WARNING
Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional installer (or equivalent), service agency or the gas supplier.

WARNING UV LIGHT SOURCE
Ultraviolet (UVC) Radiation Hazard.
This cover is provided with an Interlock to reduce the risk of ultraviolet radiation exposure.
Any exposure will cause eye and skin damage.
Do not look into UV light source.
Access panels must be in place during appliance operation. Disconnect all power sources from UV Light, the Air Handling Equipment or Duct System.

Shipping & Packing List
Package 1 of 1 contains the following:
1 - Germicidal light
   1- UVC light assembly
   1- UVC lamp
   1- UVC light shield (triangular)
   1- Ballast
   1- Ballast bracket
   13- Convoluted tubing (varying lengths)
1 - Bag assembly containing:
   1- Warranty sheet
   1- UVC Danger label
53- Wire ties
   8- #10-16 x 5/8” sheet metal screws
   1- #10-32 x 1/2” green ground screw
   2- Dual quick connect adapters
   2- Wire harnesses
   2- Wiring diagrams
   1- Door switch
   1- Door bracket
   2- #10-32 x 1/2” Self drilling screws
   1- UVC field kit label

An additional, separately ordered T49 transformer is required on LCH/KC/KH, 460/575V units which do NOT have a T3 transformer (unless powered directly).

NOTE - Not all components provided in kit are used in each application.
Check packaging for shipping damage. Contact the last carrier immediately if any shipping damage is found.

CAUTION
As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

General
Germicidal lights emit ultraviolet (UVC) energy that has been proven effective in reducing microbial life forms (viruses, bacteria, yeasts, and molds) in the air.
UVC germicidal lamps greatly reduce the growth and proliferation of mold and other bio-aerosols (bacteria and viruses) on illuminated surfaces.
Germicidal lamps are NOT intended to be used for removal of active mold growth. Existing mold growth must be appropriately removed PRIOR to installation of the germicidal lamp.
A door switch is provided which de-energizes the UVC light when the door is opened.

IMPORTANT - Cotton gloves or a cotton cloth must be used when handling the new UVC lamp.

Application
The UVC light kit is specifically designed for LG/LC/KG/KC/KH 024-074 units. In addition, the light is equipped with shields to focus the UVC light on the coil surface where it is needed and reduce the exposure of light on other components and access panels for improved safety and overall effectiveness.
Enhanced rapid start ballast provides UVC lamp operation at a full range of operating conditions. LED’s on ballast show lamp operation status:
Green LED indicates power on.
Blue LED indicates lamp operation.
Lamps operate on 110-230V single-phase power supply. Alternately, 110V power supply may be used to directly power the UVC ballast(s). Be sure to wire the interlock door switch which interrupts power to the UVC light; see Ballast Supply Cable section.

WARNING
Potential Mold Spore Release.
Application of UVC lamps to existing mold growth can cause respiratory irritation and allergic symptoms.
Do not use UVC lamps where active mold growth exists. Remove active mold growth from surfaces prior to operation of UVC lamps.
**NOTICE**

Potential odor emissions.
Odors may be present when some materials are exposed to UV light.
These materials may include Technicoated or E-Coated Coils. Other materials may include chemicals, solvents, polymers and organic materials.
Some occupants may notice irritation or discomfort.
If odors are present, the UV Lights should be turned off and fresh air should be introduced into the occupied space immediately. Contact your Independent Lennox Dealer.

**CAUTION**

Potential of degraded wire insulation may cause human injury through electrical shock.
UVC light may damage plastics and rubber materials. May cause fabric discoloration.
Avoid UVC light exposure to plastic drain pans, wire insulation, flex duct or other plastic/rubber components.
Before installation, confirm that any corrosion-resistant coating (if applied to the coil) will not be negatively impacted by the UVC light exposure.

**Specifications**

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced ballast dimension</td>
<td>11.75” L x 2.75” W x 1.625” H (298mm x 70mm x 42mm)</td>
</tr>
<tr>
<td>Lamp assembly dimension</td>
<td>40.75” L x 2” W x 2.75” H (1035mm x 51mm x 60mm)</td>
</tr>
<tr>
<td>Triangular sheet metal panel dimension</td>
<td>30” L x 12” W x 1” H (762mm x 305mm x 25mm)</td>
</tr>
<tr>
<td>Electrical power supply</td>
<td>110/230V, 50/60Hz, 0.5A</td>
</tr>
</tbody>
</table>

**Lamp/Ballast Operating Environment (All models)**

- Temperature (outside of duct): 5°F to 140°F (-15°C to 60°C)
- Relative humidity: <95%

**Listings:**

- ETL Safety Listing File #2002554
- This device complies with FCC - CFR47 Part 18 Consumer (Class A and B).
- FIFRA (Federal Insecticide Fungicide Rodenticide Act) - File No. 73316.
- U.S. Patent Nos: (PENDING)

Specifications subject to change without notice.

