



INSTALLATION MANUAL



This symbol on the product means the UVX-16/120, UVX-16/24, and UVMAX is listed by Underwriters Laboratories, Inc



UV-AIRE™ AIR PURIFYING SYSTEM

Model: UVX-16/24, UVX-16/120, and UVX-16/120-D (UVMAX)

READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION

This device MUST be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of HVAC appliances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction. Please retain these instructions after installation.

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The Air Purifying System you have purchased has been designed to be simple to install, operate and maintain. **Read this manual before you install the air purifying system.**

This product should be installed according to local and national codes and standards.



Parts included in the UVX Air Purifier package:



1. Ballast Assembly
2. Power Head Assembly
(1) UVX-16/120 & UVX-16/24
(2) UVMAX
3. Mounting Base
(1) UVX-16/120 & UVX-16/24
(2) UVMAX
4. UVC Lamp
(1) UVX-16/120 & UVX-16/24
(2) UVMAX
5. Quick Connect Power Cord w/ Plug
(120V & UVMAX models)
6. Quick Connect Power Cord w/ Pigtails
(24V models)
7. Duct Board Mounting Plate
(1) UVX-16/120 & UVX-16/24
(2) UVMAX
8. Sheet Metal Mounting Screws
9. Clear Viewport Plug
10. Mounting Template
11. Installation Manual

Options and additional parts recommended:



1. 16" 24V UVC Lamp (602617024)
2. 16" 120V UVC Lamp (602617120)

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WARNING

- **Never expose eyes or skin to UVC light from any source.**
 - Looking directly at the UVC light may cause permanent eye damage or blindness.
 - Never operate the UV-Aire™ Air Purifying System out of the plenum.
 - Designed for a closed duct system. **DO NOT** mount near a supply or a return air opening.
- **UV light will break down plastic material not rates for UV exposure. (Examples: wire, insulation, flex duct, drain pans, and humidifiers)**
 - The unit must be mounted at least 30” from the above stated type of materials.
- If it is necessary to mount the unit in direct line of sight of these types of materials, they must be shielded with aluminum foil, aluminum foil tape, or sheet metal.
- **DO NOT** install this equipment outdoors except within a package unit air handler that is fully protected from moisture entry.

