

# PACKAGED UNITS KITS AND ACCESSORIES

506791-02  
2/2023  
Supersedes 6/2021

# D4P120 & D4S SMOKE DETECTOR KITS

## INSTALLATION INSTRUCTIONS FOR SMOKE DETECTOR KITS (603408-15 & 16; 22H56 & 57) USED WITH KC/KG/KH/LC/LG/LH/LD156-360 UNITS

### Shipping and Packing List

#### 22H56 single-sensor kit contains:

- 1- Smoke detector sensor
- 1- Smoke detector power board
- 1- Power board mounting bracket
- 1- Supply bracket
- 1- Power harness J255 (used on KC/KG/KH units only)
- 1- Jumper harness P250/J261 (used with supply air applications only)
- 2- Metal sampling tubes
- 1- Plastic exhaust tube
- 1- Magnet
- 1- Grommet
- 1- Sensor manufacturer's instructions
- 4- #8 - 32 X 1" thread -forming screws
- #10 - 32 X 3/8" thread forming screws
- 1- Insertion wire tie

#### 22H57 dual-sensor kit contains:

- 2- Smoke detectors
- 1- Smoke detector power board assembly
- 1- Power board mounting bracket
- 1- Supply bracket
- 1- Power harness J255 (used on KC/G/KH units only)
- 2- Metal sampling tubes
- 2- Plastic exhaust tubes
- 2- Magnets
- 1- Grommet
- 1- Sensor manufacturer's instructions
- 6- #8 - 32 X 1" thread -forming screws
- #10 - 32 X 3/8" thread forming screws
- 1- Insertion wire tie

### Application

**LG, LC, LH, LD 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/KH Units** --Smoke detector will interrupt the 24Vac signal to the unit control circuit when smoke is sensed. Unit will be de-energized.

Kit 22H56 (603408-15) is used in either supply or return air applications. Kit 22H57 (603408-16) is used when both supply and return air smoke detectors are installed.

### Installation

## ⚠ WARNING

To prevent serious injury or death:

1. Lock-out/tag-out before performing maintenance.
2. If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.
3. Always keep hands, hair, clothing, jewelry, tools, etc., away from moving parts.

#### **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 supply air sensor and return air sensor.

*LGH / LCH 156, 180, 210, 240, 300S Units -*

Install the power board on the compressor rail using the bracket provided in the kit. See figure 1. When mounting holes are not available on the compressor rail, install power board on the compressor section wall and discard the mounting bracket provided in kit.

*LGM/LCM/LGT/LCT/LHT/LDT 156, 180, 210, 240, 300 Units-*

Install the power board on the front corner mullion using the bracket provided in the kit. See figure 2.

*KG/KC / KH 156, 180, 210, 240, 300S Units -*

Install the power board next to the compressors using the bracket provided in the kit. See figure 3.

