



DNRHSA High Sensitivity Duct Smoke Detector

The System Sensor DNRHSA detector provides very early warning fire protection in interior duct applications with high-velocity, high-volume air changes.



Innovairflex™

Features

- Temperature range 32°F to 100°F (0°C to 38°C)
- Air velocity rating from 300 to 4,000 FPM
- 24 VDC operation
- Versatile mounting options: square or rectangular configuration
- Patented sampling tube installs from the front or back of the detector with no tools required
- New cover tamper signal
- Increased wiring space with a newly added 3/4-inch conduit knockout
- Clear cover for convenient visual inspection
- Remote testing capability (DCOIL included)
- Easily mounts to round or rectangular ducts from 1 to 12 feet (0.3 to 3.7 m) wide
- 3 year warranty

The DNRHSA high sensitivity duct smoke detector provides very early warning of fires* to protect high-value assets and mission critical operations from fire and the spread of damaging smoke through air management systems. The detector's intelligent laser sensor can detect miniscule amounts of smoke (0.02 percent-per-foot) flowing through ductwork at air velocities from 300 to 4,000 feet per minute — ideal for environments with high-velocity, high-volume air changes.

Some ideal applications for the DNRHSA include telecommunications switching facilities, cellular telephone infrastructure, integrated circuit fabrication facilities, computer rooms, and clean rooms.

Like all InnovairFlex™ duct smoke detectors, the DNRHSA includes several features designed to lower installation time and costs. Its pivoting housing converts to both square and rectangular configurations to fit a variety of installation footprints. Its tool-free sampling tubes plug into the detector from the front or back without the need for set screws, which can be easy to lose. In addition, the twist-in, twist-out 7251A high sensitivity laser smoke detector head enables easy removal for quick cleaning, maintenance, and replacement.

**The DNRHSA high sensitivity duct smoke detector is designed to satisfy NFPA 76 for Very Early Warning Fire Protection. NFPA 76, Section 8.5.3.1.2.3 Very Early Warning Fire Protection, calls for sensors to be mounted at the return air location for a space in the following instances:*

(A) "Where stand-alone packed HVAC units are installed, sensors or ports shall be installed where return air is brought back to the unit."

(B) "Sensors or ports shall be installed such that each covers no greater than 0.4 m² (4 ft²) of the return air opening."

Agency Listings



Accessories

System Sensor provides system flexibility for duct smoke detector applications with a variety of accessories, including two remote test stations and several different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are ULC listed.



RTS151KEYA



RA100ZA

DNRHSA Duct Smoke Detector Specifications

Architectural/Engineering Specifications

The high sensitivity air duct smoke detector shall be a System Sensor Model DNRHSA high sensitivity duct smoke detector. The detector shall be ULC listed specifically for use in air handling systems. The detector shall operate at air velocities from 300 to 4,000 feet per minute. The detector shall have an operating temperature range of 0°C to 38°C (32°F to 100°F). The detector housing shall be equipped with an integral mounting base capable of accommodating laser smoke detector heads. The flexible housing of the duct smoke detector shall fit both square and rectangular footprints. The detector shall be capable of local testing via magnetic switch or remote testing using the RTS151KEYA Remote Test Station. The duct detector housing shall incorporate an airtight smoke chamber. The housing shall be capable of mounting to rectangular or round ducts up to 12 feet wide without adapter brackets. Sampling tubes shall be installed after the housing is mounted to the duct by passing through the duct housing. Terminal connections shall be of the strip and clamp method suitable for 12 to 18 AWG wiring.

Physical Specifications

Size: (Rectangular)	14.38 in (37 cm) Length; 5 in (12.7 cm) Width; 2.5 in (6.35 cm) Depth
(Square)	7.75 in (19.7cm) Length; 9 in (22.9 cm) Width ; 2.5 in (6.35 cm) Depth
Shipping Weight	2.0 lbs (1.2 kg)
Operating Temperature Range	32°F to 100°F (0°C to 38°C)
Storage Temperature Range	-22°F to 100°F (-30°C to 38°C)
Operating Humidity Range	10% to 93% relative humidity
Air Duct Velocity	300 to 4,000 ft/min (0.5 to 20.32 m/sec)

Electrical Specifications

Voltage	24 VDC
Power supply voltage	15 to 32 VDC
Current Requirements (Using No Accessories)	
Max. standby current	230 μ A @ 24 VDC (without communication); 330 μ A @ 24 VDC (one communication every 5 sec with LED enabled)
Max. alarm current	6.5 mA (LED on)

Ordering Information

Part No.	Description		
DNRHSA	High sensitivity duct smoke detector		
7251A	Replacement intelligent laser sensor head		
Accessories			
DST-1	Metal sampling tube duct widths up to 1 ft (0.3 m)	ETX	Metal exhaust tube duct width 1 ft (0.3 m)
DST-1.5	Metal sampling tube duct widths 1 to 2 ft (0.3 to 0.6 m)	M02-04-00	Test magnet
DST-5	Metal sampling tube duct widths 4 to 8 ft (1.2 to 2.4 m)	RTS151KEYA	Remote test station with key
DST-10	Metal sampling tube duct widths 8 to 12 ft (2.4 to 3.7 m)	RA100ZA	Remote annunciator alarm LED
P48-21-00	End cap for metal sampling tubes	DCOIL	Remote test coil (included)



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