



# Care@Home™

## Smoke Detector User Guide

ESUGSC009

Version 1.5

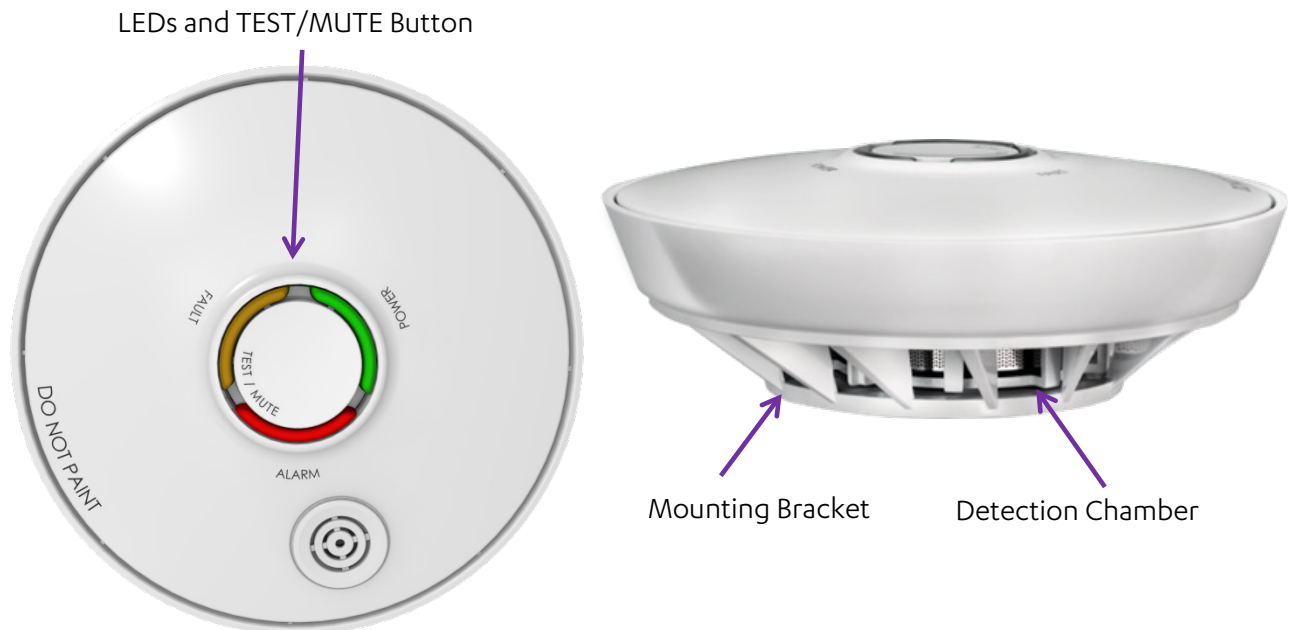
May 2019

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## 1. Overview

The Essence Smoke Detector (SK2) is a battery-powered, stand-alone, peripheral device for fire prevention which can communicate with the control panel.



The SK2 is designed for residential units only. The SK2 can be used in a family home or in an apartment building.



**WARNING!** Do not use this alarm in non-residential buildings. Warehouses, industrial buildings, commercial buildings, and other non-residential buildings require special fire detection and alarm systems.

The SK2 is not a substitute for a complete fire detection system for places where many people live or work, such as hotels, motels, dormitories, hospitals, nursing homes, and group homes of any kind, even if they once were family homes.

See NFPA 101 (Life Safety Code), NFPA71, 72A, 72B, 72C, 72D and 72E for fire alarm requirements in buildings not defined as households.

## 2. Installing the SK2

To install the SK2:

1. [Ensure you have the required items](#)
2. [Determine the best location](#)
3. [Set up the SK2](#)
4. [Test the SK2](#)

### 2.1. Required Items

Ensure you have the following:

- A drill with a standard 3/16 in. (5 mm) bit
- A standard Phillips screwdriver
- Two DIN 7982 cross recessed countersunk head tapping screws (3.5 x 32 mm) and wall anchors – provided
- Two 1.5 V AA alkaline batteries

### 2.2. Determining the Best Location

To determine the best location for the SK2, you must take account of the following:

- [Safety standards](#)
- [Target coverage](#)
- [Recommended locations](#)
- [Locations to avoid](#)



**NOTE:** Where there is any apparent conflict between any of the considerations when determining the best location for an SK2, the safety standards supersede all others.