## ⚠ CAUTION

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

## ⚠ CAUTION

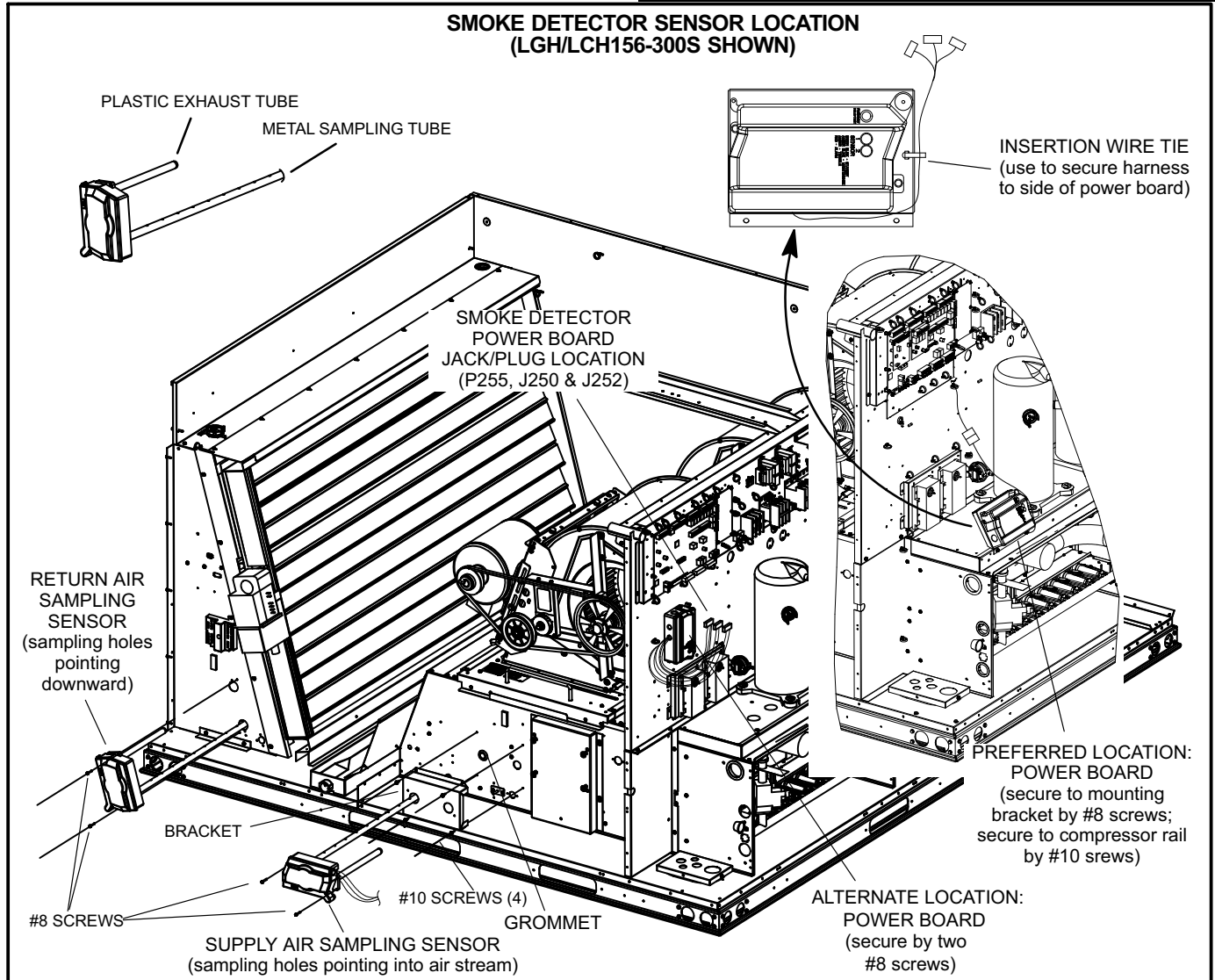
Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.

242H, 300H, 360 Units -

Install the power board on the compressor section wall and discard the mounting bracket provided in kit. See figure 4.

