

EXHIBIT 5

Installation and Operating Instructions

Para. 2.1033(b)(3)



Retlif Testing Laboratories

Test Report No. R-7530-1
FCC ID: ESV-0407-4

Installation Instructions for the RF280THS Wireless (RF) Photoelectric Smoke Detector

1.0 GENERAL INFORMATION

The RF280THS Photoelectric Smoke Detector is a U.L. Listed, open-area wireless smoke detector with a integral 135°F heat sensor designed for use with commercial fire protective signaling and household fire warning systems (see NFPA 72, "The National Fire Alarm Code").

For commercial and industrial installations, 30 ft. (9.2 m) spacing between detectors is recommended (in accordance with NFPA 72).

An LED indicator flashes approximately every 26 seconds to verify that the detector has battery power and that the smoke sampling circuitry is functioning. The LED will blink every 1/2 second in the event of an alarm, allowing the user easy verification of individual detector alarms. The detector will automatically reset after 3 minutes if the alarm condition no longer exists. The detector may also be manually reset by pressing the Test button. If an alarm condition exists after the Test button is pushed, the detector will re-alarm in 20-30 seconds. After the alarm condition has been cleared, the control panel alarm may be cleared by a control panel reset command.

2.0 SPECIFICATIONS

- **Description:** RF280THS Wireless Photoelectric Smoke Detector with a integral 135° heat sensor and an internal 85db sounder.
- **Replacement Chamber:** RC3-10 (sold in packs of 10)
- **Operating Temperature:** +32 to +100°F (0 to +38°C). 0 to 95% relative humidity (non-condensing)
- **Standby Voltage:** Approximately 6 VDC supplied by two 3 VDC lithium batteries
- **Battery Life:** Approximately 5 years under normal operating conditions with the recommended battery types.
- **Recommended Battery Types:** Duracell DL123A, Energizer EL123AP, and Panasonic CR123A.
- **Compatible Control Panels:** May be used with the DS7400Xi Version 3 + Control/Communicators with a firmware version of 3.07 or above.
- **Patents:** The RF280TH series smoke detectors are protected by one or more of the following patents: #5,400,014, #5,543,777, #D339,078, #DES,293,089.

3.0 MOUNTING THE DETECTOR



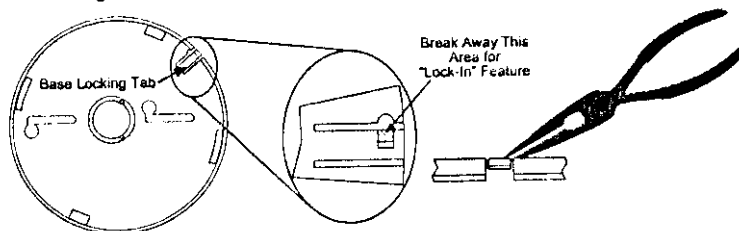
IMPORTANT

The maximum wireless range of the detector, in open air, is approximately 500 feet (150 m). In normal household or commercial applications it is recommended that the detector be kept within 100 feet (30 m) of the control panel receiver to which it is assigned.

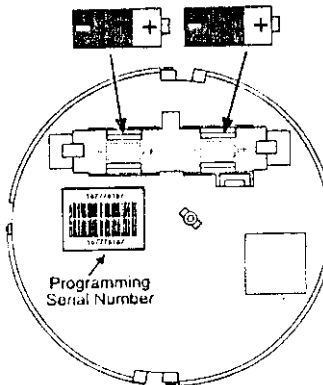
It is recommended that the detector be temporarily mounted, using double sided tape, and tested from the desired location before permanent mounting.

- Remove the dust cover from the detector. The dust cover may be replaced during construction periods, but must be removed once the alarm system is enabled.

- Remove the detector from the mounting plate by twisting the base counter-clockwise.
- The mounting plate has a base locking tab which (if used) requires that the locking tab be pressed towards the mounting surface to release the smoke detector. If you do not want the "Lock-In" feature, no changes need to be made to the mounting plate. If you wish to have the detector "Lock-In" to the mounting plate, modify the base locking tab as shown below:



- Install the mounting plate in the desired location. Do not attach the smoke detector to the mounting plate at this time.
- Install the 2 lithium batteries (supplied in a separate package) into the base of the smoke detector. Be sure to observe the polarity.



- There will be a two part sticker on the base of the unit with a 9 digit number on it. Remove one of the stickers and keep it in a safe place as you will need the number to program the unit from the control panel.
- Connect the detector to the mounting plate. Twist it clockwise into place.

4.0 PROGRAMMING THE RF280THS SMOKE DETECTOR

See your DS7400Xi Wireless Reference Guide for programming information for wireless type devices.



IMPORTANT

The RF280THS must be programmed into the panel the same as a multiplex smoke detector.

5.0 OPERATIONAL TESTING

Note: It is important to notify all concerned parties prior to any maintenance or testing of the fire alarm system, and then again after completion.

