ASD-LS

Addressable Laser Smoke Sensor

General

The Gamewell-FCI, Model ASD-LS, is a low profile laser smoke sensor that adds another new dimension to analog addressable fire detection. It incorporates laser smoke detection technology that provides an unsurpassed sensitivity and a quick response to maximize detection. This feature makes the sensor ultra-sensitive to smoke, as much as 100 times more sensitive than conventional photo-electric smoke detection technology.

An innovative laser diode and precision optics design combine with an array of integral software tools to allow the sensor to quickly identify the fire. The sensor can swiftly sense smoldering fires, but yet can sense the smallest particles of combustion, providing a faster response to flaming fires.

The early warning capability of the ASD-LS is comparable to that of Aspiration Technology, while unlike Aspirating Systems, the ASD-LS can pin-point the location of the fire.

The sensor is continually monitored to measure any change in its sensitivity due to the environment (dirt, temperature, transient smoke, humidity, etc.). Patented algorithms distinguish between particles of dust and smoke. The focused beam of the laser light source minimizes reflection from accumulated dust in the optical chamber, effectively minimizing problems caused by dust build-up. The software performs its own independent analysis of the sensor signal. This analysis includes dust spike rejection, drift compensation, smoothing, multi-sensor, pre-alarm decision and alarm decision. In the event of spikes in the signal, the sensor will check the output of adjacent sensors for any appreciable signal to determine if the spike is caused by a fast flaming fire.

The ASD-LS sensor is Listed for use inside ducts up to a velocity of 4,000 FPM. An optional isolator base, Model B224BI, is also available. Installation of two of these isolator bases allows Style 7 operation for sensors located electrically between the bases.

ASD-LS

FEATURES & BENEFITS

- Operates in the Velociti® or CLIP mode
- Provides High Sensitivity for both smoldering and fast flaming fires

- Includes patented algorithms that ignore transient smoke and dust particles
- Designed with a low profile construction and an easy plug-in of the head to base

- Offers the following built-in features:
  - Signal processing
  - Tamper-resistant
  - Test switch
- Supports a remote test feature (originating from the panel)

- Displays 360° view angle of dual alarm LEDs
- Contains optional bases for auxiliary functions
- Has a maximum air velocity 4,000 FPM

Installation

To install the sensor, do the following:

1. Place the sensor into the sensor base.
2. Turn the sensor clockwise until the sensor locks into place.
3. To use the tamper-proof feature, break the smaller tab on the base as shown in the installation instructions. Install the sensor.
4. To remove the sensor from the base when you use the tamper-proof feature, insert the blade of a small screwdriver into the hole on the side of the base and push the plastic lever away from the detector head. This action allows you to rotate the sensor counterclockwise so you can remove the sensor from the base.

NOTE: When you use the tamper-proof feature, remove the decorative ring before you remove the head.

For information on spacing the location of the sensors and other guidelines, refer to NFPA72, Chapter 5-3 "Smoke Sensing Fire Detectors."

Testing

Sensors may be tested locally in the following ways:

- Place a test magnet against the sensor housing per the instructions. The sensor should go into alarm within 30 seconds.
- The Magnet test initiates an approximately ten minute period when the detector's signal processing software routines are not active. Failure to first perform the Magnet Test will introduce a time delay before the detector alarms. Refer to the instructions in the Generator Instruction Manual.
- Aerosol Generator - The Gemini Model 501 aerosol generator may be used to perform a Functional Test. This test should be performed immediately following the Magnet Test.

Maintenance

Cleaning programs should be adapted to the individual environment in compliance with the National Fire Alarm Code, NFPA, 72. Gamewell-FCI recommends you clean the unit annually. To clean the unit, do the following:

1. Remove the sensor screen and cover assembly to reveal the sensing chamber.
2. Use a vacuum cleaner to remove the dust from the screen, cover and sensing chamber.

For the complete procedure, refer to the Installation and Maintenance Instructions furnished with each sensor.

Ordering Information

ASD-LS: Low Profile Analog Laser Sensor

B501: Plug-in sensor base without flange

Dimensions: 4.1" (10.4 cm) diameter

B210LP: Flanged mounting base

Dimensions: 6.1" (15.5 cm) diameter

B210LPBP: Flanged mounting base bulk pack

Dimensions: 6.1" (15.5 cm) diameter

B224RB: Plug-in sensor base with auxiliary relay, SPDT, rated 2 amps. @ 30 VDC (resistive) 2 coil latching relay 1 Form C Contact UL/CSA Rating:

  0.9 A @ 125 VAC inductive

  0.9 A @ 110 VDC inductive

  3 A @ 30 VDC resistive

Dimensions: 6.1" (15.5 cm) diameter

B224BI: Plug-in sensor isolator base for Style 7 operation

Dimensions: 6.1" (15.5 cm) diameter

B200S: Intelligent sensor sounder base

Dimensions: 6.875" (17.5 cm) diameter

B200SR: Standard sounder base

Dimensions: 6.875" (17.5 cm) diameter

RA-100Z: Remote LED Annunciator

XR2B: Extractor Test

ASD-LS Technical Specifications

SYSTEM

Sensitivity: .02 - 2.0%/ft.
Operating Voltage: 15-32 VDC
Standby Current: .00033 amp @ 24 VDC
Alarm Current (max.): .0065 amp @ 24 VDC
Operating/Installation Temperature: 32º to 100º F (0º to 38º C)
Operating Humidity: 10% to 93% relative humidity (non-condensing)
Dimensions: 1.7" (4.3 cm) height
4.1" (10.4 cm) installed in the B501 base
6.1" (15.5 cm) installed in the B210LP base
Weight: 5 oz. (142 gm.)

TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49ºC/32 – 120ºF and at a relative humidity 93% ± 2% RH (noncondensing) at 32ºC ± 2ºC (90ºF ± 3ºF). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27ºC/60 – 80ºF.

STANDARDS

The ASD-LS is designed to comply with the following standard:
UL Standard: UL 268

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
UL: S1913
FM: 3023594
CSFM: 7272-1703:0114
ISO 9001 Certification

For more information

Learn more about Gamewell-FCI's ASD-LS and other products available by visiting www.Gamewell-FCI.com

Honeywell