



FIRE-LITE Alarms

by Honeywell

June 29, 2005

DF-52413 • F-500

2151(A)

100 Series™ Low-Profile Plug-In Smoke Detector

Section: Conventional Initiating Devices

GENERAL

100 Series Plug-in Smoke Detectors offer superb performances and reliability in a profile which is just 1.6" (4.2 cm) deep. The 2151 can be used with a variety of adapter bases in several wiring configurations and voltages. Other features include: low current draw, stable performance in high air velocities, built-in tamper resistance base design, remote LED option, removable cover, and built-in test switch.

The 2151 is designed to meet the performance criteria designated by UL. Their sensing chambers are sealed against back pressure air flow, dirt, and insects. This chamber is protected by a fine mesh screen which can be cleaned or replaced. Additional key features include interchangeable ion and photo heads, a variety of mounting bases, and a full line of accessories.

The 2151 photoelectronic smoke detector contains a unique optical sensing chamber designed to sense smoke particles produced by a wide range of combustion sources. A custom integrated circuit incorporates signal processing to reduce false alarm devices set to same address.

SPECIFICATIONS

Size:

Height: 1.7 inches (43 mm).

Diameter: 4.0 inches (101 mm).

Weight: 3.6 oz. (102 g).

Operating Temperature Range: 0° C to 49°C (32°F to 120°F).

Operating Humidity Range: 10% to 93% relative humidity (non-condensing).

Latching Alarm: Reset by momentary power interruption.

Standby Current: 85µA Standby.

Sensitivity: 3%± .7%/ft.

UL Listed Velocity Range: 0—3000 fpm (0—15.2 m/s).

ENGINEERING SPECIFICATIONS

The photoelectronic detector model shall have a nominal sensitivity of 3.0%/ft. as measured in a UL smoke box with nominal signal-to-noise ratio of 2.0. The detector shall be equipped with a light-emitting diode (LED) that is visible from the floor. This LED shall blink every ten seconds to indicate that the detector is operational, in standby, and latch on as a visual indication of alarm. The detector shall be capable of applying an output voltage to an optional remote LED annunciator as an indication of its status. The photoelectronic detector shall include built-in circuitry that performs a functional



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7272-1209:159 (1151)

7271-1209:157 (2151)



APPROVED



205-94-E



2151

test of all detection circuits at least once every 40 seconds without the need for generating smoke. It shall be possible to perform a calibrated sensitivity and performance test on the detector without the need for generating smoke. The test method shall test all detector circuits. The detector screen and cover assembly shall be easily removable for cleaning or replacement. It shall maintain stable operation when it is exposed to wind gusts of up to 3000 feet per minute. The detector shall use a plug-in, low-profile design that is both unobtrusive and aesthetically pleasing. A line of plug-in bases for a variety of applications shall be available by means of a clamping plate and screw. These bases shall allow for mounting directly to a surface or to a 3½" or 4" octagon.

PRODUCT LINE INFORMATION

- | | |
|--------------|--|
| 2151 | Low-profile photoelectronic detector. Must be mounted to one of the B100 Series bases listed |
| 2151A | Low-profile photoelectronic detector, ULC listed. |
| F110 | Retrofit replacement flange for B400 Series flanged bases. |

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 **Fire-Lite Alarms**, One Fire-Lite Place, Northford, Connecticut 06472. Phone: (800) 627-3473, Toll-Free FAX: (877) 699-4105.



RA400Z	Remote annunciator for 2 to 4 wiresystems, 3-32V. Use with ion and photoplug-in detectors. Fits standard single gang electrical box.
B401BH	Sounder base. Requires an external 24 VDCpower supply. Mounts to 4" square electrical box (1 1/2" minimum depth, 2 1/8" recommended).
MOD400R	Detector sensitivity test tool. Use with most analog or digital multimeters. Satisfies NFPA 72 requirement for sensitivity testing.
SMK400	Surface mounting kit provides for entry of surface wiring conduit. For use with B401 or B401R mounting bases only.
EOLR-1	End of line relay for power supervision, 12/24VDC systems.
MO2-04-01	Test magnet.
MO2-09-00	Test magnet with 32" telescoping handle.
XR-2	Detector removal tool. Allows installation and /or removal of 100 Series detector heads from base in high ceiling installations when used with XP-4.
XP-4	Extension pole for XR-2. Comes in three 5 ft. sections.
C58-227-01	Replacement dust cover for 100 Series smoke detectors.
RMK400	Recessed mounting kit for 2151 detector (B401 sold seperately).

