SIJ-24 IONIZATION SMOKE DETECTOR

Shown without base.

STANDARD FEATURES

- Low profile, 1.8" high (with base)
- 2 or 4 wire base compatibility, relay bases available
- Highly stable operation, RF/Transient protection
- Low standby current, 40µA at 24 VDC
- Two built-in power/alarm LEDs for 360° viewing
- Non-directional smoke chamber
- Vandal resistant security locking feature
- Built-in magnetic detector sensitivity test feature Meets NFPA 72, Chapter 2 & 7, Inspection, Testing and Maintenance requirements
- Compatible with SLR-24V photoelectric detectors
- Backwards compatible with Hochiki SLK and SIH smoke detectors

SPECIFICATIONS	
Radioactive Source	AM-241 0.5µCi
Rated Voltage	17.7 - 30.0 VDC
Working Voltage	15.0 - 33.0 VDC
Maximum Voltage	42 VDC
Supervisory Current	40µA @ 24 VDC
Surge Current	200µA max. @ 24 VDC
Alarm Current	150mA max. @ 24 VDC
Ambient Temperature	32°F to 120°F (0°C to 49°C)
%/FT Obsc.	0.53 - 1.40
Color & Case Material	Bone PC/ABS Blend
Sensitivity Test Feature	Magnetically activated dual reed switch test
Mounting	Refer to the NS Conventional Detector Base Data Sheet

Specifications subject to change without notice.

APPLICATION

The SIJ-24 can be used in all areas where Ionization Smoke Detectors are required. The responsive yet highly stabile operation allows the SIJ-24 to fit in a wide range of uses. The SIJ-24 can be used in areas where early warning of superheated or flaming combustibles is expected.

NS-4 Series, NS-6 Series, HSC-4R or HSC-(X)R Style bases may be used with the SIJ-24. Current compatible devices are the SLR-24V Photoelectric detector, the SLR-24H photoelectric detector with heat sensor and the DCD-135/190 heat detectors.

All NS conventional devices are mechanically compatible with Hochiki America HSB, HSC and YBA type bases which may have been used in previous installations. Please check individual panel listings for compatible bases.

OPERATION

The SIJ-24 ionization smoke detector utilizes two bi-colored LEDs for status indication purposes. In a normal standby condition the LEDs flash *green* approximately once each second. When the detector senses smoke and goes into alarm the status LEDs will latch on *red*.

A single radioactive source of Americium-241 ionizes two chambers within the detector, a reference chamber, and the smoke sensing chamber. The air is ionized by this source and a small DC current flows between the electrodes of each chamber. Smoke can freely enter the sensing chamber while the inner chamber is virtually sealed to smoke. Smoke entering the sensing chamber causes a reduction in the DC current flow, the voltage imbalance between the two chambers is proportional to the smoke density. When the voltage differences become great enough it causes the detector to go into alarm. The two chamber design is utilized to compensate for changes in atmospheric and environmental conditions.

PRODUCT LISTINGS

S1383

FM APPROVED 1D5A1.AY

California State Fire Marshal 7271-0410:135

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ENGINEERING SPECIFICATIONS

The contractor shall furnish and install where indicated on the plans, Hochiki America Model SIJ-24 ionization smoke detectors. The combination detector head and twist-lock base shall be UL listed compatible with a UL listed fire alarm panel.

The base shall permit direct interchange with Hochiki America, SLR-24V photoelectric type smoke detector, SLR-24H combination photoelectric/heat detector, and/or DCD-135/190 fixed temperature/rate-of-rise heat detectors. The base shall be appropriate twistlock base NS-4 Series, NS-6 Series, HSC-4R or HSC-(X)R. In the event of partial or complete retrofit, the SIJ-24 maybe used in conjunction with, or as a replacement for, Hochiki America detectors (SLK-24, SLK-24FH and the SIH-24F) on most HSB and HSC base applications.

The smoke detector shall have two flashing status LEDs for visual supervision. When the detector is in standby condition the LEDs will flash Green. When the detector is actuated, the flashing LEDs will latch on Red. The detector may be reset by actuating the control panel reset switch.

The sensitivity of the detector shall be capable of being measured. It shall be possible to perform a functional test of the detector without the need of generating smoke. The test method shall simulate effects of products of combustion in the chamber to ensure testing of the detector electronics.

To facilitate installation, the detector shall be non-polarized. Voltage and RF transient suppression techniques shall be employed to minimize false alarm potential. Auxiliary SPDT relays shall be installed where indicated.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field removable when not required.

SIJ-24 SENSITIVITY TEST FEATURE

TEST PROCEDURE

1. With detector wired to appropriate initiating circuit or current limited power source and with normal applied power, place a magnet as shown in Figure 1.
2. Wait at least six seconds. Detector SHOULD NOT alarm and LED should not light.
3. Place magnet on detector as shown in Figure 2 (opposite side).
4. Wait at least six seconds. Detector SHOULD alarm.
5. If detector does alarm when magnet is positioned as in Figure 1 or does not produce an alarm when magnet is positioned as in Figure 2, detector is not within specified sensitivity limits and may require service. See Technical Bulletin HA-97 for more information and for additional sensitivity test devices.

WARNING: Conduct testing only under Normal Standby conditions. Abnormal or Low Power conditions may affect sensitivity. Always reset power prior to testing of next unit.

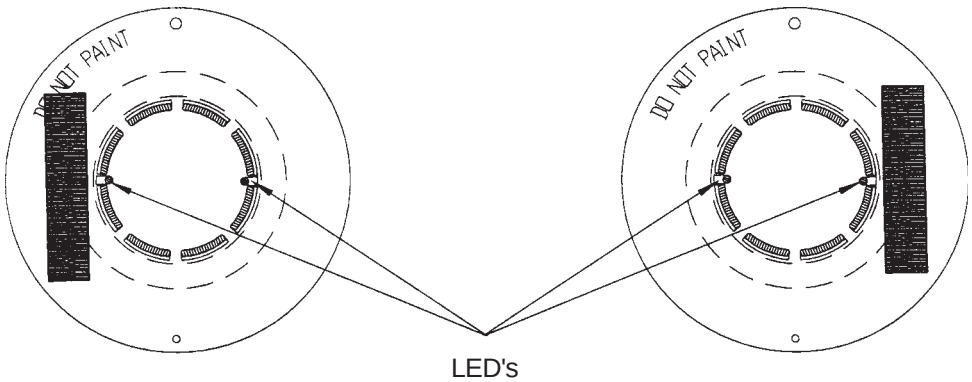

Figure 1 Figure 2