- When the system is free of alarms, check each detector to ensure that the red LED indicator is flashing approximately every 26 seconds. This verifies that the detector is operating properly.
- Test each detector to ensure it will cause a control panel alarm.
- To alarm the detectors, do one of the following:
 - Press the Test button. The LED on the detector will turn on, the sounder will sound and a test report will be sent to the control panel. Or you may use a U.L. Listed Aerosol smoke detector tester



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RF280TH Installation Guide P/N 36662A

such as the Home Safeguard Industries' 25S to simulate an alarm. Follow the instructions with the Aerosol smoke detector tester.

Note: When a detector alarms, the red LED indicator will activate and blink every 1/2 second. You may clear the alarm by momentarily pressing the Test button or by allowing the smoke to dissipate. Be sure the alarm has cleared before proceeding to the next detector.

6.0 SENSITIVITY TESTING

Note: The calibration of the detector is very important in determining its continued operation. Depending on local regulations, the frequency of calibration testing may be required more often than once a year. The National Fire Protection Association (NFPA) Standard 72, "The National Fire Alarm Code" recommends calibration tests be made at installation, then every other year, and Functional testing should be done monthly.

The sensitivity can be tested (to meet NFPA 72 "The National Fire Alarm Code" requirements) by pressing the Test button on the detector and observing the LED indicator.

Manual Test

- Press the Test button and observe the LED.
 - If the detector is within the factory marked calibration range, it will go into alarm and the alarm LED will flash every 1/2 second.
 - If the detector is too sensitive, the LED will flash 4 times rapidly (once every 1/2 second) and then the detector will go into alarm.
 - If the detector is not sensitive enough, the LED will flash 2 times slowly (once every two seconds) and then the detector will go into alarm.
 - If the detector is not operational, it will not signal an alarm. Return the unit for repair.

Visual Check

This detector includes the Chamber Check™ Automatic Trouble Indication which allows the detector to automatically indicate if its calibration is out of the factory listed range. This allows you to meet the NFPA guidelines for sensitivity testing by visually inspecting the detector and checking the flash rate of the LED.

If a manual test is performed or if the calibration is out of range for more than 24 hours, the alarm LED on the detector will begin to flash at different rates (see Manual Test for flash rates) from its' normal once every 26 seconds.

7.0 THERMISTOR TEST

Expose the thermistor to a heat source such as a hair dryer or a shielded heat lamp. Expose the thermistor until the detector goes into alarm and the alarm LED flashes every 1/2 second. If the unit does not go into alarm, send the unit back to Detection Systems, Inc. for repair.

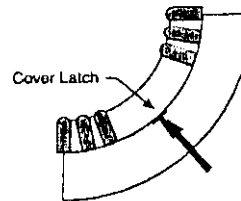
NOTE: Be sure to clear each alarm for each test before proceeding to the next detector.

8.0 MAINTENANCE

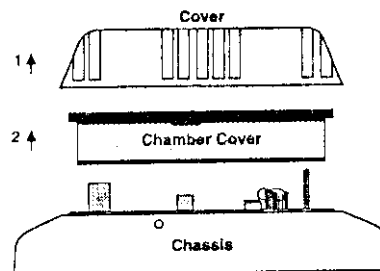
At least once a year, the detector cover should be cleaned. Use a vacuum, clean/dry compressed air, or water. Particular attention should be paid to the screens. In dusty areas or areas of heavy insect concentration, cleaning may be required more often. If cleaning the chamber is not a desirable option, it can be replaced using

the RC3-10.

- To clean the detectors, perform the following:
 - Remove the detector from the mounting plate.
 - Insert a thin, flathead screwdriver into the cover latch and pry the cover away from the chassis.



- Grasp the chamber cover and pull it up and away from the chassis.



- With the chamber cover removed, clean the inside of the cover with a vacuum or clean/dry compressed air, or water.
- Clean the inside of the chamber with a vacuum or clean/dry compressed air. **Do not clean with water.** At this point, instead of cleaning the chamber, you may choose to replace it with an RC3-10 Replacement Chamber.
- Replace the chamber cover. For easiest results, place the chamber cover parallel to the chamber, then gently snap the locking tabs into place.
- Replace the cover.
- Connect the terminal strip and return the detector to its mounting plate.



IMPORTANT

The detectors should be tested for proper calibration after cleaning.

- Do not paint the detectors. Paint or other foreign matter covering the screens may prohibit or retard smoke from entering the detector.

FCC COMPLIANCE NOTICE:

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry and Science Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation. Changes or modifications not expressly approved by Detection Systems, Inc. can void the users authority to operate the equipment.

GENERAL INFORMATION OF THE RF280THS TRANSMITTER

The RF280THS is a battery powered smoke detector with a built in 304 MHz RF Transmitter. It is used in the DS Residential Security and Escort Security Systems.

As indicated in the Block Diagram of the RF280, once smoke is detected by the photo electric sensor the signal from the sensor is processed by PHOTOASIC. As a result, the detected smoke signal is converted into an input digital signal of the Microcontroller which also monitors cover tamper signal. Then the Microcontroller determines the tasks accordingly and sends the status to a receiver through the RF Transmitter. A supervisory signal is transmitted to a receiver every 65 minutes.

Frequency Control Devices Used:

1. One 800 kHz ceramic resonator used for the microcontroller's oscillator.
2. One 304 MHz SAW resonator used for the oscillator of the RF Transmitter.



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