



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.

Features

- Photoelectric, integrated low-flow technology (detector head sold separately)
- Air velocity rating from 100 ft/min to 4,000 ft/min
- Adjusts to square and rectangular mounting configurations
- Broad ranges for operating temperature (–4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented tool-free, plug-in sampling tubes
- New cover tamper signal
- Increased wiring space with a new 3/4-inch conduit knockout
- Housing has space for mounting a relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- UL 268A listed
- Remote testing capability
- Requires com line power only
- NEMA Type 4 UL listed for non-hazardous indoor and outdoor applications (**DNRW only**)
- UV-resistant, UL-listed housing and cover material (**DNRW only**)



Innovairflex™

The **InnovairFlex Series DNR** and **DNRW** are intelligent (addressable) non-relay photoelectric duct smoke detectors. Like all InnovairFlex detectors, the DNR and DNRW both feature an adjustable housing design that fits square and rectangular installation footprints, mounts to both round and rectangular ductwork, and utilizes tool-free, plug-in sampling tubes for increased application flexibility and installation ease.

These units sense smoke in challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of –4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing). For even more extreme environments like rooftops, the DNRW's NEMA 4-rated watertight and UV-resistant housing protects against windblown dirt and dust, rain, and hose directed water, enabling it to be installed without a costly enclosure, saving time and money.

The InnovairFlex housing cover isolates the sensor head from the low-flow feature for simple maintenance, and a cover tamper feature initiates a trouble signal for a removed or improperly installed sensor cover. The housing also provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of a relay module to meet specific application requirements. These detectors can be customized to meet local codes and specifications without additional wiring.

The InnovairFlex line is compatible with all previous Innovair models, including remote test accessories, for easy retrofits.

WARNING: Duct smoke detectors have specific limitations.

Agency Listings



InnovairFlex Duct Smoke Detector Specifications

Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor InnovairFlex™ DNR Intelligent Non-Relay Photoelectric Duct Smoke Detector and DNRW Watertight NEMA 4 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 100 ft/min to 4,000 ft/min (0.5 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 local testing via magnetic switch or remote testing using the RTS151KEY remote test station. 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; 5 in (12.7 cm) Width; 2.5 in (6.6 cm) Depth |
| (Square) | 7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width ; 2.5 in (6.35 cm) Depth |
| Weight: | 1.6 lb (0.73 kg) |
| Environmental Rating: | NEMA 4 (DNRW only) |
| 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 4,000 ft/min (0.5 to 20.32 m/s) |
| DCOIL (if included): | 17.5 – 26.4 VDC, 95 mA max |

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

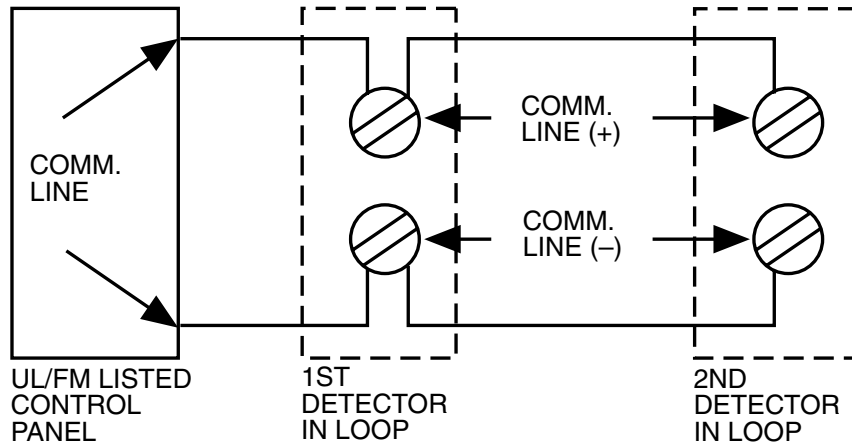
The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).



