NOTIFIER FIRE SYSTEMS

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1400
2-Wire Ionization Smoke Detector

Section: Conventional Initiating Devices

GENERAL

The System Sensor 1400 ionization smoke detector responds quickly to both fast flaming and slow smoldering fires as required by UL 268. The unipolar dual chamber sensor has the sensitivity needed to quickly detect smoke, and the stability needed to avoid false alarms.

S911 CS308

California State Fire Marshal 7271-1209:102

MEA 427-91-E Vol. III BSA 1539-88-SA FM 0Q7A3.AY

FEATURES

- Detects both visible and invisible smoke.
- Used with UL listed control panels.
- Unipolar ionization sensing chamber:
  a) Provides exceptional stability.
  b) Factory preset 1.9% nominal sensitivity.
  c) Stable operation in air velocities up to 1,200 feet-per-minute (7.6 meters per second).
- Removable cover for field cleaning.
- Visible LED “blinks” in standby.
- Sealed against dirt, insects and back pressure.
- Three year limited warranty.
- 8.5 - 35 VDC operating range.
- Field metering of detector sensitivity.
- Built-in test switch.
- Low standby current.
- Built-in tamper-resistant feature.
- Direct surface or electrical box mounting.
- Remote LED option.
- Insect-resistant screening (maximum to 0.020"/0.508 mm openings).
- SEMS screws for easy wiring.

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 AND OPERATION

The 1400 Series 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, the cover is easily removed (with a special tool), providing access to the screen and chamber to perform a thorough cleaning.

INSTALLATION

Model 1400 detectors are intended for use with NOTIFIER UL listed control panels. Maximum number of detectors per zone depends on capacity of panel. Easy to install and maintain, this detector is designed for direct surface mounting (mounting bracket included), or mounting to a 4" octagonal or smaller box.* Easy-to-wire screw terminals allow fast and simple field wiring of in, out, and remote annunciator connections. The wiring diagram *(page 2)* shows the correct method for wiring Model 1400 detectors.

To prevent wiring mistakes, observe polarities and make certain that each conductor is identified. A copy of the installation and maintenance instructions is packaged with each detector. For further information, refer to NFPA 72 “Standard on Automatic Fire Detectors,” and to local Authority Having Jurisdiction.

***NOTE:** For Canadian applications, always use a mounting electrical box.*

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ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING

ENGINEERING SPECIFICATIONS

Smoke detector shall be an ionization type (Model 1400) as manufactured by System Sensor. Wiring connections shall be made by means of SEMS screws. Detector will have a visible LED which will blink in standby and latch on in alarm. The detector shall have a sensitivity of 1.9 ± 0.6%/ft. as measured in the UL smoke box. The detector screen and cover should be easily removable for cleaning. It shall be possible to perform a sensitivity and functional test on the detector without the need of generating smoke. The detector shall have a mounting bracket that allows for mounting to a 3-1/2" (8.89 cm) or 4" (10.16 cm) octagonal box or a 4" (10.16 cm) square electrical box.

SPECIFICATIONS, Model 1400

Type: Ionization.

Visual LED local alarm: Yes.

Remote LED annunciator capability: Yes.

Operating voltage range: 8.5 - 35 VDC.

Current limits:

a) Standby (max.): 100 µA @ 24 V.

b) Alarm current (typical): *See Note 1.*

c) Alarm current (max.): *See Note 1.*

Maximum ripple voltage: 4 V peak-to-peak.

Reset voltage: 2.5 VDC.

Reset time: 0.3 seconds.

Startup time: 2 seconds.

Size: 3.12" (7.9 cm) high, 5.5" (13.9 cm) diameter.

Air velocity rating: 1,200 feet per minute (7.6 meters per second) maximum.

Weight: 0.7 lbs. (317.5 grams).

Mounting: 4" (10.16 cm) square box (1.5" [3.81 cm] min. depth) with plaster ring; 3.5" [8.89 cm] or 4" [10.16 cm] octagonal box; 50, 60 or 75 mm boxes.

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

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

Latching alarm: Reset by momentary power interruption.

Test features: ***Test port:*** Insert 0.1" (2.54 mm) maximum diameter allen wrench or screwdriver into test port on detector housing. ***Test module:*** Using a standard voltmeter interface, insert MOD400R plug into detector's module port. Fulfills calibrated sensitivity test per NFPA 72.

NOTE 1: *Two-wire control panels must limit current to 100 mA or less.*

PRODUCT INFORMATION

Model	*Description*
1400	Ionization Smoke Detector, 2 wire, Surface Mount.
RA400Z	Remote Annunciator (LED).
MOD400R	Field test module for all of the System Sensor 400 Series smoke detectors.

1400 WIRING DIAGRAM