ESL
Universal Wireless
Smoke Alarm/Detector

56X - UL 217 Smoke Alarm Series
57X - UL 268 Smoke Detector Series

Installation Instructions

interlogix™

SECURITY & LIFE SAFETY GROUP

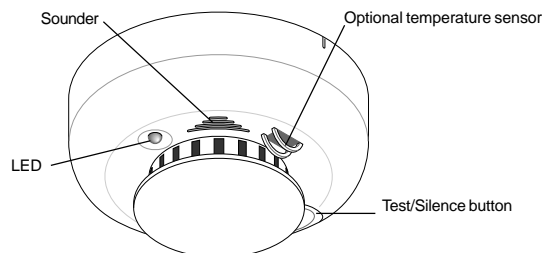CADDX | ESL | GBC | ITI | SENTROL

Figure 1 - Alarm/Detector Features

Description

The ESL smoke alarm/detector is a Learn Mode™, wireless sensor that uses photoelectric technology with a self contained alarm siren, a low battery annunciator, and a status LED. The smoke alarm/detector is part of a security/fire alarm system and communicates with the system control panel.

Depending on the model, the smoke alarm/detector provides the following features:

Self-diagnostics. The ESL Universal Series smokes monitor their own sensitivity and operational status. If the smoke alarm/detector drifts out of the UL listed sensitivity range or fails internal diagnostics, it extinguishes its LED and sends a trouble signal to the control panel.

Base tamper switch sends a trouble signal transmission to the control panel when the smoke alarm/detector is removed from its mounting base.

Integrated fixed 135°F temperature and rate of rise heat detector trips an alarm based on high temperature detected or rapidly rising temperature rate (15° minimum) (models 562STU and 572STU only).

Transmitted Signal Outputs

Depending on the model, the smoke alarm/detector transmits the following signals to the control panel:

- Alarm
- Alarm restore
- Tamper
- Low battery
- Trouble signal
- Supervisory

Selecting a Location

Selecting a suitable location is critical to the operation of smoke alarms/detectors. This equipment should be installed in accordance with the National Fire Protection Association's (NFPA) Standard 72. See Figure 2.

A-8-1.2.1.a *Where to Locate the Required Smoke Alarms/Detectors in Existing Construction.*

The major threat from fire in a family living unit occurs at night when everyone is asleep. The principal threat to persons in sleeping areas comes from fires in the remainder of the unit. Therefore, a smoke alarm/detector(s) is best located between the bedroom areas and the rest of the unit. In units with only one bedroom area on one floor, the smoke alarm/detector(s) should be located as shown in Figure 2 A.

In family living units with more than one bedroom area or with more than one floor, more than one smoke alarm/detector is required, as shown in Figure 2 B.

In addition to smoke alarms/detectors outside of the sleeping areas, the installation of a smoke alarm/detector on each additional story of the family living unit, including the basement, is required. These installations are shown in Figure 2 C. The living area smoke alarm/detector should be installed in the living room or near the stairway to the upper level, or in both locations. The basement smoke alarm/detector should be installed in close proximity to the stairway leading to the floor above. Where installed on an open-joisted ceiling, the alarm/detector should be placed on the bottom of the joists. The detector should be positioned relative to the stairway to intercept smoke coming from a fire in the basement before the smoke enters the stairway.
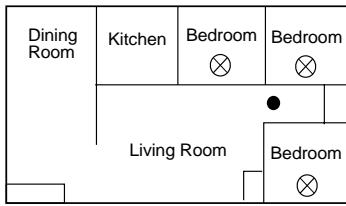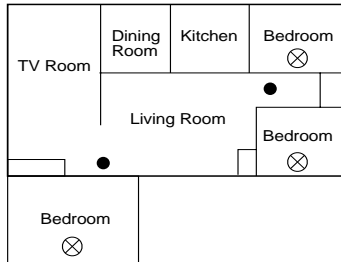
Figure 2 A - Alarm/Detector Placement

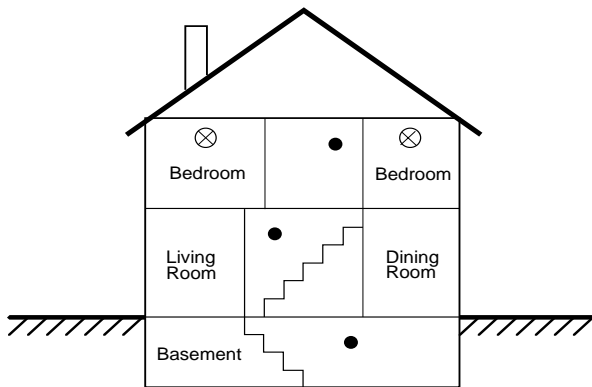**Figure 2 B - Alarm/Detector Placement**

