



NS-series SIJ-24 Ionization Smoke Detector



Features

- Low Profile, 1.8 inch (4.6 cm) high with base.
- RF/Transient protection.
- Two built-in power/alarm LED's for 360° viewing.
- Vandal resistant security locking feature.
- Built-in magnetic detector sensitivity test, meets NFPA 72, Chapter 7 requirements.
- Interchangeable twist-lock design.
- Backwards compatible with PRO-series SLK and SIH detectors.

Applications

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

These detectors are compatible with all Protectowire FireSystem Control Panel initiating circuits as well as Model HSB-220 bases which may have been used in previous installations. Other normally open contact devices such as Protectowire Linear Heat Detector, spot heat detectors or manual pull stations may also be utilized on the same initiating circuit.

The Model NS6-220 Base is designed specifically for use with the SIJ-24 Ionization Smoke Detector. The NS6-220 base is common throughout the product range and is compatible with models SLR-24 Photoelectric Smoke Detector, and SLR-24H Photoelectric with Heat Smoke Detector. The NS6-220 is an electronics free 6 inch (15 cm) diameter base featuring a plastic tamper-lock lug and self-wiping contacts for reliability.

Operation

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

A single radioactive source 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 Specifications

Rated Voltage	17.7 - 30.0 VDC
Working Voltage	15.0 - 33.0 VDC
Supervisory Current	40uA @ 24 VDC
Surge Current	200uA max. @ 24 VDC
Alarm Current	150 mA max. @ 24 VDC
Ambient Temperature	32°F to 120°F (0°C to 49°C)

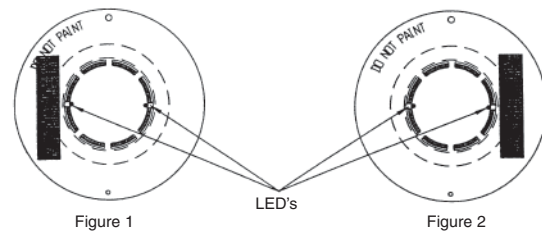
Mounting: Model NS6-220 Base mounted directly to a 4 inch octagonal or square outlet box.

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.

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.



Typical Wiring Diagram