**Before Installation**

- Turn off power to the rooftop unit.
- Open access to the control box, blower compartment and the filter section.

**UVC Exposure Protection**

The UVC light is equipped with a unique directional shield to focus the UVC light on the coil surface and drain pan where it is needed and reduce the exposure of light on other components such as wiring, plastic parts etc. For shielding of electrical wiring in the rooftop unit, black convoluted tubing is provided in the unit. However, if there is any concern, aluminum foil tape can be used to cover up any exposed component.

**WARNING**

**Potential Risk of Fire.**

Dust, lint and other debris may cause fire if allowed to come in contact with illuminated UVC lamp.
Remove any dust, lint or other debris from lamps and surrounding duct system.
Install Ballast

1- **Units With Disconnect Box** -
   Install the ballast onto the side of the disconnect box; discard ballast bracket. See figure 1. Align holes in ballast with pre-punched mounting holes in the disconnect box. Secure with #10-16X⅝” screws included in the kit.

2- **No Disconnect Box** -
   Install the ballast bracket on the compressor section mullion. See figure 2. Align bracket holes with pre-punched mounting holes on the mullion. Install the ballast on the ballast bracket.

Install Door Switch

Install bracket and switch on front of blower deck as shown in figure 3 and 4.

Route Ballast Cable

Route the ballast cable through the divider panel into the blower section. See figure 4. Wire tie the cable at multiple locations along the refrigerant line.
Ballast Power Supply Cable

1- Route the power supply cable as shown in:
   Figure 5 - 230V LGH/LCH/KG/KC/KH
   Figure 6 - 460/575V LGH/LCH/KG/KC/KH
   Figure 10 - 230V LGM/LCM
   Figure 11 - 460/575V LGM/LCM

2- Make wiring connections as shown in:
   Figure 7 - 230V LGH/LCH/KG/KC/KH
   Figure 8 - 460/575V LGH/KG with T3
   Figure 9 - 460/575V LGH/LCH/KG/KC/KH with T49
   Figure 10 - 230V LGM/LCM
   Figure 11 - 460/575V LGM/LCM
FIGURE 6

460/575 VOLT WIRE ROUTING LGH/KG/KC/KH WITH T3 or T49

NOTE - T49 IS ORDERED SEPARATELY AND FIELD-INSTALLED WHEN THERE IS NO T3

FIGURE 7

BALLAST POWER AND WHITE HARNESS WIRING
230 VOLT LGH/LCH/KG/KC/KH UNITS

Route Two White Harness Wires to the Door Switch

White Power Cable Wire and White Harness Wire (already connected)

Ballast Power Cable

White Power Cable Wire

White Harness Wire Common

Black Power Cable Wire 24V

TI Transformer

Green Power Cable Wire
Disconnect factory-installed gas harness from T3.

Route Two White Harness Wires to the Door Switch

White Power Cable Wire and White Harness Wire (already connected)

Black Power Cable 24V

Green Power Cable Wire

Reconnect gas harness; see Detail A.

Black Kit Harness (1 of 2)

T3 Transformer

Dual Adapter

K1 Contactor

FIGURE 8
BALLAST POWER AND WHITE HARNESS WIRING
460/575 VOLT LGH/LCH/KG/KC/KH UNITS
WITH SEPARATELY ORDERED AND INSTALLED T49 TRANSFORMER

Route Two White Harness Wires to the Door Switch
- White Power Cable Wire and White Harness Wire (already connected)

- Ballast Power Cable
- Green Power Cable Wire

- T49 Transformer Ordered Separately

- Dual Adapter
- K1 Contactor
ROUTE POWER CABLE AND HARNESS BEHIND THE DISCONNECT TO T1 IN THE CONTROLS AREA

FIGURE 10
1- Connect the power cable wires to the black and white harness wires as shown. Connect the green ground wire.
2- Disconnect two T4 transformer red wires from outdoor fan wires.
3- Install dual quick connect adapters on transformer wires.
4- Install the black harnesses, provided in this kit, as shown.
Install UVC Light Assembly
The lamp for the UVC light assembly comes separately packaged in a foam sleeve.

