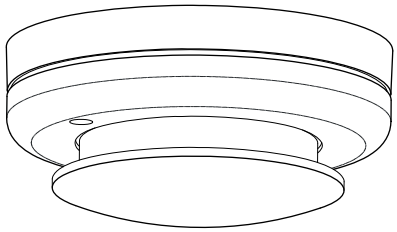
V-PS Photoelectric Smoke Detector Installation Sheet



Description

The V-PS Photoelectric Smoke Detector uses an optical sensing chamber to detect smoke. The detector analyzes the sensor data to determine when an alarm should be initiated.

The detector continuously monitors changes in sensitivity due to the environment (e.g., dirt, smoke, temperature, humidity) and notifies the loop controller of its condition. The detector issues a dirty-sensor warning when it reaches its preset limit. This notifies the operator of the need for service while the detector is still operating. The detector is capable of performing comprehensive self-diagnostics and storing the results.

LEDs: The V-PS detector uses a bicolor LED to show its status.

- Normal: Green LED flashes
- Alarm: Red LED flashes

Electronic addressing

The control panel automatically assigns addresses to the detectors. Use a laptop computer to set custom addresses for the detectors. No addressing switches are used.

Installation

Install and wire this device in accordance with applicable national and local codes, ordinances, and regulations.

Refer to *Vigilant Detector Application Bulletin* (P/N 3101109-EN) for additional information on detector placement and spacing.

WARNINGS

- Risk of system failure. This detector does not operate without electrical power. As fires frequently cause power interruption, discuss further safeguards with your local fire protection specialist.
- Risk of system failure. This detector does not sense fires in areas where smoke cannot reach the detector. Smoke from fires in walls, roofs, or on the opposite side of closed doors may not reach the detector.

Notes

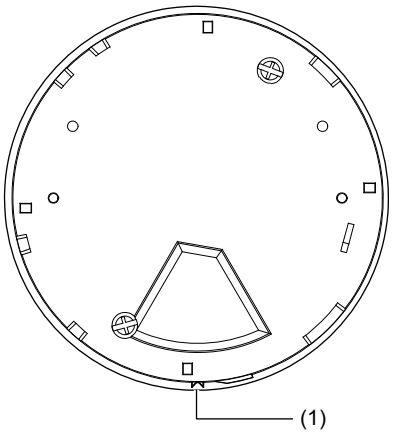
- Photoelectric detectors have a wide range of sensing capabilities, but are best suited for detecting slow, smoldering fires.
- Do not use a detector guard with this detector unless the combination has been evaluated and found suitable.
- To ensure proper operation, schedule maintenance (regular or selected) in accordance with the requirements of the authority having jurisdiction. Refer to NFPA 72 and CAN/ULC-S536.
- To ensure proper operation, store the detector within the recommended temperature ranges. Allow the detector to stabilize to room temperature before applying power.
- Keep the dust cover (supplied) on the detector during installation and remove it prior to commissioning and service. The dust cover is not a substitute for removing the detector during new construction or heavy remodeling.

To install the detector:

1. Install and wire the detector base using the installation sheet supplied with the detector base.
2. Connect the detector to the base by rotating the detector clockwise until it snaps into the locked position. To remove the head turn it counterclockwise.
3. If the head must lock to the base, break away the locking tab using a pair of pliers. See Figure 1.

   To remove the detector head after breaking away the locking tab, insert a small screwdriver into the slot on the side of the base and press in while simultaneously turning the detector head counterclockwise.
4. Remove the serial number label from the detector and attach it to the project documentation.

Figure 1: Locking tab



(1) Locking tab

Maintenance

When cleaning is necessary, the sensing chamber of the detector easily unsnaps for field cleaning and service.

For warranty and return, see “Contact information” on page 2.

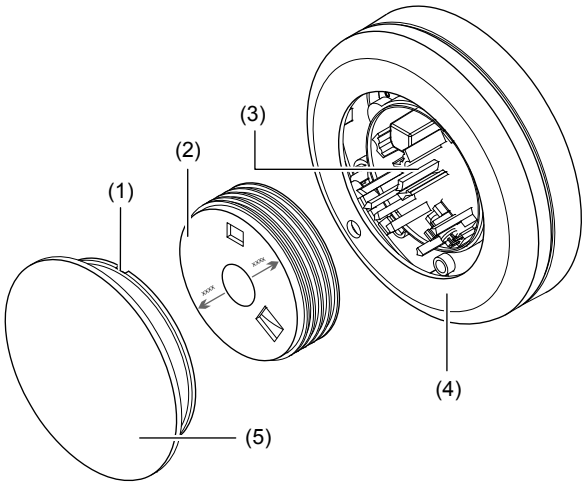
To clean the detector:

1. Remove the detector from the base.
2. Insert a screwdriver in the small slot where the detector cap connects to the detector body. See Figure 2.
3. Pry the detector cap off the detector body.
4. Squeeze the optical block chamber where the two arrows point, labeled “squeeze here.”
5. Pull off the optical block chamber.
6. Blow off the optical block base in the detector body using clean compressed air.

7. Snap a new optical block chamber in place. Make sure you line up the two arrows on the block chamber with the snaps on the optical block base.
8. Connect the detector cap to the detector body by rotating the cap clockwise until it snaps into a locked position.
9. Install the detector onto the base.

   Note: To verify the effectiveness of the cleaning, recalibrate the device and run a device maintenance report. Refer to the control panel technical reference manual.
10. Test the detector and verify sensitivity.

Figure 2: Detector disassembly



(1) Slot to insert screwdriver
(2) Optical block chamber
(3) Optical block base
(4) Detector body
(5) Detector cap

Testing

NFPA 72 and CAN/ULC-S537 require a calibrated sensitivity test upon installation and following any modifications or additions to the system. The detector can perform this test and generate a system sensitivity report.

To test the detector:

1. Before initial testing, remove the dust cover from the detector and notify the proper authorities that the fire alarm system is undergoing maintenance and will be temporarily out of service.
2. Test the detector using Smoke-In-A-Can (model SM-200) canned smoke. Carefully follow directions on the can to avoid damage to the detector.

Specifications

Communication line voltage	20 Vp-p max.
Current	
Normal operating	45 µA
Alarm	45 µA
Smoke sensitivity	
UL	0.67 to 3.66 %/ft. obscuration
ULC	0.74 to 3.70 %/ft. obscuration
Environmental compensation	Automatic
Distance from ceiling (wall mounted)	12 in. (305 mm) max.
Compatible bases	
Standard	B4U, B4U-LP
Relay	RB4U
Isolator	IB4U
Audible	SB4U, SB4U-LF
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing
Storage temperature	−4 to 140°F (−20 to 60°C)

Regulatory information

North American standards	Meets: CAN/ULC-S529, UL 268 Follow: CAN/ULC-S524, CAN/ULC-S537, *National Building Code of Canada*, *National Fire Code of Canada*, and NFPA 72
FCC compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Industry Canada compliance	This Class A digital apparatus complies with Canadian ICES-003.

Contact information

For contact information, see www.kiddelifesafety.com.