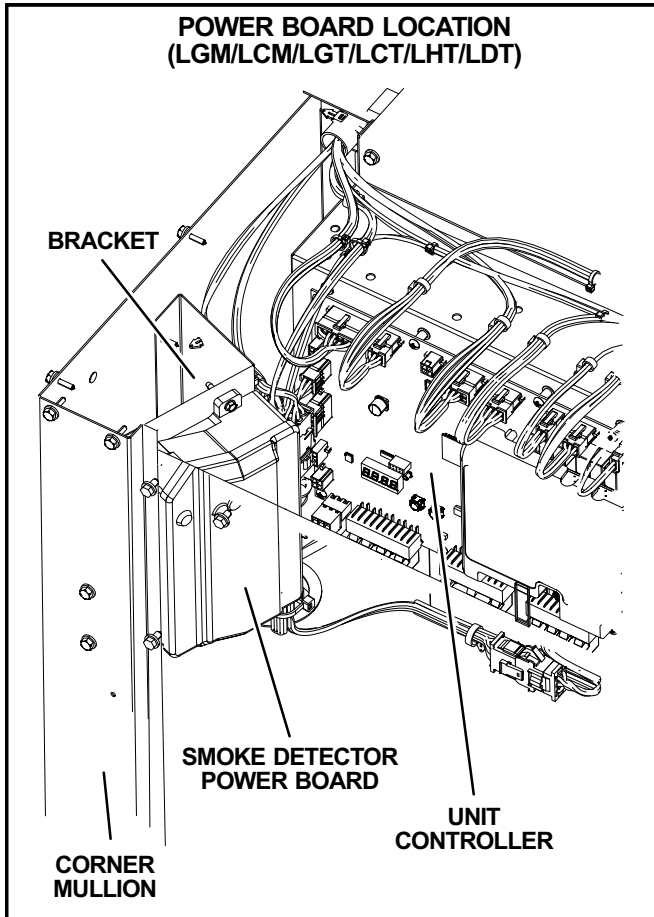
## **⚠ WARNING**

**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 qualified installer, service agency or the gas supplier**



**FIGURE 1**

**POWER BOARD LOCATION  
(LGM/LCM/LGT/LCT/LHT/LDT)**

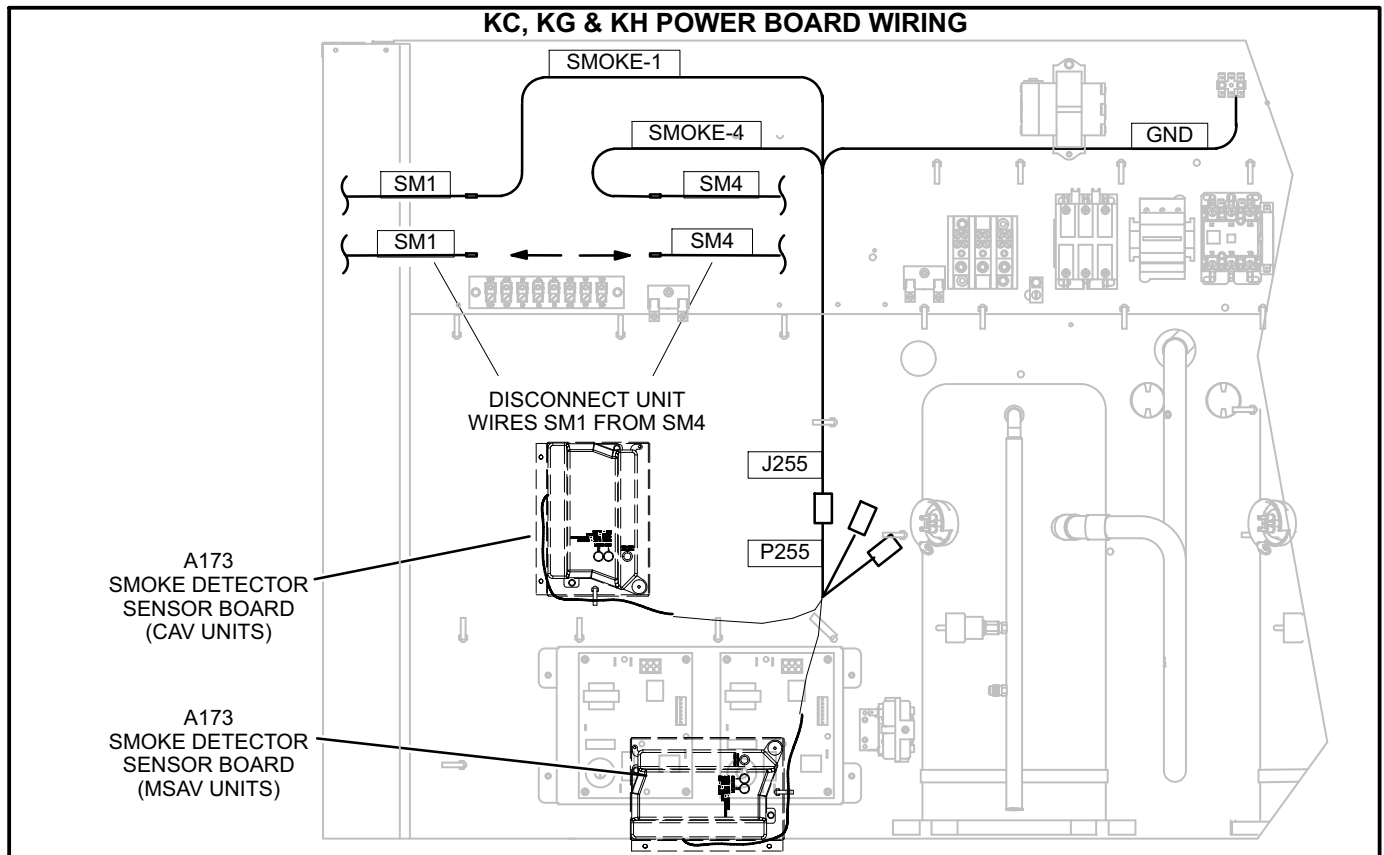


**FIGURE 2**

**Wiring - KG/KC/KH Units**

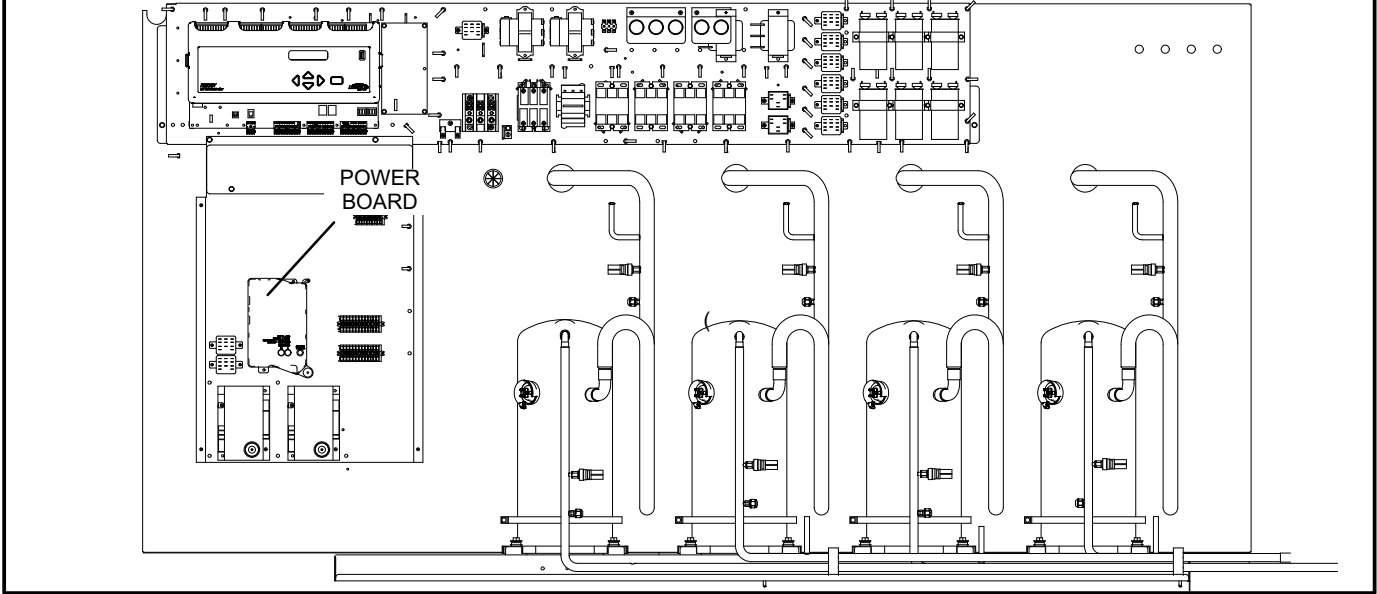
- 1- Locate and disconnect wires labeled SM-1 and SM-4 in control area. See figure 3.
- 2- Connect wires labeled SMOKE-1 and SMOKE-4 from kit power harness to wires labeled SM-1 and SM-4 in unit. Connect wire labeled GND from the kit harness to the ground tab in unit. Position J255 from power harness near the power board jack/plugs in the compressor section. Use markings on wires to identify jack/plugs.
- 3- Make jack/plug connections as shown in figure 6 when installing return air smoke detector only, figure 7 when installing supply air smoke detector only and figure 8 when installing both supply and return air smoke detectors.

