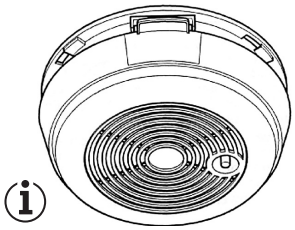
BRK ELECTRONICS

USER'S MANUAL

SMOKE AND FIRE* ALARM



AC POWERED IONISATION SMOKE ALARM

Input: 230 V ~ , 50 Hz, 0.030A

Model 86RACEN with Battery Back-up
Model 86RACHE10N with Lithium Cell Back-Up and Silencer Feature

BS5446: Pt. 1:2000
Licence No. 7960

M09-0022-001 **K/2** 06/03

IMPORTANT! PLEASE READ CAREFULLY AND SAVE.

This user's manual contains important information about your Smoke Alarm's operation. If you are installing this Smoke Alarm for use by others, you must leave this manual—or a copy of it—with the end user.

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***All BRK Electronics® Smoke Alarms conform to regulatory requirements, including BS5446: Pt. 1:2000 and are designed to detect particles of combustion. Smoke particles of varying number and size are produced in all fires.**

Ionisation technology is generally more sensitive than photoelectric technology at detecting small particles, which tend to be produced in greater amounts by flaming fires, which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a wastebasket, or a grease fire in the kitchen.

Photoelectric technology is generally more sensitive than ionisation technology at detecting large particles, which tend to be produced in greater amounts by smouldering fires, which may smoulder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding.

For maximum protection, use both types of Smoke Alarms on each level and in every bedroom of your home.

FIRE SAFETY TIPS

Follow safety rules and prevent hazardous situations: 1) Use smoking materials properly. Never smoke in bed. 2) Keep matches or lighters away from children; 3) Store flammable materials in proper containers; 4) Keep electrical appliances in good condition and don't overload mains circuits; 5) Keep cookers, barbecue grills, fireplaces and chimneys grease- and debris-free; 6) Never leave anything heating on the cooker unattended; 7) Keep portable heaters and open flames, like candles, away from flammable materials; 8) Don't let rubbish accumulate.

Keep alarms clean, and test them weekly. Replace alarms immediately if they are not working properly. Smoke Alarms that do not work cannot alert you to a fire. Keep at least one working fire extinguisher on every floor, and an additional one in the kitchen along with a fire blanket. Have fire escape ladders or other reliable means of escape from an upper floor in case stairs are blocked.

BEFORE YOU INSTALL THIS SMOKE ALARM

IMPORTANT! Read "Recommended Locations for Smoke Alarms" and "Locations to Avoid for Smoke Alarms" before beginning. This unit monitors the air, and when smoke reaches its sensing chamber, it alarms. It can give you more time to escape before fire spreads. This unit can ONLY give an early warning of developing fires if it is installed, maintained and located where smoke can reach it, and where all residents can hear it, as described in this manual. This unit will not sense gas, heat, or flame. It cannot prevent or extinguish fires.

Understand The Different Type of Smoke Alarms

Battery powered or mains powered? Different Smoke Alarms provide different types of protection. See "About Smoke Alarms" for details.

Know Where To Install Your Smoke Alarms

Fire Safety Professionals recommend at least one Smoke Alarm on every level of your home, in every bedroom, and in every bedroom hallway or separate sleeping area. See "Recommended Locations For Smoke Alarms" and "Locations To Avoid For Smoke Alarms" for details.

Know What Smoke Alarms Can and Can't Do

A Smoke Alarm can help alert you to fire, giving you precious time to escape. It can only sound an alarm once smoke reaches the sensor. See "Limitations of Smoke Alarms" for details.

Check Your Local Building Regulations

This Smoke Alarm is designed to be used in a typical single-family residence. It alone may not meet requirements for boarding houses, sheltered housing, hotels, motels, hostels, inns or communal escape routes in blocks of flats. See "Special Compliance Considerations" for details.

⚠DANGER!

ELECTRICAL SHOCK HAZARD. Turn off the power to the area where the Smoke Alarm is installed before removing it from the mounting bracket. Failure to turn off the power first may result in serious electrical shock, injury or death.

⚠WARNING!

- **This unit will not alert hearing impaired residents. It is recommended that you install special units which use devices like flashing strobe lights to alert hearing impaired residents.**
- **This unit must be powered by a 24-hour, 230VAC pure sine wave 50Hz circuit. Be sure the circuit cannot be turned off by a switch, dimmer, or ground fault circuit interrupter. Failure to connect this unit to a 24-hour circuit may prevent it from providing constant protection.**
- **This Smoke Alarm must have AC or battery power to operate. If the mains (AC) power fails, battery back-up will allow the alarm to sound for at least 4 minutes. If mains (AC) power fails and the battery is weak, protection should last for up to 7 days. If mains (AC) power fails and the battery is dead or missing, the alarm cannot operate.**
- **Never disconnect the power from a mains (AC) powered unit to stop an unwanted alarm. Doing so will disable the unit and remove your protection. In the case of a true unwanted alarm open a window or fan the smoke away from the unit. The alarm will reset automatically when it returns to normal operation. Never remove the batteries from a battery operated unit to stop an unwanted alarm (caused by cooking smoke, etc.). Instead open a window or fan the smoke away from the unit. The alarm will reset automatically.**

⚠CAUTION!