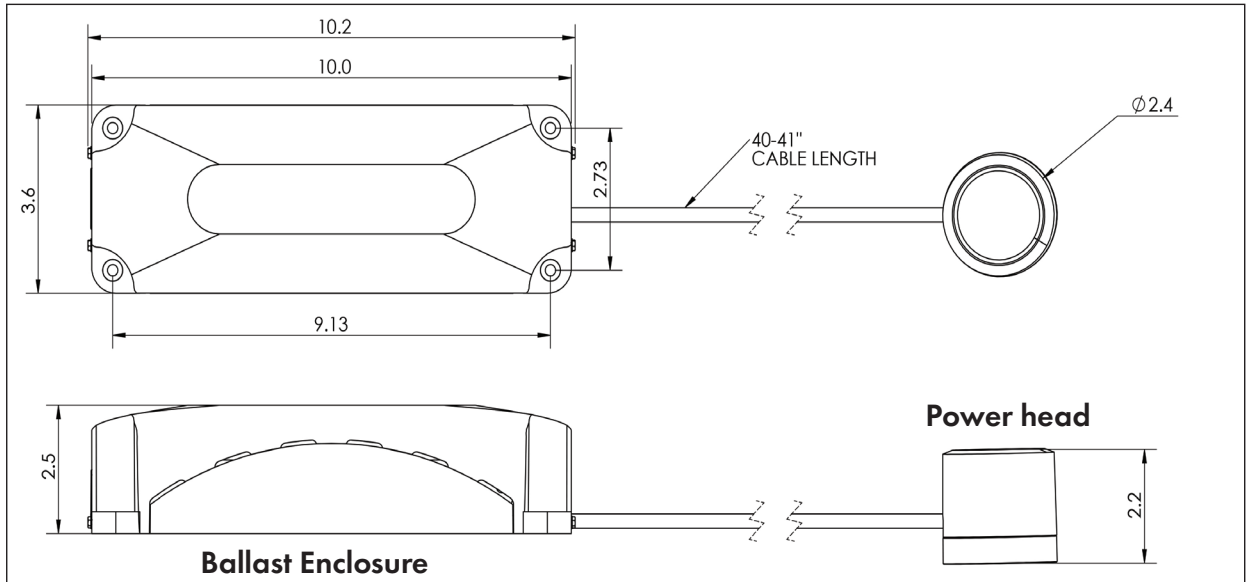
PRODUCT SPECIFICATIONS

UVX AIR PURIFIER SYSTEM MODELS

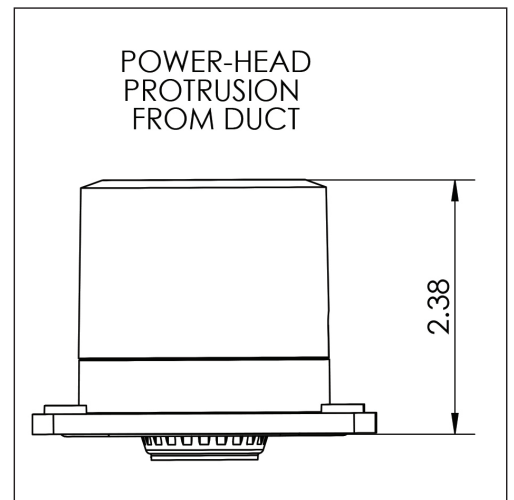
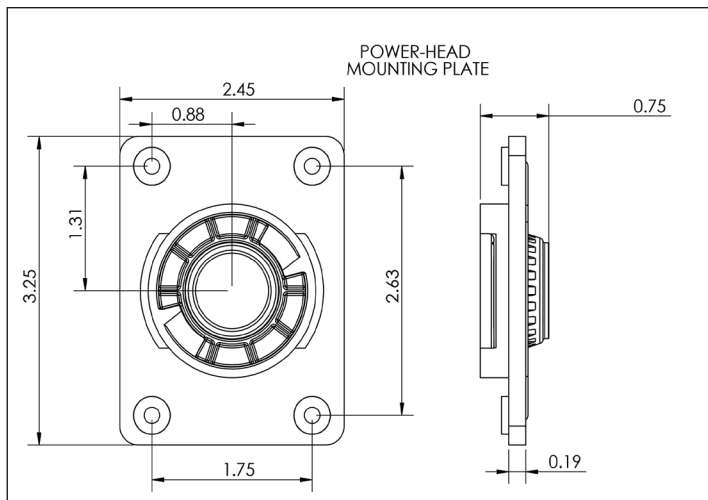
MODEL	UVX-16/24	UVX-16/120	UVMAX
LAMP CONFIGURATION		Single	Dual
SIZING (TONS)	1.5 to 5.0		
VOLTAGE	24	120	
LAMP WATTAGE	21	36	36 per lamp
LAMP OUTPUT	425mA	800 mA	
TEMPERATURE RANGE	-22 to 140° Ambient Indoor		
LAMP CABLE LENGTH	4 Feet		
POWER CABLE	Pigtail 10 feet, 3-wire (Incoming Power) to IEC C13 (Ballast Enclosure)	Plug 10 Feet, Nema 5-15P (Incoming Power) to IEC C13 (Ballast Enclosure)	
LAMP INTENSITY ($\mu\text{W}/\text{cm}^2@1\text{m}$)	62	132	132 per lamp (264)
LAMP INTENSITY ($\mu\text{W}/\text{cm}^2@1\text{in}$)	7,874	16,764	16,764 per lamp (33,528)
LAMP INTENSITY ($\mu\text{W}/\text{cm}^2@0\text{in}$)	21,948	46,728	46,728 per lamp (93,456)



DIMENSIONAL DATA



NOTE: UVX-16/24 & UVX-16/120 (1) Power head
UVX-16/120-D (2) Power heads





- This model is recommended for installations up to 2000 square feet. For installs greater than 2000 square feet please use 2 units or a dual power head model.
- For applications with multiple systems, we recommend one unit per system.
- For larger applications, multiple units are recommended, please contact technical support for additional sizing assistance.
- (24V Units Only) Each unit will require its own transformer.

INSTALLATION

1. Locate a suitable placement for the power head (See Figure A)
 - A. **Best Location:** For optimum coil cleaning, mount the unit in the supply return plenum as close to the coil as possible.
 - B. **Optional Location:** Supply or return plenum, preferably downstream from the air filter. (UVC light can damage the filter)

CAUTION: Investigate and determine the location of the coil prior to drilling holes in the duct for mounting unit.

