

# JOHNSON CONTROLS UNITARY PRODUCTS

# UVC GERMICIDAL SINGLE KIT 120V, 230V

Model S1-YUVCS120A S1-LUVCS120A S1-CUVCS120A  
S1-YUVCS220A S1-LUVCS220A S1-CUVCS220A

Patents 5,334,347; 5,817,276; 5,866,076; 6,245,293; 6,267,924; 6,280,686;  
6,313,470; 6,372,186; 6,423,882; 6,500,267; 6,589,476; 6,997,578; 6,627,000

## INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

**CAUTION 1:** TURN ALL POWER OFF. NEVER EXPOSE EYES OR SKIN TO UVC LIGHT FROM ANY SOURCE - WEAR GLOVES, FACE SHIELD (PER ANSI Z87.1) AND COVER ALL EXPOSED SKIN. DO NOT TOUCH UVC LAMP GLASS WITHOUT GLOVES.

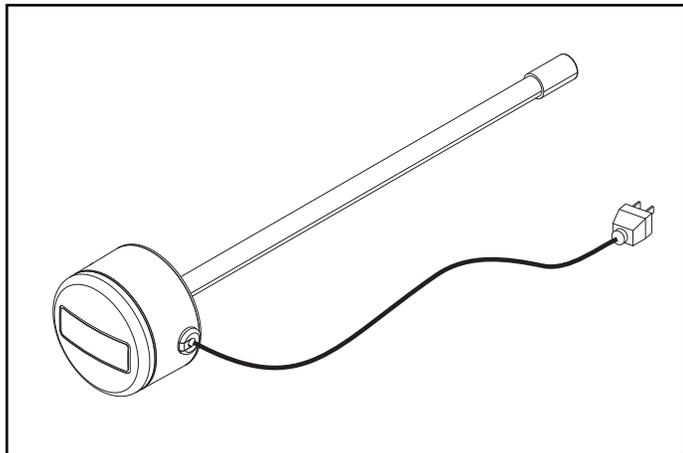
**CAUTION 2:** INSTALL UVC LAMP BEFORE APPLYING POWER.

**NOTE:** Read this entire instruction sheet before starting the installation.

Assembled in USA

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### 1.0 SAFETY 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.

#### **⚠ WARNING**

Before installing fixture or performing maintenance or service on fixture, turn off main power switch to unit or unplug power cord. Electrical shock can cause injury or death. There may be more than one disconnect switch.

#### **⚠ CAUTION**

Never expose eyes or skin to ultraviolet light from any source. Lamp must be off before entering HVAC unit to perform maintenance or service. Personal injury may result.

#### **⚠ CAUTION**

Do not touch lamp glass without gloves. Damage to UVC lamp may result. Oil from fingerprints will permanently etch glass of lamp and weaken structure. Clean lamp after handling.

#### **⚠ CAUTION**

Use only genuine Source 1 replacement high-output, low temperature lamps with this accessory. Use of a lower wattage or incorrect lamp can result in damage to accessory or lamp, and could void your warranty.

#### **⚠ CAUTION**

Lamp contains a small quantity of mercury. If a lamp breaks, clean and dispose with care.

The qualified installer or agency must use factory kits or accessories when installing this product.

Follow all safety codes, wear safety glasses and work gloves. Read all instructions thoroughly and follow any warnings and cautions attached to any accessed area. Consult local building codes and the National Electrical Code (NEC) for special requirements.

Understand the signal words **DANGER**, **WARNING** or **CAUTION**. These words are universally used for overall safety. **DANGER** identifies the most serious hazards, which will result in severe personal injury or death. **WARNING** signifies hazards, which could result in personal injury or death. **CAUTION** is used to identify unsafe practices, which would result in minor personal injury or product and property damage.

## 1.5 KIT CONTENTS

### UVC Germicidal Single Kit

- 1 – UVC lamp with power supply assembly
- 1 – Outer housing & power cord
- 1 – Mounting Kit: 4 – 8x $\frac{1}{2}$ " screws
- 1 – Cleaning Kit: gloves, 2 wipes
- 1 – Warning/lamp replacement self-adhesive label
- 1 – Caution Flyer
- 1 – Safety and Installation Manual
- 1 – Owner's Manual

## 2.0 GENERAL

**2.1** UVC lamp may be installed in any orientation to bathe an air stream or coil surfaces with germicidal UVC energy. It is best that the lamp be located at known growth areas such as downstream of the cooling coil and over the drain pan, or where it best accommodates the system. It may also be placed in a return air duct, supply duct, mixed air plenum, point of delivery or any combination thereof to suit the application.