- **Connect this unit ONLY to other compatible units. See "How To Install This Smoke Alarm" for details. Do not connect it to any other type of alarm or auxiliary device. Connecting anything else to this unit may damage it or prevent it from operating properly.**
- **The battery compartment will not close unless a battery is installed. This warns you the unit will not operate under DC power without a battery.**
- **Do not stand too close to the unit when the alarm is sounding. It is loud to wake you in an emergency. Exposure to the horn at close range may harm your hearing.**
- **Do not paint over the unit. Paint may clog the openings to the sensing chambers and prevent the unit from operating properly.**

HOW TO INSTALL THIS SMOKE ALARM

- This Smoke Alarm is made to be mounted on any standard wiring junction box up to 10 cm (4 inches) octagon size.
- This Smoke Alarm is made to be mounted on the ceiling, or on the wall if necessary.
- These Smoke Alarms can serve as a single-station stand-alone unit or be interconnected together.
- BRK recommends that all mains (AC) powered Smoke Alarms be interconnected. Please read "How to Interconnect Alarms" for important interconnect specifications. Interconnected units offer more security than single-station stand-alone Smoke Alarms.

⚠WARNING!

- Smoke Alarms should only be installed by a qualified electrician in accordance with current I.E.E. regulations.
- The circuit used to power the Alarm must be a 24-hour 230VAC, 50 Hz circuit. Be sure the circuit cannot be turned off by a switch or ground fault interrupter.
- It is possible that a fire could occur on the circuit powering this Alarm. While not likely, if this did happen the Alarm might fail to activate. Some safety experts recommend that Smoke Alarms be wired on a separate circuit, one with no other lights or appliances. Other safety experts believe that it is better to put the Alarms on the same circuit as other appliances so that it is more readily apparent if the circuit fails. BRK recommends the use of either separate or common circuits **plus** the installation of battery powered or mains (AC) powered Smoke Alarms with built-in battery back-up if you are concerned about the reliability of your mains (AC) power.

Before installing this Smoke Alarm, read "Recommended Locations for Smoke Alarms" and "Locations to Avoid for Smoke Alarms." Then decide where to install this Smoke Alarm.

⚠DANGER!

ELECTRICAL SHOCK HAZARD: TURN OFF POWER TO THE AREA WHERE YOU PLAN TO PUT THE ALARM AT THE FUSE BOX OR CIRCUIT BREAKER BOX.

⚠WARNING!

This Smoke Alarm shall not be exposed to dripping or splashing.

To install your Smoke Alarm, follow these steps:

1. Install a junction box or a ceiling pattress (BRK Model SMK839 or SMK839RCB) where you plan to install the Alarm if a box is not already installed. Use standard 1.5mm² solid copper cable.
2. Install the mounting bracket on the junction box or ceiling pattress using the screw slots that fit the junction box you are using.
3. A power connector with ORANGE, BROWN, and BLUE wires is packed with each Alarm. Use an insulated terminal block to connect these wires to the installation's mains (AC) power. Connect the BROWN wire (live) on the connector to the RED AC power wire and the BLUE wire (neutral) on the connector to the BLACK AC wire.

NOTE: If this Alarm is to be connected to other Alarms, read the instructions in the next section on "How to Interconnect Alarms" before you finish installing the Alarm. **If the Alarm will not be interconnected, do not use the ORANGE wire on the connector.**

4. If the Alarm WILL be connected to other Alarms, connect the ORANGE wire on the connector to the INTERCONNECT wire. If the Alarm WILL NOT be connected to other Alarms, insulate the stripped end of the ORANGE wire on the connector with electrical tape and tuck it into the junction box or ceiling pattress.

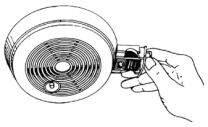
⚠WARNING!

DO NOT connect the AC power wires to the INTERCONNECT terminal. This will damage the Alarm.

⚠WARNING!

MODEL 86RACEN: The battery is positioned WRONG in the factory to keep it fresh until installation. It must be repositioned to provide DC back-up power.

5. Grasp the tab on the battery drawer and pull it straight out as shown in the figure.
6. Remove the battery and reposition it properly, as indicated on the battery compartment. Push the battery drawer back in until it is flush with the housing.



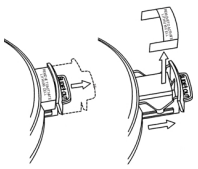
7. Depress the test button for 20 seconds or until the alarm horn sounds. Check battery connection if alarm horn does not sound.

