

RF280E Series



Fire Systems

EN | Installation Instructions
Wireless (RF)
Photoelectric Smoke
Detectors

BOSCH

Trademarks

Chamber Check® is a registered trademark of Bosch Security Systems in the United States.

1.0 Overview

The RF280E Series Photoelectric Smoke Detectors are open-area wireless smoke detectors designed for use with commercial fire protective signaling and household fire warning systems.

For commercial and industrial installations, allow spacing of 30 ft (9 m) between detectors.

An Alarm and Test LED flashes approximately every 26 sec to verify the detector has battery power and the smoke sampling circuitry is functioning. The LED flashes every 0.5 sec in an alarm, allowing the user to verify individual detector alarms. The detector automatically resets after 3 min if the alarm condition no longer exists.

The detector can be manually reset by pressing the **Test** button. If there is an alarm after the **Test** button is pressed, the detector re-alarms in 20 to 30 sec. After the alarm condition clears, the control panel alarm can be cleared by a control panel reset command.

Supervision is provided by transmitting a low power level signal to the receiver every 13 min if there is no other activity. All transmissions from the RF280E Series send battery status information to the control panel.

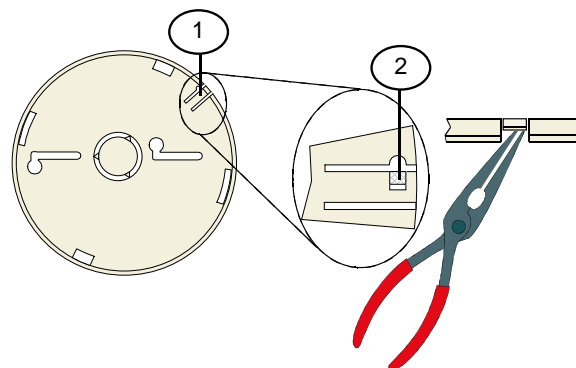
2.0 Mounting



The detector's maximum wireless range in open air is approximately 984 ft (300 m). In normal residential or commercial applications, keep the detector within 328 ft (100 m) of the control panel receiver it is assigned to. Temporarily mount the detector using double-sided tape, and test it from the desired location before permanently mounting it.

1. Remove the detector's dust cover. You can replace the dust cover during construction periods, but remove it when the alarm system is enabled.
2. The mounting plate has a base locking tab that, if used, requires you to press the locking tab towards the mounting surface to release the detector. If you do not want the Lock-In feature, do not make changes to the mounting plate. Use the Lock-In feature by modifying the base locking tab as shown in *Figure 1*.

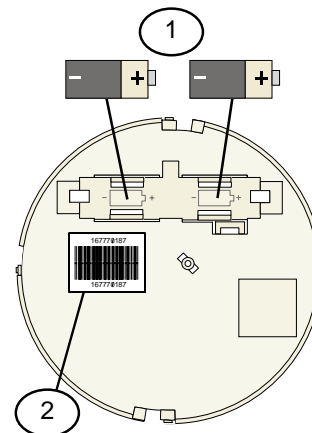
Figure 1: Modifying the Lock-In Tab



- 1 - Base locking tab
- 2 - Lock-In feature. Break away to access.

3. Remove the detector from the mounting plate by twisting the base counterclockwise.
4. Install the mounting plate in the desired location, and do not attach the detector to the mounting plate at this time.
5. Install the two lithium batteries (*Item 1 in Figure 2*) in the detector's base and observe the polarity. These batteries are supplied in a separate package.

Figure 2: Installing the Batteries



- 1 - Lithium batteries (2)
- 2 - Programming serial number

6. A two-part sticker on the detector's base (*Item 2 in Figure 2*) contains the nine-digit programming serial number. Remove one of the stickers and store it in a safe place. You need the number to program the detector from the control panel.
7. Connect the detector to the mounting plate and twist it clockwise.

3.0 Programming

Refer to your control panel wireless reference guide for programming information.

4.0 Testing

4.1 Operational



Notify all concerned parties before and after performing maintenance or testing the fire alarm system.

1. When the system is free of alarms, check each detector to ensure the red Alarm and Test LED flashes approximately every 26 sec. This verifies the detector is operating properly.
2. Test each detector to ensure it causes a control panel alarm.
3. Alarm the detector by pressing and holding the **Test** button for 9 to 12 sec.

The LED lights, the sounder sounds, and a Test Report is sent to the control panel.

4. Release the **Test** button to end the test.

4.2 Sensitivity



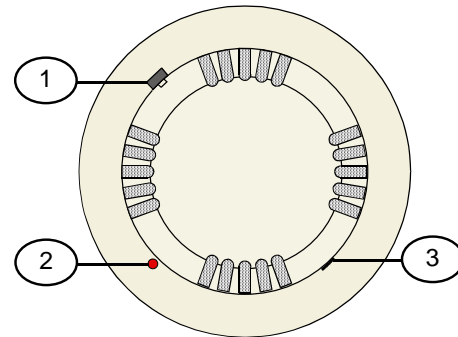
The detector's calibration is important in determining its continued operation. Depending on local regulations, the frequency of calibration testing might be required more often than once a year.

Test the detector's sensitivity by pressing the **Test** button and observing the Alarm and Test LED.

4.3 Manual Test

1. Press and hold the **Test** button (*Item 1 in Figure 3*).
2. Observe the Alarm and Test LED (*Item 2 in Figure 3*). The detector can take up to 12 sec to enter Test Mode.

