



## TECHNICAL DATA

## IS-24 IONIZATION SMOKE DETECTOR

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services 877-384-5464 Fax: 269-945-4495 Email: techsvcs@vikingcorp.com

### 1. DESCRIPTION

The IS24 can be used in all areas where Ionization Smoke Detectors are required. The responsive, yet highly stable operation allows the IS24 to fit in a wide range of uses. The IS24 can be used in areas where early warning of superheated or flaming combustibles is expected. The only current compatible device is the PS24 Photoelectric detector.

### 2. LISTINGS AND APPROVALS

UL Listed - Guide UROX.S6574  
cUL Listed - Guide UROXC.S6574  
FM Approved - Fire Detection, Smoke Actuated  
CSFM Listed

### 3. TECHNICAL DATA

#### Manufactured by:

Potter Electric Signal Company, LLC  
2081 Craig Road  
St. Louis, Missouri 63146

#### Specifications:

Radioactive Source: AM241, 0.5  $\mu$ Ci  
Rated Voltage: 17.7 30.0 VDC  
Working Voltage: 15.0 33.0 VDC  
Maximum Voltage: 42 VDC  
Supervisory Current: 40  $\mu$ A at 24 VDC  
Surge Current: 200  $\mu$ A at 24 VDC  
Alarm Current: 150 mA at 24 VDC  
Ambient Temperature: 32° F to 120°F (0° C to 49° C)  
Sensitivity Test: Magnetically activated dual reed switch test.  
Mounting: Mounts on SB Series Smoke Detector Base Series

#### Ordering Information:

Part Number: 1430010

#### Accessories:

The SB Series Smoke Detector base is designed specifically for use with the IS24.  
SB Series Smoke Detector Base - PN 1430014

### 4. INSTALLATION

Insert the detector into the base, turn the detector clockwise until it locks, then tighten the vandal resistant allen screw.

**CAUTION: THESE UNITS MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH ALL APPLICABLE NFPA STANDARDS, LOCAL CODES AND ANY AUTHORITY HAVING JURISDICTION. PLEASE REFER TO NFPA 72 STANDARDS FOR AUTOMATIC FIRE DETECTORS FOR INSTALLATION GUIDELINES, AND TESTING PROCEDURES.**

### 5. OPERATION

The IS-24 ionization smoke detector utilizes two bicolored LED's for status indication purposes. In a normal standby condition the LED's flash green approximately once each second. When the detector senses smoke and goes into alarm the status LED's will latch on red.

A single radioactive source of Americium-241 ionizes two chambers within the detector, a reference chamber and the smoke sensing chamber. The air is ionized by this source and a small DC current flows between the electrodes of each chamber. Smoke can freely enter the sensing chamber, while the inner chamber is virtually sealed to smoke. Smoke entering the sensing chamber causes a reduction in the DC current flow, the voltage imbalance between the two chambers is proportional to the smoke density. When the voltage difference becomes great enough it causes the detector to go into alarm. The two chamber design is utilized to compensate for changes in atmospheric and environmental conditions.



**WARNING:** Cancer and Reproductive Harm-  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Viking Technical Data may be found on  
The Viking Corporation's Web site at  
<http://www.vikinggroupinc.com>.  
The Web site may include a more recent  
edition of this Technical Data Page.



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### 6. INSPECTIONS, TESTS AND MAINTENANCE

#### IS24 Sensitivity Test Feature Procedure

1. With detector wired to appropriate initiating circuit or current limited power source and with normal applied power, place magnet as shown in Fig. 2.
2. Wait at least six seconds. Detector SHOULD NOT alarm and LED should not light.
3. Place magnet on detector as shown in Fig. 3 (opposite side).
4. Wait at least six seconds. Detector SHOULD alarm.
5. If detector does alarm when magnet is positioned as in Fig. 2 or does not produce an alarm when magnet is positioned as in Fig. 3, detector is not within specified sensitivity limits and may require service.

### 7. AVAILABILITY

The IS-24 Ionization Smoke Detector is available through a network of domestic and international distributors. See the Viking Web site for closest distributor or contact The Viking Corporation.

### 8. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