⚠WARNING!

If the Alarm does not work properly, make sure the battery is fresh and is in correctly. Be sure the openings to the sensing chamber are clean. If there is still a problem, **do not try to fix the Alarm yourself.** This will void your guarantee.

MODEL 86RACHE10N:

- **Activate the lithium cell.** Remove the protective activation tab inside the lithium cell drawer and slide drawer into the Smoke Alarm, and insert the locking tab shown once installed on the ceiling. Failure to activate the Smoke Alarm will remove your protection and invalidate your guarantee. Alarm may activate for up to 30 seconds.

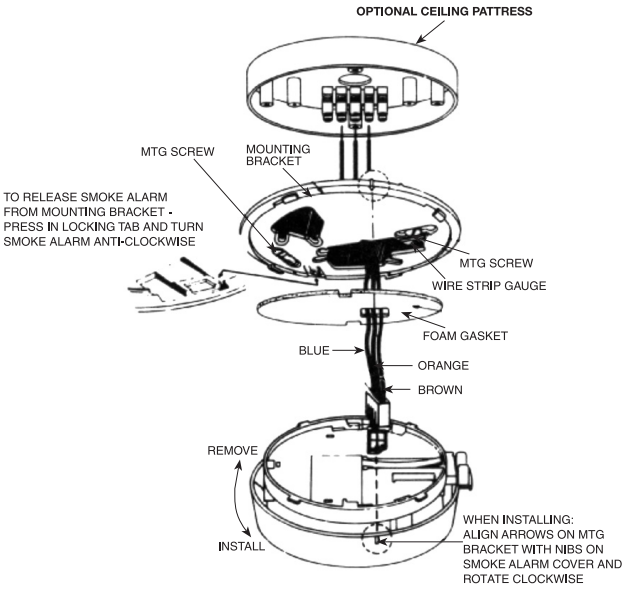


⚠WARNING!

The lithium cell is protected by a removable tab in the factory to keep it fresh until the Smoke Alarm is installed. The protective tab must be removed before installing the Smoke Alarm or the lithium cell back-up will not operate.

- **Check for proper lithium cell (DC) back-up.** Press the test button on the Smoke Alarm cover. Hold in for about 10 seconds until the alarm sounds. The alarm may operate for up to 10 seconds after releasing the test button.

8. Place the gasket on the back of the Alarm cover, being sure to line up the cut-outs of the gasket with the power input block. The gasket will only fit one way.
9. Plug the power connector into the back of the Alarm as shown in the figure below. It is keyed so it can only be installed one way. The connector can be removed at any time by holding the connector body firmly and pulling out.



⚠CAUTION!

WIRING MUST CONFORM TO I.E.E. REGULATIONS FOR ELECTRICAL INSTALLATION

⚠WARNING!

Interconnect should not be made to any earth terminal.

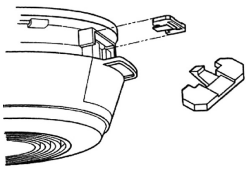
10. Align the locating tab on the Alarm cover with the arrow on the rim of the mounting bracket. Then, turn the Alarm clockwise while exerting pressure to compress the gasket until you feel a click. The Alarm snaps into the mounting bracket.
11. **Restore power to the junction box only if you are not going to interconnect Alarms.**
12. The Green POWER ON indicator should glow steadily when the power is turned on. If this indicator does not glow, check all wire connections. If power is on and connections are correct, but the POWER ON indicator still does not glow, the Alarm should be returned for service. Do not attempt to fix it yourself, this will void your guarantee.
13. To make sure the Alarm is working properly, press the test button marked "PUSH TO TEST" on the Alarm cover. Hold it for about 20 seconds until the Alarm sounds.

⚠WARNING!

DO NOT connect this Alarm to any other Alarm or auxiliary device. Connecting anything else to this Alarm will keep it from working properly.

MODEL 86RACHE10N:

Once installed on the ceiling, you must test the unit BEFORE installing the locking tab. Once the locking tab is in place, the drawer cannot be reopened. If the unit does not alarm when you press the Test/Silence button, open the drawer and try closing it again. Test the unit again.



Insert the locking tab. If the Smoke Alarm tests properly, insert the locking tab - with the hook facing up - into the compartment above the drawer (see figure). The locking tab will snap into place and prevent the drawer from opening. Check to see drawer cannot be opened.

IMPORTANT!

Once the locking tab is in place, any attempt to remove it will permanently damage the tamper-resistant feature and may damage the Smoke Alarm itself. It will also void the guarantee. If the lithium cell is becoming depleted (the alarm will "chirp" about once a minute), the Smoke Alarm should be returned to BRK. Follow the instructions for "Removing the Locking Tab."