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### 2.2.1 Safety Standards

THIS EQUIPMENT SHOULD BE INSTALLED IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION'S STANDARD 72 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269).

For your information, the National Fire Alarm and Signaling Code, NFPA 72, reads as follows:

29.5.1 \*Required Detection.

\*29.5.1.1 Where required by applicable laws, codes, or standards for a specific type of occupancy, approved single- and multiple-station smoke alarms shall be installed as follows:

- (1) \*In all sleeping rooms and guest rooms
- (2) \*Outside of each separate dwelling unit sleeping area, within 21 ft (6.4 m) of any door to a sleeping room, the distance measured along a path of travel
- (3) On every level of a dwelling unit, including basements
- (4) On every level of a residential board and care occupancy (small facility), including basements and excluding crawl spaces and unfinished attics
- (5) \*In the living area(s) of a guest suite
- (6) In the living area(s) of a residential board and care occupancy

### 2.2.2 Target Coverage

For **minimum** coverage, install an SK2:

- On each floor
- In each sleeping area

Install a minimum of two SK2 devices in any household.

For **maximum** coverage, install an SK2 in every:

- Room
- Hall
- Passage way
- Storage area
- Utility closet
- Basement
- Attic

Essence recommends installing an additional SK2 in each area separated by a door from another area covered by an installed SK2.

In multiple-family buildings, each residential unit should include smoke alarms.

### 2.2.3 Recommended Locations

For optimal detection, follow these recommendations when selecting an installation location for the SK2:

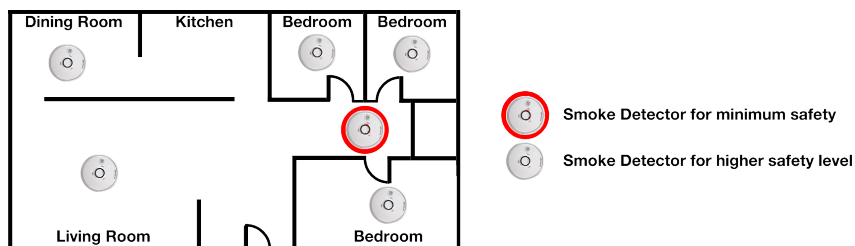
- Install on the ceiling, as close to the center as possible. If not possible, install on the ceiling no closer than 10 cm (4 in.) to any wall or corner.
  - In rooms with sloped, peaked, or gabled ceilings, mount the SK2 0.9 m (3 ft.) measured horizontally from the highest point of the ceiling.
  - If ceiling mounting is not possible and wall mounting is permitted by local, state, and other applicable laws and codes, mount on a wall 10 ~ 15 cm (4 to 6 in.) from the ceiling.



**NOTE:** Wall installations are not compatible with the EN 14604 standard.

- Install in the hallway outside every separate bedroom area.

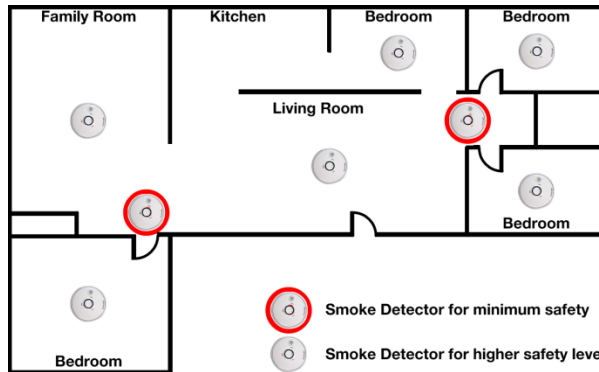
The following figure shows an example of recommended SK2 installation locations in a single residence with one bedroom area.



