



# EN1243 EchoStream® Wireless Smoke/Heat Detector

## Installation Instructions

### 1 Overview

The EN1243 EchoStream wireless smoke/heat detector is a wireless, battery-powered photoelectric smoke detector. The detector includes a built-in sounder for alarm alerts, a visual status LED, a smoke and heat sensor, a back tamper, and an Inovonics transmitter. Under normal (non-alarm) conditions, the LED flashes once every eight seconds while the EN1243 monitors the surrounding conditions. When the EN1243 detects smoke or heat, the LED lights, the built-in sounder beeps loudly and the alarm signal is transmitted. When the EN1243 detects an inactive smoke or heat sensor a tamper message will be transmitted.

**Note:** The EN1243 EchoStream wireless smoke/heat detector is intended for use as a supplemental residential fire alarm device, and is only UL listed to provide localized functional annunciation.

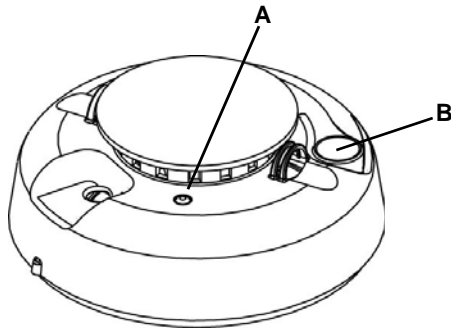
### 1.1 Inovonics Contact Information

For product and installation videos visit us at [www.inovonics.com/videos](http://www.inovonics.com/videos) or use the QR code below.

If you have any problems with this procedure, contact Inovonics technical services:

- E-mail: [support@inovonics.com](mailto:support@inovonics.com)
- Phone: (800) 782-2709; (303) 939-9336

### 1.2 EN1243 External Components



**Figure 1** EN1243 external components

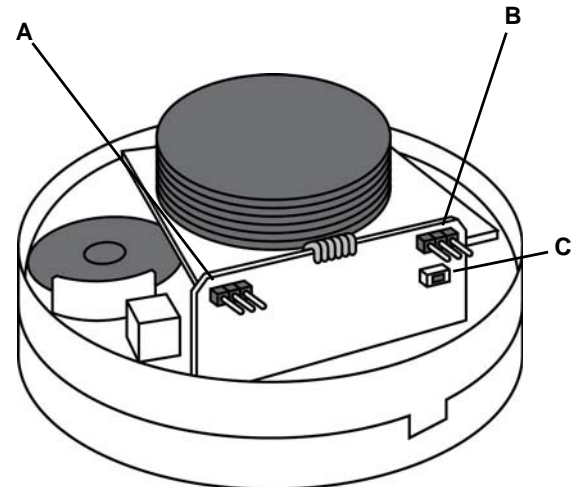
**A** LED      **B** Test/silence button

Status LED: The LED indicates the status of the EN1243 as follows:

- LED flashes every 8 seconds to indicate normal operation.
- LED stays on when the EN1243 detects smoke, and is sending an alarm.
- LED stays off when maintenance is required.

Test/silence button: Test/silence is pressed to perform the sensitivity test, as well as to silence the low battery chirp. The low battery chirp will resume after 24 hours if the condition is not corrected.

### 1.3 EN1243 Internal Components



**Figure 2** EN1243 internal components

**A** Low battery/CleanMe selection pins      **B** Frequency band selection pins      **C** Reset button

### 1.4 What's In The Carton

- Two BAT604 Panasonic CR123A lithium batteries.
- Two drywall anchors.
- Two mounting screws.
- Two frequency band selection jumpers.

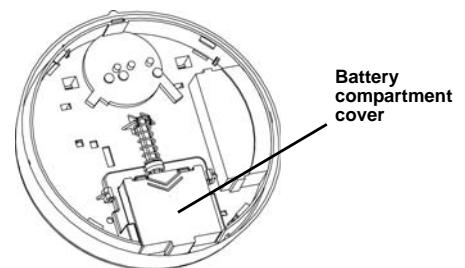
## 2 Installation and Startup

### 2.1 Installation Notes

- These products are designed to be maintained by professional security technicians.
- Products are tested for indoor use.
- All products should be manually tested weekly.

### 2.2 Install Batteries

1. Turn the EN1243 housing counterclockwise fifteen degrees and detach it from the mounting base.
2. Remove the battery compartment cover.



**Figure 3** Remove the EN1243 battery compartment cover

3. Install the two batteries.
4. Replace the battery compartment cover

**Note:** A tamper message will transmit for approximately ten seconds while the unit powers up after the installation of both batteries. If only one battery is installed, the tamper message will transmit continuously.

## 2.3 Open the Housing

- Using a small screwdriver to press the sensor cap's release tab, apply downward pressure to dislodge the cap.

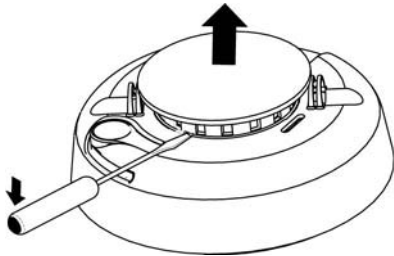


Figure 4 Remove the EN1243 cap

- Holding the bottom lip of the EN1243 housing, place both thumbs on either side of the optical chamber and push down to detach the EN1243 housing.