HOW TO INTERCONNECT ALARMS

These Smoke Alarms may be interconnected together. Then if one Alarm senses smoke, all of them will sound their alarms. The following conditions must be met for the interconnected system of Alarms to work properly.

The wiring must conform to current IEE regulations for electrical installations.

⚠DANGER!

ELECTRICAL SHOCK HAZARD: TURN OFF POWER TO THE AREA WHERE YOU PLAN TO PUT THE ALARM AT THE FUSE BOX OR CIRCUIT BREAKER BOX.

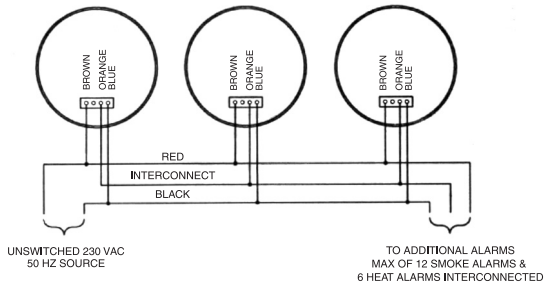
1. This Smoke Alarm can be interconnected with other 2002RACEN units or other compatible models, ie 86RACEMP, 86RACHE10MP, 2002RACE10, 2002RACHE10, 5920E or 4919E, and Heat Alarms 6230BFP and 6230B10FP. Contact BRK for a complete list of Alarms that may be interconnected with this unit.
2. No more than 12 BRK Smoke Alarms and 6 BRK Heat Alarms may be interconnected.
3. All units connected together must get their power from the same circuit. That is, all of them must be controlled by the same fuse box or circuit breaker box.
4. The total length of wire interconnecting the alarms should be less than 150 metres (500 feet). The interconnecting cables should be 1.5mm² and be rated at least 300V.
5. The wiring must conform to current IEE regulations for electrical installations.
6. **Interconnect the alarms by connecting the interconnect wires on all the units together.** See figure.
7. Restore power to the junction box by replacing the fuse or throwing the appropriate circuit breaker.
8. To test the system, push the test button on each Alarm. The alarm horns on all of the Alarms in the system should sound if they are interconnected correctly. **Make sure that all the other units sound an alarm as each unit in the system is tested.**

⚠WARNING!

Failure to follow any of the above could result in malfunction and damage to the Alarms.

IMPORTANT!

Alarms should be interconnected within one family residence only. Otherwise, nuisance alarms will occur when an Alarm in another residence is tested.



No connection should be made to any earth terminal.

WEEKLY TESTING

⚠WARNING!

NEVER use an open flame of any kind to test this unit. You might accidentally damage or set fire to the unit or to your home. The built-in test switch accurately tests the unit's operation as required by British Standards (BSI). If you choose to use an aerosol smoke product to test the Smoke Alarm, be certain to use one that has been certified to British Safety Standards, and use it only as directed. Use of non-BSI certified products or improper use of BSI certified products may affect the Smoke Alarm's sensitivity.

It is important to test this unit every week to make sure it is working properly. Using the test button is the recommended way to test this Smoke Alarm. Press and hold the test button on the cover of the unit until the alarm sounds (the unit may continue to alarm for a few seconds after you release the button). If it does not alarm, make sure the unit is receiving power and test it again. If it still does not alarm, replace it immediately. During testing you will hear a loud, repeating horn pattern: beep, beep, beep...

REGULAR MAINTENANCE

This unit has been designed to be as maintenance free as possible, but there are a few simple things you must do to keep it working properly.

⚠WARNING!

Use only the replacement batteries listed below. The unit may not operate properly with other batteries. Never use rechargeable batteries since they may not provide a constant charge.

- Test it at least once a week.
- Test units used in caravans after the vehicle has been in storage, before every trip, and once a week while in use. Failure to test units in caravans as described may remove your protection.
- Clean the Smoke Alarm at least once a month; gently vacuum the outside of the Smoke Alarm using your household vacuum's soft brush attachment. Test the Smoke Alarm. Never use water, cleaners or solvents since they may damage the unit.
- If the Smoke Alarm becomes contaminated by excessive dirt, dust and/or grime, and cannot be cleaned to avoid unwanted alarms, replace the unit immediately.
- Relocate the unit if it sounds frequent unwanted alarms. See "Locations to Avoid for Smoke Alarms" for details.
- When the battery becomes weak, the Smoke Alarm unit will "chirp" about once a minute (the low battery warning). This low battery warning should last for a minimum of 30 days, but you should replace the battery immediately to continue your protection.
- Test for proper Smoke Alarm operation using the test button whenever the battery is replaced.

Choosing a replacement battery:

Your Smoke Alarm requires a standard 9V battery. The following batteries are acceptable as replacements: Duracell #MN1604; Energizer #522, #6LR61; Eveready #1222, #PP3S, #6LF22; Gold Peak #1604P, #1604S. You may also use the Ultralife U9VL-J lithium battery for longer service life between battery changes. **These batteries are available at many local retail stores.**

⚠CAUTION!