## Installing the SK2

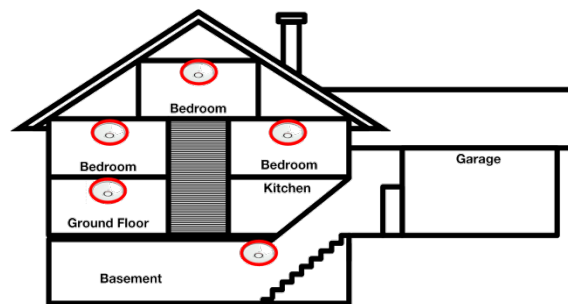
- Install two SK2 devices in homes with two bedroom areas.

The following figure shows an example of recommended SK2 installation locations in a single-floor residence with more than one bedroom area.



- Install on every floor of a multiple-floor residence.

The following figure shows an example of locations for installing smoke alarms in a multiple-floor residence with a smoke alarm installed on each floor and in each bedroom.



**WARNING!** Be sure doors or other obstructions do not block the path of smoke to the alarm.

- Install at both ends of a bedroom hallway, if the hallway is more than 12 m (40 ft.) long.
- Install inside every room where someone sleeps with the door partly or completely closed. The smoke could be blocked by the door. An SK2 installed in a hallway may not wake up the sleeper if the door is closed.
- Install in the basement at the bottom of the basement stairwell.
- For a two-floor residence, install at the top of the stairwell.



**WARNING!** As required by the California State Fire Marshal:

"Early warning" fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows:

- A smoke alarm installed in each separate sleeping area (in the vicinity, but outside of the bedrooms)
- Heat or smoke alarms in the living rooms, dining rooms, bedrooms, kitchens, hallways, attics, furnace rooms, closets, utility and storage rooms, basements, and attached garages.

## 2.2.4 Locations to Avoid

First, do not install the SK2 with a smoke alarm guard.

Second, installation in some locations can cause the SK2 to not work properly. Therefore, an SK2 installation location should **not** be:

- **In an air stream that has combustion particles.**

Combustion particles are by-products of something that is burning. Therefore, avoid areas where combustion particles are present, such as:

- A kitchen with few windows or poor ventilation
  - A garage where there may be vehicle exhaust
  - Near a furnace
  - Near a hot water or space heater
- **Less than 6 m (20 ft.) from places where combustion particles are normally present.** If that distance is not possible, install the SK2 as far away from the combustion particles as possible. Provide good ventilation in such places.
  - **A damp or humid area, or near a bathroom with a shower.** Install the SK2 at least 3 m (10 ft.) from bathrooms
  - **A cold or very hot area** including unheated buildings and outdoor rooms
  - **A very dusty or dirty area**
  - **A drafty area, or one near a fresh air vent, air conditioner, heater, or fan**
  - **A dead air space near the top of a peaked roof or in the corners formed by ceilings and walls**
  - **An insect-infested area**

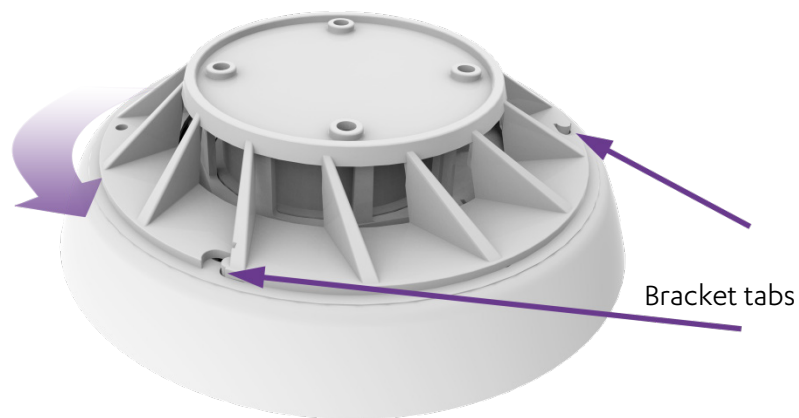


- **Near fluorescent lights.** Install SK2 devices at least 1.5 m (5 ft.) from fluorescent lights.
- Any location where the normal ambient temperature is below 4.4°C (40°F) or above 37.8°C (100°F)