Figure 2 C - Alarm/Detector Placement

● = Required smoke alarms/detectors
⊗ = Additional smoke alarms/detectors required for new construction

A-8-1.2.1.b *Where to Locate the Required Smoke Alarms/ Detectors in New Construction.*
All of the smoke alarms/detectors specified in A-8-1.2.1.a for existing construction are required and, in addition, a smoke alarm/detector is required in each bedroom.

A-8-1.2.1.c *Are More Smoke Alarms/Detectors Desirable?*
The required number of smoke alarms/detectors might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke alarms/detectors. For this reason, it is recommended that the householder consider the use of additional smoke alarms/detectors for those areas for increased protection. The additional areas include the basement, bedrooms, dining room, furnace room, utility room, and hallways not protected by the required smoke alarms/detectors. The installation of smoke alarms/detectors in kitchens, attics (finished or unfinished), or garages is not normally recommended, as these locations occasionally experience conditions that can result in improper operation.

Important !
Regulations pertaining to smoke alarm/detector installations vary from state to state. For more information, contact your local fire department or local authority having jurisdiction.

In addition to NFPA 72, use the following location guidelines to optimize performance and reduce the chance of false alarms from the alarm/detector:

• Locate ceiling-mounted smoke alarms/detectors in the center of a room or hallway at least 4 inches from any walls or partitions.

• Locate wall-mounted smoke alarms/detectors so the top of the alarms/detector is 4 to 12 inches below the ceiling.

• Locate in a suitable environment as follows:

  - Temperature between 40°F (4.4°C) and 100°F (37.8°C)

  - Humidity between 0 and 95% non-condensing

• Locate away from air conditioners, heating registers and any other ventilation source that may interfere with smoke entering the alarm/detector.

• Mount smoke alarms/detectors on a firm permanent surface, typically a stud or metal runner.

• Locate away from large metallic objects.

Installing the Alarm/Detector

1. Slide the battery compartment cover away from the alarm/detector to unsnap it and lift it off. See Figure 3.

2. Observing proper polarity, insert the two lithium batteries provided into the alarm/detector battery compartment and replace the battery compartment cover.

3. Making sure that the unit is removed from its base, put the panel in program mode/Learn Mode™.

4. Remove the red plastic dust cover from the alarm/detector. The alarm/detector is shipped with a dust cover for protection on construction sites with dusty environments.

5. Press the test/silence button until the panel indicates that the sensor has been enrolled.

6. Disconnect the alarm notification appliances, service release devices, and extinguishing systems and test the communication between the control panel and each smoke alarm/detector before permanently mounting the alarms/detectors as follows:

   - Press the test/silence button on the alarm/detector for 2 seconds. The alarm/detector sends a test signal to the control panel.

   - At the control panel, verify the test signal was received and the RF signal strength is adequate. If no signal is received or the RF signal is low, relocate the alarm/detector and retest.

7. Using the two screws and anchors provided, mount the base.

8. Attach the alarm/detector to the mounting base as follows:

   - Line up the raised tab on the lip of the alarm/detector with the slot on the lip of the mounting base. See Figure 3.

   - Insert the alarm/detector into the base and turn clockwise approximately 15 degrees. It should snap firmly into place.

9. Test the communication between the control panel and each smoke alarm/detector as follows:

   - One at a time, press the test/silence button on the alarm/detector for 2 seconds. The alarm/detector sends a test signal to the control panel.

   - At the control panel, verify the test signal was received.

10. Test each alarm/detector (see *Smoke Testing the Alarm/Detector)* and reconnect all alarm notification appliances, service release devices, and extinguishing systems.
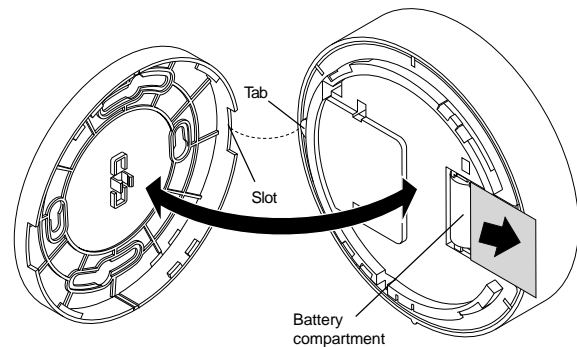
Important !