When using a lithium battery there is a danger of explosion if the battery is incorrectly replaced. Replace a lithium battery only with the same or equivalent type.

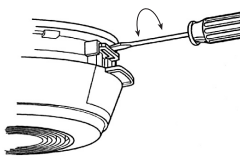
IMPORTANT!

Most carbon zinc batteries have an average service life of 1 year; most alkaline batteries have an average service life of 1-2 years; most Lithium batteries have an average service life of 6-10 years. Actual battery service life depends on the Smoke Alarm and the environment in which it is installed. All the batteries specified above are acceptable replacement batteries for this unit. Regardless of the manufacturer's suggested battery life, you MUST replace the battery immediately once the unit starts "chirping" (the "low battery warning").

WHAT TO DO IF THE LOW BATTERY WARNING CHIRPS (MODEL 86RACHE10N)

Removing The Locking Tab

If the lithium cell in the Smoke Alarm is becoming depleted, the alarm will "chirp" about once a minute. Since the lithium cell is sealed into the wall unit, when the cell becomes depleted the entire Smoke Alarm must be replaced. To open the drawer and stop the "chirping," insert a flathead screwdriver into the middle slot of the locking tab. Twist the screwdriver until the locking tab releases and pull the drawer open. Ship the unit back to BRK with the drawer open. Consult the Limited Guarantee for return information.



IF THIS SMOKE ALARM SOUNDS

RESPONDING TO AN ALARM

During an alarm, you will hear a loud, repeating horn pattern: beep, beep, beep...

⚠WARNING!

- **If the unit alarms and you are not testing the unit, it is warning you of a potentially dangerous situation that requires your immediate attention. NEVER ignore any alarm. Ignoring the alarm may result in injury or death.**
- **Never disconnect the mains (AC) power to quiet an unwanted alarm. Disconnecting the power disables the Alarm so it cannot sense smoke. This will remove your protection. Instead, open a window or fan the smoke away from the unit. The Alarm will reset automatically.**
- **If the unit alarms get everyone out of the house immediately.**

⚠DANGER!

- **ELECTRICAL SHOCK HAZARD: Attempting to disconnect the power connector from the unit when the power is on may result in electrical shock, serious injury or death.**

When an interconnected system of mains (AC) powered units is in alarm, the Red indicator light on the unit(s) that initiated the alarm will blink rapidly. It will remain OFF on any remaining units.

If the unit alarms, get everyone out of the dwelling immediately.

If the unit alarms and you are certain that the source of smoke is not a fire—cooking smoke or an extremely dusty furnace, for example—open a nearby window or door and fan the smoke away from the unit.

WHAT TO DO IN CASE OF FIRE

- Don't panic; stay calm. Follow your family escape plan.
- Get out of the house as quickly as possible. Don't stop to get dressed or collect anything.
- Feel doors with the back of your hand before opening them. If a door is cool, open it slowly. Don't open a hot door. Keep doors and windows closed, unless you must escape through them.
- Cover your nose and mouth with a cloth (preferably damp). Take short, shallow breaths.
- Meet at your planned meeting place outside your home, and do a head count to make sure everybody got out safely.
- Call the Fire Brigade as soon as possible from outside. Give your address, then your name.
- Never go back inside a burning building for any reason.
- Contact your Fire Brigade for ideas on making your home safer.

⚠WARNING!

Alarms have various limitations. See "Limitations of Smoke Alarms" for details.

USING THE SILENCER FEATURE (MODEL 86RACHE10N)

The silencer feature will silence nuisance alarms for up to 15 minutes. However for your safety, if smoke is too dense around the smoke alarm, the unit will continue to sound until smoke clears and is no longer heavy enough to suggest a serious situation.

To silence a nuisance alarm: PRESS the SILENCE BUTTON on the cover of the Alarm firmly and/or open a window to remove the smoke. DO NOT DISCONNECT THE POWER.

IF YOU SUSPECT A PROBLEM

Smoke Alarms may not operate properly because of dead, missing or weak batteries, a build-up of dirt, dust or grease on the Smoke Alarm cover, or installation in an improper location. Clean the Smoke Alarm as described in "Regular Maintenance," and install a fresh battery, then test the Smoke Alarm again. If it fails to test properly when you use the test button, or if the problem persists, replace the Smoke Alarm immediately.

- **If you hear a "chirp" once a minute, replace the battery.**
- **If you experience frequent non-emergency alarms (like those caused by cooking smoke), try relocating the Smoke Alarm.**
- **If the alarm sounds when no smoke is visible, try cleaning or relocating the Smoke Alarm. The Alarm may be dirty or dusty.**
- **If the alarm does not sound during testing, make sure it is receiving mains (AC) power from the household current.**

⚠CAUTION!

When using a lithium battery there is a danger of explosion if the battery is incorrectly replaced. Replace a lithium battery only with the same or equivalent type.