### 2.3. Setting Up an SK2

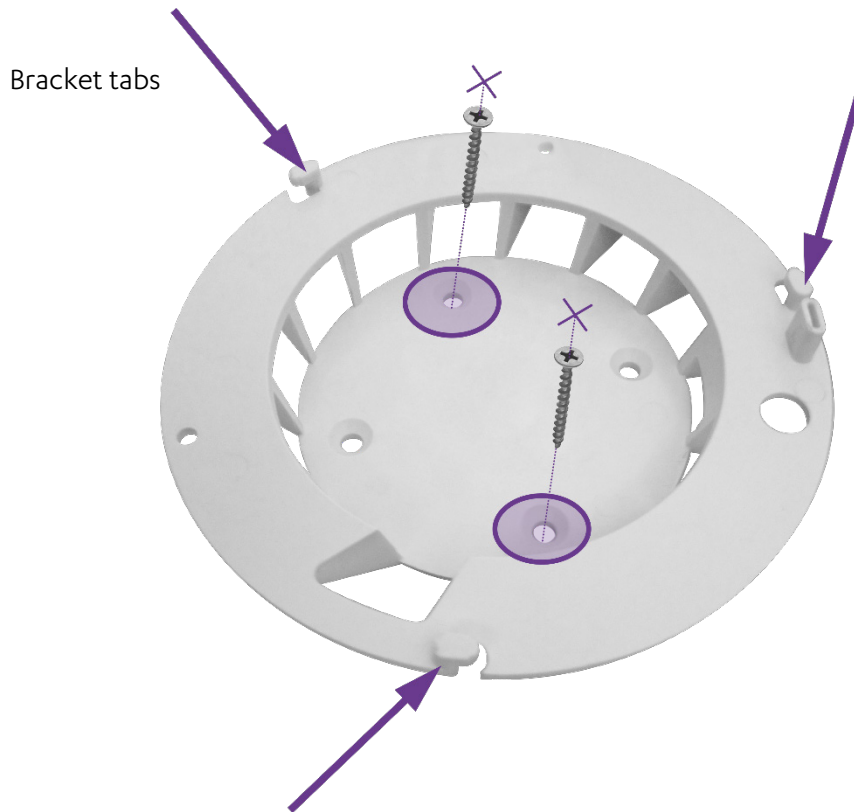
To set up an SK2:

1. Remove the mounting bracket from the SK2 by rotating the bracket counter-clockwise to release the bracket tabs.



2. Place the mounting bracket on the installation location.

3. Make a pencil mark through **two** screw holes in the mounting bracket, one opposite the other, as shown in the following image.



4. Remove the mounting bracket from the ceiling (or wall).
5. Drill a hole at each of the pencil marks using a 5 mm (3/16-in.) drill bit and insert the wall anchors.



**Caution:** When you drill the holes, prevent dust from getting on the SK2.

6. Mount the bracket using the screws.



**WARNING!** Do not connect the SK2 to any other alarm or auxiliary device. Connecting anything else to the SK2 prevents the proper operation of the alarm.

## Installing the SK2

7. Press the **PAIRING** button, located on the right edge of the front of the control panel, for five seconds.



The control panel beeps and the ring around the **EMERGENCY** button lights up in blue with a circular movement effect.

8. Insert the two batteries into the battery compartments, observing the correct polarity.



**NOTE:** After you insert both batteries into the SK2, the tamper alarm sounds. This means the SK2 is working normally and indicates that the batteries are positioned properly.

