

ESL 560 Series 3V Standalone Smoke Alarm Installation Instructions



CSFM

Description

The ESL 560 Series smoke alarm is designed to be used as a standalone smoke alarm.

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

Smoke Alarm/base lock discourages unauthorized removal of the smoke alarm by requiring a screwdriver to remove the alarm from the base.

Optional integrated fixed 135°F temperature and rate of rise heat alarm trips an alarm based on temperature detected.

CleanMe™ Self-diagnostics (when UL listed with a transmitter) monitors its own sensitivity and operational status. If the smoke alarm drifts out of the UL listed sensitivity range or fails internal diagnostics, it extinguishes its LED.

Internal Signal Outputs

When the smoke alarm is listed with a transmitter it provides the following signals for interfacing:

- Alarm
- Alarm restore
- Low battery
- CleanMe™
- Maintenance alert

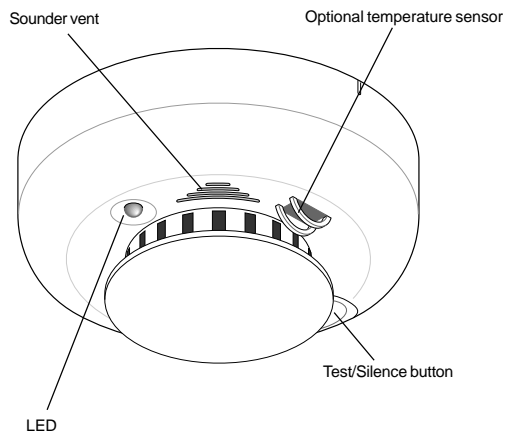


Figure 1 - Smoke Alarm Features

Selecting a Location

Selecting a suitable location is critical to the operation of smoke alarms. 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.C Are More Smoke Alarms Desirable?

The required number of smoke alarms might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke alarms. For this reason, it is recommended that the householder consider the use of additional smoke alarms 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. The installation of smoke alarms in kitchens, attics (finished or unfinished), or garages is not normally recommended, as these locations occasionally experience conditions that can result in improper operation.

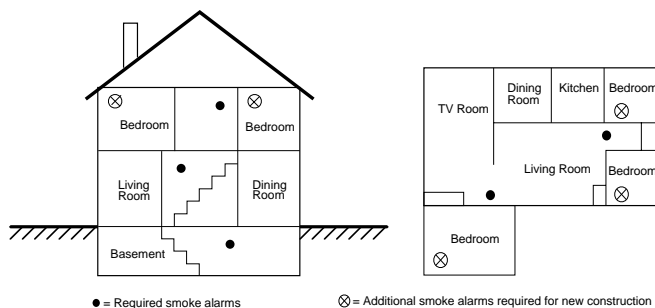


Figure 2 - Smoke Alarm Placement

Important: Regulations pertaining to smoke alarm 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:

- Locate ceiling-mounted smoke alarms in the center of a room or hallway at least 4 inches from any walls or partitions.
- Locate wall-mounted smoke alarms so the top of the alarm 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.
- Mount smoke alarms on a firm permanent surface.
- Locate away from large metallic objects when listed with a transmitter.

Installing the Alarm

1. If you are using the alarm/base lock, remove the two knockouts on the mounting base. See Figure 3.
 2. Slide the battery compartment cover away from the alarm to unsnap it and lift it off. See Figure 4.
 3. Observing proper polarity, insert two 3V lithium batteries into the alarm battery compartment and replace the battery compartment cover.
 4. Remove the red plastic dust cover from the alarm. The alarm is shipped with a dust cover for protection on construction sites with dusty environments.
 5. Using the two screws and anchors provided, mount the base.
 6. Attach the alarm to the mounting base as follows:
 - Line up the raised tab on the lip of the alarm with the slot on the lip of the mounting base. See Figure 4.
 - Insert the smoke alarm into the base and turn clockwise approximately 15 degrees. It should snap firmly into place.
- Important:** The alarm cannot be attached to the mounting base if no batteries are installed.
7. Test the alarm (see *Smoke Testing the Alarm*).

