SENTROL

Wireless

4300 Series Wireless Smoke Detector

DESCRIPTION

The Sentrol 4300 Series smoke detector requires a Sentrol 4000 RF gateway receiver with Rev J or higher software and a compatible control panel sold separately. To install the detector, you will need the programming guide for the control panel.

Depending on the model, the detector provides the following features:

CleanMe™ self-diagnostics monitors its own sensitivity and operational status. If the 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.

Detector/base lock discourages unauthorized removal of the detector by requiring a screwdriver to remove the detector from the base.

Optional base tamper sends a trouble signal to the control panel when the detector is removed from its mounting base.

Optional mercury-tilt tamper sends a trouble signal to the control panel when the detector is not upside down and/or horizontal. Used for installations on removeable ceiling panels

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

Optional low temperature supervision sends a low temperature signal when the ambient temperature around the detector reaches approximately 43°F (6°C). A separate transmitter signal (secondary address) is assigned to a Critical Condition Monitoring(CCM) zone.

TRANSMITTED SIGNAL OUTPUTS

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

- Alarm
- Alarm restore
- Tamper
- Low battery
- CleanMe™
- Maintenance alert
- Supervisory
- Low temperature supervison

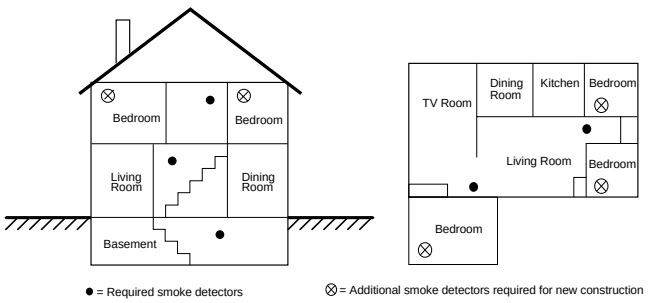

Figure 2 - Detector Placement

UL LISTED **CSFM**

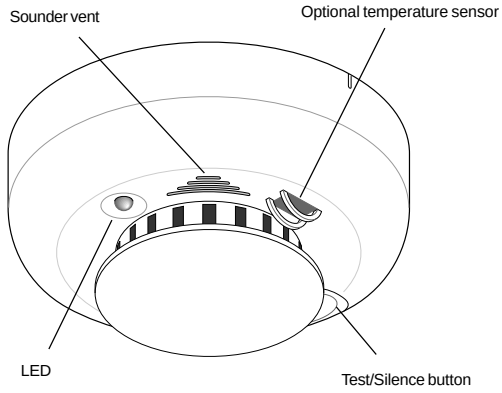

Figure 1 - Detector Features

SELECTING A LOCATION

Selecting a suitable location is critical to the operation of smoke 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.C *Are More Smoke Detectors Desirable?*
The required number of smoke detectors might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke detectors. For this reason, it is recommended that the householder consider the use of additional smoke 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. The installation of smoke 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 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 detector:

- Locate ceiling-mounted smoke detectors in the center of a room or hallway at least 4 inches from any walls or partitions.
- Locate wall-mounted smoke detectors so the top of the detector is 6 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 detector.
- Mount smoke detectors on a firm permanent surface. If the detector has a tilt tamper, it can be mounted on removable ceiling panels.
- Locate away from large metallic objects.

INSTALLING THE DETECTOR

1. If you are using the detector/base lock, remove the two knockouts on the mounting base. See Figure 3.
2. Slide the battery compartment cover away from the detector to unsnap it and lift it off. See Figure 4.
3. Observing proper polarity, insert the two lithium batteries provided into the detector battery compartment and replace the battery compartment cover.
4. Record the seven digit ID address from the label on the backside of the detector. This address must be programmed into the RF gateway receiver. See the control panel programming guide.

   For an L model detector, program the "Fire Address plus 1" secondary address into the panel in a separate non-fire CCM non-supervised or 24hr non-supervised auxiliary zone.
5. Program the RF gateway receiver and the control panel. See the control panel programming guide.
6. Remove the red plastic dust cover from the detector. The detector is shipped with a dust cover for protection on construction sites with dusty environments.
7. Disconnect the alarm notification appliances, service release devices, and extinguishing systems and test the communication between the control panel and each smoke detector before permanently mounting the detectors as follows:
   - Press the Test/Silence button on the detector for 2 seconds. The 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 detector and retest.
8. Using the two screws and anchors provided, mount the base.