9. Holding the SK2, move at least 2 m (~6 ft. 7 in.) from the control panel.

10. Ensure that the pairing process is successful. The process can have the following results:

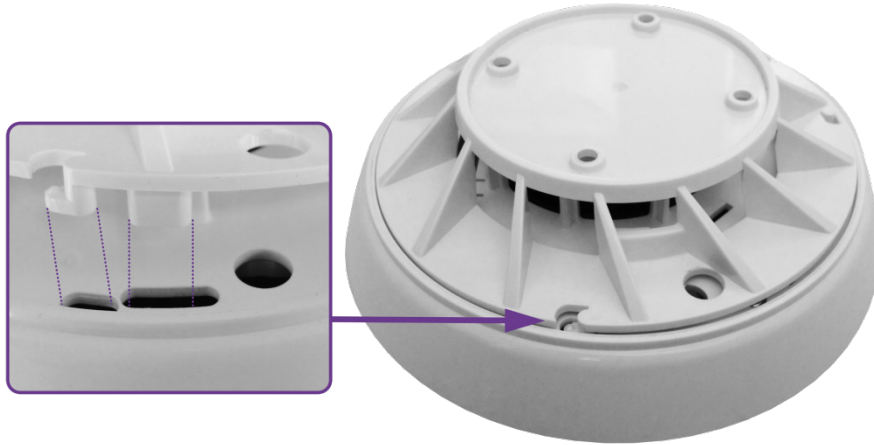
- Success            The control panel beeps and the ring blinks blue three times.
- Failure            The control panel beeps and the ring lights up red for two seconds.  
Try to pair the PIR again.
- Already paired    The control panel beeps, the ring lights up blue, and the **EMERGENCY** button lights up red.



**NOTE:** If no additional peripheral devices can be integrated, as when the control panel memory is full, the control panel beeps and the **EMERGENCY** button ring lights up red.

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11. Align the SK2 slots with the bracket tabs and insert the bracket tabs into the SK2 slots.



12. Turn the SK2 clockwise on the bracket until you hear a click.



## 2.4. Testing the SK2

To test the SK2 and ensure the installation is successful:

1. Pull the SK2 downward to make sure it is securely attached to the mounting bracket.



**WARNING!** To prevent injury, the SK2 must be securely attached to the ceiling (or wall) in accordance with the installation instructions.

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2. Press the **TEST/MUTE** button until the alarm sounds. The SK2 emits an alarm if the unit is working properly.

### 3. Operating the SK2

The SK2 senses smoke when the smoke enters the smoke detection chamber. When the SK2 detects smoke:

- An alarm is sounded.
- The alarm LED lights up red.
- The control panel makes an emergency call.



**NOTE:** The emergency call cannot be canceled. The emergency call is made even while the alarm is sounding.

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If the alarm sounds and you are not testing the SK2, the SK2 may have detected smoke. Proceed as follows:

1. Determine if:
  - The alarm is real:
    - Is there smoke?
    - Is there a fire?
  - The alarm is false
2. If the alarm is triggered by smoke from a non-serious event such as smoke from cooking, open a window and fan the air to remove the smoke or dust. The alarm turns off as soon as the air is completely clear of smoke.
3. If the alarm is triggered by a fire or a real threat of fire, evacuate as rehearsed and call the fire department.



**WARNING!** Do not stand close to the SK2 when the alarm sounds. Too much exposure to the buzzer at close range may be harmful to your hearing.

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### 3.1. LED and Alarm Indications

The following table defines the indications represented by the LEDs.

**Table 1: LED Indications**

LED	Alarm	Description
Green - blinking	None	Normal operation – default state.
Yellow - blinking	None	The SK2 has not been tested sufficiently. To rectify, press the TEST/MUTE button.
	Alternating tone	<p>One of the following:</p> <ul style="list-style-type: none"> <li>■ Low battery charge. This indication can last for up to seven days</li> <li>■ Smoke detection sensitivity is not working properly</li> </ul> <p>Press the TEST/MUTE button to suspend the alarm for 12 hours.</p> <p>Check the <b>Event Log</b> in the <b>Care</b> app or <b>Event Details</b> in the <b>Care</b> web application to identify the fault. If the smoke detection sensitivity is still not working, contact your supplier to arrange for a replacement device.</p>
Red - blinking	Rapid alternating tone	<ul style="list-style-type: none"> <li>■ Smoke has been detected</li> </ul> <p>To suspend the alarm for 5 minutes, push the TEST/MUTE button. After 5 minutes, the SK2 reassesses the smoke level.</p>
	Alternating tone	<ul style="list-style-type: none"> <li>■ Self-test failed</li> </ul> <p>Press the TEST/MUTE button to test the SK2 again. If it still fails, contact your supplier to arrange for a replacement device.</p>
	Continuous tone	The tamper switch has been triggered, typically by the removal of the SK2 from the mounting bracket. The alarm ends when the SK2 is returned to the mounting bracket.



