NOTIFIER®

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LPX-751L

VIEW® LASER Smoke Detector for the AFP-200, AFP1010, and AM2020

Section: Intelligent/Addressable Devices

GENERAL

The NOTIFIER LPX-751L VIEW® Laser Detectors provide a revolutionary advance in early warning smoke detection technology. The unique design of these detectors allows smoke detection sensitivity that is 10 to 50 times higher than present photoelectric technology. Because of this high sensitivity, the LPX-751L can provide very early warning of slow smoldering fires. Its performance is comparable to present aspiration technology, at a substantially lower installed cost.

The LPX-751L uses an extremely bright laser diode, combined with special lens and mirror optics to achieve a signal-to-noise ratio that is much higher than traditional photoelectric sensors. In addition, the tightly focused light beam allows the system to differentiate between dust and smoke particles. Because of this differentiation, the LPX-751L 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 LPX-751L is an intelligent (analog/addressable) detector and supports up to 99 LPX-751L detectors installed per AFP-200, AFP1010, or AM2020 loop. It may be mixed in any combination with other intelligent sensors on the same loop and is quickly installed using the panel autoprogram feature.

The VIEW® system provides drift compensation (meeting UL requirements as a calibrated sensitivity meter), maintenance alert, selection of three alarm levels, and drift compensation.

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).
- Analog addressable communications protocol provides extremely reliable operation.
- Sensitivity to 0.03%/foot.
- Low standby current allows 99 devices per two-wire loop in addition to 99 modules.
- Rotary decade switches allow quick selection of address without resorting to binary switches, special programmers, or bar coding devices.
- Dual LED design provides 360° viewing angle.
- Two LEDs blink red for normal, steady red for alarm.
- Built-in magnetic test switch, or automatic test commanded from panel.
- Optional relay, isolator, or sounder bases.

UL LISTED S1115

ULC CS308 Vol. 27 *(LPX-751LA)*

California State Fire Marshal 7272-0028:187

MEA 27-02-E

FM APPROVED

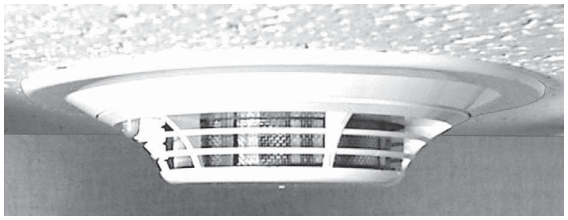
MARYLAND State Fire Marshal Permit 2107



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5306p2.jpg



6714recs.jpg

LPX-751L with B710LP base (top), B501 base (middle), and RMK400 recessed mounting kit (bottom).

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact **NOTIFIER.**Phone: (203) 484-7161 FAX: (203) 484-7118

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ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

SPECIFICATIONS

Operating voltage range: 15 to 28 VDC.

Maximum standby current: 230 µA @ 24 VDC (no communication).

Maximum average standby current: 255 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled).

B224RB/B224BI: < 700 µA @ 24 VDC (includes detector).

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

Operating humidity range: 10% to 93% Relative Humidity, non-condensing.

Operating temperature range: 0° to 49°C (32° to 120°F).

Loop resistance: 40 ohms maximum.

Dimensions: *Height:* 1.66" (42.16 mm) installed in B710LP base. *Diameter:* 6.1" (154.94 mm) installed in B710LP base; 4.1" (104.14 mm) installed in B501 base. *Weight:* 3.6 oz. (102 g).

BASES AVAILABLE:

B710LP: 6.1" (154.94 mm) diameter.

B501: 4.1" (104.14 mm) diameter.

B501BH: Sounder base assembly. Includes B501 base.

B224RB Relay Base: *Screw terminals:* Up to 14 AWG (2.00 mm^2). *Relay type:* Form-C. *Rating:* 2 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive. *Dimensions:* 6.2" (157.48 mm) x 1.2" (30.48 mm).

B224BI Isolator Base: *Dimensions:* 6.2" (157.48 mm) x 1.2" (30.48 mm). *Maximum:* 25 devices between isolator bases.

RECOMMENDED COVERAGE PER DETECTOR

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

INSTALLATION

The LPX-751L 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.