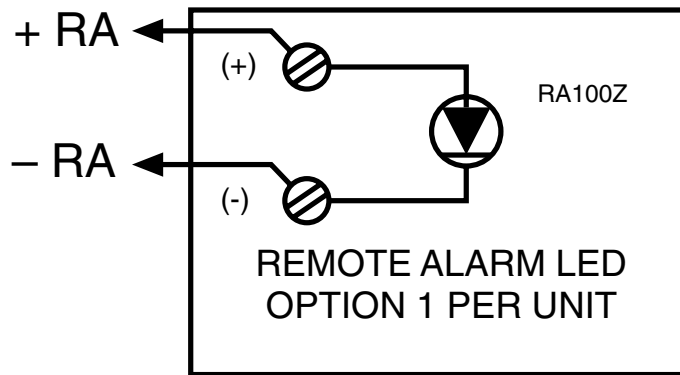
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Wiring for Intelligent Non-Relay Duct Smoke Detector

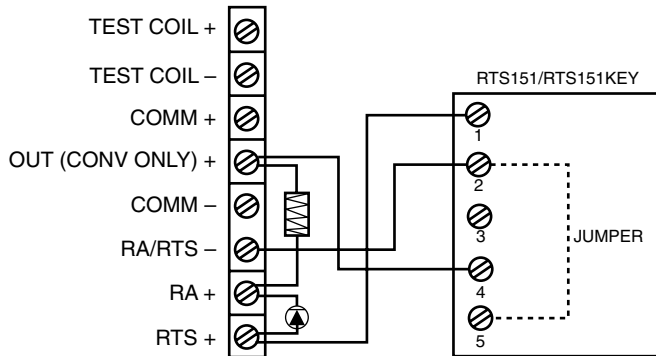
System wiring diagram for DNR:



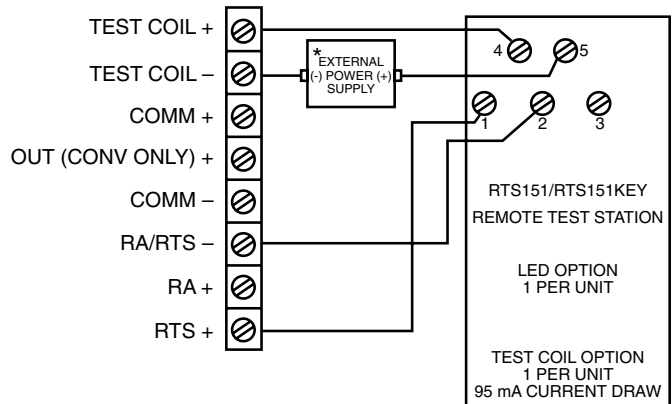
DNR to RA100Z:



DNR to RTS151/RTS151KEY with "R" Remote Test Capable Detector Head Option:



DNR to RTS151/RTS151KEY with DCOIL Option*:



*Important Notes

- The use of either the RTS151 or RTS151KEY requires the installation of an accessory coil, DCOIL, sold separately. Please refer to the DNR or DNRW installation manual for more information.
- The RTS151/RTS151KEY test coil circuit requires an external 24 VDC power supply which must be UL listed.

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 |
|---------------------|---|
| DNR | Intelligent non-relay photoelectric low-flow duct smoke detector |
| DNRW | Watertight intelligent non-relay photoelectric low-flow duct smoke detector |
| Accessories | |
| DCOIL | Remote test coil required with RTS451/RTS451KEY/RTS151/RTS151KEY |
| DST1 (Discontinued) | Metal sampling tube duct width up to 1ft (0.3m) |
| DST1.5 | Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m) |
| DST3 | Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m) |
| DST5 | Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m) |
| DST10 | Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m) |
| P48-21-00 | End cap for metal sampling tubes |
| ETX | Metal exhaust tube duct width 1ft (0.3 m) |
| M02-04-00 | Test magnet |
| RA100Z | Remote annunciator alarm LED |
| RTS151 | Remote test station |
| RTS151KEY | Remote test station with key lock |
| DH4000E-1 | Weatherproof enclosure |



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