2. The ballast assembly is connected to the power head by a 4' cable. This assembly must be mounted within 30" of the power head to ensure there is enough slack to replace the lamp without having to remove the ballast assembly. The ballast assembly can be screwed into any sheet metal using the supplied sheet metal screws. Locate area the ballast assembly will be mounted.
3. Apply supplied mounting template to air duct in a vertical position. Leave template mounted to duct for future reference.
4. Drill 1/8" diameter mounting holes at positions indicated on template (See Figure B).
5. Cut out the large opening (1-1/2" hole) on the template. (See Figure B)
6. Using a 3/8" drill bit, drill a viewport hole as indicated on the template. (See Figure B)

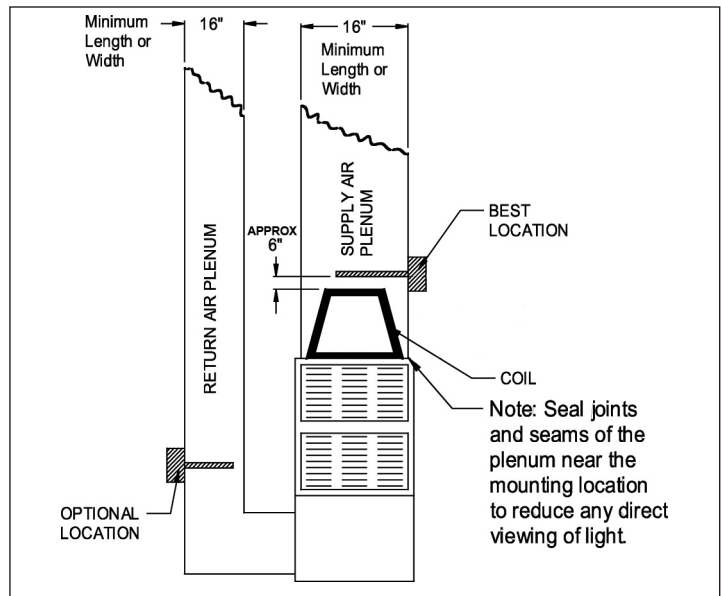


Figure A

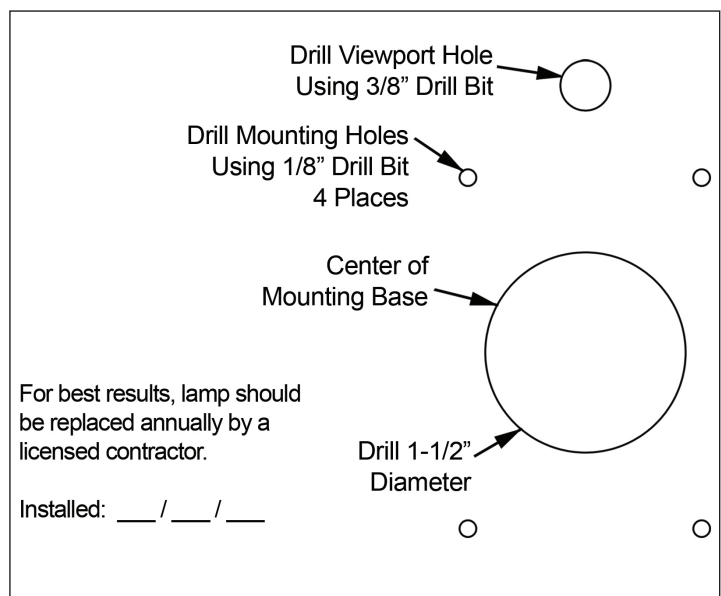


Figure B



INSTALLATION

- Attach the Mounting Base onto the duct with the supplied sheet metal screws. (See Figure C)
- Insert viewport into hole drilled in duct in step 6. (See Figure C). For UVMAX unit repeat steps 3-8 for 2nd lamp.

