ALN-V PHOTOELECTRIC SMOKE SENSOR

STANDARD FEATURES

- Low profile - only 2.00" high, including base
- Simple and reliable device addressing
- Automatic compensation for sensor contamination
- Built-in fire test feature
- Uses the noise-immune Digital Communication Protocol (DCP), which utilizes interrupts for fast response to fires
- Two built-in power/alarm LEDs
- Programmable non-polling LEDs
- Non-directional smoke chamber
- Vandal resistant security locking feature
- Removable smoke labyrinth for cleaning or replacement

SPECIFICATIONS

Operating Voltage	17-41 VDC
Standby Current	450µA
Alarm Current	540µA
Transmission Method	DCP - *Digital Communication Protocol*
Maximum Humidity	95% RH Non-Condensing
UL Temperature Range	32°F to 115°F (0° C to 47° C)
Operating Temperature Range	14°F to 122°F (-10°C to 50°C)
Sensitivity Range	0.7-4.0%/FT@300FPM 0.7-3.86%/FT@2000FPM 0.7-2.65%/FT@4000FPM
Air Velocity Range	0-4000 fpm
Color & Case Material	Bone - ABS Blend
Weight	3.4oz (5.1 oz. with 4" base)
Bases	YBN-NSA-4, HSB-NSA-6, ASB, SCI-B4, SCI-B6, ASBL

APPLICATIONS

The Hochiki ALN-V Photoelectric Smoke Sensor is particularly suited to detecting optically dense smoke typical of fires involving materials such as soft furnishings, plastic, foam or other similar materials which tend to smolder and produce large visible smoke particles. Hochiki's unique design allows fast response to flaming fires as well as smoldering fires while preventing false alarms.

OPERATION

The detection chamber consists of a light-emitting diode (LED) and photodiode arrangement. The chamber is designed such that light emitted by the LED cannot normally reach the photo diode. In the event of fire, particles of smoke enter the chamber and scatter the light. As the smoke level increases, the scattering effect increases, causing more light to hit the photodiode. The chamber contains a unique baffle design which allows smoke to enter the chamber while preventing external light from affecting the photodiode. The photodiode input level is sampled to sense smoke density.

When the smoke density exceeds a preset threshold the sensor transmits an interrupt to the fire control panel indicating a fire condition. The fire alarm control panel can adjust the sensor threshold to compensate for contamination.

Up to 127 devices are permitted on each SLC loop. A sensor address is set by a hand-held programming unit. The sensor mounts to an electronics-free base and incorporates a locking mechanism for secure installation. The base provides mounting slots, terminals for field wiring and a third contact for a remote indicator/LED. The sensor incorporates dual LEDs for easy viewing of sensor status.

SENSOR SPACING

Smoke sensor spacing shall be in compliance with NFPA 72. For smooth ceilings and in the absence of specific performance-based design criteria, the distance between smoke sensors shall not exceed a nominal spacing of 30 ft. (9.1m) **or** all points on the ceiling shall have a sensor within a distance equal to or less than 0.7 times the nominal 30 ft. (9.1m) spacing. Sensors shall be located within a distance of one-half the nominal spacing, measured at right angles from all walls or partitions extending upward to within the top 15 percent of the ceiling height. For additional instructions see NFPA 72.

PRODUCT LISTINGS

SIGNALING UL LISTED S1383

FM APPROVED 3054858

California State Fire Marshal 7272-0410:0204

Specifications subject to change without notice.

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ISO 9001:2008 REGISTERED

Assembled in the USA

Find latest revision at **www.hochiki.com**

ALN-V PHOTOELECTRIC SMOKE SENSOR

ENGINEERING SPECIFICATIONS

The contractor shall furnish and install Hochiki's ALN-V (Photoelectric Sensor) as indicated on the plans. The combination sensor head and twist lock base is UL Listed and it's compatible with an UL Listed fire alarm control panel.

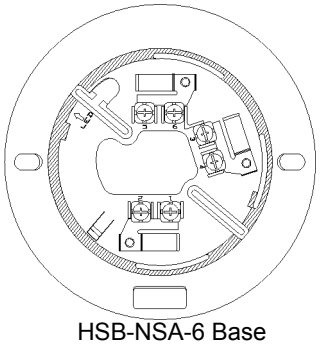
The base permits direct interchange with the Hochiki AIE-EA ionization type smoke sensor, ALG-V, ALK-V/ALK-V2 photoelectric type smoke sensors, ATG-EA, ATJ-EA heat sensors and the ACA-V, ACC-V multi-criteria sensors.

The sensitivity of the sensor is capable of being measured by the control panel.

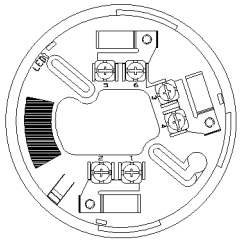
The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature is optional and can be implemented when required.

BASES

The Hochiki HSB-NSA-6 and the YBN-NSA-4 mounting bases are electronics free and are a simple rugged design with screw terminals for wiring connections. A common mounting base allows sensor interchange and maintains loop continuity when sensors are removed. A simple anti-tamper head locking system is provided which is enabled by removing a small plastic tab on the back of the sensor. Once locked, the head can be removed using a small diameter screwdriver.

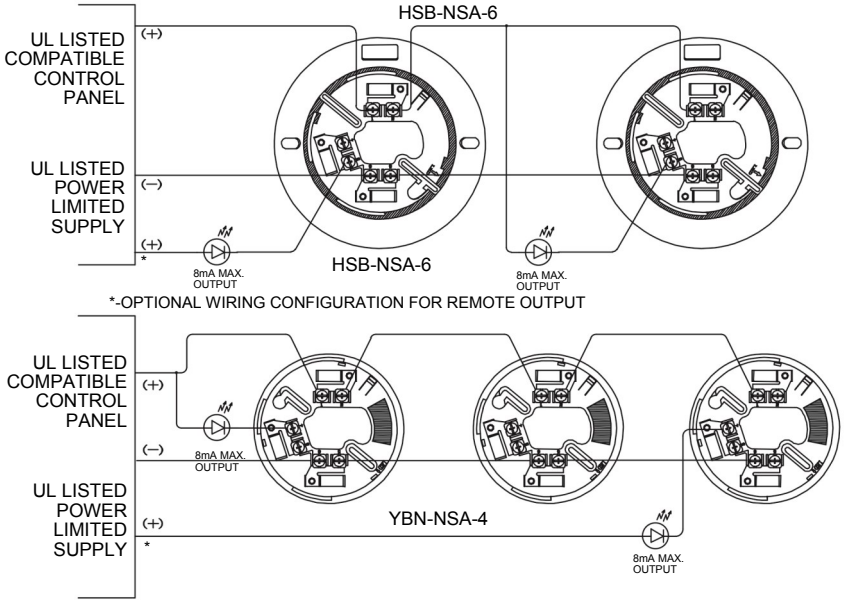


HSB-NSA-6 Base



YBN-NSA-4 Base

TYPICAL WIRING DIAGRAMS



NOTE: Fire alarm control panel compatibility is required for DCP products. DCP communications protocol allows system components (DCP sensors AIE-EA, ALG-V, ACA-V, ACC-V, ALK-V, ALN-V, ATJEA and ATG-EA, bases and modules) to be used concurrently on a system's SLC (Signaling Line Circuit).