

**INSTALLATION INSTRUCTIONS FOR SMOKE DETECTOR KITS  
USED WITH KC/KG/KH/LCH/LGH156-300S UNITS**

**Shipping and Packing List**

**53W82 single-sensor kit contains the following:**

- 1 - Smoke detector sensor
- 1 - Smoke detector power board
- 1 - Supply bracket
- 1 - Power harness (used on KC, KG & KH units only)
- 1 - Jumper harness
- 2 - Metal sampling tubes
- 1 - Plastic exhaust tube
- 1 - Magnet
- 1 - Grommet
- 1 - Sensor manufacturer's instructions
- #10 - 16 X 3/4" sheet metal screws
- #8 - 32 X 1" thread-forming screws

**53W83 dual-sensor kit contains the following:**

- 2 - Smoke detector sensors
- 1 - Smoke detector power board
- 1 - Supply bracket
- 1 - Power harness (used on KC, KG & KH units only)
- 2 - Metal sampling tubes
- 2 - Plastic exhaust tubes
- 2 - Magnets
- 1 - Grommet
- 1 - Sensor manufacturer's instructions
- #10 - 16 X 3/4" sheet metal screws
- #8 - 32 X 1" thread-forming screws

**Application**

**LCH and LGH Units** -- Smoke detector will send a 24Vac signal to the unit controller when smoke is sensed. The unit controller default mode will de-energize unit.

**KC, KG and KH Units** -- Smoke detector will interrupt the 24Vac signal to the unit control circuit when smoke is sensed. Unit will be de-energized.

**Installation**

**⚠ 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, service agency or the gas supplier.**

**⚠ CAUTION**

**Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch.**

**⚠ CAUTION**

**Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.**

**Smoke detector sensor and power board installation**

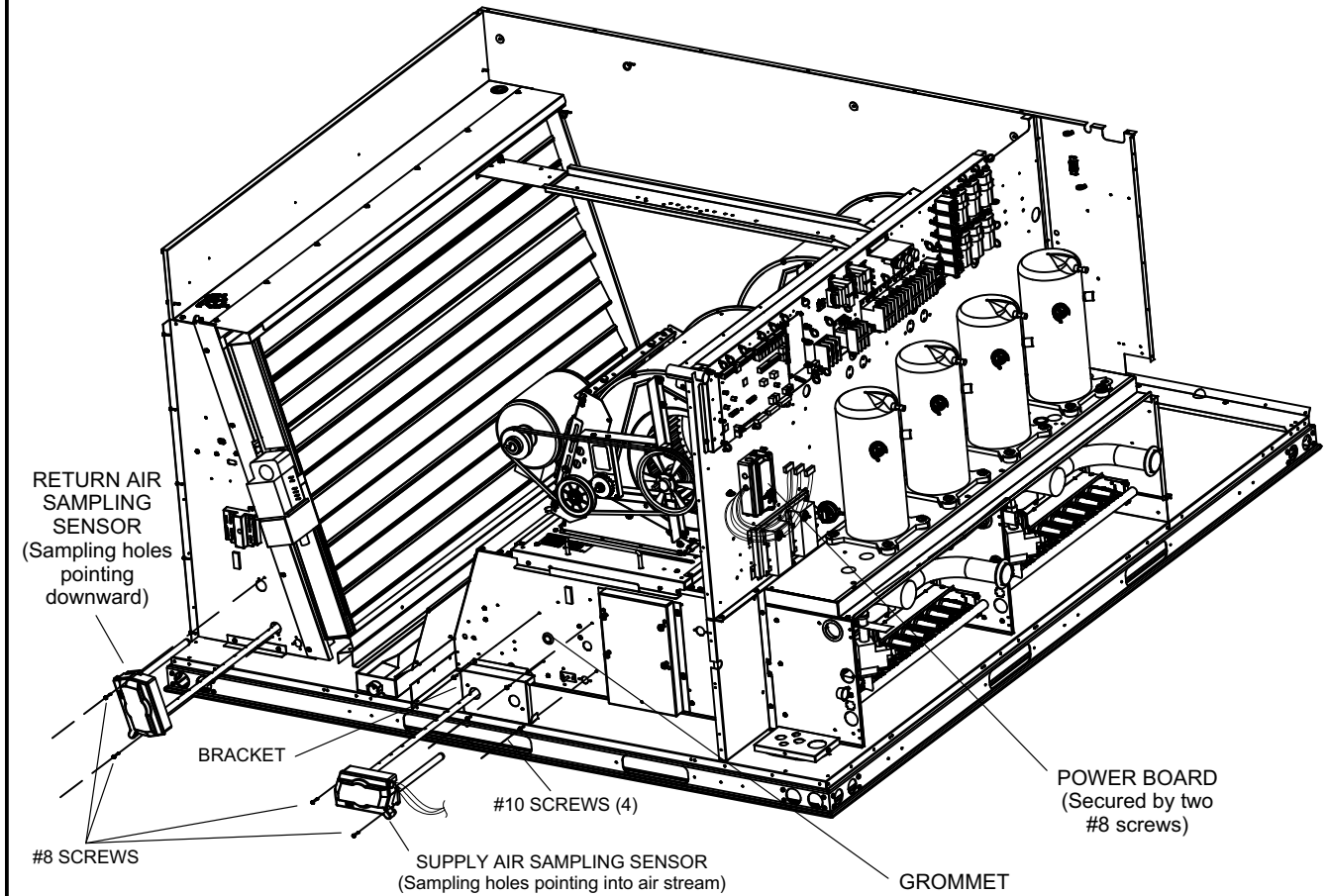
Use manufacturer's instructions provided with smoke detector to install sensor(s) and power board. Refer to figure 1 for location of power board, supply air sensor and return air sensor.