Smoke Testing the Smoke Alarm

Smoke alarms should be tested in place annually using smoke or canned aerosol simulated smoke. Follow the instructions on the canned smoke or use the following steps to test the alarm with smoke:

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

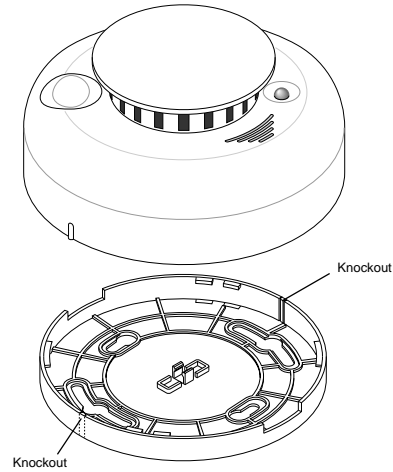


Figure 3 - Base Lock Knockouts

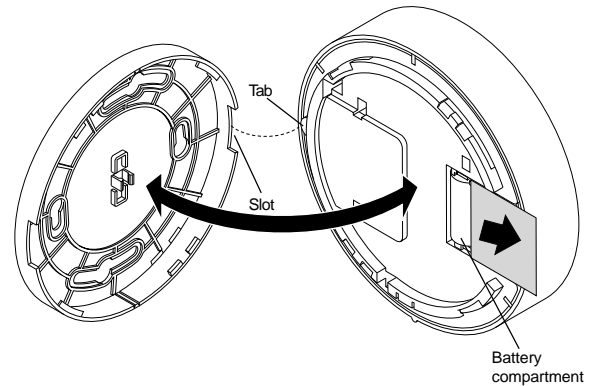


Figure 4 - Smoke Alarm-to-Base Alignment

smoke entry openings.

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

BE SURE TO PROPERLY EXTINGUISH THE SMOKE SOURCE AFTER TESTING! The alarm LED should remain on and the alarm will sound a temporal rhythm until the Test/Silence button is pressed. The alarm automatically resets when smoke is no longer present.

Understanding the Test/Silence Button

The Test/Silence button on the alarm performs three functions as follows:

Testing = Press the Test/Silence button for 2 seconds. The alarm performs a sounder test and a sensitivity test.

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

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

Testing the Alarm Sensitivity

The smoke alarm provides a sensitivity level test mode that allows you to check the smoke alarm sensitivity using the Test/Silence button and the LED indicator on the alarm as follows:

1. Press the Test/Silence button on the smoke alarm for 2 seconds. Once the test starts, the alarm LED flashes one to nine times.
2. Count the number of times the LED flashes and use the following table to determine the status of the smoke alarm sensitivity and what action to take, if any.

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

After the flashes, if the sensitivity is within limits and all other tests pass, the alarm goes into alarm and resets after 5 seconds.

If the sensitivity is not within limits, or an unserviceable hardware fault has been detected, the smoke alarm LED extinguishes until the alarm is serviced.

Attaching and Removing the Smoke Alarm

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

To remove the alarm from the mounting base when the alarm/base lock is used, insert a small screwdriver into the locking tab slot on the side of the base and press in while simultaneously turning the alarm counterclockwise 15 degrees. See Figure 5.

Attach the smoke alarm to its mounting base as follows:

- Line up the raised tab on the lip of the smoke alarm with slot on the lip of the mounting base. See Figure 4.
- Insert the smoke alarm into the base and turn clockwise approximately 15 degrees. It should snap firmly into place.

Understanding the LED

The LED on the alarm indicates the status of the alarm as follows:

FLASHING = Flashes every 9 seconds to indicate normal operation.

ON = Detects smoke.

OFF = Trouble or maintenance is required.

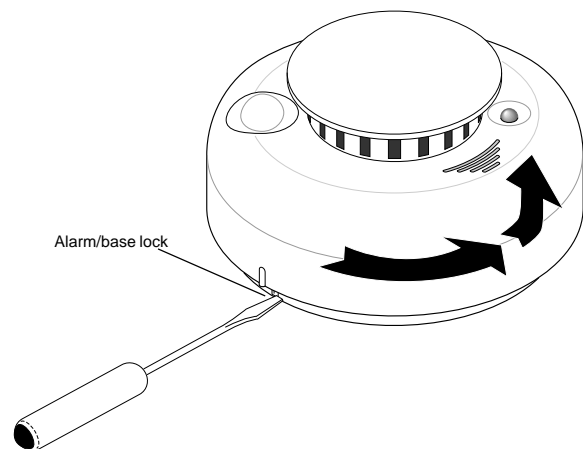


Figure 5 - Smoke Alarm/Base Lock

When to Replace the Batteries

The 560 Series smoke alarm requires two 3V lithium A batteries as listed on the battery compartment cover. The required batteries are available where other batteries are sold.

