
3. The customer will read and thoroughly examine the foregoing instructions and will notify the seller of any points not fully understood, points of conflict or error.
4. The customer, in lieu of any notification to the contrary, has read and fully understands the operation of the system and is aware of the hazards of corrosion, abrasion and fire or explosion and shall take the necessary steps in the operation of equipment to control such hazards to the maximum extent possible.
5. Start-up assistance or field engineering service provided by B.A.S. shall in no way relieve the customer of responsibility for the proper operation of the system.



IMPORTANT: Any modifications to the unit by unauthorized personnel will void factory warranty. The unit must be installed in accordance with the manufacturer's instructions to preserve warranty.

1.2 Receiving

Products leaving the B.A.S. factory are inspected and in satisfactory operating condition. All equipment should be thoroughly inspected when received. Although all units are properly packaged, rough handling in transit can cause breakage. Any shortage or damage should be reported at once to the transportation company. Note the damage on the bill of lading before signing for the shipment. **No equipment may be returned to Bioclimatic without written authorization. Returned equipment sent without authorization will be refused and returned to sender.**

All products are shipped F.O.B. (Ex Works, FCA) Bioclimatic warehouse. Responsibility for all equipment passes to the buyer at the time equipment is loaded onto the carrier's truck.

1.3 Storage

If the UV or UV lamps are not installed upon delivery, it should be stored in a cool, dry, weather protected location. Do not stack any other equipment on top of the filters.

Continue on Next page

1.4 Warranty

The seller warrants the equipment against defective workmanship and material for fifteen (15) months from date of factory shipment or one (1) year from commissioning, whichever occurs first. In the fulfillment of its warranty, the sole obligation of seller shall be to repair or replace, at its option, F.O.B. its factory, any part or parts which are returned F.O.B. its factory, shipping charges prepaid, and which after inspection by seller are found to be defective. Buyer shall notify seller of defect in writing, promptly upon discovery and within the warranty period. This warranty does not cover defects caused by corrosion or normal deterioration; it does not extend to consequential damage, loss or delay associated with a warranty defect; and it does not cover any cost of labor, travel, or other expense associated with the repair or replacement of defective parts. Seller assumes no liability for product loss or other claims whatsoever arising out of the use or application of the equipment in any operations, whether the machine is used alone or in conjoint use with other equipment or processes. Notwithstanding the foregoing, seller's warranty obligations with respect to any items not manufactured by seller shall not exceed the obligations undertaken by the manufacturer thereof under express warranty to the seller. This express warranty is in lieu of all other warranties of fitness of the machine for any particular purpose.

There are no other representations, warranty of condition in any respects either expressed or implied, statutory, or otherwise in contract or tort, other than what is stated above.

The seller shall not be held liable in any way for consequential damages, however caused.

This warranty will not apply if the seller's equipment has been damaged due to improper installation, alteration, abuse or misuse, accident, fire, flood, or unavoidable circumstance. Further, this warranty will not apply if repairs, replacements, or alterations are made by others without the seller's prior written authorization.

In the event the state in which the equipment is installed does not permit the limitation or exclusion of implied warranties or conditions under given circumstances, the provisions of this written warranty are in addition to and not a modification of the statutory warranties and other rights and remedies provided by such laws.

Any modification to original equipment by any company or person other than the manufacturer will serve to cancel and void all of the seller's liability under the manufacturer's warranty. Enclosures containing electronic components are normally sealed by the manufacturer to prevent unauthorized tampering or adjustments. Only authorized service providers may break seals to complete calibration or to trouble shoot the unit. Unauthorized tampering or breaking seals will release the seller from any future liability under the warranty.

Disclaimer: The air purification technologies provided by Clean Air Group are intended to improve indoor air quality. They are not intended as a replacement for reasonable precautions aimed at preventing the transmission of contaminants, airborne or otherwise. All persons having access to the serviced premises should comply with applicable public health laws and guidelines issued by federal, state and local governments and health authorities such as the Centers for Disease Control and Prevention (CDC). Clean Air Group does not maintain that its products will protect people from all modes of transmission of bacteria, viruses or other contaminants, and excludes liability for loss or damage arising from any such claims or the consequences arising out of the application, use or misuse of its products.