**Sampling tube installation**

- 1 - Select the appropriate sampling tube.
  - Return air sensor -- 36"
  - Supply air sensor -- 30"
- 2 - Slide metal sampling tube and plastic exhaust tube onto the back side of the sensor as shown in figure 2.
- 3 - Orient sampling tube so that holes point toward the air stream.

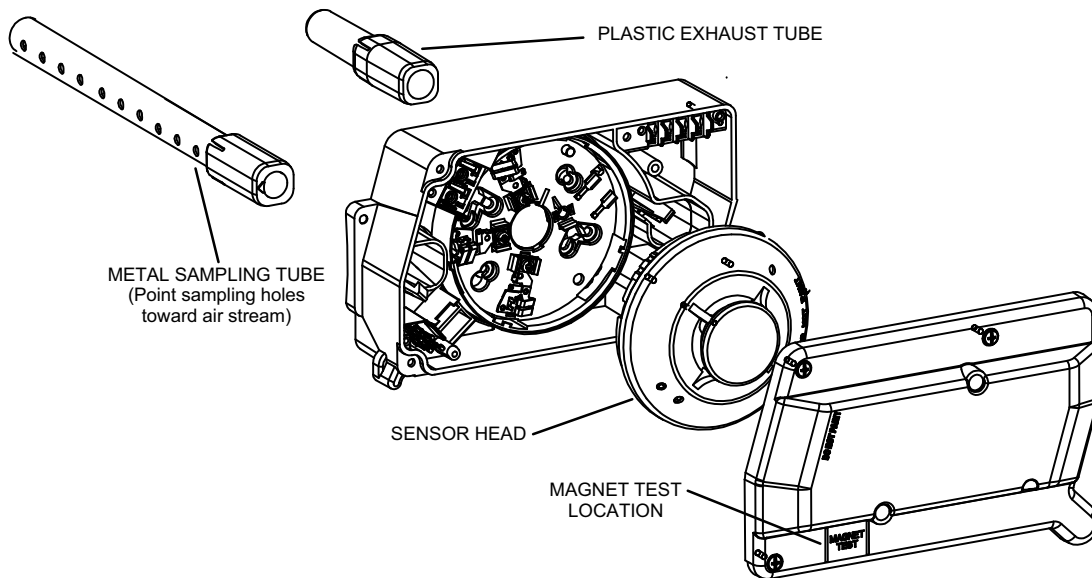


**SMOKE DETECTOR COMPONENT LOCATIONS  
(Units with an Economizer)**



**FIGURE 1**

**SMOKE DETECTOR SENSOR WITH  
SAMPLING TUBE AND EXHAUST TUBE**



**FIGURE 2**

## Wiring

### *KC, KG and KH Units*

- 1 - Make jack/plug connections as shown in figure 4 when installing return air smoke detector only, figure 5 when installing supply air smoke detector only, and figure 6 when installing both supply and return air smoke detectors.
- 2 - Locate and disconnect wires labeled SM-1 and SM-4 in control area. See figure 3.