Battery life is a minimum of 1 year and varies depending on how often the alarm is tested. When the batteries are low, the alarm extinguishes its LED and chirps every 30 seconds until the batteries are replaced. The sounder can be silenced for 24 hours by pushing the Test/Silence button.

Replacing the Batteries

Use only 3V lithium A batteries as listed on the battery compartment cover.

1. Remove the alarm from the mounting base. See *Attaching and Removing the Alarm*.
2. Slide the battery compartment cover away from the alarm to unsnap it and lift it off. See Figure 4.
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 to the mounting base. See *Attaching and Removing the Alarm*.
6. Test the alarm (see *Smoke Testing the Alarm*).

Cleaning the Alarm

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

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

1. Remove the alarm from its mounting base. See *Attaching and Removing the Alarm*.
2. Remove the batteries. See *Replacing the Batteries*.
3. Slide a flat-blade screwdriver in the slot on the alarm cap and gently push the handle down to pry the cap up and off. See Figure 6.
4. Press in on the sides of the smoke chamber and pull it up and away from the alarm and discard. See Figure 7.
5. Blow out or use a soft-bristled brush to remove dust and dirt from the smoke chamber base.
6. Line the new smoke chamber up with the smoke chamber base and snap down into place.
7. Replace the alarm cap as follows:
 - Line the cap up with the smoke alarm.
 - Insert the cap into the smoke alarm and turn clockwise approximately 15 degrees. It should snap firmly into place.
8. Observing the proper polarity, put the batteries back in the alarm and replace the battery compartment cover.
9. Reattach the alarm to its mounting base. See *Attaching and Removing the Alarm*.
10. Test the alarm sensitivity (See *Testing the Alarm Sensitivity*).

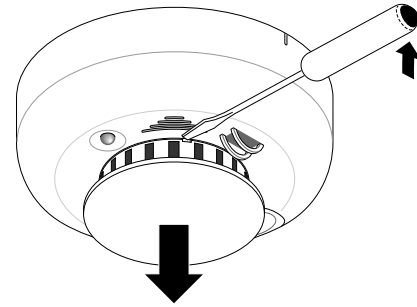


Figure 6 - Removing Alarm Cap

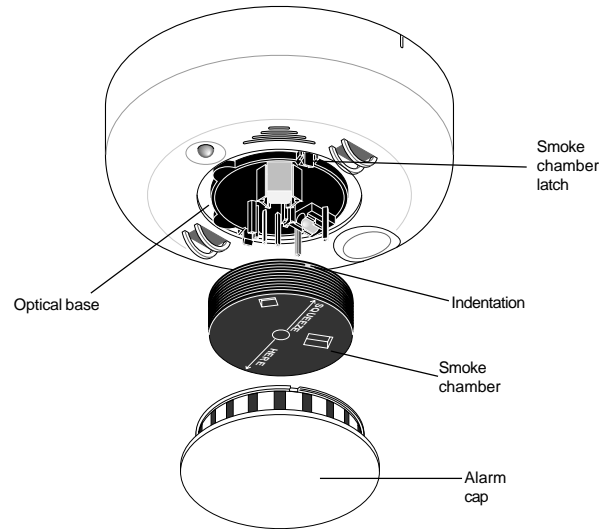


Figure 7 - Alarm Parts

Maintaining the Alarm

The 560 Series smoke alarms are designed for easy field service and maintenance. When installed and used properly, they require minimal maintenance.

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

When a 560 Series alarm listed with a transmitter requires maintenance, it extinguishes its LED and initiates the external signals described in the following table.

Signal	Maintenance required
CleanMe	Smoke detector sensitivity is out of range and needs cleaning. See <i>Cleaning the Detector</i> .
Maintenance alert	Detector failed to power up on self test. Perform a sensitivity test. See <i>Testing the Detector Sensitivity</i> . If the problem persists, replace the detector.
Low battery	Batteries in the detector are low. Replace the batteries.