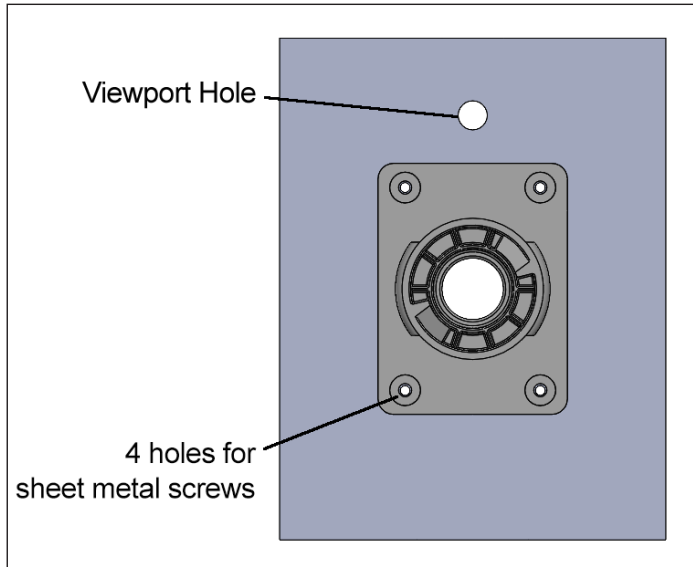


Figure C

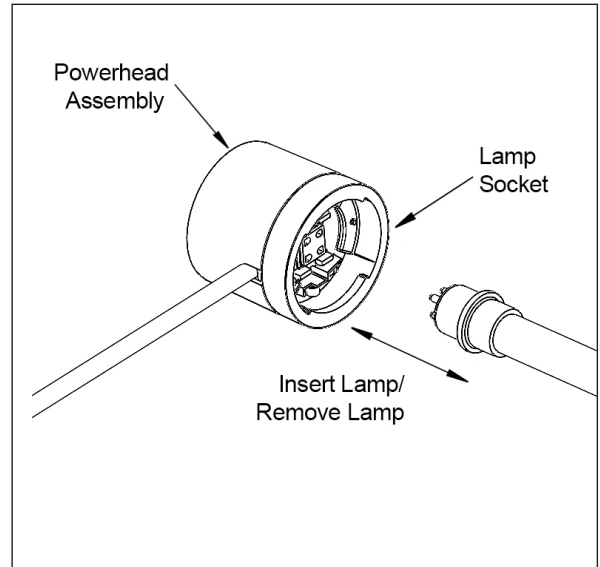


Figure D

- Locate potential mounting location for ballast assembly. Ensure there is enough slack in the lamp cord to fully remove the lamp for replacement. If not, relocate the ballast assembly closer so there is enough slack.

NOTE: Plan the ballast assembly mounting location before securing it in place.

- Ensure there is enough lamp cord length to entirely remove the power head and lamp from the installed space and that the power cord can reach the power source.
- Secure ballast assembly once an acceptable location is identified.

- Using supplied sheet metal screws, attach ballast assembly to duct in location selected in step 2.
- Do not handle the lamp with bare hands. Oils on your hands tend to reduce lamp intensity. Install lamp into power head. (See Figure D)
- Wipe off the lamp glass with the supplied alcohol wipe. Then insert lamp through the center hole of the mounting base. The power cord must be facing to the right 90° of the top of the mounting plate. (See Figure E)
- With the power head pressed against the mounting base, rotate the power head clockwise 90° until it clicks into place. For UVMAX unit repeat steps 11-13 for 2nd lamp.

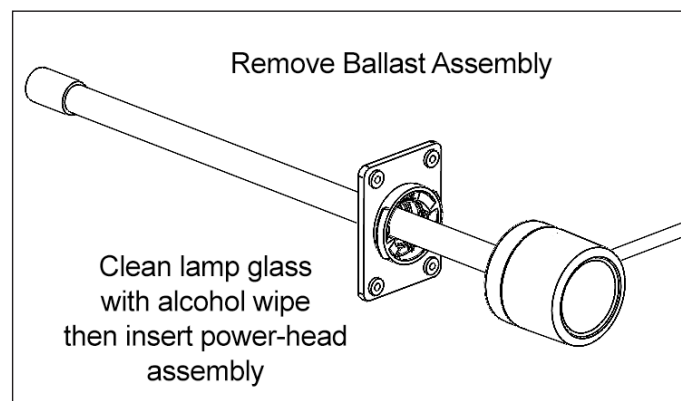


Figure E

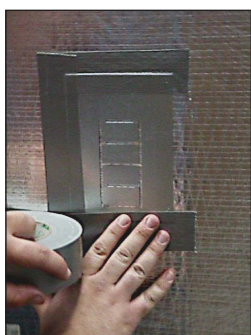


INSTALLATION

14. Do not wire the unit into the appliance fan circuit or thermostat circuit. Premature failure of the ballast and lamp will occur. The warranty will be voided.
 - A. 120V Models - Plug the power supply cord into a standard 120VAC electrical outlet.
 - B. 24V Models - Wire the power cord into a 24VAC/40VA transformer. Do not use the appliance fan circuit or thermostat circuit.
15. Check lamp operation by looking through the viewport hole. NOTE: The viewport will not allow any UVC rays to pass through. A blue glow should be seen in the duct.
16. If blue glow is not seen, make sure power head is fully clicked into place on the mounting base.
17. With aluminum or foil tape, seal all joints and seams of the plenum near the mounting location to reduce and direct viewing of light.

