



DNRHS High Sensitivity Duct Smoke Detector



The System Sensor DNRHS detector is designed for interior duct applications where high velocity, high volume air changes are required for very early warning fire protection.

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 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
- Clear cover for convenient visual inspection
- Remote testing capability (DCOIL included)
- Easy and quick mounting to round or rectangular ducts from 1 ft to 12 ft (0.3 m to 3.7 m) wide
- 3 year warranty

The DNRHS high sensitivity duct smoke detector provides dependable performance for management of fans, blowers, and air conditioning systems by using an intelligent laser smoke sensor residing in an efficient housing design that samples air currents passing through a duct. The twist-in, twist-out 7251 high sensitivity laser smoke detector head allows easy removal for quick cleaning, maintenance, and replacement without removing the duct housing. The laser detector achieves sensitivities as low as 0.02 percent-per-foot by using a laser diode instead of a standard LED light source in the sensing chamber. Many sensitive areas cannot tolerate even small amounts of smoke. This DNRHS detector is designed to protect valuable assets and operations where systems must remain online at all times.

Some ideal applications for the DNRHS high sensitivity duct smoke detector include:

- Telecommunications switching facilities
- Cellular telephone infrastructure
- Integrated circuit fabrication facilities
- Computer rooms
- Clean rooms

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."

The System Sensor DNRHS high sensitivity duct smoke detector is designed to satisfy NFPA 76 for Very Early Warning Fire Protection.

Agency Listings



Accessories

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



RTS151KEY
(UL S2522)



MHW
(UL S3593)



RTS151
(UL S2522)



RA100Z
(UL S2522)

DNRHS Duct Smoke Detector Specifications

Architectural/Engineering Specifications

The high sensitivity air duct smoke detector shall be a System Sensor Model DNRHS high sensitivity duct smoke detector. The detector shall be UL listed per UL S911, Standard for Smoke Detectors for Duct Applications, specifically for use in air handling systems. The detector shall operate at air velocities from 300 feet per minute to 4000 feet per minute. The detector shall have an operating temperature range of 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 fits both square and rectangular footprints. It shall be capable of local testing via magnetic switch or remote testing using the RTS151KEY or RTS151 Remote Test Station. The duct detector housing shall incorporate an airtight smoke chamber in compliance with UL S911. The housing shall be capable of mounting to rectangular or round ducts up to 12 ft 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; 5in (12.7 cm) Width; 2.5 in (6.6 cm) Depth
(Square)	7.75 in (19.7cm) Length; 9 in (22.9cm) Width ; 2.5 in (6.35cm) 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 4000 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
DNRHS	High sensitivity duct smoke detector
DNRHSA	High sensitivity duct smoke detector (Canadian model)
7251	Replacement intelligent laser sensor head

Accessories

DST-1	Metal sampling tube duct widths 1 ft to 2 ft (0.3 m to 0.6 m)	MHW	Mini Horn (White)
DST-1.5	Metal sampling tube duct widths 2 ft to 4 ft (0.6 m to 1.2 m)	M02-04-00	Test magnet
DST-3	Metal sampling tube duct widths 4 ft to 8 ft (1.2 m to 2.4 m)	RTS151	Remote test station
DST-5	Metal sampling tube duct widths 8 ft to 12 ft (2.4 m to 3.7 m)	RTS151KEY(A)*	Remote test station with key
DST-10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)	RA100Z(A)*	Remote annunciator alarm LED
DCOIL	Remote Test Coil (included)	P48-21-00	End cap for metal sampling tubes
ETX	Metal exhaust tube duct width 1ft (0.3m)		

*(A) suffix denotes Canadian products



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