02 GENERAL INSTALLATION



CAUTION: Never Expose Eyes or Skin to UVC – Read all materials before starting or operating this unit.

2.1 Considerations

Improper installation, adjustment, alteration, service, maintenance, or use can cause fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your supplier for information or assistance. The qualified installer or agency must use factory kits or accessories when installing this product. Refer to the individual instructions packaged with kits or accessories when installing them. Follow all local codes, wear protective glasses and work gloves. Read all instructions thoroughly and follow any warnings or cautions attached to any accessed area. Consult local building codes and the National Electrical Code (NEC) for all applicable requirements.



WARNING: Before installing or servicing, turn off all power — there may be more than one (1) switch.

- 2.1.1** RLM fixtures can be used to bathe surfaces, the air or both with UVC energy. For surfaces locate the RLM UVC Series at known growth areas such as the coil and drain pan first, then other moist areas around humidifiers, etc. They can also be placed in return, supply and mixed air plenums or any combination of locations.
- 2.1.2** Check first for power availability and probable service accesses.
- 2.1.3** Reflecting UVC energy within a target cavity increases its influence and overall effectiveness. Therefore, where possible, cover all likely reflection sites with UVC reflective materials (i.e., aluminum tape) to reduce any shadowing and to increase the flux density of UVC energy.

2.2 Installation

- 2.2.1** Consult all applicable codes before installing. Check fixture label(s) for the correct power requirements and supply the correct voltage from a suitable, protect (fused or breaker), and grounded power source.
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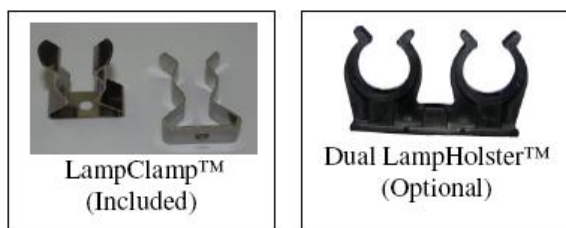


CAUTION: Using other than labeled voltages will void product warranty and may do additional damage to the entire system. Fixtures should be operated continuously to avoid growth of mold and bacteria under optimum conditions (AHU off).

- 2.2.2** Power must also be switched at all install access points with a properly rated, SPST interlock switch to completely de-energize the assembly when its install location is accessed. Accesses are to have signs in appropriate languages alerting maintenance personnel to the possible hazard of looking at or exposing skin to UVC energy (English label (s) provided). Any access may be equipped with a glass or Lexan® will block (absorb) UVC energy.
- 2.2.3** UVC energy may damage other plastics. Protect suspect items with known UVC resistant materials (i.e., aluminum tape) when they are in “line of sight” of UVC energy.
- 2.2.4** Determine the most desirable UVC lamp location for the intended use and then its power supply.
Note: the power supply may be mounted inside or outside of the target cavity.

2.3 Mounting

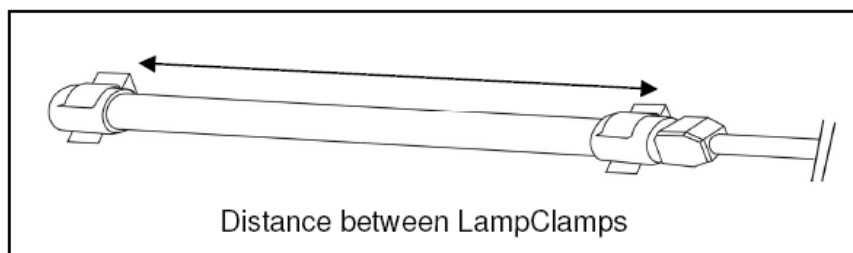
Use the spacing table below to determine the ideal distance between metal lamp clamps (supplied). Alternative clamps including Single and Dual LampHolsters™ can be used (ordered separately). Mount using the provided self-drilling screws. Lamp clamps may be mounted to any surface that addresses the intended site.



Note: Metal lamp clamps should not be attached to the “glass” portion of the lamp. LampHolster™ can be arranged to hold lamp at any point on the lamp surface.