## 3.2. Stopping the Alarm



**WARNING!** Never disable the SK2 or remove the battery to stop the alarm.

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The SK2 turns off the alarm automatically when it no longer senses smoke. To dissipate the smoke, do the following:

- Open a window in the room where the SK2 is installed.
- Fan the air around the smoke alarm.

If the alarm persists, clean the SK2. Refer to 4.2 Cleaning the SK2 on page 20. If the alarm resumes after the SK2 is cleaned, check if the location of the SK2 is the source of the alarm problem.

If the location is acceptable, have the SK2 checked for any technical problems.

## 4. Maintaining the SK2

Maintenance of the SK2 involves:

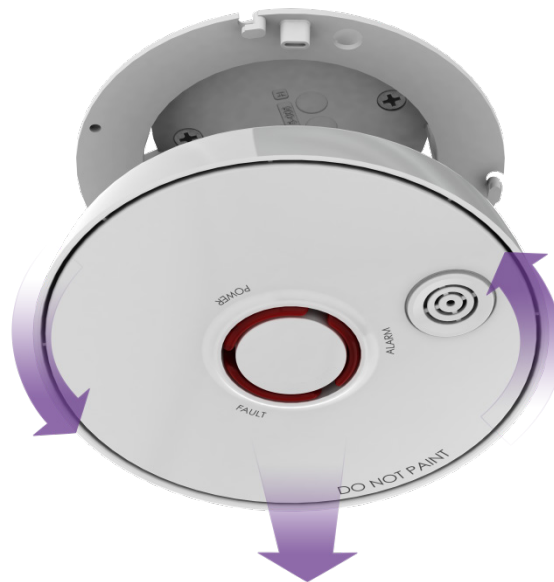
- Testing the device. Refer to 2.4 Testing the SK2 on page 13.
- Replacing the battery.
- Cleaning the device.

### 4.1. Replacing the Battery

Replace the batteries when the SK2 indicates that the battery charge is low.

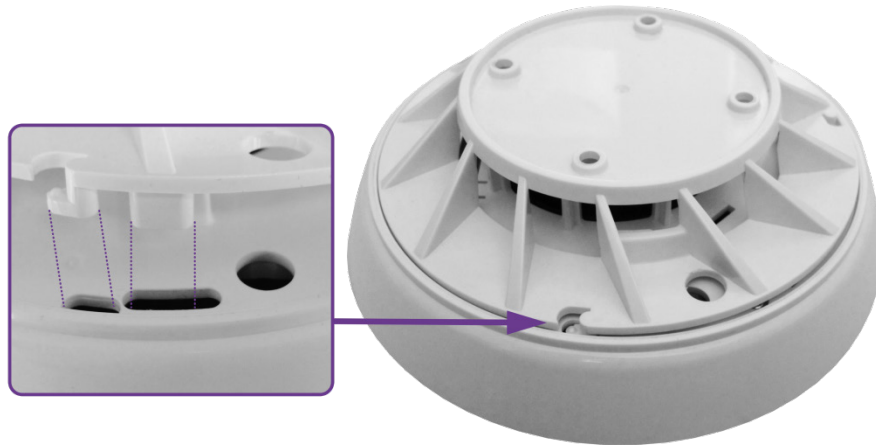
To replace the batteries:

1. Remove the SK2 from the mounting-base by turning the SK2 counter-clockwise until you hear a click. The SK2 is freed from the bracket.

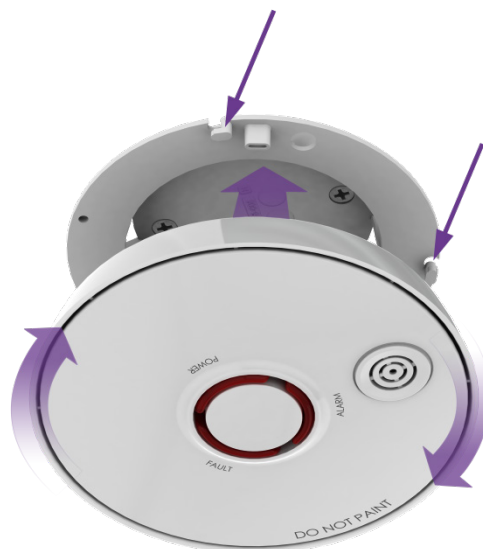


2. Remove the old batteries.
3. Insert the new batteries, observing the correct polarity.

- Align the SK2 slots with the bracket tabs and insert the bracket tabs into the SK2 slots.



