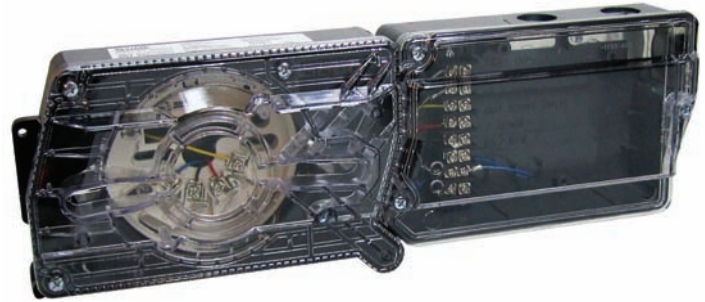# Intelligent Non-Relay Photoelectric Duct Smoke Detector

The InnovairFlex™ Series are the only duct smoke detectors flexible enough to fit configurations from square to rectangular and everything in between.

Innovairflex™

Features

- Photoelectric, integrated low-flow technology (detector head sold separately)
- Air velocity rating from 300 ft/min to 4000ft/min (1.52m/s to 20.32m/sec)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (−4°F to 158°F) and humidity (0% to 95% non-condensing)
- 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 ¾-inch conduit knockout
- Available space within housing to accommodate mounting of relay module
- Clear cover for convenient visual inspection
- UL 268A listed
- Remote testing capability
- Requires com line power only

The InnovairFlex DNRECL intelligent non-relay photoelectric duct smoke detector features a pivoting housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

The intelligent non-relay photoelectric duct smoke detector senses smoke in the most challenging conditions, operating in airflow speeds of 300 to 4000 feet per minute, temperatures of −4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing).

An improved cover design isolates the ED-DP or ED-DPI sensor head from the low-flow feature for simple maintenance. A cover tamper feature was added to indicate a trouble signal for a removed or improperly installed sensor cover. The InnovairFlex housing provides a ¾-inch conduit knockout and ample space to facilitate easy wiring and mounting of relay module.

The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

WARNING: Duct smoke detectors have specific limitations.

DUCT SMOKE DETECTORS ARE:
NOT a substitute for an open area smoke detector,
NOT a substitute for early warning detection, and
NOT a replacement for a building's regular fire detection system.
Refer to NFPA 72 and 90A for additional duct smoke detector application information.

Agency Listings

UL LISTED 2911   FM APPROVED 3029700   3242-1653:209/210   MSFM approved 2125

InnovairFlex Duct Smoke Detector Specifications

The air duct smoke detector shall be a System Sensor InnovairFlex™ DNRECL Intelligent Non-Relay Photoelectric Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits both square and rectangular footprints. The detector shall operate at air velocities of 300 ft/min to 4000 ft/min (1.52 m/sec to 20.32 m/sec). The unit shall be capable of providing a trouble signal in the event that the sensor cover is removed or improperly installed. It shall be capable of remote testing using the RTS151 and RTS151KEY remote test stations. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

Physical Specifications

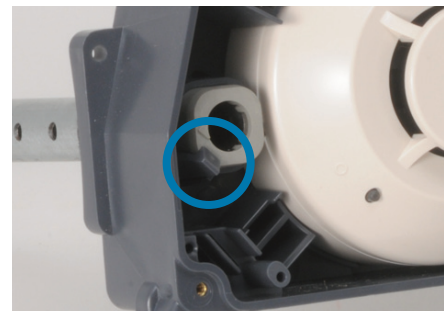|	
Size: (Rectangular)	14.38 in (37 cm) Length; 5in (12.7 cm) Width; 2.5 in (6.35 cm) Depth
(Square)	7.75 in (19.7cm) Length; 9 in (22.9cm) Width ; 2.5 in (6.35cm) Depth
Weight:	1.6 lb (0.73 kg)
Operating Temperature Range:	–4°F to 158°F (–20°C to 70°C)
Storage Temperature Range:	–22°F to 158°F (–30°C to 70° C)
Operating Humidity Range:	0% to 95% relative humidity (non-condensing)
Air Duct Velocity:	100 to 4000 ft/min (0.5 to 20.32 m/s)

Electrical Ratings

Please see detector head installation manual for electrical specifications

Accessory Current Loads at 24 VDC

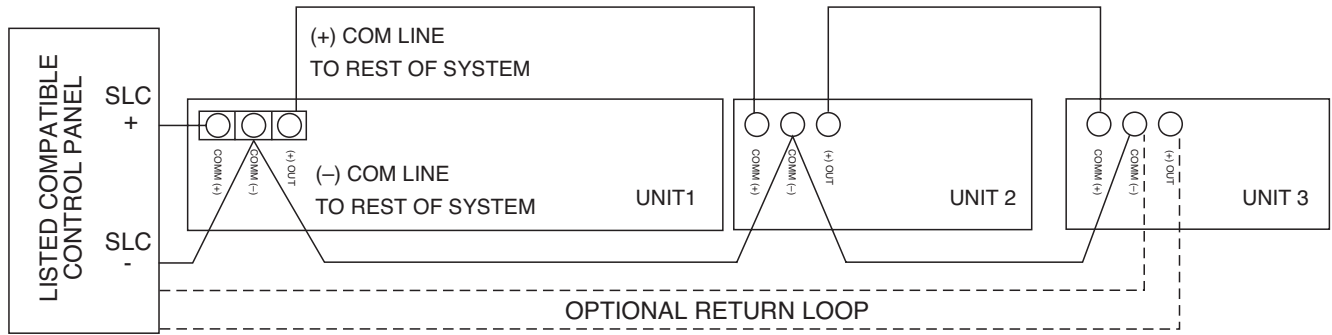| Device	Standby	Alarm
RA100Z	0 mA	12 mA Max.
RTS151/RTS151KEY	0 mA	12 mA Max.