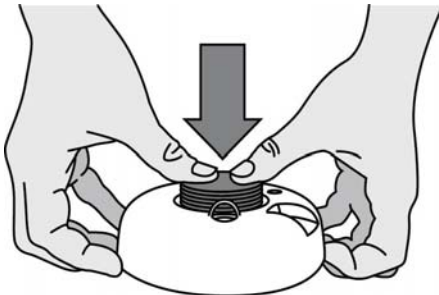


Figure 5 Push down on the optical chamber

## 2.4 Select the Frequency Band

EchoStream products are able to use a range of radio frequencies, and must be configured for your geographic area. This product ships with a default frequency range of 902-928 MHz for use in North America. If you are using the product in North America, skip to 2.5, "Set CleanMe®/Low Battery Reporting"; if you are using the product in Australia or New Zealand, you will need to configure the transmitter.

- Place a selection jumper on the frequency band selection pins appropriate to your geographic area.
  - Place the jumper on the right two pins, marked NZ, to set the frequency range to 921-928 MHz for New Zealand
  - Place the jumper on the left two pins, marked AUS, to set the frequency range to 915-928 MHz for Australia.
- Press the reset button to complete configuration.

**Caution:** When pressing the reset button, make sure you don't also touch the frequency band selection pins. Touching the frequency band selection pins while pressing the reset button can inadvertently set the device to the wrong frequency band.

## 2.5 Set CleanMe®/Low Battery Reporting

At the factory, the jumper on the low battery/CleanMe selection pins is installed at the Low Bat position. This combines the low battery signal with a signal indicating the detector needs cleaning, reporting either condition as a low battery. If you want to use this combined condition indication, skip to 2.6, "Register the EN1243".

If multiple indication is desired so that the low battery and CleanMe are reported as separate conditions, enable wireless reporting of the CleanMe status.

- To enable CleanMe reporting as a separate condition, move the jumper on the Low Bat/Clean selection pins to the Clean position.

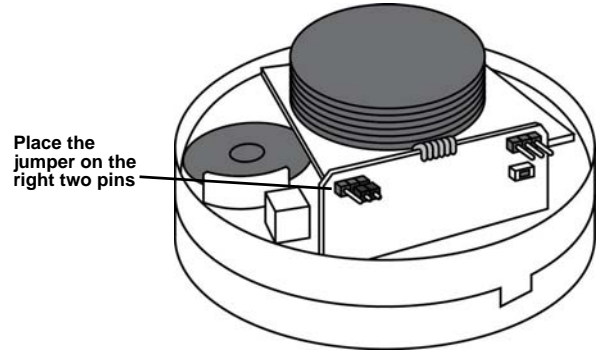


Figure 6 Move the jumper to the right two Clean pins

- Press the reset button.

**Note:** CleanMe/Low battery messages are suppressed when an alarm is being transmitted.

**Note:** Even if CleanMe notification is disabled, the sensitivity test will still indicate detector condition.

## 2.6 Register the EN1243

The EN1243 must be registered to function in your EchoStream system. Refer to your receiver, network coordinator or control panel manual for registration instructions. Inovonics recommends all EchoStream transmitters be supervised.

- When prompted, press the EN1243 reset button to complete registration.

## 2.7 Mount the EN1243

- Replace the EN1243 housing.
- Replace the EN1243 sensor cap.
- Use the provided anchors and screws to mount the EN1243's mounting base, paying careful consideration to the following best practices:

**Caution:** Regulations pertaining to smoke detector installations vary. For more information, contact your local fire department or local authority having jurisdiction.

- Install a minimum of two smoke detectors in any household.
- Put a smoke detector in the hallway outside of every bedroom area.
- Put a smoke detector on every level of a multi-level residence.
- In rooms with sloped ceilings, install smoke detectors 0.9m (3 feet) measured down from the highest point of the ceiling.
- Install basement detectors on the ceiling as close to the center of the room as possible. If this is not practical, install on the ceiling no closer than 10cm (4 inches) from any wall or corner.
- If ceiling mounting is not practical, install on an inside wall between 10 and 15cm (4 and 6 inches) from the ceiling.
- Put smoke detectors at both ends of a bedroom hallway if the hallway is more than 9m (30 feet) long. Large rooms over 84 square meters (900 square feet) require more than a single detector.
- Areas with rough ceilings or short, transom-type walls coming down from the ceiling require additional smoke detectors.
- Install second-floor smoke detectors on the ceiling at the top of the first-to-second floor stairwell. Be sure that no door or other obstruction blocks the path of smoke to the detector.

