



## TECHNICAL DATA

### PS-24 PHOTOELECTRIC 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 PS24 can be used in all areas where Photoelectric Smoke Detectors are required. The wide range smoke chamber makes the PS24 well suited for fires ranging from smoldering to flaming fires. SB Series Style bases may be used with the PS24. Current interchangeable/compatible devices are the IS24 ionization 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:

Light Source: GaAIAs Infrared Emitting Diode  
Rated Voltage: 17.7 - 33.0 VDC  
Working Voltage: 15.0 - 33.0 VDC  
Maximum Voltage: 42 VDC  
Supervisory Current: 45  $\mu$ A Max. at 24 VDC  
Surge Current: 160  $\mu$ A Max. at 24 VDC  
Alarm Current: 150 mA Max. at 24 VDC  
Ambient Temperature: 32°F to 120°F (0°C to 49°C)  
Sensitivity Test Feature: Automatic Sensitivity window verification test.  
Mounting: Mounts on SB Series Smoke Detector Base Series

##### Ordering Information:

Part Number: 1430011

##### Accessories:

The SB Series Smoke Detector base is designed specifically for use with the PS24.  
SB Series Smoke Detector Base - PN 1430014



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.

#### 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 NFPA72 STANDARDS FOR AUTOMATIC FIRE DETECTORS FOR INSTALLATION GUIDELINES, AND TESTING PROCEDURES.**

#### 5. OPERATION

The PS24 photoelectric smoke detector utilizes two bicolored LED's for indication of status. In a normal standby condition the LED's flash green every 3 seconds. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window the LED's will flash red every 3 seconds. When the detector senses smoke and goes into alarm the status LED's will latch on red.

The detector utilizes an infrared LED light source and silicon photo diode receiving element in the smoke chamber. In a normal standby condition, the receiving element receives no light from the pulsing LED light source. In the event of a fire, smoke enters the detector smoke chamber and light is reflected from the smoke particles to the receiving element. The light received is converted into an electronic signal.

Signals are processed and compared to a reference level, and when two consecutive signals exceeding the reference level are received within a specified period of time, the time delay circuit triggers the SCR switch to activate the alarm signal. The status LED's light continuously during the alarm period.

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**6. INSPECTIONS, TESTS AND MAINTENANCE****PS24 Sensitivity Test Feature Procedure**

1. In normal condition, both LED's flash green.
2. When the sensitivity drifts outside of its sensitivity limits, both LED's flash red.
3. In the alarm state both LED's are red continuously.
4. When the sensitivity drifts outside of its sensitivity limits and both LED's flash red, the device needs to be cleaned or returned to the factory for cleaning.

**7. AVAILABILITY**

The PS24 Photoelectric Smoke Detector s 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.