**KC, KG & KH POWER BOARD WIRING**



**FIGURE 3**

**SMOKE DETECTOR POWER BOARD LOCATION**  
(LGH/LCH242H, 300H, 360H Unit Shown)

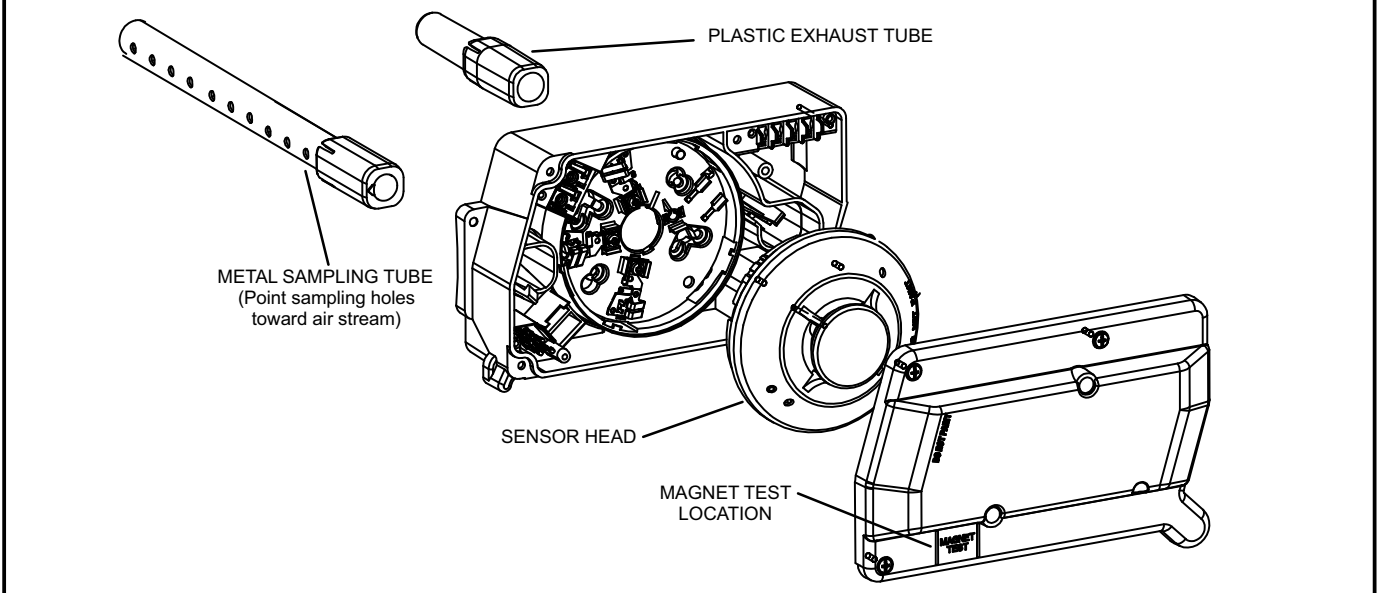


**FIGURE 4**

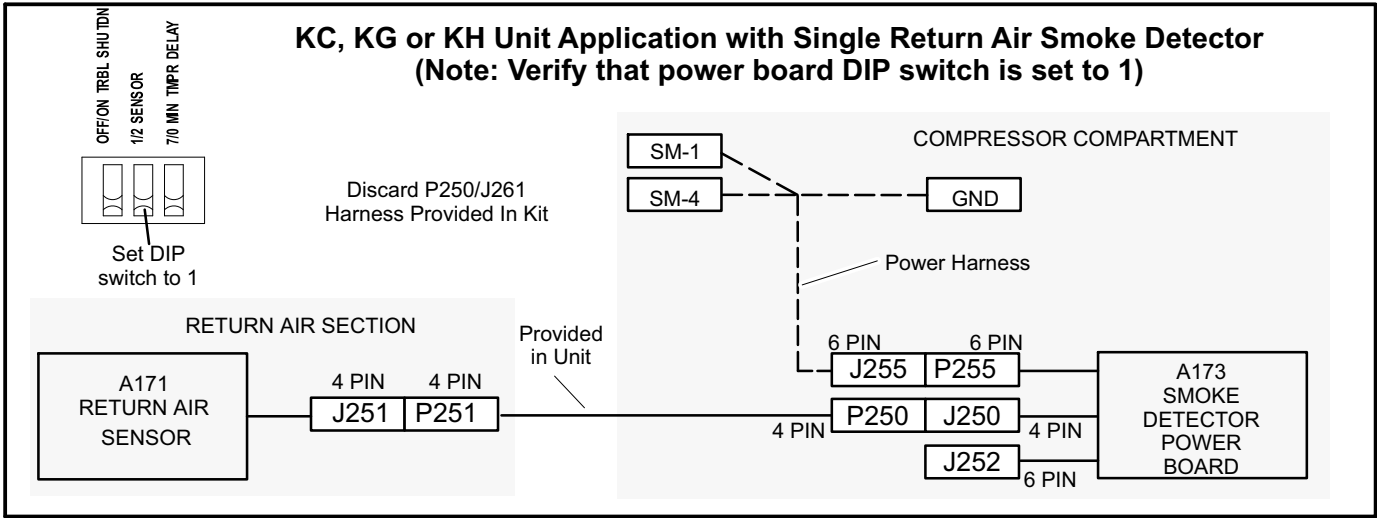
**Sampling tube installation**

- 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 5.
- 3- Orient sampling tube so that holes point toward the air stream.