The control panel alarm and all auxiliary functions should be verified for a complete test of the system.

Figure 3 - Alarm/Detector-to-Base Alignment

Smoke Testing the Alarm/Detector

Smoke alarms/detectors should be tested in place annually using smoke or Smoke! in a Can. Follow the instructions on the canned smoke or use the following steps to test the alarm/detector with smoke:

1. Hold a smoldering punk or cotton wick close to the smoke entry openings.

2. Gently direct the smoke into the alarm/detector for 20 seconds or until an alarm is indicated.

BE SURE TO PROPERLY EXTINGUISH THE SMOKE SOURCE AFTER TESTING! The alarm/detector LED should remain on while the built-in transmitter sends an alarm signal to the control panel. The alarm/detector will sound a temporal rhythm until the test/silence button is pressed. The alarm/detector automatically resets when smoke is no longer present.

Testing the Alarm/Detector Sensitivity

The ESL Universal Wireless Series provides a sensitivity level test mode that allows you to check the alarm/detector sensitivity using the test/silence button and the LED indicator on the alarm/detector as follows:

1. Press the test/silence button on the alarm/detector for 2 seconds. The alarm/detector performs a test, and the LED flashes one to nine times.

2. Count the number of LED flashes and use the following table to determine the status of the alarm/detector sensitivity and what action to take, if any.

Flashes	Obscuration (Approx)	Indication	Action
1	N/A	Unserviceable hardware fault detected.	Reset unit by removing batteries and rerun sensitivity test. If the error persists, replace the unit.
2-3	N/A	Alarm/Detector is not sensitive enough.	Clean the unit. Reset unit by removing batteries and rerun sensitivity test. If the error persists, replace the unit.
4	3.1%/ft	Alarm/Detector is within normal sensitivity range.	N/A
5	2.6%/ft		
6	2.1%/ft		
7	1.6%/ft		
8-9	N/A	Alarm/Detector is too sensitive.	Verify that the smoke chamber is snapped down securely. Clean unit.

After the flashes, if the sensitivity is within limits and all other tests pass, the smoke alarm/detector goes into alarm and sends a test signal to the panel, then resets after 5 seconds.

If the sensitivity is not within limits, or an unserviceable hardware fault is detected, the LED extinguishes until the alarm/detector is serviced and the built-in transmitter sends a trouble signal to the control panel.
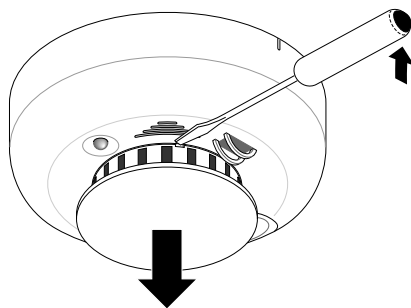

Figure 4 - Removing Alarm/Detector Cap

Understanding the Test/Silence Button

Depending on the model, the test/silence button on the smoke alarm/detector performs three functions as follows:

Testing = Press the test/silence button for 2 seconds. The alarm/detector performs a sounder test (UL 217 models only) and a sensitivity test and then sends a test signal to the control panel.

Silence alarm = Press to silence the sounder during an alarm. After a few minutes, the sounder will resume low battery if smoke is still present.

Silence low battery chirp = Press to silence a low battery chirp. The low battery chirp resumes after 24 hours if the condition is not corrected.

Understanding the LED

The LED on the ESl Universal Wireless Series indicates the status of the alarm/detector as follows:

FLASHING = Flashes every 9 seconds to indicate normal operation.
ON = Detects smoke, sending an alarm.
OFF = Trouble. Maintenance is required. Check the control panel to determine what action to take. If the unit has a hardware fault, it will stop reporting supervision signals to the panel.

Attaching and Removing the Alarm/Detector

To remove the alarm/detector from the mounting base, grasp the alarm/detector and turn it counterclockwise approximately 15 degrees. The alarm/detector should snap off of the mounting base.

Attach the smoke alarm/detector to its mounting base as follows:

- Line up the raised tab on the lip of the smoke alarm/detector with slot on the lip of the mounting base. See Figure 3.

