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SILENT KNIGHT VLF-250

Vesda VLF-250 Aspirating Smoke Detector User Manual

MODEL: VLF-250

Brand: SILENT KNIGHT

1. Introduction

The Vesda VLF-250 is a state-of-the-art LaserFocus Small Area Aspirating Smoke Detector designed for early warning fire detection in small, critical environments. It continuously draws air samples through a network of sampling pipes and analyzes them for the presence of smoke particles, providing reliable and precise detection even at very low smoke concentrations. This manual provides essential information for the proper installation, operation, and maintenance of your VLF-250 detector.

2. Safety Information

Always adhere to local electrical codes and fire safety regulations during installation and operation. Only qualified personnel should install and service this equipment. Disconnect power before performing any maintenance or installation procedures. Do not expose the device to extreme temperatures, humidity, or corrosive environments. Ensure proper grounding to prevent electrical hazards.

3. Package Contents

Verify that all components are present and undamaged upon unpacking. The standard package for the Vesda VLF-250 typically includes:

- Vesda VLF-250 Aspirating Smoke Detector Unit
- Product Guide / User Manual
- Mounting Bracket



Image: Contents of the Vesda VLF-250 package, showing the detector unit, product guide, and mounting bracket.

4. Setup

4.1 Mounting the Detector

The VLF-250 detector should be mounted in a secure location, free from excessive vibration and direct exposure to environmental elements. Use the provided mounting bracket to secure the unit to a wall or suitable surface. Ensure adequate space around the unit for ventilation and access for maintenance.

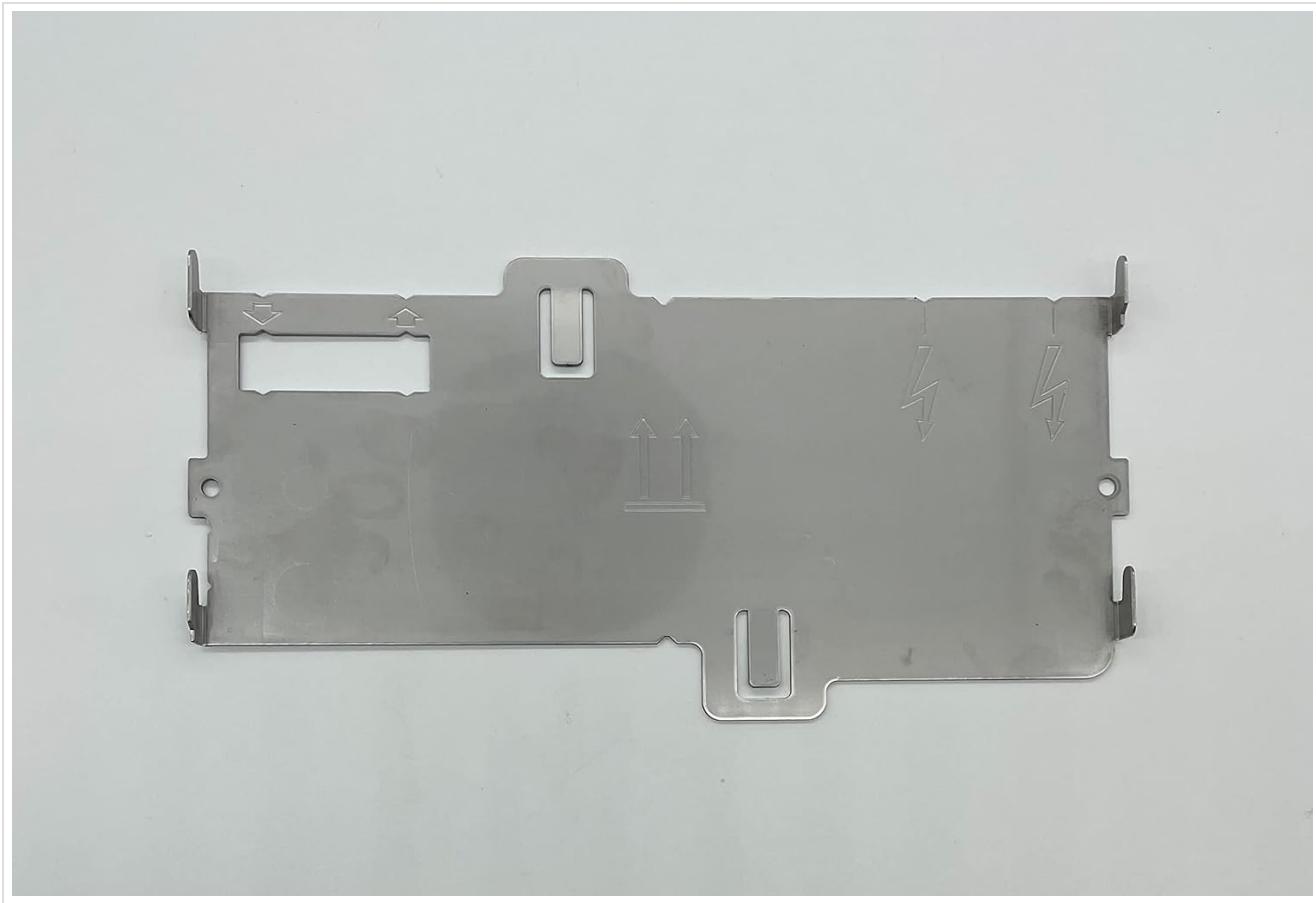


Image: The metal mounting bracket for the Vesda VLF-250 detector, designed for secure installation.