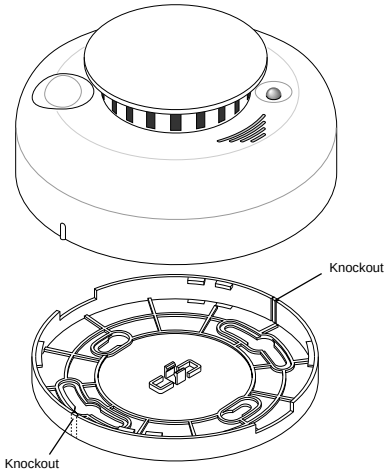

Figure 3 - Base Lock Knockouts

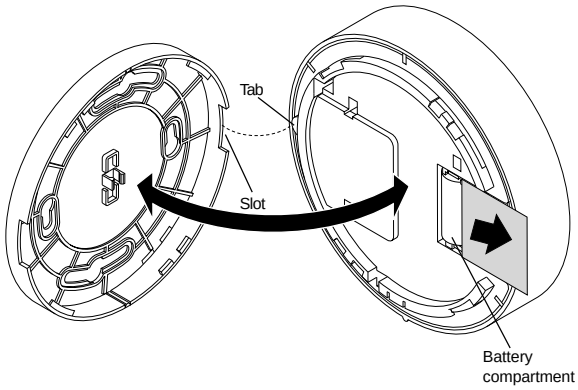

Figure 4 - Detector-to-Base Alignment

9. Attach the detector to the mounting base as follows:
   - Line up the raised tab on the lip of the detector with the slot on the lip of the mounting base. See Figure 4.
   - Insert the detector into the base and turn clockwise approximately 15 degrees. It should snap firmly into place.

   Important: The detector cannot be attached to the mounting base if no batteries are installed.
10. Test the communication between the control panel and each smoke detector as follows:
    - One at a time, press the Test/Silence button on the detector for 2 seconds. The detector sends a test signal to the control panel.
    - At the control panel, verify the test signal was received.
11. Test each detector (see *Smoke Testing the 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.

SMOKE TESTING THE DETECTOR

Smoke detectors 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 detector with smoke:

1. Hold a smoldering punk or cotton wick close to the smoke entry openings.
2. Gently direct the smoke into the detector for 20 seconds or until an alarm is indicated.

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

TESTING THE DETECTOR SENSITIVITY

The 4300 Series provides a sensitivity level test mode that allows you to check the detector sensitivity using the Test/Silence button and the LED indicator on the detector as follows:

1. Press the Test/Silence button on the detector for 2 seconds. The detector performs a test, and the 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 detector sensitivity and what action to take, if any.

Flashes	Obscuration (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%/ft	Detector is within normal sensitivity range.	N/A
5	2.6%/ft		
6	2.1%/ft		
7	1.6%/ft		
8-9	N/A	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 detector goes into alarm and resets after 5 seconds.

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

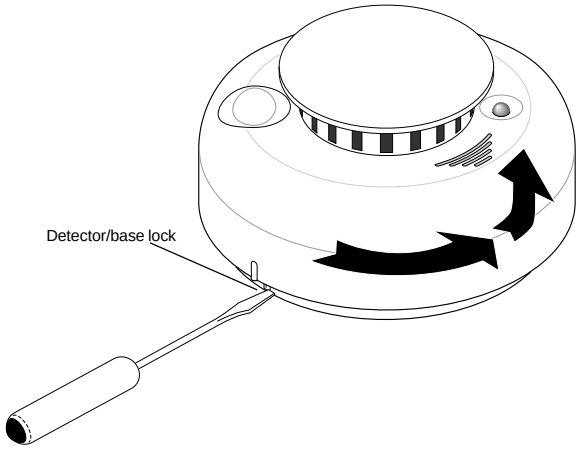

Figure 5 - Detector/Base Lock

UNDERSTANDING THE TEST/SILENCE BUTTON

Depending on the model, the Test/Silence button on 4300 Series performs three functions as follows:

Testing = Press the Test/Silence button for 2 seconds. The detector performs a sounder test (4310 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 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.

UNDERSTANDING THE LED

The LED on the 4300 Series indicates the status of the detector as follows:

FLASHING = Flashes every 9 seconds to indicate normal operation.
ON = Detects smoke, sending an alarm.
OFF = Trouble or maintenance is required. Check the control panel to determine what action to take.

ATTACHING AND REMOVING THE DETECTOR

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

To remove the detector from the mounting base when the detector/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 detector counterclockwise 15 degrees. See Figure 5.

Attach the smoke detector to its mounting base as follows:

- Line up the raised tab on the lip of the smoke detector with slot on the lip of the mounting base. See Figure 4.
- Insert the smoke 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 detector sends a low battery signal to the control panel, waits several days and then chirps every 30 seconds until the batteries are replaced. 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 detector.

1. Remove the detector from the mounting base. See *Attaching and Removing the Detector.*
2. Slide the battery compartment cover away from the detector 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 detector to the mounting base. See *Attaching and Removing the Detector.*
6. Test the system.

CLEANING THE DETECTOR

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

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

1. Disconnect the alarm notification appliances, service release devices and extinguishing systems.
2. Remove the detector from its mounting base. See *Attaching and Removing the Detector.*
3 Remove the batteries. See *Replacing the Batteries.*
4. Slide a flat-blade screwdriver in the slot on the detector cap and gently push the handle down to pry the cap up and off. See Figure 6.
5. Press in on the sides of the smoke chamber and pull it up and away from the detector and discard. See Figure 7.