Lamp Spacing Table

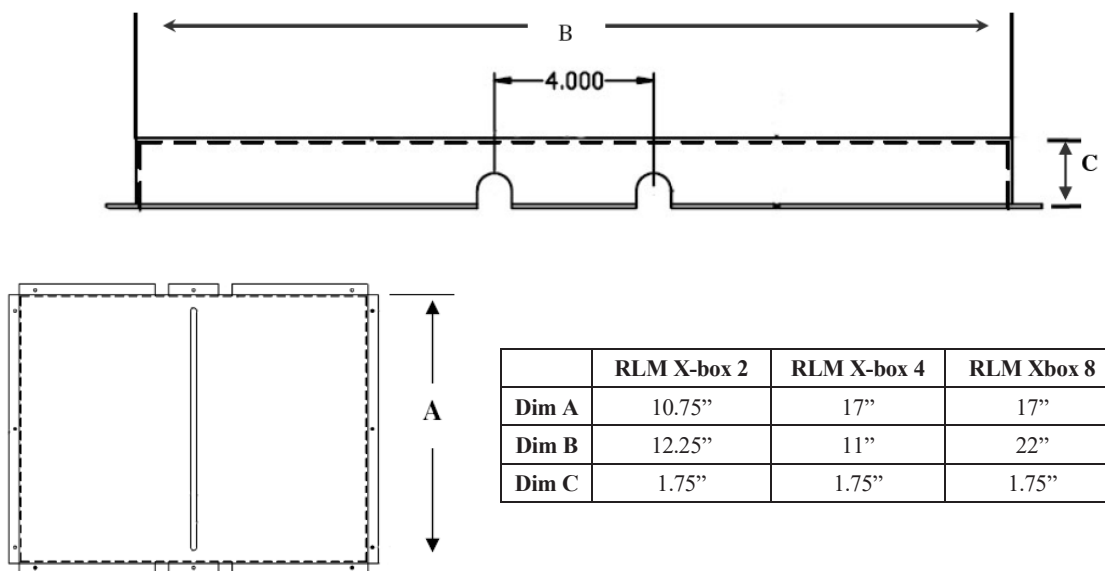
Nominal Lamp Length	Distance Between Lamp Clamps
33” (long) RLM UVC Lamp	Approximately 31.5”
61” (long) RLM UVC Lamp	Approximately 59.5”



2.4 Mounting Power Supplies

Note: RLM UVC Series power supplies can be mounted in existing controls panels, etc. The X-box series is used to house RLM UV-C Series power supplies. These housings provide proper mounting and wiring accommodations for either 2, 4 or 8 (each) power supplies. They include pre-installed power supply mounting studs, pre-punched base mounting holes, terminal block and wire raceways for the power-in and lamp power.

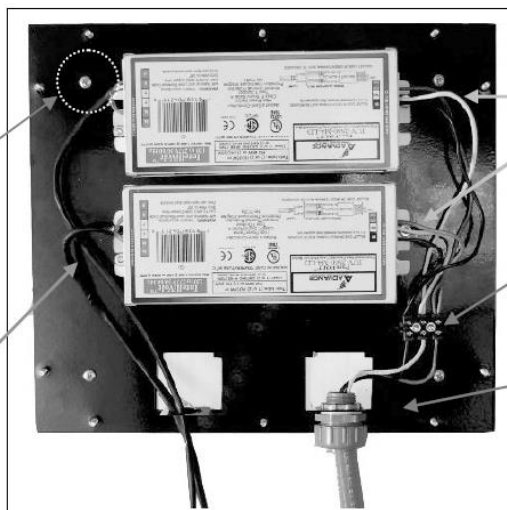
When choosing a mounting site, make sure that it can be supplied with the necessary power requirements, ballast hookup, and subsequent physical access for any future service.



[Shown below is the RLM X-Box 2 Mounting Plate with the cover removed]

Follow these steps:

1. Secure Power Supply to mounting plate with supplied nuts
2. Select location for X-Box (Keep in mind loom length)
3. Using 4 self-tapping #8 screws (provided) secure mounting plate to desired location.
4. Locate and route the RLM LampLooms to the X-Box and mark for cutting Loom to length.
5. After stripping the loom sheath and wire insulation, plug the wires into the power supplies following the color coding diagram on each power supply.



