

1451

2-Wire and 4-Wire Ionization Smoke Detector

**Conventional Initiating Devices**

General

The System Sensor 400 Series plug-in ionization smoke detectors respond quickly to both fast flaming and slow smoldering fires as required by UL 268. Unipolar dual chamber sensor has the sensitivity needed to quickly detect smoke, and the stability needed to avoid false alarms.

Features

- Unique dual unipolar sensor:
 - Provides exceptional stability.
 - Factory preset at 1.9% nominal sensitivity.
 - Stable operation up to 1,200 feet per minute (6 meters per second) air velocities.
- Removable cover for field cleaning.
- Two visible LEDs “blink” in standby.
- Sealed against dirt, insects, and back pressure.
- Three-year limited warranty.
- Field metering of detector sensitivity.
- Built-in test switch.
- Low standby current.
- Built-in tamper-resistant feature.
- Designed for direct surface or electrical box mounting.
- 360° field viewing angle of the visual alarm LEDs.
- Insect-resistant screening (0.020"/0.508 mm openings).
- Easy plug-in of the head to base.
- SEMS screws for easy wiring.
- Optional recess mounting.
- Field-adjustable sensitivity.

Applications

Use to contribute to life safety, fire protection, and property conservation. Superior to photoelectric detectors in detecting fast-flaming fires. Superior to bipolar detectors in avoiding false alarms.

Construction & Operation

All 400 Series plug-in ionization smoke detectors contain a unique dual-source, dual unipolar chamber detection design which will sense the presence of smoke particles produced by fast combustion as well as slow smoldering fires. Additional key features include a blinking LED standby status indicator, an easily visible alarm indication, and provision for convenient field test and metering.

The back of the detector is sealed to block back-pressure air flow. The chamber is protected by a fine mesh (0.020"/0.508 mm) screen to minimize problems with dust, dirt, and insects. If cleaning is required, it is easy to remove the cover (with a special tool) and obtain access to the screen and chamber to perform a thorough cleaning.

Installation

Model 1451 detectors are intended for use with Notifier UL-listed control panels. Maximum number of detectors per zone is listed in the installation manual for each control panel. Easy

**1451**

Ionization Detector shown with B401B Base

to install and maintain, this detector is designed for direct surface mounting (using one of the B400 Series bases listed below). Easy-to-wire screw terminals allow fast and simple field wiring of IN, OUT, and remote annunciator connections.

Consult Notifier control panel specifications for the maximum allowable loop resistance for the particular control panel to be used.

To prevent wiring mistakes, observe polarities and make certain that each conductor is identifiable. A copy of Installation and Maintenance Instructions is packaged with each detector. For further information, refer to NFPA 72 “Standard on Automatic Fire Detectors.”

A **Mounting Base Selection Guide** is included on page 2 of this document.

Junction Box Selection Guide: Box depth is contingent on base and wire size. Refer to National Electrical Code or local applicable codes for appropriate recommendations. Bases *B401* and *B401B* can utilize a single-gang, 3-1/2" (88.9 mm) octagonal, 4" (101.6 mm) octagonal, or 4" square junction box. Bases *B402B* and *B406B* can utilize a single-gang, 3-1/2" octagonal, 4" octagonal, 4" square, 50 mm, 60 mm, or 75 mm junction box. Base *B404B* can utilize a 4" octagonal or 4" square junction box.

General Specifications

Operating voltage: mounting base dependent (see chart below).

Standby current: 120 micro amps.

Sensitivity: 1.9% nominal.

Weight: 0.6 pounds (272 grams).

Size: 3.2" (81.28 mm) high; 4.0" (101.6 mm) diameter with unflanged bases, or 6.2" (157.48 mm) diameter with flanged bases.

Construction: Flame-retardant white Noryl® plastic.

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

Humidity range: 10 to 93% R.H. (non-condensing).

Maximum air velocity: 1,200 feet per minute (6 meters per second).

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.