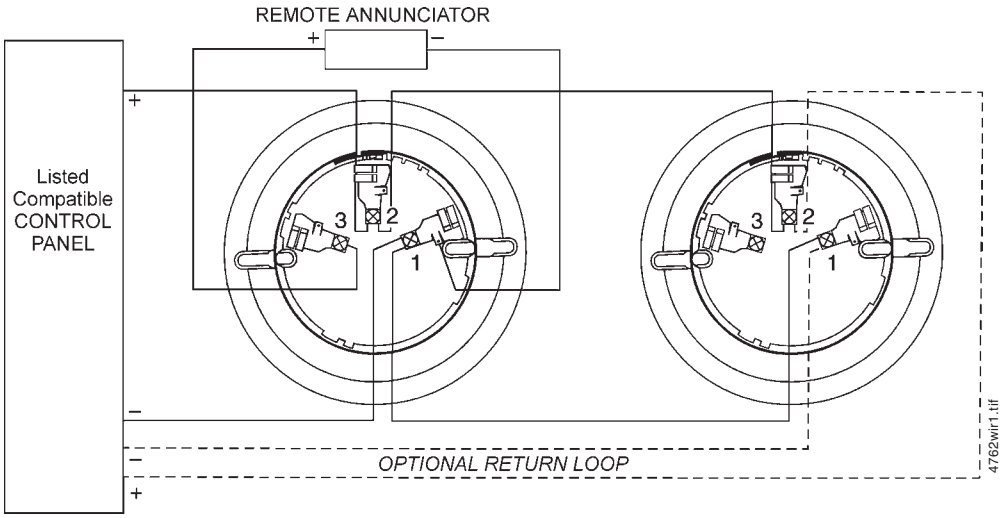
Mount base on a box which is at least 1.5" (38.1 mm) deep. Suitable mounting base boxes include:

- 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).

ORDERING INFORMATION

LPX-751L	Intelligent laser detector. Mounts to one of the bases listed below.
LPX-751LA	Canadian version of above.
BASES:	
B710LPBP	Standard U.S. low-profile base, package of ten (10).
B501BP	Standard European flangeless base, package of ten (10).
B501BH	Sounder base, includes B501 base.
B224RB	Intelligent relay base.
B224BI	Intelligent isolator base. Isolates SLC from loop shorts.
ACCESSORIES:	
F110	Retrofit replacement flange for BX-501 base.
RA400Z	Remote LED annunciator.* 3 - 32 VDC. Fits U.S. single-gang electrical box.
MOD400R	Detector sensitivity test tool. Use with most analog or digital multimeters. Satisfies requirement of NFPA72 for sensitivity testing.
SMK400	Surface mounting kit provides for entry of surface wiring conduit. *For use with B501 base **only**.*
RMK400	Recessed mounting kit. *For use with B501 base **only**.*
M02-04-01	Test magnet.
M02-09-00	Test magnet with telescope stick.
XR-2	Detector removal tool. Allows installation and/or removal of 700 Series detector heads from base in high ceiling installations.
XP-4	Extension pole for XR-2. Comes in three 5-ft. (1.524 m) sections.

**Supported by B710LP and B501 bases only.*



Wiring Diagram (standard base)

LPX-751L DESIGN

The LPX-751L incorporates an extremely bright laser diode and integral lens that focuses the light beam to a very small volume near the receiving photo sensor. The light then passes into a light trap and is absorbed. The photo sensor is activated by a scattering of smoke particles in this small-volume light beam.

In a typical photoelectric detector, the light beam is very wide and can reflect off the chamber walls into the photo sensor because dust accumulation changes the wall color from flat black to gray. With the LPX-751L, the concentrated light beam does not touch the walls, therefore it is much less susceptible to dust accumulation.

Smoke scatters light in all directions and, in a typical photoelectric detector, only a small portion of that scattered light reaches the photo sensor itself. In the LPX-751L, a special mirror reflects and concentrates most of the scattered light into the photo sensor. *See laser detail drawings on this page.*

Compared to smoke, airborne dust particles are very large and very sparse. Since *a)* they are in motion; *b)* the illuminated volume is very small; and *c)* the LPX-751L flashes the laser only every few seconds; then the occasional dust particle cannot remain in the light volume for more than one or two samples. This transient signal from dust is the key to the dust discrimination performed by VIEW®.