**2.2** When choosing the site, make sure that it can be supplied with the necessary power requirements and suitable physical access for service.

**2.3** Reflecting UVC energy is recommended as it enhances irradiance. Lining the UVC cavity with aluminum allows UVC energy to bounce reducing possible shadow areas thus increasing efficacy.

## 3.0 INSTALLATION

**3.1** Consult all applicable codes before installing. Check power cord label for the correct power requirements and supply the correct voltage from a suitable, protected (fused), and grounded power source.

### **⚠ CAUTION**

Other voltages will void the warranty and do permanent damage to the entire unit. **Fixtures should be operated continuously to preclude the development of mold and bacteria.**

**3.2** The Caution label (provided) should be affixed to the A/C unit alerting maintenance personnel to the possible hazard of looking at or exposing skin to UVC energy.

**3.3** UVC energy may damage some plastics except UV rated or HVAC style drain pans. Wrap suspect items with aluminum tape; use metallic conduit or use other appropriate shielding where these items may be in "line of sight" of UVC.

**3.4** Position the UVC Emitter up to 10 inches from the downstream face of the cooling coil and about mid-point of the coil height. **CAUTION: Do not drill into coil or refrigerant lines or other mechanical equipment.**

**3.5** Using the outer base housing as a template, scribe and then drill a  $\frac{1}{16}$ " diameter hole on the mounting surface for the lamp. Center the outer base housing on the  $\frac{1}{16}$ " hole and using four #8x $\frac{1}{2}$ " self tapping panhead type screws, attach the base to the unit. The rubber gasket material attached to the outer base housing will seal the base to the unit making an airtight connection.

### **⚠ CAUTION**

Install the UVC lamp before applying power.

**3.6** Insert the lamp assembly into the outer base housing without touching the glass with bare hands. If necessary, clean the glass using the cleaning kit gloves and wipes (99% iso-propyl alcohol and a lint free wipe may be substituted). Carefully push the lamp assembly through the outer base housing into the plenum until seated. Do not force. Install the outer base cover.

**3.7** Check all circuits and plug system into a standard 115V outlet. A "blue hue" will glow from each lamp indicating that each fixture is working. **Caution: View only with all skin covered and use a chemical/UVC resistant full-face mask.**

**3.8** Affix the included "CAUTION LABEL" in plain sight to the HVAC unit. Protect labels against poor conditions if necessary and replace when worn.

## 4.0 OPERATION & MAINTENANCE

**4.1** It is recommended that the UVC lamp **operates all of the time.**

**4.2** The illumination ring around the logo will be blue for the first 7000 hours (approximately 10 months) of operation, then turn yellow from 7000 to 9000 hours. The UVC Replacement Kit should be installed at 9000 hours (approximately 12 months) when the indication light turns red. **NOTE: The illumination ring should be carefully explained to the homeowner as the indicator for lamp replacement.**