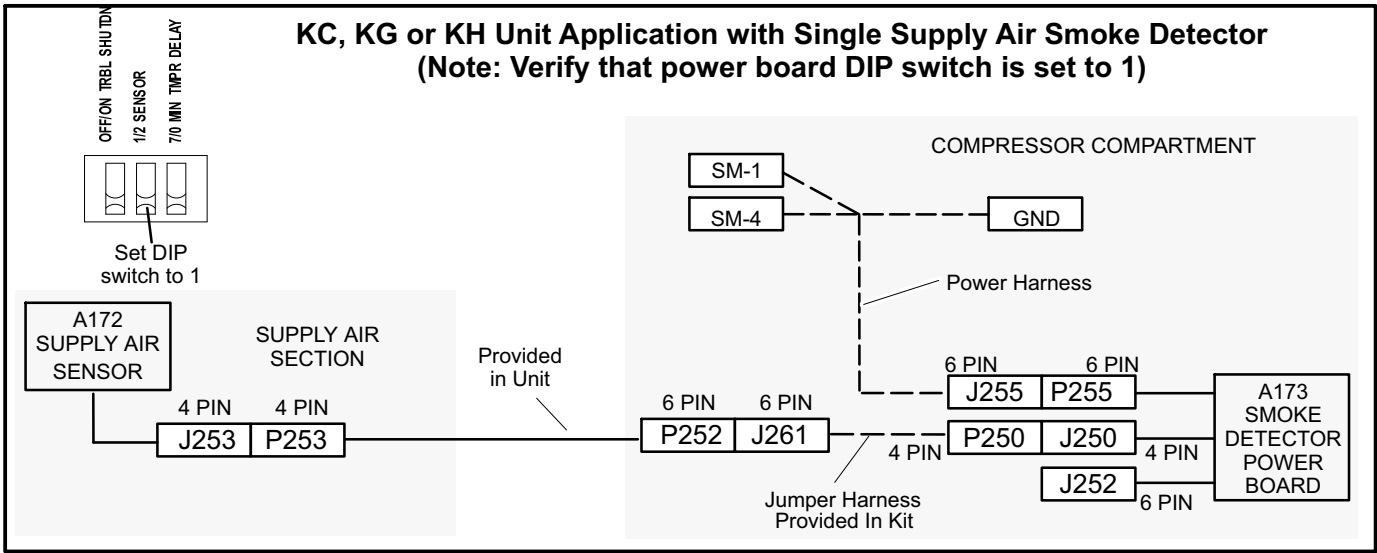
**SMOKE DETECTOR SENSOR WITH SAMPLING TUBE AND EXHAUST TUBE**