⚠WARNING!

Always discharge the branch circuit before servicing a mains (AC) or AC/DC Smoke Alarm. First, turn off the mains (AC) power at the circuit breaker or fuse box. Next, remove the battery from Smoke Alarms with battery back-up. Finally, press and hold the test button for 5-10 seconds to discharge the branch circuit.

Do not try fixing the alarm yourself – this will void your guarantee!

If the Smoke Alarm is still not operating properly, and it is still under guarantee, please see "How to Obtain Guarantee Service" in the Limited Guarantee.

LIMITED GUARANTEE

BRK Brands Europe Ltd., ("the Company"), guarantees the Smoke Alarm Model 86RACEN – but not the battery – to be free from defects in materials and workmanship under normal use and service for a period of five years from the date of purchase. In addition, the Company guarantees the Smoke Alarm Model 86RACHE10N – but not the battery – to be free from defects in materials and workmanship under normal use and service for a period of ten years from the date of purchase.

BRK Brands Europe Ltd. makes no other express guarantee for this Smoke Alarm. No agent, representative, dealer or employee of the Company has the authority to increase or alter the obligations or limitations of the Guarantee. The Company's obligation of this Guarantee shall be limited to the repair or replacement of any part of the alarm which is found to be defective in materials or workmanship under normal use and service during the guarantee period commencing with date of purchase. The Company shall not be obligated to repair or replace alarms which are found to be in need of repair because of damage, unreasonable use, modifications or alterations occurring after the date of purchase.

How to Obtain Guarantee Service

Service: If service is required, do not return the product to your retailer. In order to obtain guarantee service, please telephone the BRK Customer Service Dept. on 01275 845024 to arrange return.

Battery: BRK Brands Europe Ltd. make no guarantee, express or implied, written or oral, including that of merchantability or fitness for any particular purpose with respect to battery.

RECOMMENDED LOCATIONS FOR SMOKE ALARMS

Installing Smoke Alarms in Single-Family Residences

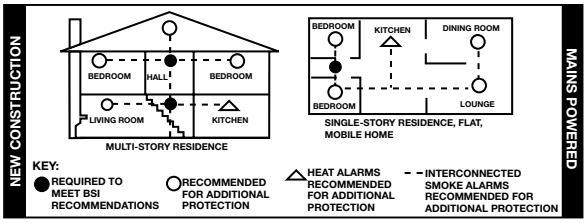
The building code requires one Smoke Alarm on every floor, and recommends one in every living area, and in every bedroom or sleeping area. In new construction, the Smoke Alarms must be mains (AC) powered. See “British Standards (BSI) Recommendations” for details. For additional coverage, it is recommended that you also install a Smoke Alarm in halls, storage areas, finished attics and roof voids. Make sure no door or other obstruction could keep smoke from reaching the Smoke Alarms or minimize the sound level produced from ensuring the occupants from hearing the alarm signal.

More specifically, install Smoke Alarms:

- Where temperatures normally remain between 4˚ C (40˚ F) and 38˚ C (100˚ F).
- On every level of your home, including finished attics.
- Inside every bedroom, especially if people sleep with doors closed.
- In the hall near every sleeping area. If your home has multiple sleeping areas, install a unit in each.
- If a hall is over 7.5 metres (25 feet) long, install an alarm at each end.
- At the top of the first-to-second floor and subsequent floor stairways, and at the bottom of the ground floor stairway.

IMPORTANT!

Specific requirements for Smoke Alarm installation may vary from region to region. Check with your local Fire Brigade and Building Control for current requirements in your area.



BRITISH STANDARDS (BSI) RECOMMENDATIONS

BS 5839 Part 6 (Code of practice for the design and installation of fire detection and alarm systems in dwellings)

Smoke Alarms shall be installed in all circulation spaces (normally hallways and staircases) that form part of escape routes, one on every level, and in all rooms and areas that present a high fire risk. Additionally, Smoke Alarms should also be installed between the sleeping area(s) and the most likely sources of fire (living room and kitchen).

If there are long hallways, corridors, or protected rooms or areas over 7.5 metres (25 feet) from the nearest unit, the installation of additional Smoke Alarms may be necessary. Roof voids containing stored combustibles or sources of ignition may also warrant the installation of additional Smoke Alarms.

The installation of Smoke Alarms in kitchens, toilets, bathrooms or shower rooms is not normally recommended, as these locations occasionally experience conditions that can result in improper operation.

In new construction, Alarms shall be mains (AC) powered. Increased protection may also require that mains (AC) powered Alarms employ an integral standby supply (AC/DC) and so arranged that operation of any one Alarm shall cause the operation of all Alarms within the dwelling.