- Insert the smoke alarm/detector into the base and turn clockwise approximately 15 degrees. It should snap firmly into place.

When to Replace the Batteries

When the batteries are low, the alarm/detector sends a low battery signal to the control panel, waits several days and then chirps every 30 seconds until the batteries are re-placed. The sounder can be silenced for 24 hours by pushing the test/silence button. See *Specifications* for battery type list.

Replacing the Batteries

Use only 3V lithium batteries listed in *Specifications* in the alarm/detector.

1. Remove the alarm/detector from the mounting base. See *Attaching and Removing the Alarm/Detector.*

2. Slide the battery compartment cover away from the alarm/detector to unsnap it and lift it off. See Figure 3.

3. Remove the batteries and dispose of properly.

4. Observing correct polarity, insert two new 3V lithium batteries into the battery compartment and replace the cover.

5. Reattach the alarm/detector to the mounting base. See *Attaching and Removing the Alarm/Detector.*

6. Test the system.

Cleaning the Alarm/Detector

Clean the alarm/detector cover with a dry or damp (water) cloth as needed to keep it free from dust and dirt.

When necessary, clean the alarm/detector interior and **replace** the smoke chamber as follows:

1. Disconnect the alarm notification appliances, service release devices and extinguishing systems.

2. Remove the alarm/detector from its mounting base. See *Attaching and Removing the Alarm/Detector.*

3. Remove the batteries. See *Replacing the Batteries.*

4. Slide a flat-blade screwdriver in the slot on the alarm/detector cap and gently push the handle down to pry the alarm/detector cap up and off. See Figure 4.

5. Press in on the sides of the field replaceable optical chamber and pull it up and away from the optical base and discard. See Figure 5.

6. Blow out or use a soft-bristled brush to remove all dust and dirt from the optical base.

7. Line the new field replaceable optical chamber up with the optical base and snap into place both sides of the optical chamber.

8. Replace the alarm/detector cap as follows:

   -Line the alarm/detector cap up with the smoke alarm/detector.

   -Insert the alarm/detector cap into the smoke alarm/detector and turn clockwise approximately 15 degrees. It should snap firmly into place.

9. Observing the proper polarity, put the batteries back in the alarm/detector and replace the battery compartment cover.

10. Reattach the alarm/detector to its mounting base. See *Attaching and Removing the Alarm/Detector.*

11. Test the alarm/detector sensitivity and reconnect all alarm notification appliances, service release devices and extinguishing systems. See *Testing the Alarm/Detector Sensitivity.*

Important !

The control panel alarm and all auxiliary functions should be verified for a complete test of the system.

Maintaining the Alarm/Detector

The ESL Universal Wireless Series smoke alarms/detectors are designed for easy field service and maintenance. When installed and used properly, they require minimal maintenance.

The smoke alarm/detector should be tested weekly. See *Testing the Alarm/Detector Sensitivity* and *Smoke Testing the Alarm/Detector.*

When the alarm/detector requires maintenance, it extinguishes its LED and sends a signal to the control panel as described in the following table.

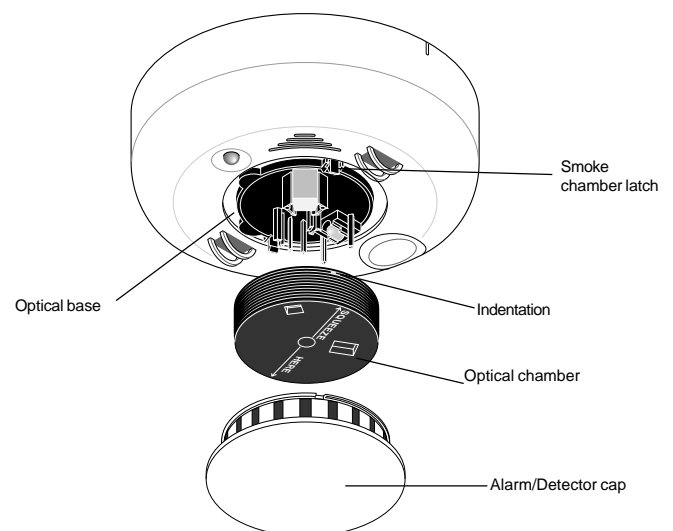| Signal	Maintenance required
Trouble signal	• Alarm/detector failed self test at power up. Perform a sensitivity test. See *Testing the Alarm/Detector Sensitivity.* If the problem persists, replace the alarm/detector. • Smoke alarm/detector sensitivity is out of range and the alarm/detector needs cleaning. See *Cleaning the Alarm/Detector.*
Low battery	Batteries in the alarm/detector are low. Replace the batteries.