DUCT BOARD INSTALLATION

1. Mount the supplied metal mounting plate onto the duct with duct tape in either a vertical or horizontal position as shown in Figure 2 (See Step 1).
2. Bend tabs outward as shown in Step 2.
3. Using a knife or blade, cut out a rectangle opening in the duct using the mounting plate as a template. (See Step 3)
4. Remove the cut piece of duct. (See Step 4)
5. Bend both tabs down and through duct at first bend point. (See Steps 5 & 6)
6. Bend both tabs down at the second bend point up or down to pinch the duct material and grip the duct material. (See Steps 7 & 8)
7. Using a screwdriver or pointed object, locate mounting holes by poking holes through the duct tape. (See step 9)
8. Using a 3/8" drill bit, drill a hole for the viewport as shown in Figure F (See page 9).
9. Attach Mounting Bracket to the metal duct board plate using included sheet metal screws.
10. Insert viewport into hole drilled in step 8.
11. Continue installation from STEP 9 on page 7. For UVMAX unit repeat steps 1-11 for 2nd lamp.



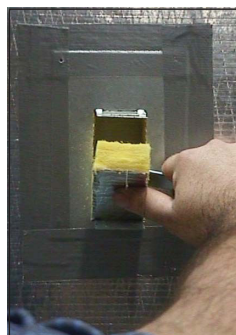
Step 1



Step 2



Step 3



Step 4



Step 5



Step 6



Step 7



Step 8



Step 9



MAINTENANCE

WARNING: Always unplug unit and disconnect power before commencing inspection and cleaning.

NOTE: Wear disposable, non-absorbent protective gloves prior to inspection procedure in case of accidental breakage of glass.

1. We recommend inspecting and cleaning the lamp at least every 6 months. Frequency depends upon the environment. Such as: the type of air filter, duration of use and replacement cycle.
2. To maintain maximum output intensity, replace the UVC lamp bi-annually. The lamp should operate continuously for maximum lamp life and light effectiveness.

REPLACEMENT PROCEDURE

WARNING: Always unplug unit and disconnect power before commencing inspection and cleaning.

1. Disconnect power to the transformer (24V models) or unplug the unit from the electrical outlet (120V models). For additional safety unplug the power cord from the ballast assembly.
2. Rotate the power head assembly counterclockwise until it stops. (See Figure F)
3. Remove the power head assembly and lamp from the mounting base. (See Figure E)
4. Remove the lamp from the lamp socket. (See Figure D)
5. Install the replacement lamp into lamp socket. Do not handle lamp with bare hands. Oils on the hands tend to reduce lamp intensity.
6. Wipe the glass with the supplied alcohol wipe.
7. Position the power head assembly power cord 90° to the top of the mounting base. (See Figure F)
8. Slide the lamp through the hole in the mounting base. (See Figure E)

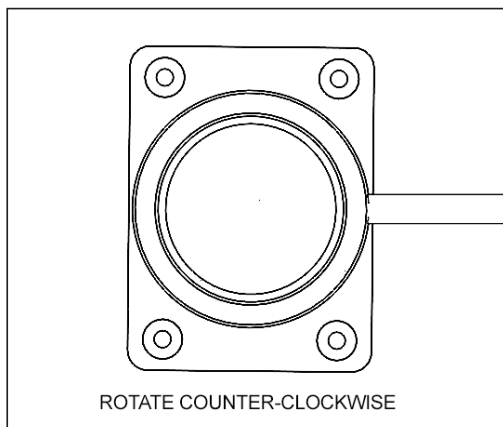


Figure F

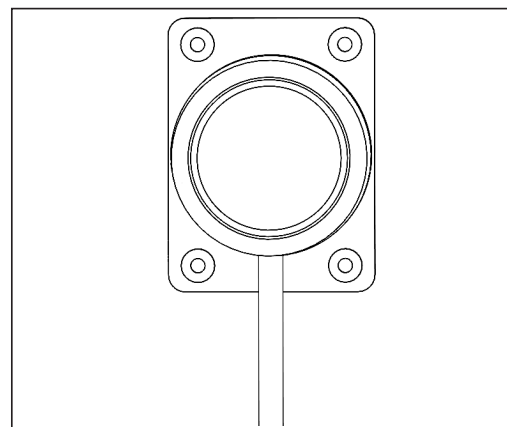


Figure H

9. Press the power head assembly against the mounting base. Rotate the power head assembly clockwise until it stops and clicks into place. (See Figure H)
10. After the assembly is firmly in place, plug the power supply cord back into the ballast and reconnect power. Check the lamp operation by looking through the viewport hole. A blue glow should be seen in the duct.
11. After replacing the lamp, make sure to install the lamp replacement label. Print the date on the label and apply to the side of the ballast assembly. **NOTE:** If blue light leaks through any portion of the plenum and/or around the mounting plate, unplug the power supply cord immediately and seal affected areas.
12. UV lamps contain a small amount of mercury, like a typical fluorescent lamp. Check with your local waste management authority for local disposal or recycling requirements. According to the EPA's Universal Waste Rule, these types of lamps may be disposed of into household waste.



