

# FSL-751(A)

## Very Intelligent Early Warning (VIEW®) Laser Smoke Detector



Intelligent/Addressable Devices

### General

The Notifier FSL-751 VIEW® Laser Detector is a revolutionary advance in early warning smoke detection technology. The unique design of this laser detector allows smoke detection sensitivity that is up to 50 times higher than present photoelectric technology, when combined with enhanced intelligent sensing algorithms in the Notifier AFP-300, AFP-400, NFS-640, NFS2-640, NFS-320, NFS-3030 or NFS2-3030 control panels. Because of this high sensitivity, the FSL-751 can provide very early warning of slow smoldering fires. Its performance is comparable to present aspiration technology, at a substantially lower installed cost.

The FSL-751 uses an extremely bright laser diode, combined with special lens and mirror optics (U.S. patent pending), to achieve a signal-to-noise ratio that is much higher than traditional photoelectric sensors. In addition, the tightly focused light beam, combined with the intelligent sensing algorithms, allow the system to differentiate between dust and smoke particles. Because of this differentiation, the FSL-751 can be set to extremely high sensitivity, yet can reject false signals caused by larger airborne particles such as dust, lint, and small insects.

The FSL-751 is an intelligent (analog/addressable) detector. Using CLIP mode, up to 99 FSL-751 detectors may be installed per loop. On FlashScan® systems (NFS-640/NFS2-640/NFS-320/NFS-3030/NFS2-3030), up to 159 addresses are available. The FSL-751 may be mixed in any combination with other Notifier intelligent sensors on the same loop and is quickly installed using the panel autoprogram feature. The FSL-751 has dual bi-color LEDs, which blink green in normal operation and illuminate steady red in alarm.

**FlashScan®** (U.S. Patent 5,539,389) is a communication protocol developed by Notifier for high speed communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other protocols.

Using the enhanced intelligent sensing algorithms, the intelligent sensing system provides drift compensation (meeting UL requirements as a calibrated sensitivity meter), maintenance alert (3 levels), selection of 9 alarm levels and 9 pre-alarm levels, and report of drift compensation used and recent peak values. The system includes a self-learn sensitivity adjustment to set the pre-alarm level just above the peak levels sensed over long periods of time for each detector's actual environment. The system includes multi-detector algorithms that permit one sensor to consider readings from adjacent sensors to provide faster detection of fires.

### Features

- Very Intelligent Early Warning (VIEW®) smoke detection.
- Advanced laser light source and patented optical design.
- Sleek low-profile housing (1.66"/42.164 mm height).



FSL-751\_B210LP.png

**FSL-751**  
(bases sold separately)

Notifier Analog Addressable communications protocol provides extremely reliable operation proven in millions of worldwide detector installations.

- Sensitivity:
  - 0.03% to 1.00% for CLIP systems
  - 0.02% to 2.00% for all other panels.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Dual bi-color (red/green) LEDs flash green when Normal and are steady red in Alarm.
- Compatible with the AFP-300, AFP-400, NFS-640, NFS2-640, NFS-320, NFS-3030, and NFS2-3030 (all software releases).
- Dual LED design provides 360° viewing angle.
- Built-in magnetic test switch, or automatic test commanded from panel.
- Optional remote, single-gang LED accessory, RA100Z(A).
- Optional relay, isolator, or sounder bases.

### Specifications

**Relative Humidity:** 10% – 93% noncondensing.

**Operating temperature:** 0° to 38°C (32° to 100°F).

**Size:** 2.0" (51 mm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.

**Shipping Weight:** 5.4 oz. (153 g).

### ELECTRICAL SPECIFICATIONS

**Operating voltage range:** 15 to 32 VDC peak.

**Maximum average standby current:** 230 µA @ 24 VDC (no communication). 330 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled).

**Maximum alarm current:** 6.5 mA @ 24 VDC (LED "ON").

## Recommended Coverage Per Detector

In order to support sophisticated smoke/dust discrimination algorithms (cooperating multi-detector), it is recommended that at least two FSL-751 detectors be installed in each room or enclosed area.

Recommended coverage per detector is 400 square feet (37.16 square meters).

## Installation

The FSL-751 plug-in detector uses a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder.

Mount base on a box which is at least 1.5" (38.1 mm) deep. Suitable mounting base boxes include:

- 4" (101.6 mm) square box.
- 3-1/2" (88.9 mm) or 4" (101.6 mm) octagonal box.
- Single-gang box (except relay or isolator base).

## 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 Listed:** S1115.
- **ULC Listed:** S1115.
- **MEA Listed:** 128-07-E (NFS2-640, NFS-320); 3-02-E.
- **FM Approved.**
- **CSFM:** 7272-0028:0218
- **BSMI:** CI313066760036.
- **CCCF:** Certif. # 2004081801000015.

When used with NFS2-640/NFS-320, MARINE-EQ, and appropriate seismic bracket, these detectors are approved by the following agencies:

- U.S. Coast Guard: 161.002/50/0 (Standard 46 CFR).
- Lloyd's Register: 11/600013 (ENV 3 category).

## Product Line Information

**NOTE:** "A" suffix indicates ULC Listed model.

**FSL-751(A):** Laser Detector. Intelligent laser sensor with FlashScan® capabilities. Mounts to one of the bases listed below.

### INTELLIGENT BASES

**NOTE:** "A" suffix indicates ULC Listed model.

**NOTE:** For details on intelligent bases, see DN-60054.

**B210LP(A):** Standard U.S. flanged low-profile mounting base.

**B210LPBP:** Bulk pack of B210LP; package contains 10.

**B501(A):** Standard European flangeless mounting base.

**B501BP:** Bulk pack of B501; package contains 10.

**B200S(A):** Intelligent, programmable sounder base capable of producing sound output in high or low volume with ANSI Tem-

poral 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.

**B200SR(A):** Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

**B224RB(A):** Plug-in System Sensor **relay** base. Screw terminals: up to 14 AWG (2.0 mm<sup>2</sup>). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

**B224BI(A):** Plug-in System Sensor **isolator** detector base. Maximum 25 devices between isolator base.

### ACCESSORIES

**RA100Z(A):** Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B210LP(A) bases only.

**SMB600:** Surface mounting kit.

**M02-04-00:** Test magnet.

**M02-09-00:** Test magnet with telescoping handle.

**XR2B:** Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

**XP-4:** Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

**MOD400R:** Detector sensitivity test tool. Use with most analog or digital multimeters. Satisfies requirement of NFPA72 for sensitivity testing.

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