Figure 5 - Alarm/Detector Parts

Fire Prevention and Escape

The purpose of an early warning smoke alarm/detector is to detect the presence of fire in its early stages and sound an alarm giving the occupants time to exit the premises safely.

Avoid Fire Hazards

No detection device can protect life in all situations. Therefore, safeguards should be taken to avoid potentially dangerous situations as follows:

- **Do not** smoke in bed.

- **Do not** leave children home alone.

- **Never** clean with flammable liquids such as gasoline.

- Properly store materials. Use general good housekeeping techniques to keep your home neat and tidy. A cluttered basement, attic, or other storage area is an open invitation to fire.

- Use combustible materials and electrical appliances carefully and only for their intended uses. **Do not** overload electrical outlets

- **Do not** store explosive and/or fast burning materials in your home.

- Even after proper precautions have been taken, fires can start. **Be prepared**.

In Case of Fire

In the event of a fire, you should do the following:

- Leave immediately. Don't stop to pack or search for valuables.

- In heavy smoke, hold your breath and stay low, crawl if necessary. The clearest air is usually near the floor.

- If you have to go through a closed door, carefully feel the door and door knob to see if undue heat is present. If they seem cool, brace your foot against the bottom of the door with your hip against the door and one hand against the top edge. Open it slightly. If a rush of hot air is felt, slam the door quickly and latch it. Unvented fire tends to build up considerable pressure. Be sure all members of the household realize and understand this danger.

- Use your neighbor's phone or a street fire alarm box to call the fire department. The job of extinguishing the fire should be left to the professionals.

Be Prepared

Practice the following steps to prepare you and your family in the event of a fire:

- Perform fire drills regularly. Use them to assure recognition of an alarm signal.

- Draw a floor plan and show two exits from each room. It is important that children be instructed carefully, because they tend to hide in times of crisis.

- Establish one meeting place outside the home. Insist that everyone meet there during an alarm. This will eliminate the tragedy of someone reentering the house for a missing member who is actually safe.

- If you have children and/or physically challenged people residing in your household, use window decals to help emergency personnel identify the sleeping quarters of these individuals.

Limited Warranty

ESL is a brand of Interlogix, Inc. The manufacturer warrants this smoke alarm/detector (except batteries) to be free from defects in material and workmanship under conditions of normal use for a term of 3 years from the date of manufacture.

During the warranty period, if an Interlogix product or any of its components becomes defective, it will be repaired or replaced without charge.

Out-of-warranty units will be repaired at the discretion of the manufacturer or, if not, a card will be forwarded to the customer suggesting a replacement unit and the cost of that unit.

This warranty does not apply to units which have been subject to abuse, misuse, negligence or accident, or to which any modifications, alterations or repairs have been made or attempted.

This warranty is extended only to the original purchaser of the smoke alarm/detector and may be enforced only by such person. During the warranty period, if the alarm/detector or any warranted components thereof becomes defective, it will be replaced or repaired without charge at the manufacturer's discretion if returned in accordance with the following instructions:

Obtain a Return Authorization Number by calling 1-800-648-7422 or 503-692-4052, then carefully pack it in a well padded and insulated carton and return, postal charges prepaid to:

Customer Service
Interlogix Security & Life Safety Group
12345 SW Leveton Drive
Tualatin, OR 97062-9938

A note should be included advising the nature of the malfunction. Care must be exercised in the proper packing of alarms/detectors returned under this warranty as Interlogix will not be responsible for warranty repairs to equipment damaged because of improper packing.

THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES, AND IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION FOR A PERIOD OF THREE YEARS FROM THE DATE OF MANUFACTURE. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE TO THE PURCHASER OR ANY OTHER PERSON FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE, INCLUDING WITHOUT LIMITATION DAMAGES FOR PERSONAL INJURY OR DAMAGES TO PROPERTY, AND HOWEVER OCCASIONED, WHETHER ALLEGED AS RESULTING FROM BREACH OF WARRANTY BY MANUFACTURER, THE NEGLIGENCE OF MANUFACTURER OR OTHERWISE. MANUFACTURER'S LIABILITY WILL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PRODUCT. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. UNLESS A LONGER PERIOD IS REQUIRED BY APPLICABLE LAW, ANY ACTION AGAINST MANUFACTURER IN CONNECTION WITH THIS SMOKE ALARM/DETECTOR MUST BE COMMENCED WITHIN ONE YEAR AFTER THE CAUSE OF ACTION HAS OCCURRED.