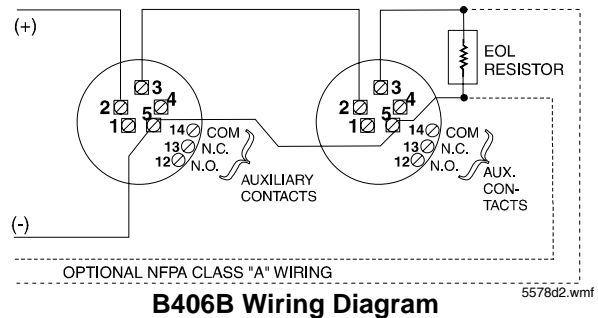
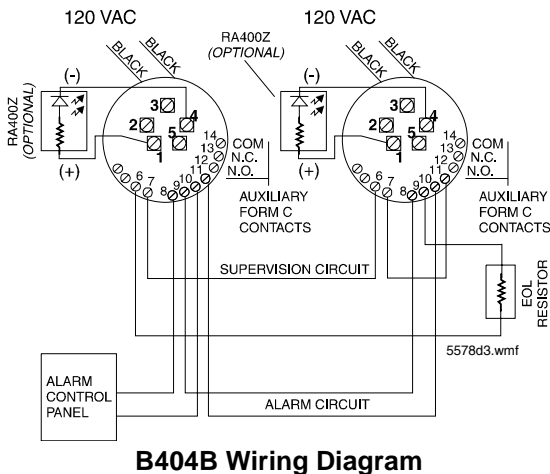
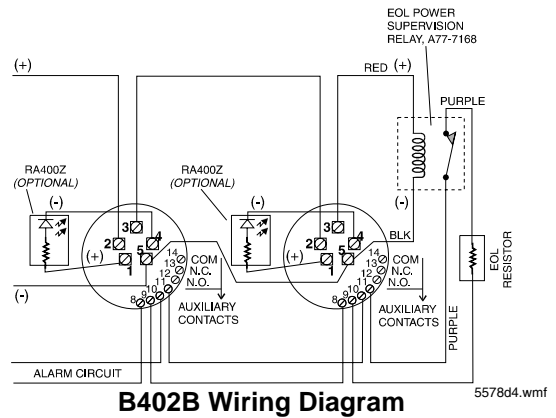
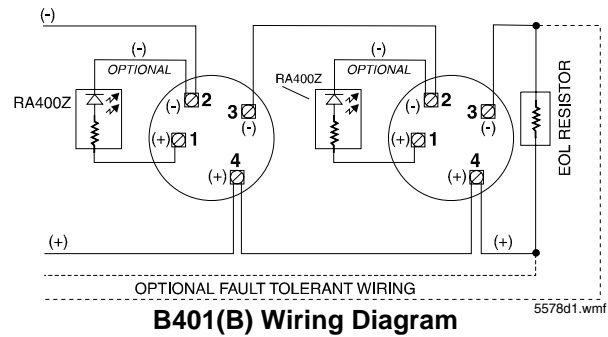
- **UL Listed:** S911
- **ULC Listed:** S911 (1451A)
- **MEA Listed:** 427-91-E Vol. III
- **FM Approved**
- **CSFM:** 7271-1653:108
- **BSA:** 1202-88-SA
- **Maryland State Fire Marshal Certificate:** #2185

Product Line Information

1451: Ionization Detector. Must be mounted to one of the B400 Series Bases listed below.

RA400Z: Remote Annunciator for 2- or 4-wire applications. Use with any System Sensor 400 Series plug-in detector. Fits standard U.S. single-gang electrical box.

MOD400R: Field Test module for all of the System Sensor 400 Series Smoke Detectors.



Mounting Base Selection Guide

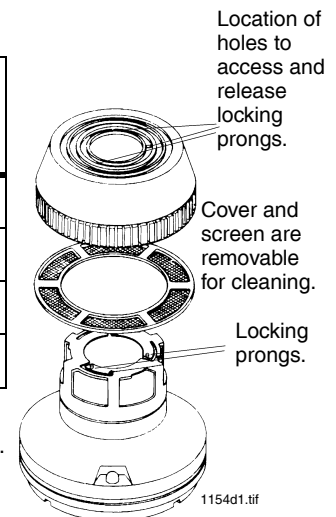
Base Model Number (A)	Version	Loop Type	Current Limit Resistor	Alarm Contact Type	Nominal Voltage	Standby Voltage	Current Draw on Alarm
B401 & B401B (A)	UL/ULC/EN-54	2-wire*	No	-	12/24 VDC	8.5 to 35 VDC	10 to 100 mA**
B402B (A)	UL & ULC	4-wire	Yes	Form-A & -C	24 VDC	17 to 32 VDC	14 to 39 mA
B404B (A)	UL & ULC	4-wire	Yes	Form-A & -C/A Supervisory	120 VAC	120 VAC	75 mA AC maximum
B406B (A)	UL/ULC/EN-54	2-wire*	No	Form-C	24 VDC	15 to 32 VDC	12 to 100 mA**

* Functionality contingent on panel compatibility.

** Must be limited by control panel.

Relay Contact Ratings: Resistive or Inductive (60% power factor load). Form-a: 2.0A at 30VAC/DC. Form-C: 0.6A at 110VDC, 2.0A at 30VDC, 1.0A at 125 VAC.

(A) = ULC model designation.



Notes

NOTIFIER® is a registered trademark of Honeywell International Inc. **Noryl®** is a registered trademark of GE Plastics, a subsidiary of General Electric Company.
©2008 by Honeywell International Inc. All rights reserved. Unauthorized use of this document is strictly prohibited.



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.



Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com