- Turn the SK2 clockwise on the bracket until you hear a click.



If the SK2 is not mounted onto the bracket correctly, a loud continuous tone is triggered.



**Caution:** Use only the specified type and make of battery. Refer to 5 Specifications on page 21.

## 4.2. Cleaning the SK2

To keep the SK2 in good working condition, clean it at least once a year.

To clean the SK2:

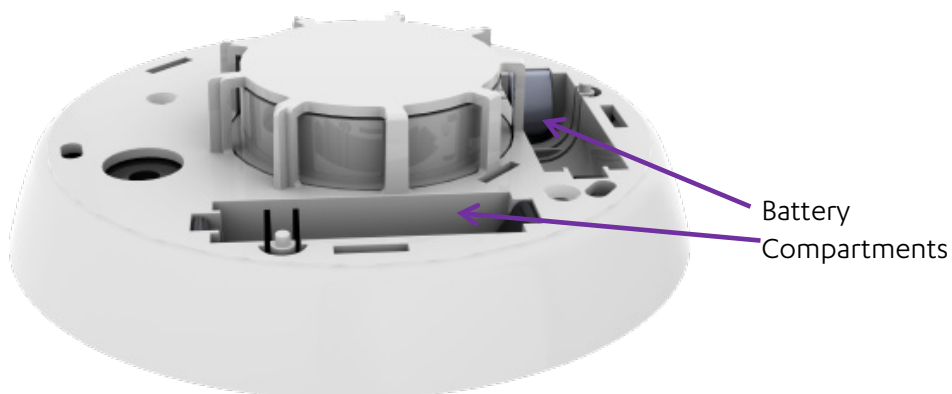
1. Remove the SK2 from the mounting-base by turning the SK2 counter-clockwise until you hear a click. The SK2 is freed from the bracket.
2. Remove the batteries.
3. Remove dust from the SK2:
  - a. Vacuum the dust from the detection chamber.
  - b. Use the soft brush attachment of the vacuum cleaner to remove dust and dirt from the detection chamber.



**Caution:** Never use water or cleaners to clean the SK2.

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- c. Remove any dust on the SK2 components, especially in the battery compartments.





4. Replace the batteries, observing the correct polarity.
5. Align the SK2 slots with the bracket tabs and insert the bracket tabs into the SK2 slots.
6. Turn the SK2 clockwise on the bracket until you hear a click.
7. Test the SK2. Refer to 2.4 Testing the SK2 on page 13.

## 5. Specifications

The following table lists the technical aspects and data about the SK2.

**Table 2: Device Technical Specifications**

Category	Details	
<b>Essence</b>	Part number	ES700SK2
<b>Power</b>	Battery	Two 1.5V AA alkaline batteries
	Approved manufacturers	GP, Energizer, Duracell
	Nominal battery life	Up to two years
	Voltage and current ratings	Nominal voltage: 2.4 V Standby time current consumption (@2.4 V): 60 $\mu$ A Maximum current consumption (@2.4 V): 200 mA
<b>Communications</b>	Bi-directional	End-to-end bi-directional ESI protocol
	Frequency	FSK modulation: <ul style="list-style-type: none"> <li>■ 869.225 MHz (Europe)</li> <li>■ 868.3 MHz (China)</li> <li>■ 916.5 MHz (North America and Australia)</li> </ul>
	RF coverage	700 m (2,296 ft.) – open air
	Encoding	32-bit ID, over 4 billion combinations
<b>Environmental</b>	Humidity	Up to 93% non-condensing
	Operating temperatures	-10°C - 55°C (14° - 131°F)
	Storage temperatures	-20°C – 70°C (-4°F – 158°F)
<b>Physical</b>	Dimensions (Diameter x H)	135 x 48 mm (0.44 x 0.16 ft.) including ceiling/wall mount
	Weight	214 g (0.47 lb.) (including batteries)
	Color	Glossy white
	Mounting	Standard ESI 2-screws ceiling/wall mount
	Alarm	A piezoelectric buzzer of 85 dB at 3 m
<b>Security and Safety</b>	Tamper feature	Alarm triggered on tamper
	Connectivity failure	Alarm functions even if gateway cannot be accessed
	Device identification	Unique electronic serial number