No agent, employee or representative of the Manufacturer nor any other person is authorized to modify this warranty in any respect. Repair or replacement as stated above is the exclusive remedy of the purchase hereunder. This warranty gives you specific legal rights and you also have other rights which vary from state to state.

⚠ **WARNING**

Smoke alarms/detectors CANNOT provide warnings for fires resulting from explosions, smoking in bed or other furniture, ignition of flammable liquids, vapors and gases, children playing with matches or lighters.

Warning! Limitations of Smoke Alarms/Detectors

Wireless smoke alarms/detectors are very reliable, but may not work under all conditions. No fire alarm/detector provides total protection of life or property. Smoke alarms/detectors are not a substitute for life insurance.

Smoke alarms/detectors require a source of power to work.
This smoke alarm/detector will not operate and the alarm will not sound if batteries are dead or not installed properly.

Unreliable transmission or receiving of radio frequency (RF) signals may occur if the system is not installed, located, serviced and repaired properly.
RF signals sent by this alarm/detector may be blocked or reflected by metal objects. Adjacent devices or systems using radio frequency signals may interfere with the operation of this alarm/detector. Test the system often to be sure that signals are being sent and received properly.

Smoke alarms/detectors may not be heard. A sound sleeper or someone who has taken drugs or alcohol may not may not awaken if the alarm/detector is installed outside a bedroom. Closed or partially closed doors and distance can block sound. This alarm/detector is not designed for the hearing impaired.

Smoke alarms/detectors may not always activate and provide warning early enough. Smoke alarms/detectors only activate when enough smoke reaches the detector. If a fire starts in a chimney, wall, roof, on the other side of closed doors, or on a different level of the property enough smoke may not reach the detector for it to alarm.

SMOKE ALARMS/DETECTORS ARE A SIGNIFICANT HELP IN REDUCING LOSS, INJURY AND EVEN DEATH. HOWEVER, NO MATTER HOW GOOD A DETECTION DEVICE IS, NOTHING WORKS PERFECTLY UNDER EVERY CIRCUMSTANCE AND WE MUST WARN YOU THAT YOU CANNOT EXPECT A SMOKE ALARM/DETECTOR TO ENSURE THAT YOU WILL NEVER SUFFER ANY DAMAGE OR INJURY.

FCC Compliance
This device complies with Part 15 of the FCC rules. Operation is subjuect 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 undesired operation.
FCC ID: B4Z-778A-Smoke

Specifications

Voltage...3VDC
Typical average standby current 25µA
Typical test current... 2mA
Typical alarm current 70mA
Battery type .... Duracell® 3V lithium, DL123A
........................Duracell® 3V lithium, MN1500
........................Panasonic® lithium, CR123A
..............................Sanyo® lithium, CR123A
.................Eveready Energizer® lithium, E91
Low battery threshold...2.70V causes low battery signal
Sounder .... 85dB at 10' temporal pattern
Low battery beep rate ....1 every 30 sec. ± 2 sec.
Sensitivity .... 2.3% ± 0.8%
Operating temperature ....40°-100°F (4.4°-37.8°C)
Operating humidity range .... 0-95% non-condensing
RFI Immunity .... 20V/m minimum; 0-1000MHz
Color ....white

Alarm/Detector dimensions........................ 5.5" x 2.3"
(14 cm x 5.6 cm)
Base dimensions ....4.88" x 0.38" (12.3 cm x 0.95 cm)
Drift compensation adjustment .... 0.5%/ft. max.
Heat detector specifications:
Rate of rise.......15°F/min>105°F (8.3°C/min>40.6°C)
Fixed ....135°F ± 5°F (57.2°C ± 2.8°C)
RF frequency...319.5 MHz
Transmitter ID............Pre-programmed, 1 Million codes
Modulation type..AM
Signal format..PWM
Signal types:
Outputs...................alarm, restore, tamper, low battery,
trouble,1 hour supervisory
Listings:
560 Series...UL 217
570 Series...UL 268
FCC ID..............................B4Z-778A-Smoke
Canada... XXXXX

Patents: 4,855,713 & 4,864,636 & 5,686,885 & 5,686.896