Tools you will need for this installation:

- Portable drill
- 7/8" Hole saw or step bit
- 1/8" Tip screwdriver

Parts included with the UVSCAN-1:

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEG-2165</td>
<td>Installation Instructions of UV Flame Sensor Kit (D04-1259)</td>
</tr>
<tr>
<td>D04-1259</td>
<td>UV BST Scanner Kit for Domestic Portable Dryers and Heaters</td>
</tr>
</tbody>
</table>

Product Description

This UV flame sensor was designed to replace the flame rod or probe that is used on Vision dryer controls that utilize the HF-4624 Fenwal flame control board. (See Figure 1.) This flame controller uses a flame rectification circuit that in certain situations may not work reliably.

Figure 1 Fenwal Flame Control (HF-4624) (HF-4624 not included)
Installation of UV Flame Sensor Kit (D04-1259)

The GSI part # D04-XXXX UV flame sensor is more reliable since it picks up the UV light (in the 180-230 nm) that is naturally emitted in the flame when using LP, Natural Gas or Propane as its fuel. It replaces the flame rod or probe located in the burner and reproduces the expected flame signal to the fenwal board. (See Figure 2.)

![UV Flame Sensor Relay (D04-XXXX)](image)

This kit will include all the parts necessary to change the flame rectification sensing on a fan/heater used on portable dryers over to UV style flame sensor.
Installation of UV Flame Sensor Kit (D04-1259)

Sensor Mounting

The location to mount the sensor is critical in providing reliable flame sense. Typically the best location is just below the vaporizer mounting bracket or plate as shown in Figure 3. Drill a 7/8" hole approximately 1-1/4" below the center of this bracket.

![Figure 3 Drilling Mounting Hole](image1)

![Figure 4 Sensor Location Pointing between Burner Veins](image2)

Route the cable to the back of the fan/heater enclosure using either an existing hole in the fan/heater control box or drill a new 7/8" hole. Try to keep the cable entrance location close to center of the back.

![Figure 5 Connecting 110 VAC to the Flame Sensor](image3)

**Step 1:** Remove one of the hole plugs and insert the cord with the fitting then tighten.

**Step 2:** Put the black wire into terminal 1 (black terminal) and put the white into terminal 2 (white terminal).
Installation of UV Flame Sensor Kit (D04-1259)

Wiring Instructions

**Disconnect power and lock out prior to performing this service.**

1. With the power disconnected to dryer place the cord through an unused hole in the back of the fan/heater enclosure as shown in *Figure 6*.

2. Attach the black wire to terminal 1 of the terminal strip and the white wire to terminal 2 of the terminal strip as shown in *Figure 6*. This will provide the power to the UV sensor.

3. Locate the red flame sense wire “S1” on the burner control board as shown in *Figure 7* and remove it. Tape the connector of the wire to prevent any accidental grounding and tuck it out of the way.

4. Place the green wire with the red connector onto the S1 terminal as shown in *Figure 7*. Double check your wire connections and then re-apply power.

---

*Figure 6* Existing Flame Sensor Wire location

*Figure 7* Install Green Wire onto the S1 Terminal

---

NOTE: Ignition wire was removed for clarity.
Installation of UV Flame Sensor Kit (D04-1259)

Domestic Fan/Heater Wiring for UV Sensor

- **SJOOW 18/3 CORD**
- **UV SENSOR**

**CONNECT BLACK WIRE (110 VAC) TO TERMINAL 1 OR J1-03**

**CONNECT WHITE WIRE (NEUTRAL) TO TERMINAL 2 OR J1-04**

**FLAME SENSE HOOKUP**

**FENWAL LIGHT L2 V2 S1 FC + FC - B.GRND L1N.C. V1**

**CONNECT GREEN WIRE TO THE S1 TERMINAL ON THE FENWAL BOARD**

**COLOR LEGEND**
- GRAY
- PINK
- BROWN
- RED
- GREEN
- BLUE
- WHITE/BLACK STRIPE
- WHITE
- BLACK
- ORANGE
- YELLOW
- PURPLE

**BST UV Sensor Wiring for Domestic (USA) Fan/Heater Models**

**POWER HOOKUP**

- **J1-04 120 VAC Neutral**
- **J1-03 120 VAC Input**
- **J1-02 Cycle Solenoid Power**
- **J1-01 Fenwel Terminal V1**
- **J2-05 Fan Power**
- **J3-04 Sensor Ground**
- **J4-10 Fan Over Load**
- **J4-09 Housing Hi-Limit**
- **J4-08 Vapor Hi-Limit**
- **J4-07 Plenum Hi-Limit**
- **J4-06 Grain Hi-Limit**
- **J4-05 Mercoid**
- **J4-04 Air Switch**
- **J4-03 Extra #2**
- **J4-02 Extra #1**
- **J4-01 12 VDC Positive**
- **J5-04 12 VDC Positive**
- **J5-03 12 VDC Negative**
- **J5-02 4-20ma In**
- **J5-01 4-20ma Return**
- **J3-03 Grain Sensor**
- **J3-02 Sensor Ground**
- **J3-01 Plenum Sensor**
- **J2-04 AC Neutral**
- **J2-03 Burner (L1) Power**
- **J2-02 Relay N.O.**
- **J2-01 Relay Com**
UV BST Scanner Kit for Domestic Portable Dryers and Heaters Parts List (D04-1259)

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Description</th>
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<th>UOM</th>
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<tr>
<td>1</td>
<td>006-1057-6</td>
<td>Unilet, 3/4&quot; LB</td>
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<td>7</td>
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<td>Lock Nut 1/2&quot; with Pipe Threads</td>
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<tr>
<td>N/S</td>
<td>PNEG-2165</td>
<td>Installation Instructions of UV Flame Sensor Kit</td>
<td>1</td>
<td>EA</td>
</tr>
</tbody>
</table>

*BLACK = 110 VAC
WHITE = AC NEUTRAL
GREEN = FLAME

Exploded view

Isometric view

UV FLAME DETECTION
Installation of UV Flame Sensor Kit (D04-1259)

TopDry Series 2000 Domestic Master