

**GAMEWELL DUCT SMOKE DETECTOR
INSTALLATION INSTRUCTIONS
MODEL 30954 - IONIZATION
MODEL 30955 - PHOTOELECTRIC**

I. MECHANICAL INSTALLATION

A. MOUNTING THE DETECTOR (See Figure 1)

CAUTION – To prevent false alarms the detectors should not be mounted in areas of extreme high or low temperatures, in areas where high humidity exists, in areas where duct air may contain gases or excess dust. Refer to NFPA 90A, 72E and 101.

B. DUCT PREPARATION

1. Remove paper backing from mounting template (packaged in installation kit) and affix to duct at desired location.
2. Using template as a guide, drill 4 mounting holes (3/32" diameter) for duct mounting screws (4 #12 x 1/2" sheet metal screws packaged in installation kit). Drill or punch holes for sampling tubes in air ducts (1-3/8" diameter), using template as a guide. Clean all holes.

C. VERIFY AIR FLOW AND DIRECTION

Gamewell detectors are designed for use in ducts where the air velocities are from 300 to 4000 feet per minute. Verify this by checking specifications of installation, and, if necessary, use an Alnor Model 6000P velocity meter (or equivalent) to check the air velocity. See Figure 2 for sampling tube orientation to air flow direction.

D. SAMPLING TUBE ASSEMBLY

The sampling tubes may be ordered to desired length or ordered in one of 3 standard lengths and cut per requirements. The intake sampling tube is a piece of steel piping with a series of holes drilled the entire length of the tube and should extend the entire width of the duct. The holes must be facing into the air flow (see Figure 2). The exhaust tube is a piece of steel piping approximately 7-1/2" long.

INTAKE SAMPLING TUBES STANDARD LENGTHS:

- 70896-02 For duct widths of 1.0' to 2.4'
- 70896-05 For duct widths of 2.5' to 5.0'
- 70896-10 For duct widths of 5.0' to 10.0'

1. Cut the intake sampling tube to the desired length.
2. Firmly insert the stopper (packaged in installation kit) in the end of the INTAKE sampling tube.

E. MOUNT SAMPLING TUBES (See Figure 2)

1. Sampling tube connectors are equipped with set screws which allow the tubes to be mounted only in directions shown in Figure 2. Establish proper orientation considering air flow direction.
2. Insert intake and exhaust tubes into connectors; align set screw to set screw hole in tubes and tighten firmly.

F. DETECTOR MOUNTING (See Figures 1 & 2)

Move detector/sampling tube assembly into position, and using 4 duct mounting screws (4 #12 x 1/2" sheet metal screws, packaged in installation kit), secure to duct.

G. AIR SAMPLING VERIFICATION (See Figure 3)

To verify proper sampling, of air, use a Dwyer Model 4000 differential pressure gage (or equivalent). See Figure 3 for gage connections. The pressure differential between input sampling tube and exhaust tube should be greater than 0.08" of water and less than 1.0" of water.

II. ELECTRICAL INSTALLATION

A. GENERAL INFORMATION

Wiring must conform to applicable local codes, ordinances and regulations covering this type of device. Wire the detectors according to engineering drawings for particular job requirements. This detector is not intended for open area protection, nor should it be used for open air protection. Refer to NFPA 90A and NFPA 72E (National Fire Protection Association Publications) for general and additional information on Duct Smoke Detectors concerning operation and installation. Terminals are suitable for up to #14 Gauge wire. Use Gemini #501 Sensitivity Tester.

B. DETECTOR WIRING

1. With power source de-energized, smoke detector not installed, wire all connections per engineering drawings. Refer to B-W441-2 for connections.
2. With all wiring in place, install the detector head.
3. Energize the detector.

C. TESTING INSTALLATION

1. Install smoke detector head 71034 Ion or 71033 Photo.
2. Test the detector operation by lighting a piece of clothesline, placing it approximately 3 inches from the head and blowing across the lit area toward the detector head. The alarm indicator should illuminate within one minute and the alarm relay should be energized, shorting pins 12 to 13 and 15 to 16.
3. Reset by depressing reset switch. Detector will reset momentarily and then return to alarm condition. Perform this operation several times. After five minutes the smoke in the detector head should be cleared, and then the device will remain reset.
4. Replace cover.