CLEAN UP OF BROKEN LAMPS

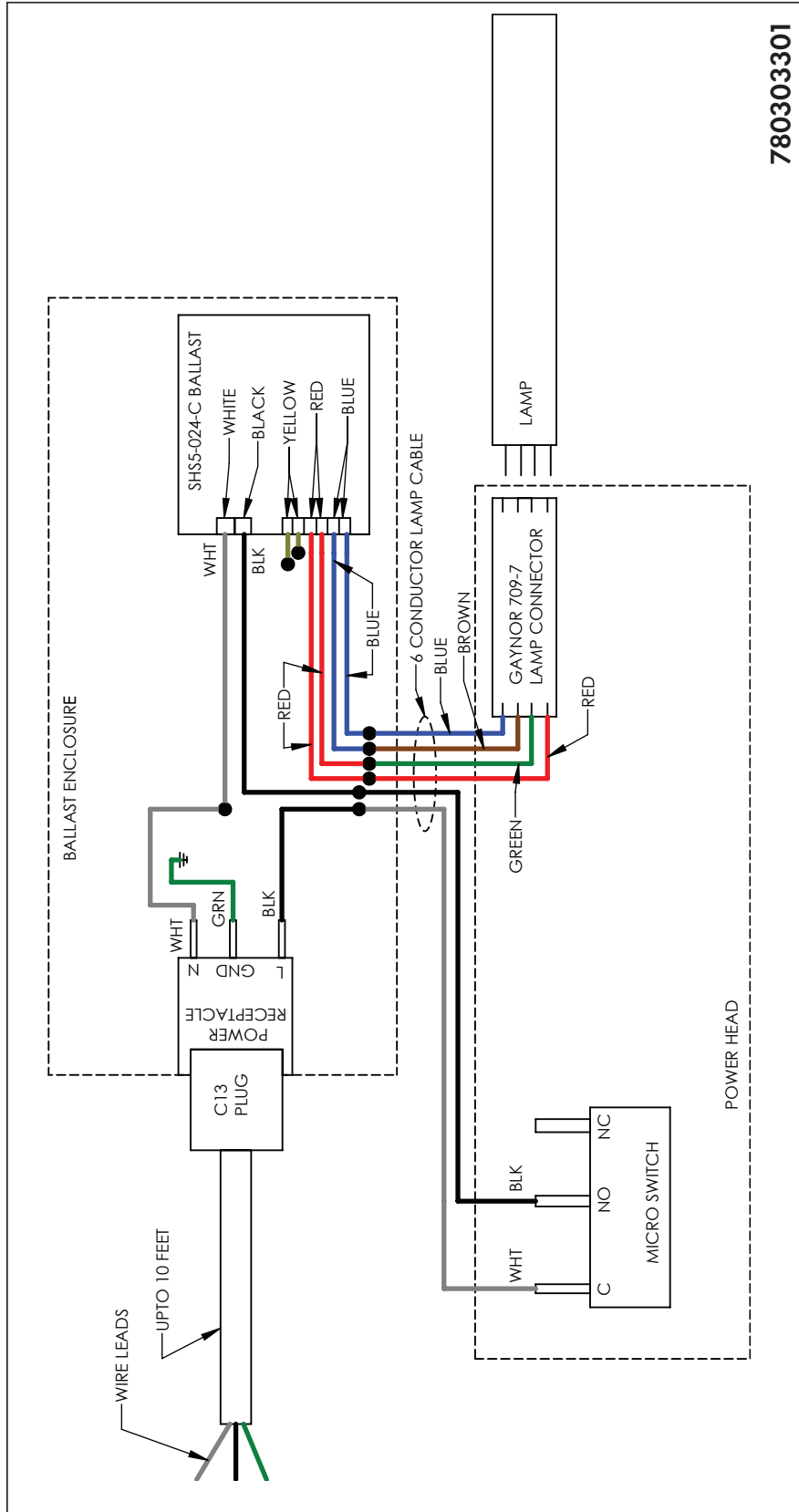
WARNING: Never touch a broken lamp or internal contents of lamp. The lamp contains mercury.

NOTE: In case of accidental exposure to internal contents of lamp, wash hands and any other affected skin area with mild detergent. Remove affected clothing immediately. If skin surface is pierced, seek medical attention immediately.

1. UV lamps contain a small amount of mercury, like a typical fluorescent lamp. **DO NOT** touch any of the mercury with your bare hands.
2. While wearing disposable, non-absorbent protective gloves, carefully pick up the large pieces of glass with your hands.
3. Then, vacuum the entire area with a standard household vacuum ensuring the removal of all lamp material.
4. Dispose of the pieces of glass, the vacuum cleaner bag, and the disposable gloves in a sealed garbage bag.
5. Check with your local waste management authority for local disposal or recycling requirements. According to the EPA's Universal Waste Rule, these types of lamps may be disposed of into household waste.
6. Wash hands and remove and wash clothes for added safety measures.