4.2 Electrical Connections

The Vesda VLF-250 operates on direct wiring. Connect the power supply (18-30 VDC) and any alarm/fault signaling circuits according to the wiring diagram provided in the detailed installation instructions (refer to Document 720, P/N 20263). Ensure all connections are secure and properly insulated.



Image: A detailed view of the product label on the Vesda VLF-250, showing model number, serial number, sensitivity range, power requirements, and certifications.

4.3 Sampling Pipe Network

Install the sampling pipe network according to the design specifications for your protected area. Ensure all pipe connections are airtight and that sampling holes are correctly positioned and sized. The VLF-250 is designed for small area protection, typically with shorter pipe runs.

5. Operating

5.1 Power-Up and Initialization

Once power is applied, the VLF-250 will undergo an initialization sequence. The LED or LCD display will indicate the system status. Allow a few minutes for the detector to stabilize and enter normal operating mode.

5.2 Normal Operation

In normal operation, the detector continuously draws air samples and monitors for smoke. The display provides real-time status. The sensitivity range of the VLF-250 is 0.001 dB/m to 0.969 dB/m (0.025 %/ft - 20 %/ft or 0.008 %/ft - 6.25 %/ft).



Image: Front view of the Vesda VLF-250 aspirating smoke detector, showing its compact design and central air intake.

5.3 Alarm Conditions

When smoke levels exceed programmed thresholds, the detector will activate alarms and transmit signals to the connected fire alarm control panel. The display will indicate the alarm level (e.g., Alert, Action, Fire 1, Fire 2).

6. Maintenance

Regular maintenance is crucial for the optimal performance and longevity of your Vesda VLF-250 detector. Always refer to the detailed maintenance schedule in the product guide.

6.1 Routine Cleaning

Periodically clean the exterior of the detector with a soft, dry cloth. Ensure that the air intake and exhaust ports are free from dust and obstructions. Do not use abrasive cleaners or solvents.

6.2 Filter Replacement

The VLF-250 contains an air filter that requires periodic replacement. The frequency of replacement depends on the environment's air quality. Refer to the product guide for instructions on accessing and replacing the filter.

6.3 System Testing

Conduct regular functional tests of the detector and the entire sampling system as per local regulations and manufacturer recommendations. This typically involves introducing test smoke into the sampling pipe network to verify alarm activation.

7. Troubleshooting

This section provides solutions to common issues you might encounter with your Vesda VLF-250 detector. For complex problems, contact technical support.

- **No Power/Unit Off:** Check power supply connections and ensure the circuit breaker is not tripped. Verify input voltage is within the 18-30 VDC range.
- **Fault Indication:** Refer to the specific fault code displayed on the unit (if applicable) and consult the detailed product guide for diagnostic steps. Common faults include airflow issues (blocked pipes) or sensor problems.
- **False Alarms:** Investigate potential sources of airborne contaminants (dust, steam, aerosols) in the protected area. Ensure the sampling pipe network is clean and properly sealed. Adjust sensitivity settings if necessary, following expert guidance.
- **No Smoke Detection:** Verify that the sampling pipe network is intact and free of blockages. Ensure the detector's air intake is not obstructed. Perform a functional test with test smoke.

8. Specifications

Technical specifications for the Vesda VLF-250 Aspirating Smoke Detector:

Feature	Detail
Model Number	VLF-250
Product Dimensions	11 x 9.5 x 5 inches
Item Weight	5.1 pounds
Manufacturer	AHST
Brand	SILENT KNIGHT
Power Source	Direct Wiring
Working Voltage	18-30 VDC
Power Consumption	5.2W nominal, 7.0W in alarm (at 24VDC)
Current Consumption	220mA nominal, 295mA in alarm (at 24VDC)
Display Type	LED or LCD
Sensitivity Range	0.001 dB/m to 0.969 dB/m (0.025 %/ft - 20 %/ft or 0.008 %/ft - 6.25 %/ft)
UPC	808237734510
ASIN	B0B6GVMSHP
Date First Available	July 13, 2022



Image: The product box label for the Vesda VLF-250, displaying the model number, serial number, and manufacturing details.

9. Warranty and Support

For warranty information, please refer to the terms and conditions provided with your purchase or contact your authorized SILENT KNIGHT distributor. Technical support and service are available through your local supplier or the manufacturer's official channels. When contacting support, please have your model number (VLF-250) and serial number (found on the product label) ready. For detailed installation instructions and further technical documentation, refer to Document 720 (P/N 20263).