Figure 3: Sensitivity Testing Components



- 1 - Test button
- 2 - Alarm and Test LED
- 3 - Cover latch

- If the detector is within the factory-marked calibration range, it goes into alarm and the LED steadily lights.
- If the detector is too sensitive, the LED rapidly flashes four times (once every 0.5 sec) and the detector goes into alarm with the LED steadily on.
- If the detector is not sensitive enough, the LED slowly flashes twice (once every 2 sec) and the detector goes into alarm with the LED steadily on.
- If the detector is not operational, it does not signal an alarm. Return the unit for repair.

4.4 Visual Check

The RF280E Series includes the Chamber Check™ Automatic Trouble Indication. The detector uses this feature to automatically indicate when its calibration is out of the factory-listed range.

Check the detector's sensitivity by visually inspecting it and observing the Alarm and Test LED's flash rate. Normally, the flash rate is once every 26 sec. When the detector is out of the sensitivity range, the LED quickly flashes twice every 26 sec to indicate low sensitivity. The LED quickly flashes twice every 15 sec for high sensitivity, indicating a dirty chamber.

5.0 Thermistor Test



Use the Thermistor Test for the RF280ETH and RF0280ETHS Models only.

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 and Test LED flashes every 0.5 sec.



Before proceeding to the next detector, clear each alarm for each test

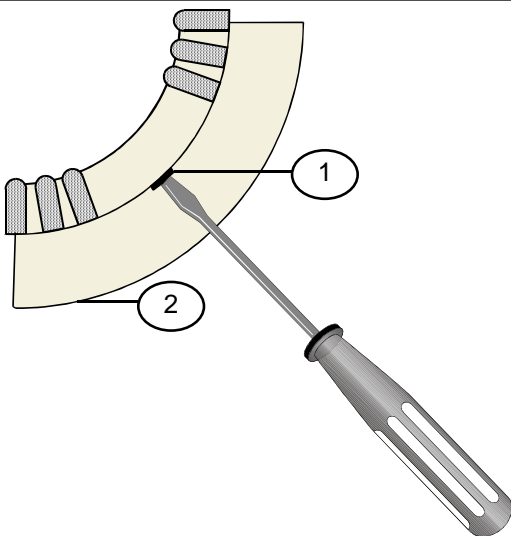
6.0 Maintenance

At least once a year, clean the detector's cover. Use a vacuum, clean and dry compressed air, or water. Pay particular attention to the screens. In dusty areas or areas of heavy insect concentration, cleaning might be required more often.

To clean the detector:

1. Remove the detector from the mounting plate.
2. Insert a thin, flathead screwdriver into the cover latch and pry the cover away from the chassis (*Figure 4*).

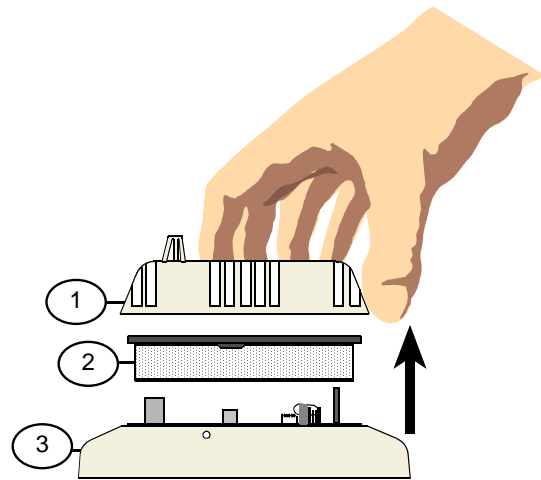
Figure 4: Removing the Detector Cover



- 1 - Cover latch
- 2 - Chassis

3. Grasp the chamber cover and pull it up and away from the chassis (*Figure 5*).

Figure 5: Removing the Chamber Cover



- 1 - Detector cover
- 2 - Chamber cover
- 3 - Chassis

4. With the chamber cover removed, clean the inside of the cover with a vacuum, clean and dry compressed air, or water.
5. Clean the inside of the chamber with a vacuum or clean and dry compressed air.



Do not clean the chamber with water.

6. Replace the chamber cover by placing the chamber cover parallel to the chamber and gently snapping the locking tabs into place.
7. Replace the detector's cover.
8. Connect the terminal strip and return the detector to its mounting plate.
9. Test the detector for proper calibration.



Do not paint the detector. Paint or other foreign matter covering the screen can prohibit or retard smoke from entering the detector.

7.0 Specifications

Table 1: Specifications	
Description	RF280E: Basic Wireless Photoelectric Smoke Detector RF280ES: Wireless Photoelectric Smoke Detector with an internal 85 db sounder RF280ETH: Wireless Photoelectric Smoke Detector with an integral +135°F (+57°C) heat sensor RF280ETH: Wireless Photoelectric Smoke Detector with an integral +135°F (+57°C) heat sensor and an internal 85 db sounder
Operating Temperature	+32°F to +100°F (0°C to +38°C); 0 to 95% relative humidity, non-condensing
Frequency	433.42 MHz
Supply 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 Panasonic CR123A Sanyo CR123A
Compatible Control Panels	Use with the DS7400Xi Version 4+ Control Panels with firmware version 4.03 or above and the EDM Solution Ultima Models 844, 862, and 880.
Compatible Receivers	RF3222E RF3212E
Patents	The RF280E Series Smoke Detectors are protected by one or more of the following patents: #5,400,014 #5,543,777 #D339,078 #DES,293,089

Notes

Notes

Bosch
130 Perinton Parkway
Fairport, NY 14450-9199 USA
Customer Service: (800) 289-0096
Technical Support: (888) 886-6189

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