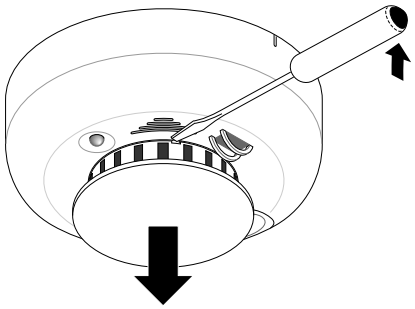

Figure 6 - Removing Detector Cap

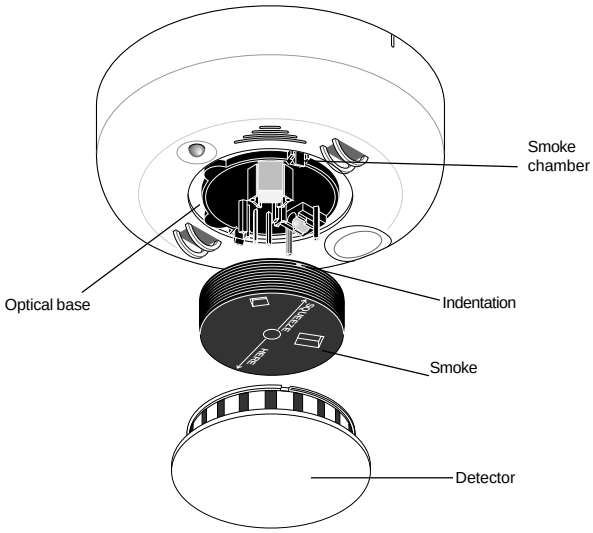

Figure 7 - Detector Parts

6. Blow out or use a soft-bristled brush to remove dust and dirt from the smoke chamber base.
7. Line the new smoke chamber up with the smoke chamber base and snap down into place.
8. Replace the detector cap as follows:

   -Line the cap up with the smoke detector.

   -Insert the cap into the smoke detector and turn clockwise approximately 15 degrees. It should snap firmly into place.
9. Observing the proper polarity, put the batteries back in the detector and replace the battery compartment cover.
10. Reattach the detector to its mounting base. See *Attaching and Removing the Detector.*
11. Test the detector sensitivity (See *Testing the Detector Sensitivity)* 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.

Detach and leave with the end user

MAINTAINING THE DETECTOR

The 4300 Series smoke detectors are designed for easy field service and maintenance. When installed and used properly, they require minimal maintenance.

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

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

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

FIRE PREVENTION AND ESCAPE

The purpose of an early warning smoke 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 at 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.

LIMITED WARRANTY

Sentrol is a brand name of SLC Technologies,Inc. The manufacturer warrants this smoke 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 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 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 detector and may be enforced only by such person. During the warranty period, if the 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
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 detectors 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 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 DETECTOR MUST BE COMMENCED WITHIN ONE YEAR AFTER THE CAUSE OF ACTION HAS ACCRUED.

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 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 DETECTORS

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

Smoke detectors require a source of power to work. This smoke 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 detector may be blocked or reflected by metal objects. Adjacent devices or systems using radio frequency signals may interfere with the operation of this detector. Test the system often to be sure that signals are being sent and received properly.

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

Smoke detectors may not always activate and provide warning early enough. Smoke 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 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 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 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 undesired operation.

FCC ID: A794300

INDUSTRY CANADA COMPLIANCE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

IC ID: 145 5102 1202

Detach and leave with the end user

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
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 (T, H Models):
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.....418MHz
Transmitter ID.....Pre-programmed, 1 Million codes
Modulation type.....FM, FSK
Signal format.....Manchester Encoded
Signal types:
Primary address.....alarm, restore, tamper, low battery, trouble(maint./CleanMe),1 hour supervisory
Secondary address(L models).....alarm, restore
Listings:
4310 Series .....UL 217, CSFM
4330 Series.....UL 268, CSFM
Approvals.....FCC, IC

PRODUCT ORDERING

Model	Description
4310S	Sentrol wireless smoke detector, two 3V lithium batteries, 85dB sounder, UL 217 Listed
4310SLT	Sentrol wireless smoke detector, two 3V lithium batteries, 85dB sounder, 135 degree fixed/rate of rise heat detector, low temperature option, UL 217 Listed
4330S	Sentrol wireless smoke detector, two 3V lithium batteries, 85dB sounder, base tamper, UL 268 Listed
4330SLTM	Sentrol wireless smoke detector, two lithium batteries, 85dB sounder, mercury tilt tamper,135 degree fixed/rate of rise heat detector, low temperature option, UL 268 Listed
Accessories	
SM-200	Smoke! in a Can (canned smoke) for functional testing of smoke detectors
SMEXT-1	Extension tube for Smoke! in a Can
211	Replacement smoke chambers (set of 10)

SENTROL

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