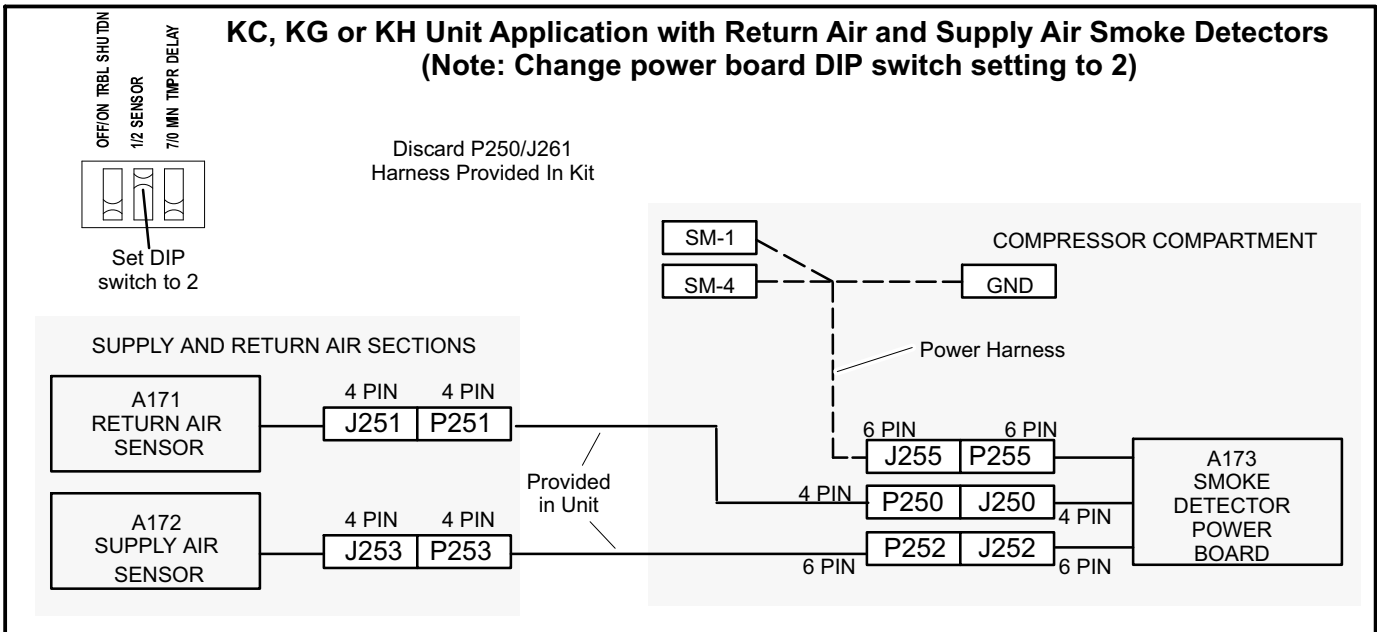
**FIGURE 5**



**FIGURE 6**



**FIGURE 7**



**FIGURE 8**

## Wiring - LG/LC/LH/LD Units

Make jack/plug connections as shown in figure 9 when installing return air smoke detector only, figure 10 when

installing supply air smoke detector only and figure 11 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. See figure 1.