1- Wear cotton gloves or use a cotton cloth when handling the new lamp. Place the lamp in the holder clips of the UVC sub-assembly (see figure 12). Verify that the lamp flange at the connector end is positioned between the lamp holder clip and the sheet-metal end stop (see detail A in figure 12).

2- Carefully place the UVC assembly on the blower deck. Line up the mounting holes on the UVC assembly with the mounting holes on the blower deck (see figure 13). Use the #10 screws provided to attach the UVC assembly in place.

Install Lamp Cable

1- Run the UVC lamp cable through the open loop of wire tie attached to the UVC assembly (see figure 14).

NOTE:- The cable should not extend past the UVC assembly to be in direct line of sight of UVC lamp.

2- Firmly connect the 4-pin connector to the pin end of the lamp. Make sure that the connector sleeve is pushed on the lamp end. Tighten the wire tie loop to strain relief the lamp cable. Trim the wire tie.

Install Convoluted Tubing
Install convoluted tubing (included in the kit) to shield electrical wiring and components. The tubing is split type making it easy to slip on the wiring. Black wire ties are provided to tie the tubing in place. See figure 15. Not all tubing is used depending on unit options.
Install Triangular UV Shield
To block the UVC light from reaching the filter access door, install the triangular sheet-metal panel (see figure 16).

With the left flange of the triangular sheet metal panel facing out (see Detail A in figure 16), insert and lower the bottom of the panel through the opening in the filter access door, to the right of the coil and ahead of the refrigerant lines. Slide the panel against the coil bracket and align the holes of the panel with the pre-punched holes on the coil bracket. Use #8-18 x 1/2" screws (included) to attach the panel to the coil bracket. See figure 16.

NOTE - The view port in the triangular panel provides a visual verification when the UVC lamp is turned on. Do not remove the view port as it shields UVC light and protects eyes from UVC exposure.

Finish Installation
Close all access doors before powering UVC lamp. Apply UVC Danger label and UVC Field Kit label to blower access door so that it is clearly visible. See figure 17.

Configure M4 For UVC Light
1- Use the following mobile service app menu to configure the Unit Controller.

SETUP > INSTALL > RTU INFORMATION > CONFIGURATION ID2

2- Set position 6 to to the appropriate setting to enable the UVC:

2=UV Lamp Only Installed
3=Both UV Lamp and Ionizer Installed

M3 Unit Controller Configuration
Configure the Unit Controller to enable the UVC Lamp using the following menu:

SETUP . INSTALL

Navigate through the various setup questions until Configuration ID 2 appears. Set position six to the following to enable the UVC feature:
1=UV Lamp only installed
3=BOTH UV Lamp and Ionizer installed.

Operation
For optimal performance, continuous operation of the UVC germicidal lamp is recommended.
## Maintenance

### WARNING

**Electric shock hazard.** Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit **OFF** at disconnect switch(es). Unit may have multiple power supplies.

- For all maintenance, contact a qualified HVAC technician.
- Read the maintenance instructions before opening unit panels.
- Unintended use of the unit or damage to the unit housing may result in the escape of dangerous UVC radiation. UVC radiation may, even in small doses, cause harm to the eyes and skin.
- Do not operate units that are obviously damaged.
- Do not discard the triangular UVC light shield or any barriers with an ultraviolet radiation symbol.
- Do not override the door interlock switch that interrupts power to the UVC light.
- Do not operate the UVC light outside of the unit.

### LED(s) not illuminated

**Power status LED not lit**—Check that the lamp unit is connected to the proper power source and is wired correctly.

**Lamp status LED(s) not lit**—

1. Check that lamp 4-pin connectors are properly engaged.
2. Ohm-check across the lamp pins to check for continuity of lamp filaments (see figure 19).

Troubleshooting charts are provided to aid in determining the cause of any problems encountered (figures 18 and 19).

### Annual Lamp Replacement

#### WARNING

**Personal Burn Hazard.**

Personal injury may result from hot lamps. During replacement, allow lamp to cool for 10 minutes before removing lamp from fixture.