LOCATIONS TO AVOID FOR SMOKE ALARMS

For best performance, it is recommended you AVOID installing Smoke Alarms in these areas:

- Where combustion particles are produced. Combustion particles form when something burns. Areas to avoid include kitchens, garages, and boiler rooms. Keep units at least 3 metres (10 feet) from the sources of combustion particles (cooker, boiler, space heater) 6 metres (20 feet) if possible. Ventilate these areas as much as possible. **Note: If you must install Smoke Alarms closer than 6 metres (20 feet) from a source of combustion particles, keep the area well ventilated, and the Smoke Alarms clean.**
- In air streams near kitchens. Air currents can draw cooking smoke into the sensing chamber of a Smoke Alarm near the kitchen.
- In very damp, humid or steamy areas keep units at least 3 metres (10 feet) away from bathrooms, toilets, showers, dishwashers, etc.
- Where the temperatures are regularly below 4˚C (40˚F) or above 38˚C (100˚F), including unheated buildings, outdoor rooms, porches, or roof voids.
- In very dusty, dirty, or greasy areas. Do not install a Smoke Alarm directly over the cooker. Keep laundry room Smoke Alarms free of dust or lint.
- Near fresh air vents, ceiling fans, or in very drafty areas. Drafts can blow smoke away from the unit, preventing it from reaching the sensing chamber.
- In insect infested areas. Insects can clog openings to the sensing chamber and cause unwanted alarms.
- Less than 300 mm (12 inches) away from light fittings. Electrical “noise” can interfere with the sensor; i.e. fluorescent lights, etc.
- Where the bottom edge of wall mounted Smoke Alarms is placed below the level of any door opening.
- In rooms which are being decorated, painted or artexed.
- In “dead air” spaces. “Dead air” spaces may prevent smoke from reaching the Smoke Alarm.

Avoiding Dead Air Spaces

“Dead air” spaces may prevent smoke from reaching the Smoke Alarm. To avoid dead air spaces, follow the installation recommendations below.

On ceilings, install Smoke Alarms as close to the centre of the ceiling as possible. If this is not possible, install the Smoke Alarm at least 300 mm (12 inches) from the wall or corner.

For wall mounting (if allowed by building regulations), the top edge of Smoke Alarms should be placed between 150 and 300 mm (6 and 12 inches) from the wall/ceiling line, below typical “dead air” spaces.

On a peaked, gabled, or cathedral ceiling, install the first Smoke Alarm within 0.9 metres (3 feet) of the peak of the ceiling, measuring horizontally. Additional Smoke Alarms may be required depending on the length, angle, etc. of the ceiling's slope. Refer to BS 5839 Part 6, 5588 Part 1 and local building regulations for details on requirements for sloped or peaked ceilings.

ABOUT SMOKE ALARMS

Battery (DC) powered Smoke Alarms: Provide protection even when electricity fails, provided the batteries are fresh and correctly installed. Units are easy to install, and do not require professional installation. May also be interconnected, **model dependent**, so if one unit senses smoke, all units alarm.

Mains (AC) powered Smoke Alarms: Can be interconnected so if one unit senses smoke, all units alarm. They do not operate if electricity fails. **Mains (AC) with battery (DC) back-up:** will operate if electricity fails, provided the batteries are fresh and correctly installed. Mains (AC) powered and mains powered with battery back-up (AC/DC) units must be installed by a qualified electrician.

All these Smoke Alarms are designed to provide early warning of fires if located, installed and cared for as described in the user's manual, and if smoke reaches them. If you are unsure which type of Smoke Alarm to install, refer to British Standard (BS) 5839 Part 6 and 5588 Part 1. BSI, 389 Chiswick High Road, London, W4 4AL, UK. Local building regulations may also require specific units in new construction or in different areas of the home.

SPECIAL COMPLIANCE CONSIDERATIONS

⚠WARNING!

This Smoke Alarm alone is not a suitable substitute for complete fire detection systems in places housing many people—like blocks of flats (communal escape routes), hotels, motels, hostels, inns, hospitals, long-term health care facilities, nursing homes, day care facilities, boarding houses or sheltered housing of any kind—even if they were once single-family residences. It is not a suitable substitute for complete fire detection systems in warehouses, industrial facilities, commercial buildings, and special-purpose non-residential buildings which require special fire detection and alarm systems. Depending on the building regulations in your area, this Smoke Alarm may be used to provide additional protection in these facilities.

The following information applies to all four building types below:

In new construction, most building regulations require the use of mains (AC) or mains powered with integral standby supply (AC/DC) Smoke Alarms only. In existing construction, mains powered (AC), mains powered with integral standby supply (AC/DC), or battery (DC) powered Smoke Alarms can be used as specified by local building regulations. Refer to British Standard BS 5839 Part 6 and BS 5588 Part 1, local buildings regulations, or consult your Fire Brigade for detailed fire protection requirements in buildings not defined as "dwellings."