6. Wire power supplies from wire block. from wire block
7. Attach source power to wire block
8. Bring power to X-Box per local code (e.g. Liquid-Tight) Note power requirements, 120-277Vac- other voltages will void.

2.4.1 Power Ratings: The RLM UVC Series products come with 120-277Vac “universal” input at 50/60Hz Power Supplies. Consult local building codes and the National Electrical Code (NEC) for special requirements.



CAUTION: Always turn system off, especially power to the power supply before changing lamps. Failure to do so may produce a protection fault within the power supply. Before re-powering a fixture, follow manufacturer’s instructions and make sure “all” connections (including lamp pins) are tight and complete to avoid sparks, shorts or overheating. A protection fault requires a reset procedure. To reset the “programmed start” function of a power supply, disconnect “all” power and power wires and wait one minute. Start by reconnecting A/C power first and then turn on all switches. All lamps should light.

2.4.2 Connecting Power:

- 2.4.2.1** Read fixture label power requirements – sum the power requirements for all assemblies associated with the install and install in accordance with National and local codes.
- 2.4.2.2** All power-in wire gauge and switch ratings must be in accordance with applicable codes. Power must also be switched at all install access points with a properly rated, SPST interlock switch to completely de-energize the assembly when its install location is accessed.
- 2.4.2.3** Apply Door Warning Labels on all access doors/ports/panels as indicated above.

2.5 RLM Wire Loom

RLM Wire Loom allows for the remote location of the power supplies from the UVC lamp area. Looms are 18AWG triple-sheathed wire (color coded: 2 blue, 2 red) jacketed with carbon impregnated thermoplastic for UVC resistance.

- 2.5.1** After lamp and power supply locations has been determined, measure distance Wire Loom must span and & cut loom to proper length.
- 2.5.2** Strip protective jacket 1-1/2”.
- 2.5.3** Strip each wire (red and blue) 3/8”.
- 2.5.4** Wire is now prepared for installation into power supply (see to the right).



Lamp Looms come in the following sizes:

RLM-5-LOOM-KIT	RLM Loom Kit – 5'	Plenum Rated Wire with 1 Circline Plug
RLM-10-LOOM-KIT	RLM Loom Kit – 10'	Plenum Rated Wire with 1 Circline Plug
RLM-20-LOOM-KIT	RLM Loom Kit – 20'	Plenum Rated Wire with 2 Circline Plugs, each end

Note: 20' Wire Looms come with 4-pin connectors on each end, thereby allowing for re-use of “scrap” pieces or the extra 4-pin connector can be discarded.

2.8 Lamp Disposal

UV lamps should be treated as other mercury-containing devices such as fluorescent bulbs. Most lamps must be treated as hazardous waste and cannot be discarded with regular waste. Low mercury bulbs often can be discarded as regular waste; however, some state and local jurisdictions classify these lamps as hazardous waste. The U.S. EPA's universal waste regulations allow users to treat mercury lamps as regular waste for the purpose of transporting to a recycling facility (EPA 2011). This simplified process was developed to promote recycling. The National Electrical Manufacturer's Association (NEMA) maintains a list of companies claiming to recycle or handle used mercury lamps at <http://www.lamprecycle.org>. The most stringent of local, state or federal regulations for disposal should be followed.

03 PRODUCT NUMBERS*

UV RLM	Fixtures	Replacement Lamps
UVPLUG	UVREMOTE12-115SO-L	UV12EMITTER-SO
UVSINGLEHOLSTER	UVREMOTE22-115SO-L	UV22EMITTER-SO
UVDUALHOLSTER	UVREMOTE33-115SO-L	UV33EMITTER-SO
UVLOOMKIT5	UVREMOTE33-DUALHO-L	UV61EMITTER-SO
UVLOOMKIT	UVREMOTE33-DUALHOKIT	UV33EMITTER HO
UVLOOMKIT20	UVREMOTE61-DUALSO-L	UV61EMITTER HO
UVENC2POWSUP	UVREMOTE61-DUALHO-L	
UNENC4POWSUP		
UNENC8POWSUP		
RLM-RB-120/277		
SWSAFETY		
UVRADIOMETERFIX		

*If your specific model is not listed please contact the factory at:
1-800-394-3458 for operating instructions, safety information and
replacement parts or service.