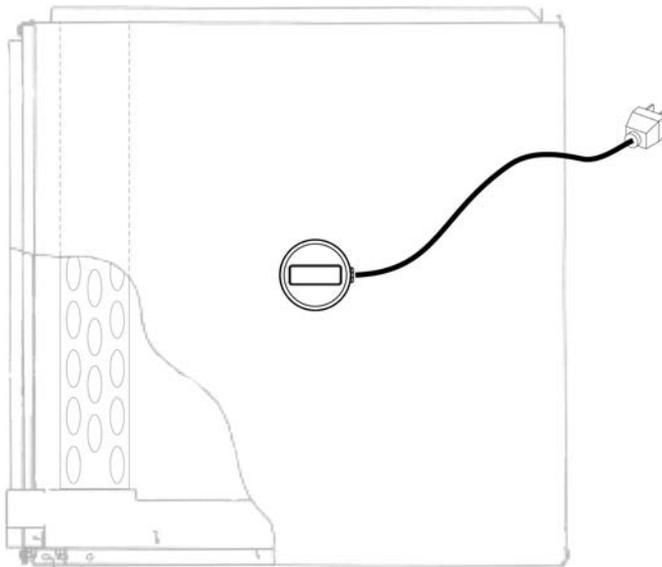
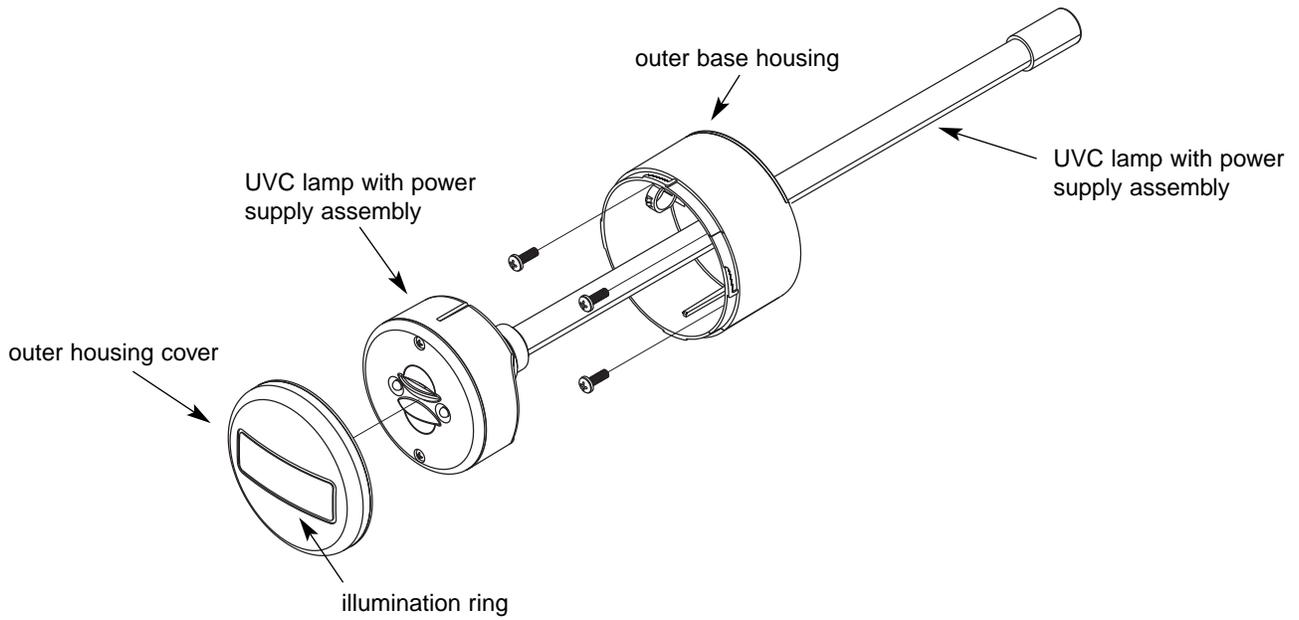
**4.3** UVC lamps must be changed annually or sooner to maintain design output. The change out basis depends on the application, number of times switched per day and/or hours of operation. On/off cycles reduce the life of the lamp. Replace lamps when 9000 hours of operation are reached as indicated by the **red ring** around the logo.

**4.4** The US Environmental Protection Agency (EPA) classifies UVC lamps along with fluorescent bulbs. Go to <http://www.epa.gov/bulbrecycling/> to learn about residential recycling programs in your area. Large quantity fluorescent users should manage spent lamps in accordance with the Universal Waste Rule Requirements and state disposal laws. For a list of recyclers see [www.Lamprecycle.org](http://www.Lamprecycle.org).

## 5.0 TROUBLESHOOTING

ITEM	SYMPTOM	RECOMMENDED ACTION
5.1	Lamp Does Not Light or Is Visibly Weak	<ol style="list-style-type: none"> <li>1. Check Power.</li> <li>2. Replace UVC lamp assembly.</li> </ol>
5.2	Red/Orange Light	<ol style="list-style-type: none"> <li>1. Check ambient temperature. If the temperature is at or below 35°F, lamp is too cold to operate properly.</li> <li>2. If ambient temperature is in excess of 35°F, follow actions as detailed in 5.1.</li> </ol>

## 6.0 ILLUSTRATIONS



## 7.0 SPARE OR REPLACEMENT PARTS

DESCRIPTION	PART NUMBER
UVC Germicidal Replacement Lamp Assembly, 120V	S1-LAPS120A
UVC Germicidal Replacement Lamp Assembly, 230V	S1-LAPS220A
Outer Housing Cover	York S1-Y17000013
	Luxaire S1-L17000013
	Coleman S1-C17000013
Cleaning Kit	S1-44000125
Mounting Kit	S1-17000011

**JOHNSON CONTROLS CANNOT AND DOES NOT GUARANTEE THAT ALL ORGANISMS WILL BE INACTIVATED OR KILLED OR THAT USE OF UVC LAMPS WILL PREVENT INFECTION OR ILLNESS.**

**The health aspects associated with the use of this product and its ability to aid in disinfection of environment air has not been investigated by UL.**