The lamp should be replaced every 12 months, as UVC energy production diminishes over time.

1. Obtain the correct replacement lamp for your germicidal light model.
2. Disconnect power to the rooftop unit before servicing the UVC kit.
3. Open the blower access door.
4. Remove the screw in wire tie from the UVC assembly and disconnect the 4-pin connector from the lamp end.
5. Remove the (2) mounting screws of the UVC assembly. Carefully slide the complete UVC assembly out through the blower access door.
6. Allow 10 minutes before touching the lamps. Then, carefully remove the old lamp from the lamp holder clips.
7. Wear cotton gloves or use a cotton cloth when handling the new lamp. Place the new lamp in the holder clips of the UVC assembly. Verify that the lamp flange at the connector end is sandwiched between the lamp holder clip and the sheet-metal end stop (see figure 12).
8. Carefully place the UVC assembly on the blower deck. Line up the mounting holes on the UVC assembly with the mounting holes on the blower deck (see figure 13). Use the #10 screws provided to attach the UVC assembly in place.
9. Close the blower access door.
10. Reconnect power to the rooftop unit.
11. Open the filter access door and look through the view port in the triangular sheet-metal panel to verify that the UVC light is on.

### Lamp Disposal

**Hg-LAMP Contains Mercury.**—Manage in accordance with local, state and federal disposal laws. Refer to www.lamprecycle.org or call 1-800-9-LENNOX.

### Proper Clean-up Technique in Case of Lamp Breakage

Wear protective gloves, eye wear and mask.

Sweep the broken glass and debris into a plastic bag, seal the bag, and dispose of properly. Contact your local waste management office for proper disposal.

Do not use a vacuum cleaner. Do not incinerate.

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DANGER

Ultraviolet (UVC) Radiation hazard. Any exposure will cause significant eye damage and may cause skin damage. DO NOT look into UVC light source. Access panels must be in place during appliance operation.

UVC LIGHT TROUBLESHOOTING - POWER

- UVC LAMP NOT OPERATING
  - POWER LED LIT? NO
    - USE MULTIMETER TO TEST 110-230V AT BALLAST INPUT LEADS
    - CORRECT VOLTAGE PRESENT? NO
    - FIRST TURN THE POWER OFF; CHECK THE WIRING TURN POWER BACK ON
  - POWER LED LIT? YES
    - CHECK LAMP LED
      - LAMP LEDS Lit? NO
        - GO TO LAMP LED TROUBLESHOOTING
      - LAMP LEDS Lit? YES
    - USE MULTIMETER TO TEST 110-230V AT BALLAST INPUT LEADS
    - CORRECT VOLTAGE PRESENT? NO
    - FIRST TURN THE POWER OFF; CHECK THE WIRING TURN POWER BACK ON
    - POWER LED LIT NOW? YES
      - REPLACE BALLAST
    - POWER LED LIT NOW? NO
      - CHECK POWER LEDS
      - LAMP LEDS Lit? NO
        - GO TO LAMP LED TROUBLESHOOTING
      - LAMP LEDS Lit? YES
    - REPLACE BALLAST

DONE

FIGURE 18

UVC LIGHT TROUBLESHOOTING - LAMP

- LAMP LEDS NOT LIT
  - FIRST TURN THE POWER OFF; BE SURE THAT THE 4-PIN CONNECTORS FOR ALL THE LAMPS ARE PROPERLY ENGAGED
    - TURN POWER ON; CHECK LAMP LEDS
      - LAMP LEDS Lit? YES
    - CALL LENNOX TECH SUPPORT 1-800-453-6669
    - LAMPS BLACK ON ENDS? NO
    - CONTINUITY PRESENT? YES
      - RE replacement LAMPS; TURN POWER ON
      - BANDS AROUND LAMP INTACT? NO
    - CONTINUITY PRESENT? NO
    - BANDS AROUND LAMP INTACT? YES
  - LAMP LEDS Lit? NO
    - CALL LENNOX TECH SUPPORT 1-800-453-6669
    - TWO PAIR, PIN TO PIN ON EACH PAIR (SEE DETAIL A)
    - LAMPS BLACK ON ENDS? NO
    - CONTINUITY PRESENT? YES
      - REPLACE LAMPS; TURN POWER ON
    - CONTINUITY PRESENT? NO
    - REPLACE LAMPS; TURN POWER ON

DONE

FIGURE 19