- 3 - Connect wires labeled SM-1 and SM-4 from kit harness to wires labeled SM-1 and SM-4 in unit. Connect wire labeled GND from the kit harness to the ground tab in unit. Position J255 plug near P250 and P252 plugs. See Figure 3.

### *LCH and LGH Units*

- Make jack/plug connections as shown in figure 7 when installing return air smoke detector only, figure 8 when installing supply air smoke detector only, and figure 9 when installing both supply and return air smoke detectors. Plugs are located in the unit near the location of the sensor(s) and power board.

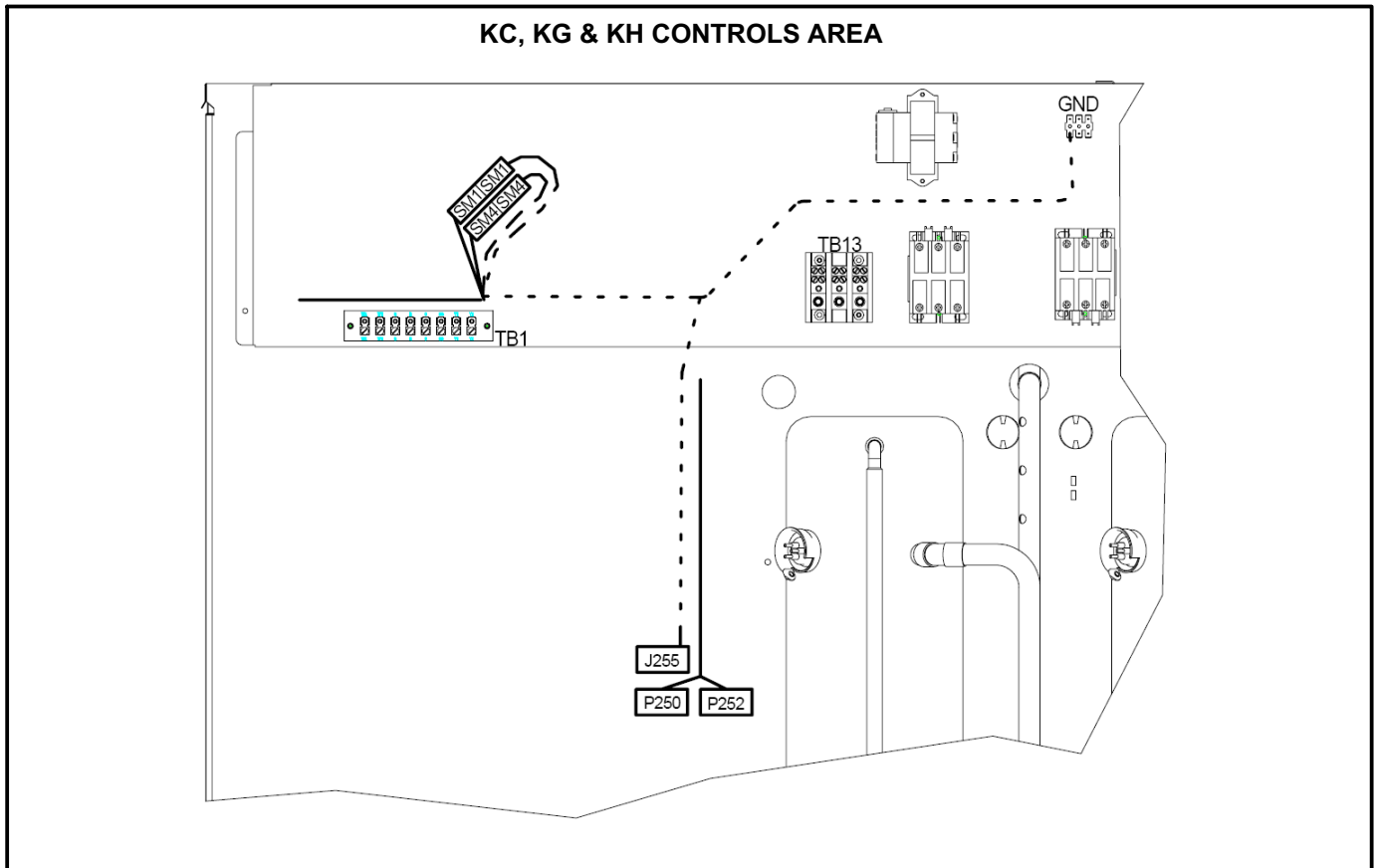
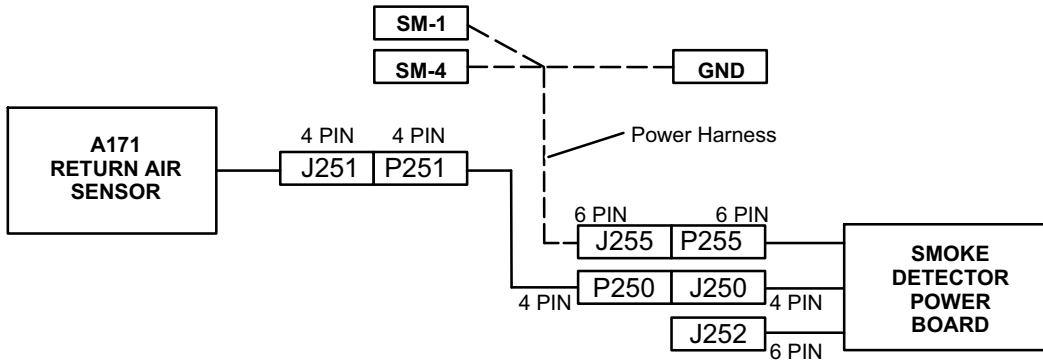


