InnovairFlex™ Duct Smoke Dectectors

Frequently Asked Questions

What is maintenance? What does a maintenance condition mean?

In a maintenance condition the sensor LEDs will blink red every 5 seconds and the power board LED will blink amber as depicted on the LED chart provided. Maintenance LED indications are also indicated on the RTS2 and RTS-AOS remote test accessory. The maintenance condition means that the sensor is operating outside its original factory preset sensitivity and shall be cleaned or replaced.

How frequently does a duct smoke detector need to be cleaned/ maintained?

According to NFPA, the detector should be visually inspected semiannually and functionally tested at least once a year. Testing and inspection may be needed more frequently depending on the air quality of the duct supply air.

Can dry nitrogen be used to clean a duct smoke detector?

Yes, dry nitrogen can be used when cleaning a duct smoke detector.

Can the red cap on the end of the sampling tube be removed for cleaning and replaced?

Yes, the endcap can be removed for cleaning purposes, but needs to be replaced for proper operation of the duct smoke detector.

How do you test differential pressure?

Please reference *Differential Pressure Testing Using Analog and Digital Manometer* Whitepaper on systemsensor.com.

What are the terminal designation differences between the DH100, DH400 and InnovairFlex?

Please reference Terminal Designation chart included in the installation manual, which can be found at systemsensor.com/flex.

Explain the LED indications on the Power Board and Sensor of InnovairFlex duct smoke detectors.

Please reference the LED indication reference chart in the installation instruction manual available online at systemsensor.com/flex.

How does InnovairFlex provide more flexibility to customers?

Some of the key InnovairFlex features include:

- Versatile mounting options in square or rectangular configuration with modular construction.

- All conventional InnovairFlex models, including the NEMA 4 version, are designed to operate at a broader operating temperature range from -4° F to 158° F and humidity range from 0 to 95% non-condensing.

- New sampling tubes for InnoairFlex allow installation and removal of tubes without the use of any tools.

- As many as 50 InnovairFlex duct smoke detectors can be interconnected so that when one unit senses smoke, all interconnected detectors will switch their relays; however, only the detector sensing smoke will go into alarm to pinpoint the fire /smoke source.

- A D4S sensor-only component can be connected to a D4120 4-wire conventional model in order to allow one power board to monitor both the supply and return side sensors without having to place a complete detector in each location.

- A D4P120 power board component can be remotely mounted and wired to up to two D42 sensor components.

- The above and other flexible features of InnovairFlex will allow for easy installation and maintenance for operators.

D4120W

D4120

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After smoke testing is there a way to help clear out smoke in order for the detector to reset?

Any InnoviarFlex duct smoke detector manufactured after August 27, 2012 has a new smoke clearing feature allowing the auxiliary contacts to close upon reset enabling the fan, which will blow the remaining smoke out of the sensing chamber after smoke testing, allowing the detector to go into a full reset.

Can a user separate a collocated InnovairFlex model to use it as a sensor or power board component only?

The co-located model was not designed nor tested to be used as a sensor or power component only. Thus, System Sensor does not recommend nor support separating the co-located model to be used as a sensor or power board component only. Customers can purchase individual components as needed.

Should duct smoke detectors be installed during the final construction phase?

If any unitary packaged air conditioning units are run during the drywall installation phase of any building under construction to accelerate the drying of joint compound, the subsequent sanding of those drywall joints and resulting dust may compromise the sensor heads in duct smoke detectors. To avoid this condition, it is recommended that the sensor heads be removed during the construction phase and replaced once construction is completed and the Certificate of Occupancy is issued. The sensor heads twist out for removal and twist in for insertion.

Why does the detector go into a trouble mode? Explain all possibilities.

- A trouble condition is created either due to a cover tamper issue, an incorrect dipswitch setting for the number of sensors connected or a loss of communication from the sensor. For trouble shooting purposes, a slight difference in the LED indications has been provided to distinguish between the different possible causes. Cover tamper conditions and incorrect dipswitch setting are indicated by constant amber LED indication. Loss of communication from the sensor is indicated by a long amber LED blink (10 seconds on, 1 second off). Please refer to the attached LED table for details.

- The cover tamper condition, dipswitch settings or communication loss from the sensor has to be addressed in order to bring the DSD to a normal state.

- If the detector was manufactured prior to August 27, 2012, a trouble condition at the panel may be associated with maintenance. A maintenance condition is indicated by an amber LED blink on the powerboard and a red LED blink on the sensor every 5 seconds. This is a true maintenance condition and requires removing the head and cleaning or replacing it.

- The sensor should be cleaned in the event that the sensor LED's are blinking red and the power board LED's are blinking amber every 5 seconds. This is a true maintenance condition and requires removing the head and cleaning or replacing it.

- At the fire alarm control panel trouble conditions will be displayed in the same manner. For units manufactured after August 2012, maintenance conditions are displayed locally at the detector or remote test accessory. Trouble communications are not sent to the fire alarm control panel.

What is the recommended cleaning procedure and supplies needed?

- First notify the proper authorities that the smoke detector system is undergoing maintenance, and that the system will temporarily be out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms and possible disbatch of the fire department.

- If the sensor heads are not removed during the construction phase and the sensor chamber becomes dirty causing a maintenance condition (it will not always be visible on the exterior black screen on the sensor head), the sensor head must be cleaned with compressed air. To clean the sensor head chamber, follow the below step-by-step instructions:

1. Remove the sensor to be cleaned from the system.
2. Remove the sensor cover by pulling outward on each of the four removable tabs that hold the cover in place.
3. Vacuum the screen carefully without removing it.
4. Remove the chamber cover/screen assembly by pulling it straight out.
5. Use a vacuum cleaner or compressed air to remove dust and debris from the sensing chamber.
6. Reinstall the chamber cover/screen assembly by sliding the edge over the sensing chamber. Turn until it is firmly in place.
7. Replace the cover using the holes for the LEDs for alignment and then gently pushing it until it locks into place.
8. Reinstall the detector.

NOTE: If excessive dust is found in the detector housing and/or sampling tubes they should also be cleaned with a vacuum cleaner or compressed air.

Are smoke bombs an acceptable test option for duct smoke detectors?

Smoke bombs are required in some jurisdictions, but differential pressure testing is the preferred method.

Does System Sensor provide any guideline for trouble shooting?

Yes, please reference the LED table on page 8 of the D4120, D4S, and/or the D4P120 installation manual. (The installation manual is packaged with the device and can also be accessed at systemsensor.com.)

Does System Sensor offer Technical Support?

If technical support is needed, please dial 800-SENSOR2, option 2.

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