TROUBLESHOOTING GUIDE

ISSUE	SOLUTION
The lamp is not lighting	<ol style="list-style-type: none">1. Check if the powerhead is installed and rotated until a "click" is felt and heard.2. Check the power connection to the ballast3. Check power connection<ul style="list-style-type: none">- For 24V unit, ensure 24VAC power is available at the transformer- For 120V units, ensure 120VAC power is available at the electrical outlet.4. Replace lamp5. Confirm that the ballast was not connected to the appliance fan or thermostat circuit, which may have caused premature failure.
Light shining outside of installed space	Immediately power off the UV product <ul style="list-style-type: none">- If in AHU, ensure the mounting plate is fully installed flush against the AHU body- If in duct board, ensure the supplied metal mounting plate is sealed to the board, and the mounting plate is securely screwed into the metal mounting plate.



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DIAGRAM A: FOR 24VAC SINGLE LAMP

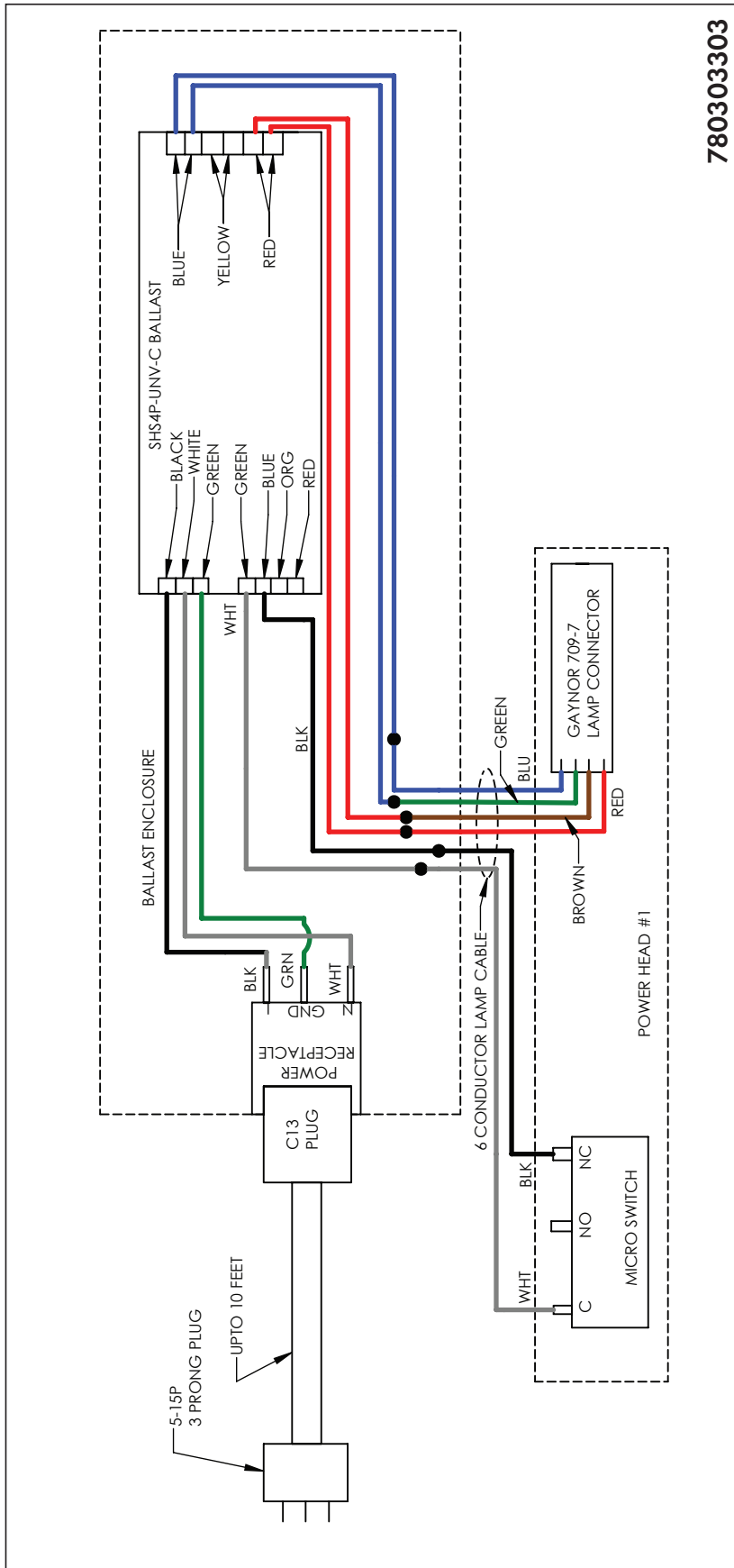


DIAGRAM C: FOR 120VAC SINGLE LAMP



WIRING

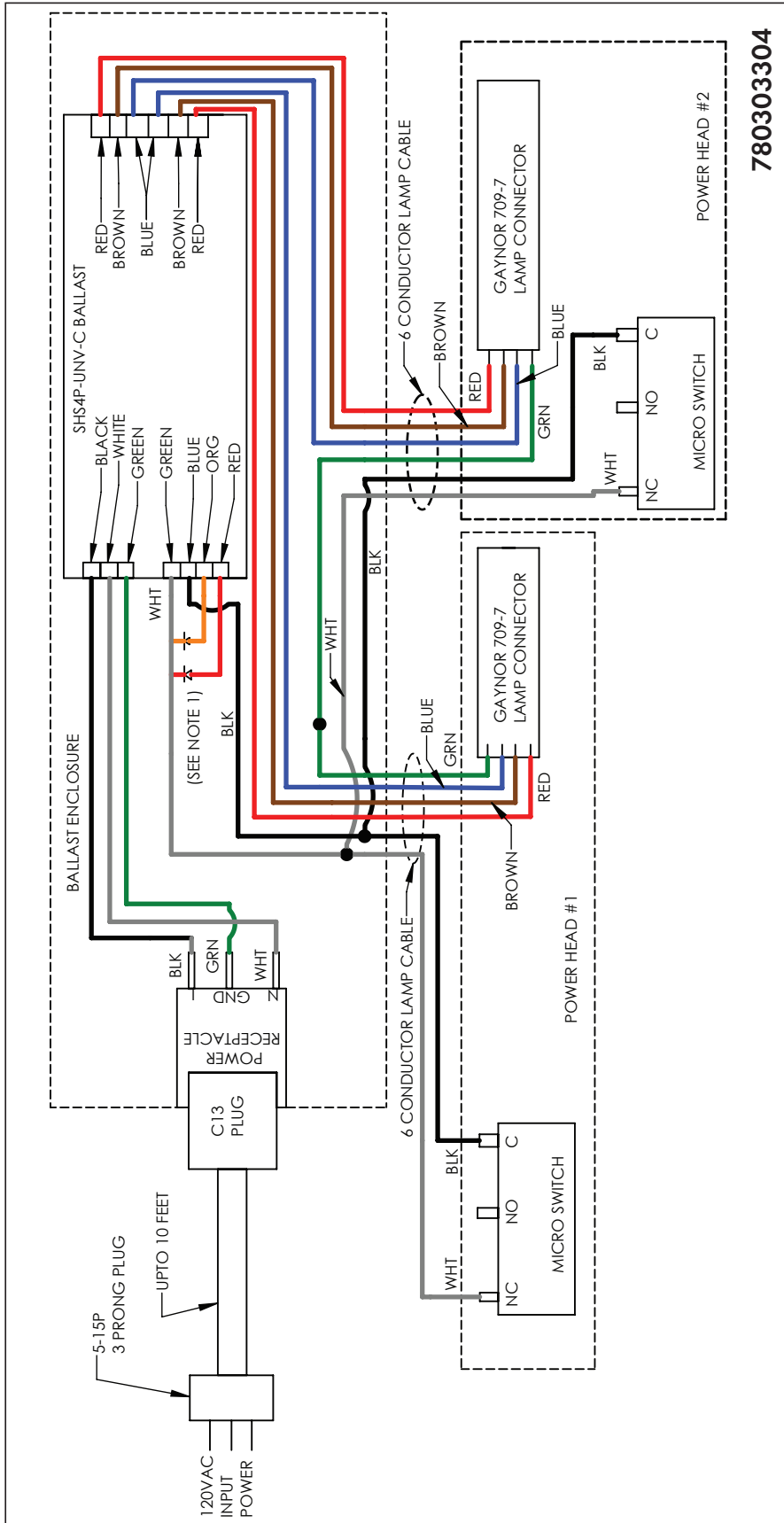


DIAGRAM D: FOR 120VAC DUAL LAMP

- NOTES:
- LED's are optional
 - Denotes Wire Nut

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This manual may be downloaded and printed from the Field Controls website (www.fieldcontrols.com)

WARRANTY

For warranty information about this or any Field Controls product, visit:
www.fieldcontrols.com/ventCool

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FIELDCONTROLS

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