D. SPECIFICATIONS:

MODEL NUMBERS: 30954 24 Volt Ionization Duct Smoke Detector
. 30955 24 Volt Photoelectric Duct Smoke Detector
POWER REQUIREMENTS: Standby 24 V.D.C. @ 0.05 A Max.,
. Alarm 24 V.D.C. @ 0.07A Max.
RELAY CONTACT RATING: Alarm – 1 Amp Max @ 30 V.D.C.
RADIOACTIVE ELEMENTS: For 30954, Americium 241. 1.0 Micro-Curies (71034 Ion)
SENSITIVITY: Factory Set
AIR VELOCITY: 300 feet per minute to 4000 feet per minute
AMBIENT TEMPERATURE: 32 F to 120 F (0 C to 49 C)
HUMIDITY: 10% RH to 85% RH
APPROVAL: UL Listed (UL268A)
DO NOT EXPOSE TO CORROSIVE ATMOSPHERES

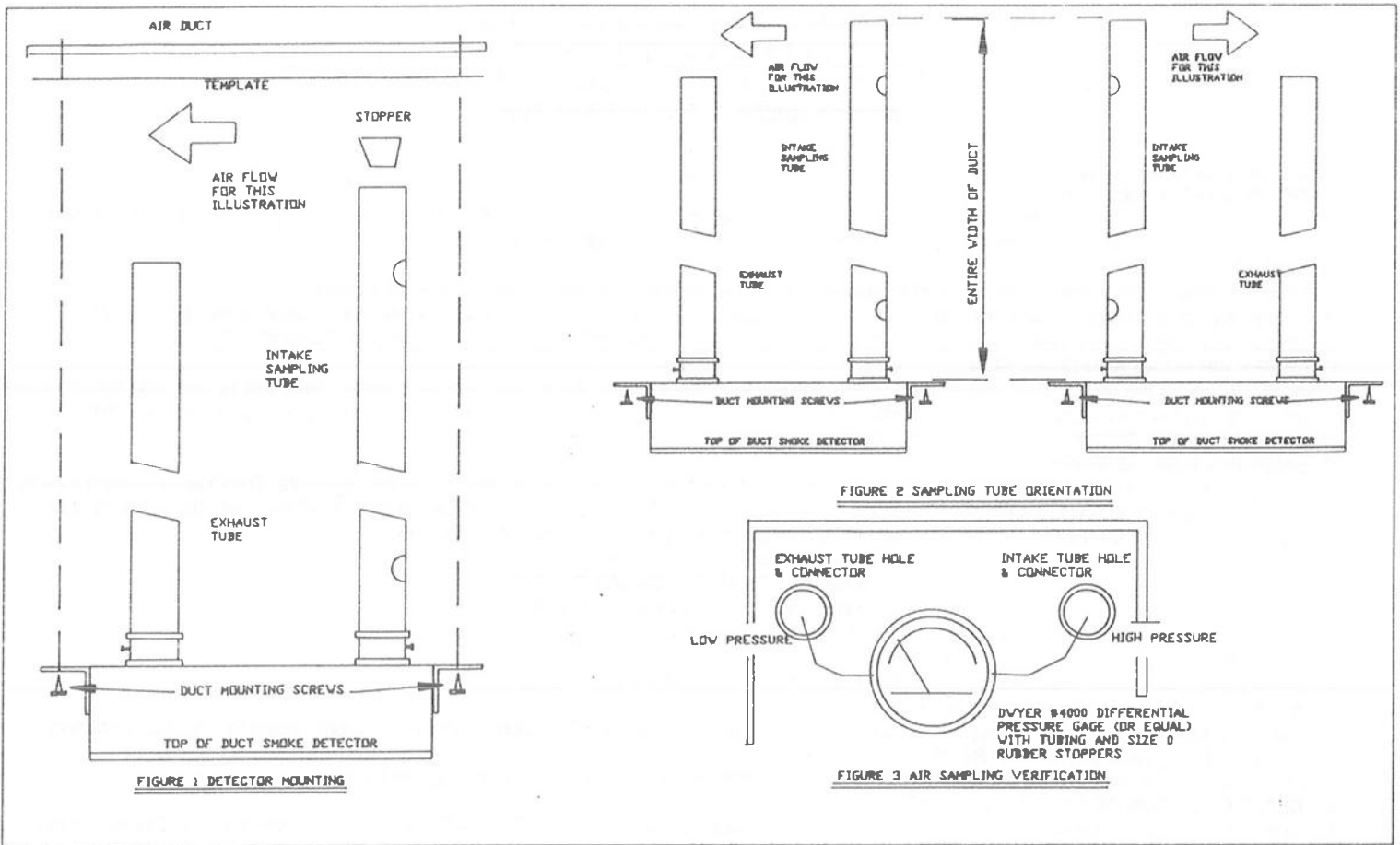
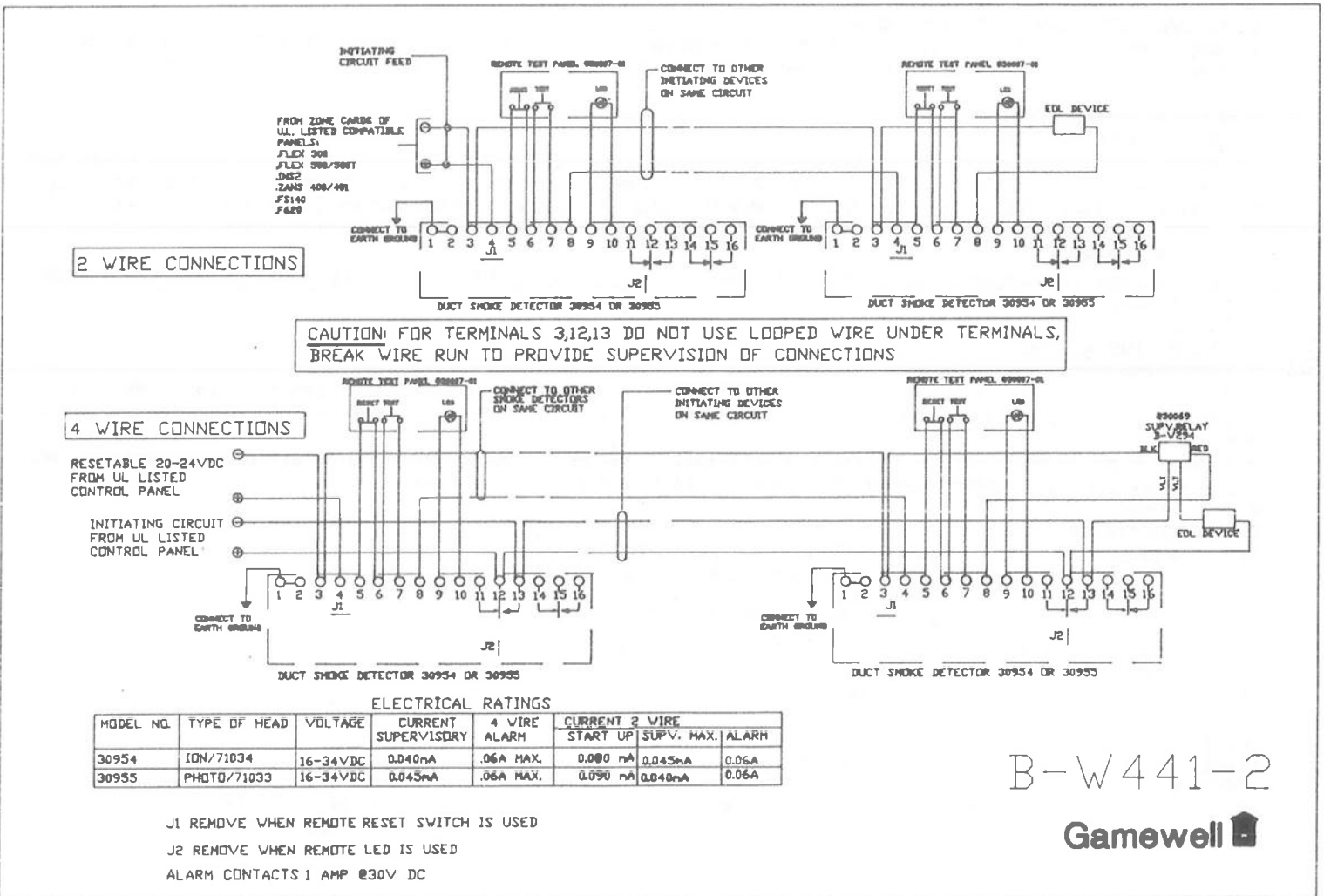


FIGURE 1 DETECTOR MOUNTING

FIGURE 2 SAMPLING TUBE ORIENTATION

FIGURE 3 AIR SAMPLING VERIFICATION



B-W441-2