Installing the InnovairFlex Sampling Tube

The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).
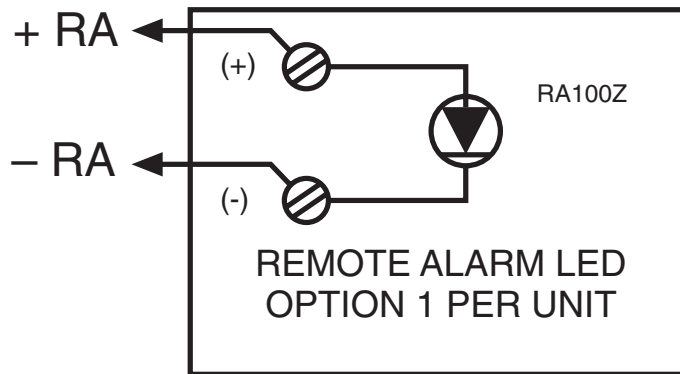
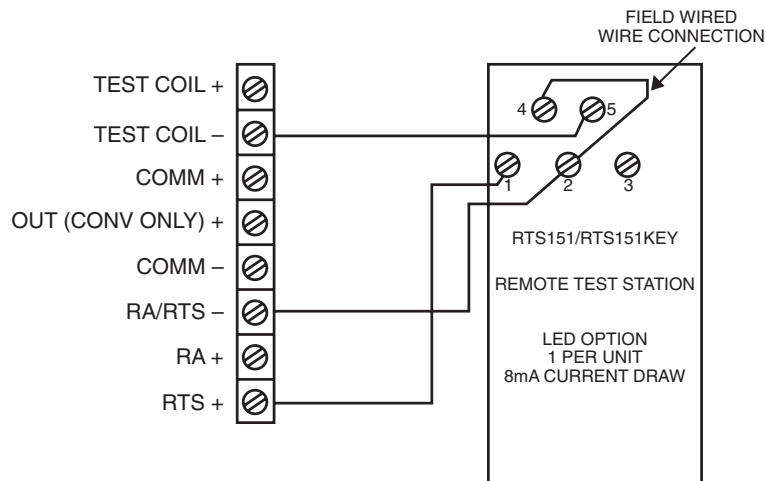HVDS00201

Wiring for Intelligent Non-Relay Duct Smoke Detector

System wiring diagram for DNRECL:

LISTED COMPATIBLE CONTROL PANEL

SLC +

SLC -

COMM (+)
COMM (-)
(+) OUT

(+) COM LINE TO REST OF SYSTEM

(−) COM LINE TO REST OF SYSTEM

UNIT1

COMM (+)
COMM (-)
(+) OUT

UNIT 2

COMM (+)
COMM (-)
(+) OUT

UNIT 3

OPTIONAL RETURN LOOP

DNRECL to RA100Z:

+ RA

− RA

(+)

(-)

RA100Z

REMOTE ALARM LED
OPTION 1 PER UNIT

DNRECL to RTS151/RTS151KEY:

FIELD WIRED
WIRE CONNECTION

TEST COIL +

TEST COIL −

COMM +

OUT (CONV ONLY) +

COMM −

RA/RTS −

RA +

RTS +

4   5

1   2   3

RTS151/RTS151KEY

REMOTE TEST STATION
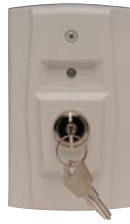
LED OPTION
1 PER UNIT
8mA CURRENT DRAW

HVDS00201

Accessories

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

RTS151 UL S2522

RTS151KEY UL S2522

RA100Z UL S2522

Ordering Information

Part No.	Description		
DNRECL	Intelligent non-relay photoelectric low-flow duct smoke detector		
Accessories			
DST1	Metal sampling tube duct width up to 1ft (0.3m)	ED-DPI	Eclipse Series Photoelectric Duct Smoke Detector Head - Isolator Version
DST1.5	Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)	M02-04-00	Test magnet
DST3	Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)	P48-21-00	End cap for metal sampling tubes
DST5	Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)	RA100Z	Remote annunciator alarm LED
DST10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)	RTS151	Remote test station
DH400OE-1	Weatherproof enclosure	RTS151KEY	Remote test station with key lock
ED-DP	Eclipse Series Photoelectric Duct Smoke Detector Head		