Do not locate detectors:

- To a drop ceiling tile; mount it to a metal runner.
- In or near areas such as kitchens or garages, where smoke or vehicle exhausts normally occur (protect these areas with heat-detection only devices, not with smoke detectors); near furnaces, hot water heaters, or gas space heaters.
- In damp or very humid areas, or next to bathrooms with showers. Install detectors at least 1.5m (5 feet) away from bathrooms.
- In very cold or very hot areas.
- In dusty, dirty, or insect infested areas.
- Near fresh air inlets or returns or excessively drafty areas. Air conditioners, heater, fans, and fresh air intakes and returns can drive smoke away from smoke detectors.

- In dead air spaces at the top of a peaked ceiling or wall/ ceiling intersect. Dead air may prevent smoke from reaching a smoke detector.
- Near fluorescent light fixtures. Install smoke detectors at least 3m (10 feet) away from fluorescent light fixtures.
- Between protruding ceiling structures such as beams or walls which can create dead air spaces and may prohibit smoke from reaching the detector.

**Caution:** All detectors are subject to possible compromise or failure-to-warn for a variety of reasons. For example: Smoke detectors cannot detect smoke in chimneys, walls, roofs, or smoke blocked by a closed door; detectors may not detect smoke on other levels of the building; detectors may not warn in time when fires are caused by smoking in bed, explosions, improper storage of flammables, overloaded electrical circuits, or other hazardous conditions.

15. Attach the detector to the mounting base.

**Note:** The base will not fit properly if the batteries are not installed.

### 3 Test the EN1243

**Caution:** To avoid a fire department dispatch, contact the central monitoring station or, if possible, put the system into test mode.

There are two ways to test the EN1243 smoke detector. The sensitivity test should be performed every week; the smoke test should be performed at least once a year. Both tests activate the alarm sounder and send alarm signals.

The EN1243 should also be tested after initial registration, as well as each time the smoke chamber is changed or the batteries are replaced.

#### 3.1 Smoke Test

1. Use aerosol simulated smoke, such as ESL Smoke! In a Can® (ESL Part No. SM-200) to perform the smoke test. The LED will remain on while the built-in transmitter sends an alarm signal, and the detector will produce a three-beep pattern.
2. Press the test/silence button to end the test.

The detector automatically resets when smoke is no longer present. A detector that fails to activate may require cleaning. If a detector still fails to activate after cleaning, return the unit for service.

#### 3.2 Sensitivity Test

1. Press and hold the test button for four seconds, then release it. The LED will flash corresponding to the detector's sensitivity.

Flashes	Detector Condition/Action
1	Self-diagnostics failure. Return detector for service/ replacement.
2-3	Detector is becoming insensitive. Clean the detector (see "Clean the EN1243") and retest. If error persists, replace detector.
4-7	Detector is within normal sensitivity range.
8-9	Detector is becoming too sensitive. Verify that the smoke chamber is snapped down securely. Clean the detector and retest.

During this test, the control panel, serial receiver or network coordinator should receive an alarm, followed a few seconds later by a restoral.

If the control device fails to respond, it is possible the EN1243 failed to reset properly when the batteries were installed. To force a reset, remove the batteries from the EN1243 for a least 30 seconds, reinstall them, press the reset button, then retest as described above.

### 4 Clean the EN1243

Clean the detector cover with a dry or damp cloth as needed to keep it free from dust and dirt. Clean the detector interior and replace the optical chamber at least once each year. Use only ESL model 211 optical chambers for replacement. To clean the detector chamber:

1. Remove the detector body from the mounting base.
2. Remove the batteries.
3. Slide a flat-blade screwdriver in the slot on the detector cap and gently push the handle down to pry the cap off.
4. Squeeze the optical chamber where indicated and pull it up and away from the detector. Discard.
5. Use a soft-bristled brush to remove dust and dirt from the smoke chamber base.

6. Align the new optical chamber with the base and snap it down into place.
7. Replace the detector cap.
8. Reinstall the batteries.
9. Replace the battery cover.
10. Reattach the detector to the mounting base.

**Note:** The base will not fit properly if the batteries are not installed.

11. Perform the sensitivity test.

## 5 Television and Radio Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## 6 FCC Part 15 and Industry Canada Compliance

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## 7 Specifications

Dimensions: Detector: 5.4" x 2.4" (14.2cm x 6.1cm) Base: 5.4" x 0.46" (13.7cm x 1.17cm).

Install temperature: 32°F to 100°F (-0°C to 38°C).

Humidity: 10% to 90% non-condensing.

Battery: 2 3V-Lithium batteries. Panasonic CR123A is recommended.

Operating frequency: 915-928 MHz (Australia), 921-928 MHz (New Zealand), 902-928 MHz (USA).

Average alarm current: 120mA.

Average standby current: 35µA.

Typical test current: 2mA Low Battery.

Chirp rate: 1 every 45 ± 2 sec.

Heat alarm, fixed: 135°F +/- 5°F (57.2°C +/- 2.8°C).

Heat alarm rate of rise: 15°F/min > 105°F (8.3°C/min > 40.6°C).

UL listings: UL 217.

**Note:** The EN1243 is not a CSFM approved smoke alarm, per California Health and Safety Code Section 13114 (State Fire Marshal Information Bulletin 14-007).

## 8 US Patent Numbers

- 7,154,866.
- 7,554,932.
- 7,746,804.
- Other patents pending.