If the 560 alarm is used as a standalone detector, refer to *Testing the Alarm Sensitivity*.

Fire Prevention and Escape

The purpose of an early warning smoke alarm 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 house-keeping 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 realizes and understands 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.



WARNING

Smoke alarms **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.

Limited Warranty

ESL is a brand name of Sentrol. The manufacturer warrants this smoke alarm (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 a Sentrol 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, 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 and may be enforced only by such person. During the warranty period, if the alarm or any warranted components thereof becomes defective, at the manufacturer's discretion, it will be replaced or repaired without charge 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
Sentrol
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 returned under this warranty as Sentrol 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 3 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 MUST BE COMMENCED WITHIN ONE YEAR AFTER THE CAUSE OF ACTION HAS OCCURED.

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! LIMITATIONS OF SMOKE ALARMS

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

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

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

Smoke alarms may not always activate and provide warning early enough. Smoke alarms only activate when enough smoke reaches the alarm. 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 alarm for it to alarm.

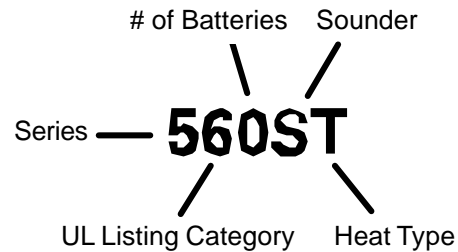
SMOKE ALARMS ARE A SIGNIFICANT HELP IN REDUCING LOSS, INJURY AND EVEN DEATH. HOWEVER, NO MATTER HOW GOOD A DETECTION DEVICE IS, NOTHING WORKS PERFECTLY UNDER EVERY CIRCUMSTANCE AND WE MUST WARN YOU THAT YOU CANNOT EXPECT A SMOKE ALARM TO ENSURE THAT YOU WILL NEVER SUFFER ANY DAMAGE OR INJURY.

Detach and leave with the end user

Specifications

Voltage.....3VDC
 Typical average standby current 25µA
 Typical test current..... 2mA
 Typical alarm current 70mA
 Battery life.....1 year (min)
 Battery type ...3V lithium, Duracell® DL123A, MN1500
 Sanyo® and Panasonic® CR123A
 Eveready Energizer® E91
 Low battery threshold..... low battery signal at 2.70V
 Sounder 85dB at 10' temporal pattern
 Low battery beep rate1 every 30 sec. ± 2 sec.

Sensitivity 2.3% ±0.8%
 Operating temperature40°-100°F (4.4°-37.8°C)
 Operating humidity..... 0-95% non-condensing
 Colorwhite
 Alarm dimensions 5.5" x 2.3" (14 cm x 5.6 cm)
 Base dimensions4.88" x 0.38" (12.3 cm x 0.95 cm)
 Drift compensation adjustment 0.5%/ft. max.
 Heat alarm specifications (T models):
 Rate of rise.....15°F/min>105°F (8.3°C/min>40.6°C)
 Fixed135°F ± 5°F (57.2°C ± 2.8°C)
 ListingsUL 217, CSFM



Product Ordering

Model	Description
560S	3V standalone smoke alarm, 85dB sounder UL217 (OEM customers call for wireless compatibility)
562S	3V standalone smoke alarm, two 3V lithium batteries, 85dB sounder UL217 (OEM customers call for wireless compatibility)
560ST	3V standalone smoke alarm, 85dB sounder, 135 degree fixed/rate of rise heat detector UL217 (OEM customers call for wireless compatibility)
562ST	3V standalone smoke alarm, two 3V lithium batteries, 85dB sounder, 135 degree fixed/rate of rise heat detector RL217 (OEM customers call for wireless compatibility)
Accessories	
SM-200	Smoke! in a Can (canned smoke) for functional testing of smoke alarms
SM-EXT 1	Smoke! in a Can extension tube
211	Replacement smoke chambers (set of 10)

SENTROL

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<http://www.sentrol.com>
U.S. & Canada: 800.547.2556
Technical Service: 800.648.7424
FaxBack: 1.800.483.2495

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