1. Single-Family Residence:

Single family home. It is recommended Smoke Alarms be installed in all circulation spaces (normally hallways and staircases) that form part of escape routes, on every level, in all rooms and areas that present a high fire risk and between the sleeping area(s) and the most likely sources of fire (living room and kitchen).

2. Multi-Family or Mixed Occupant Residence:

Blocks of flats. This Smoke Alarm is suitable for use in individual flats, provided a primary fire detection system already exists to meet fire detection requirements in common areas like foyers, hallways, corridors, or porches. Using this Smoke Alarm in common areas may not provide sufficient warning to all residents or meet local fire protection by-laws/regulations.

3. Institutions:

Hospitals, day care facilities, long-term health care facilities. This Smoke Alarm may be suitable for use in individual patient sleeping/resident rooms, provided a primary fire detection system already exists to meet fire detection requirements in common areas like foyers, hallways, corridors, or porches. Using this Smoke Alarm in common areas may not provide sufficient warning to all residents or meet local fire protection by-laws/regulations.

4. Hotels and Motels:

Also hostels, inns, boarding houses and sheltered housing. This Smoke Alarm may be suitable for use inside individual sleeping/resident rooms, provided a primary fire detection system already exists to meet fire detection requirements in common areas like foyers, hallways, corridors, or porches. Using this Smoke Alarm in common areas may not provide sufficient warning to all residents or meet local fire protection by-laws/regulations.

LIMITATIONS OF SMOKE ALARMS

Smoke Alarms have played a key role in reducing deaths resulting from home fires worldwide. However, like any warning device, Smoke Alarms can only work if they are properly located, installed, and maintained, and if smoke reaches them. They are not foolproof.

Smoke Alarms may not waken all individuals. Practice the escape plan at least twice a year, making sure that everyone is involved – from kids to grandparents. Allow children to master fire escape planning and practice before holding a fire drill at night when they are sleeping. If children or others do not readily waken to the sound of the Smoke Alarm, or if there are infants or family members with mobility limitations, make sure that someone is assigned to assist them in fire drill and in the event of an emergency. It is recommended that you hold a fire drill while family members are sleeping in order to determine their response to the sound of the Smoke Alarm while sleeping and to determine whether they may need assistance in the event of an emergency.

Smoke Alarms cannot work without power. Battery operated units cannot work if the batteries are missing, disconnected or dead, if the wrong type of batteries are used, or if the batteries are not installed correctly. AC units cannot work if the AC power is cut off for any reason (open fuse or circuit breaker, failure along an electrical mains or at a power station, electrical fire that burns the electrical wires, etc.). If you are concerned about the limitations of battery or AC power, install both types of units.

Smoke Alarms cannot detect fires if the smoke does not reach them. Smoke from fires in chimneys or walls, on roofs, or on the other side of closed doors may not reach the sensing chamber and set off the alarm. That is why one unit should be installed inside each bedroom or sleeping area—especially if bedroom or sleeping area doors are closed at night—and in the hallway between them.

Smoke Alarms may not detect fire on another floor or area of the home. For example, a stand-alone unit on the second floor may not detect smoke from a ground floor fire until the fire spreads. This may not give you enough time to escape safely. That is why recommended minimum protection is at least one unit in all circulation spaces (normally hallways and staircases) that form part of escape routes, on every level, and in all rooms and areas that present a high fire risk. Even with a unit on every floor, stand-alone units may not provide as much protection as interconnected units, especially if the fire starts in a remote area. Some safety experts recommend installing interconnected mains (AC) powered units with battery (DC) back-up (see "About Smoke Alarms") or professional fire detection systems, so if one unit senses smoke, all units alarm. Interconnected units may provide earlier warning than stand-alone units since all units alarm when one detects smoke.

Smoke Alarms may not be heard. Though the alarm horn in this unit meets or exceeds current Standards, it may not be heard if: 1) the unit is located outside a closed or partially closed door, 2) residents recently consumed alcohol or drugs, 3) the alarm is drowned out by noise from stereo, TV, traffic, air conditioner or other appliances, 4) residents are hearing impaired or sound sleepers. Special purpose units, like those with visual and audible alarms, etc. should be installed for hearing impaired residents.

Smoke Alarms may not have time to alarm before the fire itself causes damage, injury, or death, since smoke from some fires may not reach the unit immediately. Examples of this include persons smoking in bed, children playing with matches, or fires caused by violent explosions resulting from escaping gas.

Smoke Alarms are not foolproof. Like any electronic device, Smoke Alarms are made of components that can wear out or fail at any time. You must test the unit weekly to ensure your continued protection. Smoke Alarms cannot prevent or extinguish fires. They are not a substitute for property or life insurance.

Smoke Alarms have a limited life. The unit should be replaced immediately if it is not operating properly. You should always replace a Smoke Alarm after 10 years from date of purchase. Write the purchase date on the user's manual and keep in a safe place for future reference.

For your records, please record:

Date Purchased:_____

Where Purchased:_____

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