

## VF2001-00

### Ionization Smoke Sensor



### Standard Features

- Low Profile - Only 2.22" high, including base
- Simple and reliable device addressing method
- Very low current consumption using the unique "Low Power Mode"
- Automatic compensation for sensor contamination
- Built in fire test feature
- Uses the noise immune Digital Communication Protocol (DCP), which utilizes interrupts for fast response to fires

#### Note:

Bases are not included with detectors, please order separately.

### Application

- The VES Ionization smoke sensor has a responsive and highly stable operation that gives it an extremely wide range of uses. The VF2001 can be used in areas where early warning of trouble from superheated or flaming combustibles is expected. The VF2001 is also constructed to be effectively used where outside RFI (Radio Frequency Interference) and other electrical interference is expected to be encountered.

### Operation

A single radioactive source ionizes two chambers which causes a small DC current to flow between the electrodes in each chamber. Smoke can freely enter the outer chamber while the inner chamber is virtually sealed to smoke. Smoke entering the outer chamber causes a reduction in the DC current, the imbalance between the two chambers is proportional to the smoke density. The two chamber design is utilized to compensate for changes in atmospheric and environmental conditions. When the sensed input value exceeds a predetermined threshold, an interrupt is issued to the control panel indicating a fire alarm.

The fire alarm control panel can adjust the sensor threshold to compensate for contamination. Up to 127 devices are permitted on each loop. A sensor address can be set by a hand held programming unit.

The sensor mounts to an electronics-free base and incorporates a locking mechanism for secure installation. The base provides mounting slots, terminals for field wiring and a third contact for a remote indicator/LED.

The sensor incorporates dual LED's for easy viewing of sensor status.

After addressing, Ionization Smoke Sensors are fully configurable through Loop Explorer Software.

**Note:** This is a discontinued product. VES still stocks a quantity of these units on a limited basis.

## Engineering Specification

The Dealer shall furnish and install where indicated on the plans, dual-chamber ionization sensors, VES part number VF2001. The combination sensor head and twist lock base shall be used with the UL listed Elite fire alarm control panel.

The Sensor and Base shall be UL listed as compatible with the fire alarm control panel (FACP). The base shall permit direct interchange with the VES, VF2002, VF2005 & VF2011 photoelectric smoke sensor, VF2001 ionization type smoke sensor, VF2003 & VF2010 heat sensor, and the VF2008 & VF2012 Multi-Criteria sensor.

The sensitivity of the sensor shall be capable of being measured by the control panel.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing.

The locking feature shall be optional and can be implemented when required.

State-of-the-art communications protocol, DCP, allows multiple system component types to be used concurrently in a system's signal conditioning loop.

## Bases

The VF7001 and the VF7002 mounting bases are electronics free and are a simple rugged design with screw terminals for wiring connections. A common mounting base allows sensor interchange and maintains loop continuity when sensors are removed. A simple anti-tamper head locking system is provided which is enabled by removing a small plastic tab on the back of the sensor. Once locked, the head can be removed using a small diameter screw driver.

## Technical Specifications

**Operating Voltage:** 17-41 VDC

**Current Consumption Standby:**

**Normal:** 350µA (typical)

**Low power Mode:** 140 µA (@0.75 sec.)

**Average when Polled:** 2 mA, 8 mA (Alarm)

**Transmission Method:** DCP—Digital Communication Protocol

**Maximum Humidity:** 95% RH Non-Condensing

**UL Ambient Installation Temp. Range:** 32° F to 100° F

**Operating Temperature Range:** 14° F to 122° F

**Air Velocity Range:** 0-4000 fpm

**Color & Case Material:** Bone PC / ABS Blend

**Weight:** 4.2 oz, 5.9 oz with 4" base

## Ordering Codes

Part number	Description
<b>VF2001-00</b>	Ionization Smoke Detector
<b>VF7001-00</b>	4" Mounting Base
<b>VF7002-00</b>	6" Mounting Base
<b>VF7008-00</b>	6" Sounder Base