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IS801 I-Spy Ion Smoke Detector



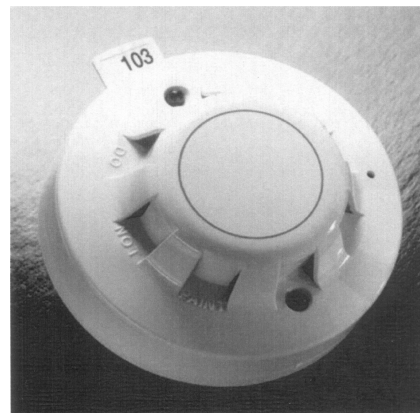
Description

The IS801 Ionization Smoke Detector has a molded white polycarbonate case with wind-resistant smoke inlets. The ionization chamber consists of a reference chamber contained inside a smoke chamber. The outer smoke chamber has inlet apertures fitted with insect resistant mesh.

Operation

The radioactive source holder and the smoke chamber form positive and negative electrodes respectively. An Americium 241 radioactive source mounted within the reference chamber irradiates the air in both chambers, producing positive and negative ions. A voltage across the electrodes produces an electric field. Ions are attracted to the

electrode of the opposite sign to their own charge; many recombine but a small electric current flows between the electrodes. At the junction between reference and smoke chambers, the sensing electrode converts variations in chamber current into voltage changes. When smoke particles enter the ionization chamber, ions become attached to them with the result that the current flowing through the chamber decreases. This effect is greater in the smoke chamber than in the reference chamber, and the imbalance causes the sensing electrode to become more positive. The analogue voltage at the sensor electrode is converted to a digital format which is processed to provide an analogue value for transmission to the control panel when the device is polled.



Features

- Compatible with Harrington FireSpy® Tracker 1000, 2000, and 8000 Panels
- 5 operating modes
- Drift compensation
- Address is set by X-Pert card and is stored in base
- Alarm flag for fast alarm reporting
- Fits 4" bases & 6" EZ Fit Low Profile Base

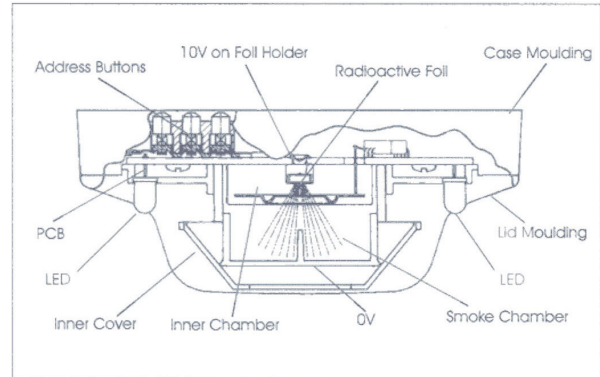
Ordering Information

Model Number	Part Number	Description
IS801	IS801	Ionization Smoke Detector
IS804	IS804	4" Mounting Base
IS807	IS807	6" Low Profile Relay Base
IS808	IS808	Isolator Base
IS809	IS809	6" EZ Fit Low Profile Base
IS821	IS821	6" Sounder Base
IS840	IS840	Pre-addressed X-Pert Cards
IS841	IS841	Blank X-Pert Cards

The IS801 Ionization Detector, like all ionization detectors, has some sensitivity to air movement (wind). The extent to which the analogue value will change depends on the wind speed and on the orientation of the detector relative to the wind direction. Relatively small changes in wind direction can cause significant changes in analogue value. For wind speeds up to 200 ft/min the change in analogue value will not exceed 5 counts. Continuous operation in wind speeds greater than 400 ft/min is not however recommended. It will not under any conditions increase the probability of false alarms. Ionization smoke detectors are supplied in individual packing with a red lid serving as a dust cover which can be left in place after fitting to prevent ingress of foreign material until commissioning of the system takes place. At this point, the covers must be removed.

Dimensions

Diameter: 3.93"
Height: 1.65"
Height in base:
1.96"



Engineering Specification

The Ionization smoke sensor shall be Harrington Signal IS801, where indicated on the plans, with one of the several addressable mounting base options available. The ionization smoke detector shall include compensation for sensor drift as part of the internal signal-processing algorithm. The ionization sensor head and twist-lock mounting base shall be UL Listed and UL Listed as compatible with the FireSpy® Tracker 1000, 2000, and 8000 Addressable Fire Alarm Control Panels.

Mode	Alarm Threshold Y Value	Minimum Time to Alarm (Sec)
1	0.45	5
2	0.45	30
3	.70	5
4	.70	30
5	1.0	5

The base shall permit free interchange of sensor heads without requiring any additional wiring or additional programming of the head or base. The smoke sensor shall contain an integral LED that shall latch in when the unit goes into alarm. RF suppression techniques shall be employed to minimize false alarms. The ionization smoke sensor shall have automatic conventional false safe mode if the detectors polling mechanism fails.

Specifications

Stand current:	500µA
Alarm current:	LED Illuminated 3.4mA
Radioactive isotope:	Americium 241
Operating Voltage:	17-28 VDC
Max. continuous operating temp:	140°F
Min. continuous operating temp:	32°F
Min. Operating temp:	-4°F (no condensation/icing)
Storage:	-22°F to 176°F
Detector weight:	3.68 oz
Detector with base weight:	5.62 oz.

NOTICE: The information contained in this document is intended only as a summary and is subject to change without notice. The devices described in this document have specific instruction sheets which cover various technical, limitation and liability information. Copies of these instruction sheets and the General Product Warning and Limitations Document, which also contains important information are provided with the product and are available from Harrington Signal Inc. Fire Alarm. Information contained in these documents should be consulted before specifying or using the product. For further information or assistance concerning particular problems contact Harrington Signal Inc. Harrington Signal Inc. Fire Alarm reserves the right to change specifications without notice. Quality manufactured for Harrington Signal by Apollo.