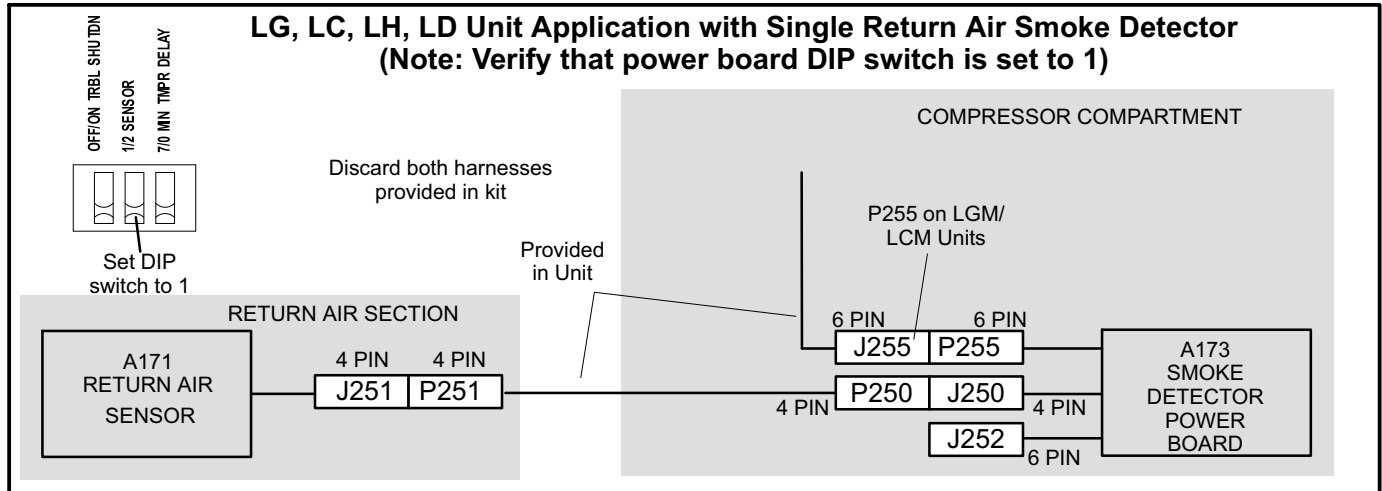


FIGURE 9

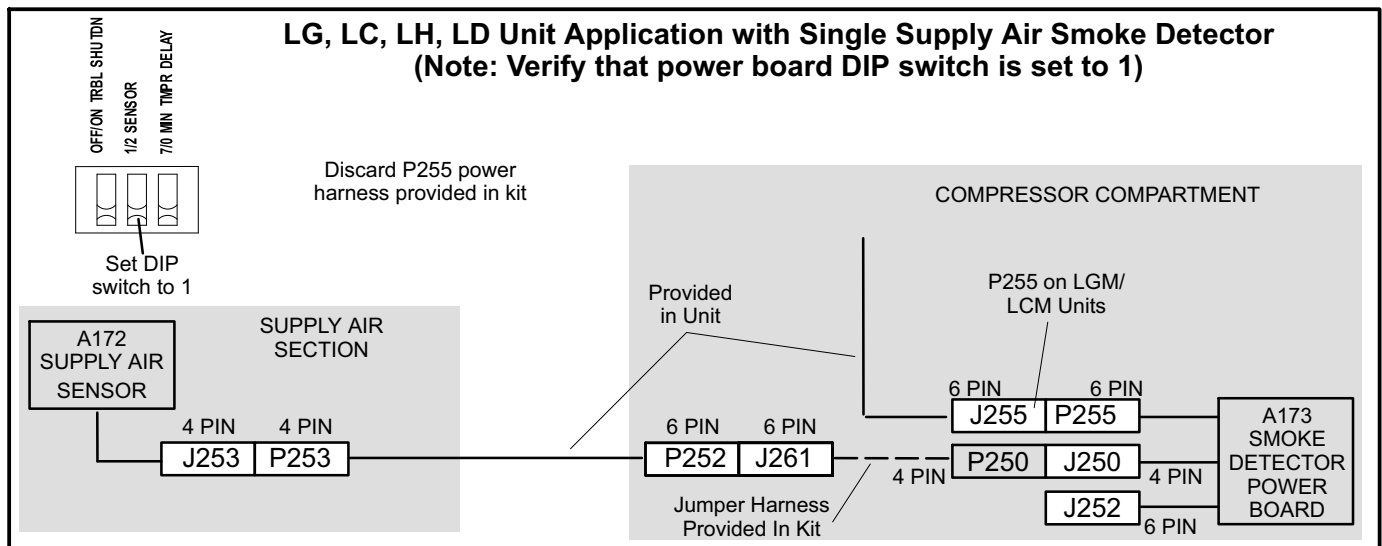


FIGURE 10

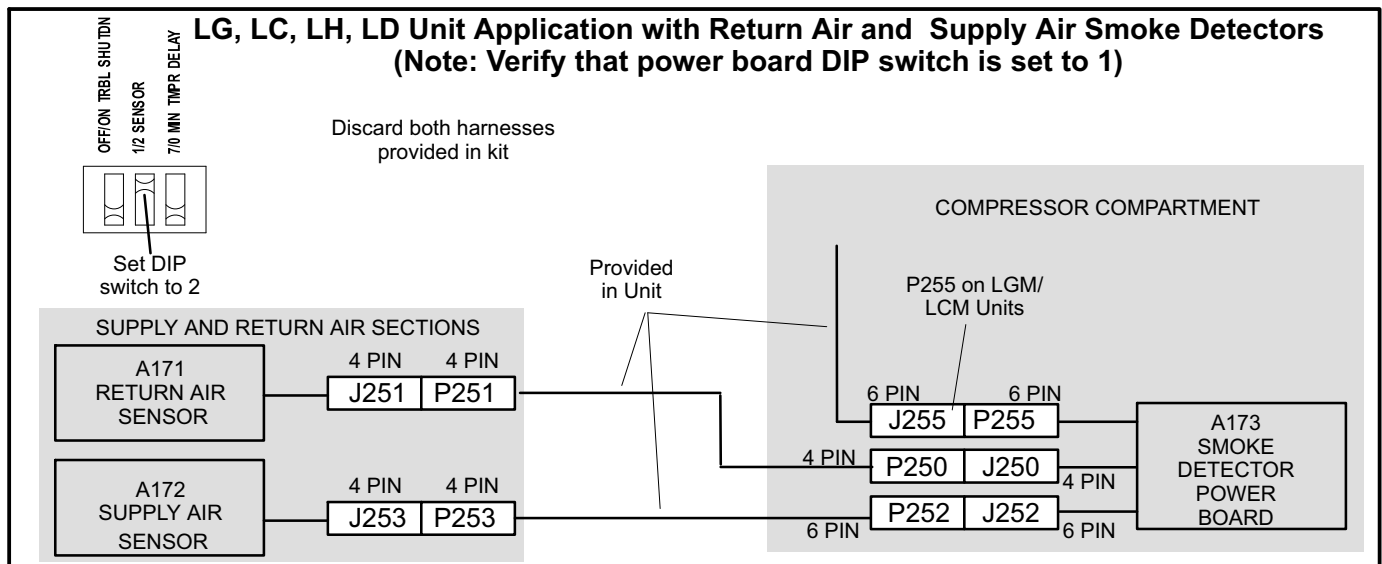


FIGURE 11

## **Test Magnets**

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.