Adapter Base Selection Guide

Base Model Number	Loop Type	Current Limit Resistor	Contact Type
B110LP	2-wire*	No	—
B110RLP	2-wire*	Yes	—
B112LP	4-wire	Yes	Form A&C
B114LP	4-wire	Yes	Form A&C+ A Supervisory
B116LP	2-wire*	No	Form C
B401†	2-wire*	No	—

* Functionality contingent on panel compatibility **Must be limited by control panel Relay Contact Ratings: Resistive or inductive (60% power factor) load.

†Flangeless base

Form A: 2.0A at 30 VAC/DC

Form C: 0.6A at 110VDC, 2.0A at 30 VDC

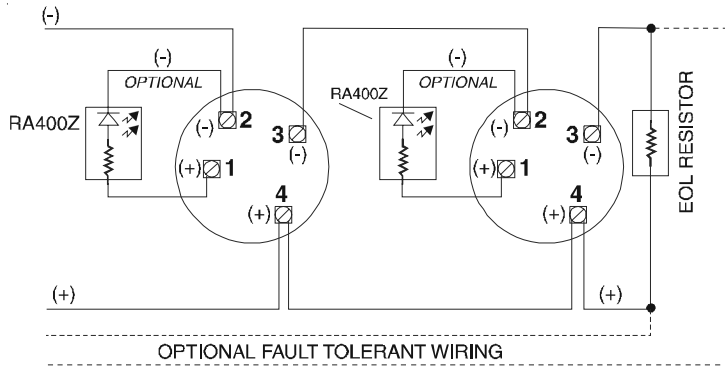
1.0A at 125VAC, 2.0A at 30 VAC

Junction Box Selection Guide*

Base Model Number	Single Gang	3½" Octagon	4" Octagon	4" S
B401	No	NO	No	No
B110LP/RLP	Yes	Yes	Yes	Yes
B112LP/B116LP	Yes	Yes	Yes	Yes
B114LP	No	No	Yes	Yes

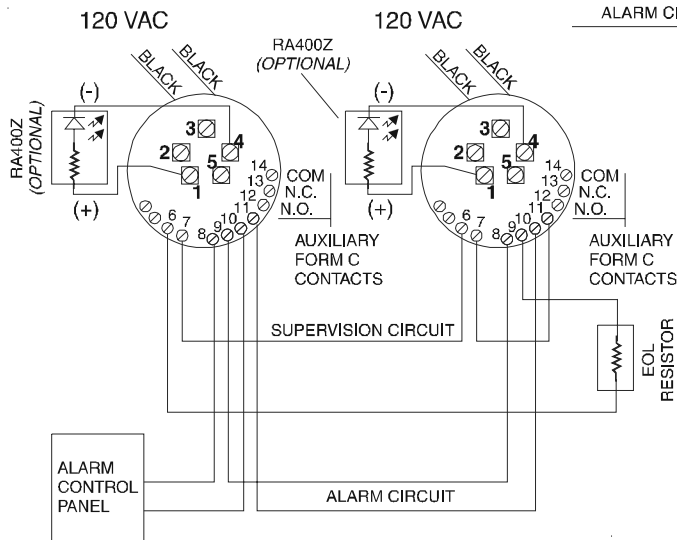
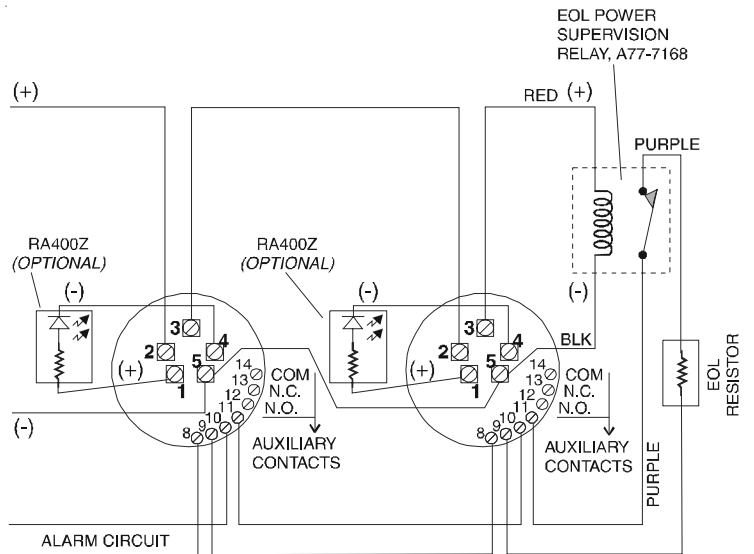
* Box depth contingent on base and wire size. Refer to National Electrical Code or local applicable codes for appropriate recommendations.

WIRING DIAGRAMS



← B110LP/RLP Wiring Diagram

B112LP Wiring Diagram →



← B114LP Wiring Diagram

B116LP Wiring Diagram →