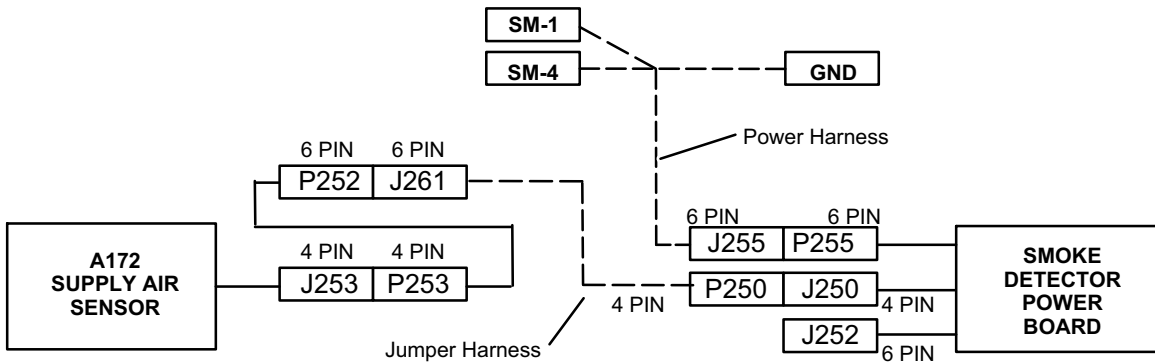
FIGURE 3

**KC, KG or KH Unit Application with Single Return Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



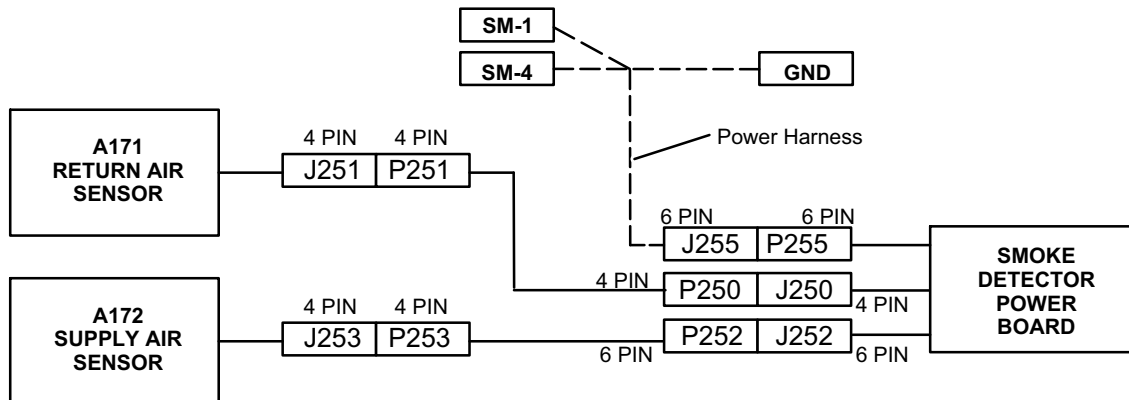
**FIGURE 4**

**KC, KG or KH Unit Application with Single Supply Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



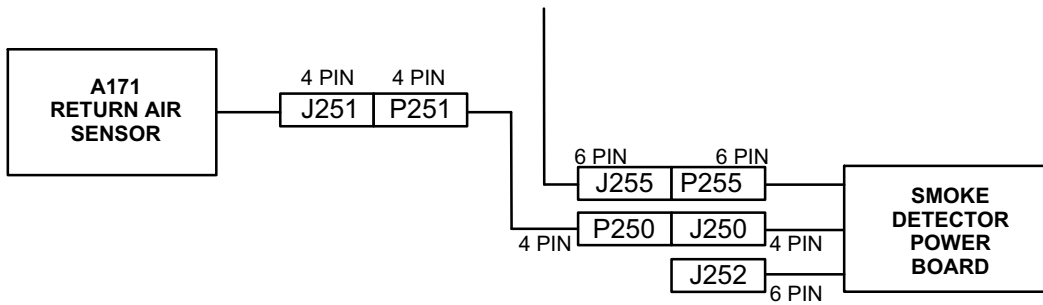
**FIGURE 5**

**KC, KG or KH Unit Application with Return Air and Supply Air Smoke Detectors**  
 (Note: Change power board DIP switch setting to 2)



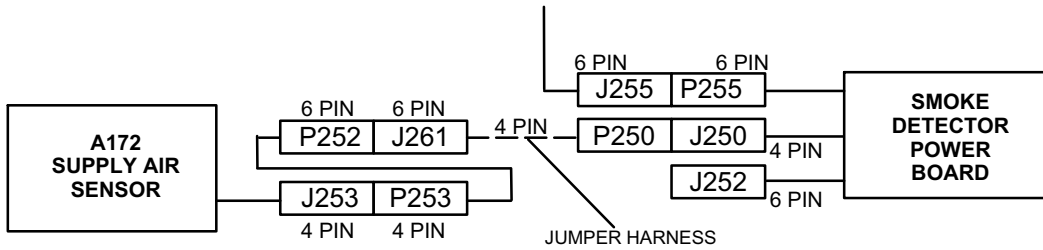
**FIGURE 6**

**LCH or LGH Unit Application with Single Return Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



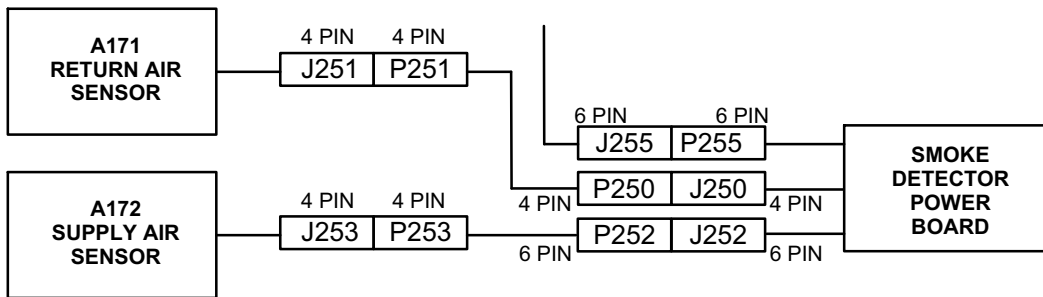
**FIGURE 7**

**LCH or LGH Unit Application with Single Supply Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



**FIGURE 8**

**LCH or LGH Unit Application with Return Air and Supply Air Smoke Detectors**  
 (Note: Change power board DIP switch setting to 2)



**FIGURE 9**

**Test Magnet(s)**

A test magnet is provided in a bag assembly with each sensor. Remove the magnet from the bag assembly and place it on a metal surface near the sensor. The magnet is used during test procedures.

**Maintenance and Test Procedure Instructions**

The sensor manufacturer's instructions, which are provided with each sensor, outline information on maintenance and test procedures. Place these instructions in the literature pouch for future reference.