Category	Details
Compliance	CE, FCC, IC, UL, cUL         

## Appendix A Fire Prevention and Safety

### Prevention and Planning

Installing smoke detectors is only a part of fire prevention and safety arrangements.

For more comprehensive fire prevention and safety arrangements:

- Install, maintain, and test smoke detectors properly
- Replace a smoke detector immediately if it is not working properly
- Follow fire safety rules and prevent hazardous situations. For example:
  - Use smoking materials properly, and never smoke in bed
  - Keep matches and cigarette lighters away from children
  - Store flammable materials in proper containers
  - Never use flammable materials near an open flame or sparks
  - Keep electrical appliances in good condition
  - Do not overload electrical circuits
  - Stoves, fireplaces, chimneys, and barbecue grills should be:
    - Properly installed
    - Kept grease free
    - Kept away from combustible materials
  - Portable heaters and open flames - such as candles – should be kept away from combustible and flammable materials
  - Do not allow rubbish to accumulate
  - Keep a supply of extra batteries available for the SK2
- Install emergency equipment, such as fire extinguishers
- Ensure children in the property know what a smoke alarm means, and how to react. For example:
  - Develop a family escape plan and practice it with the family
  - Draw a floor plan of the residence and find at least two ways to exit each room. There should be a way to exit each bedroom without opening the door.
  - Decide on a meeting place that is a safe distance from the residence. Make sure that all children understand that they should go to the meeting place and wait there, if there is a fire.

- Teach children:
  - That they must be prepared to leave the home by themselves if necessary
  - How to check to see if doors are hot before opening them
  - How to stay close to the floor and crawl if necessary.
  - How to use the alternate exit if the door is hot and should not be opened
  - How to use the emergency equipment properly
- Hold fire drills at least every six months to make sure that everyone knows what to do to escape safely, even small children

## How to Escape if a Fire Occurs

Every time there is a fire drill, review the following with all occupants of the residence, including children:

- **Stay calm and try not to panic.** Safe escape may depend on thinking clearly and remembering what has been practiced.
- **Get out of the house as quickly as possible.** Follow a planned escape route. Do not stop to collect anything or to get dressed.
- **Feel the doors to see if they are hot.** If they are not hot, open them carefully. Do not open a door that is hot. Use a different escape route.
- **Stay close to the floor.** Smoke and hot gas rise.
- **Cover your nose and mouth with a wet or damp cloth.** Take short, shallow breaths.
- **Keep doors and windows closed.** Open them only to escape.
- **Meet at the planned meeting place**
- **Call the fire department as soon as possible from outside the residence.** Give the emergency operator a name and address.
- **Never go back inside a burning building**

Contact the local fire department to get more information on how to prevent home fires.

## Limitations of Smoke Alarms

Although smoke detectors and alarms play a key role in reducing damage resulting from home fires, they can only work if they are properly located, installed, and maintained.

The SK2 may not be effective in the following situations:

- Fires where the victim is intimate with a flaming initiated fire. For example, when a person's clothes catch fire while cooking.



- Fires where the smoke is prevented from reaching the smoke alarm due to a closed door or other obstruction.
- Incendiary fires where the fire grows so rapidly that an occupant's exit is blocked even with properly located smoke alarms.
- If residents are hearing impaired. Special smoke alarms, such as those with both visual and audible alarms, should be installed for hearing impaired residents.
- If residents are sound sleepers.



**WARNING!** Current studies have shown smoke alarms may not awaken everyone who is sleeping. It is the responsibility of individuals in the household that can assist others to help those who may not be awakened by the alarm sound, or who may be incapable of safely evacuating the area unassisted.

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