

**First Alert®**  
**BRK**  
 ELECTRONICS®  
**DICON™**  
 SAFETY PRODUCTS

## OWNERS MANUAL

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2502-B0001 RevA

# BATTERY OPERATED SMOKE ALARMS

**COVERS** • Simple Fitting Instructions • Location Guide  
 • Operating Guide • Basic Fire Safety Tips  
 • Simple Maintenance Instructions

**PLEASE KEEP THIS MANUAL IN A SAFE PLACE**

### IONISATION SMOKE ALARMS

M300, M300AP, M300i, SA200

and

SA900, SA900Si, SA300 and SA300L

**IMPORTANT: PLEASE READ  
AND RETAIN THIS OWNERS MANUAL**

When installing this alarm for use by others, please leave this manual or a copy with the end user.

### PRODUCT SERIES

M300, M300AP, M300i, SA200  
 SA900, SA900Si, SA300 and SA300L  
 Dual Ionisation sensing chamber, particularly sensitive to fast flaming fires.

### SUPERIOR FEATURES

- Battery Operated
- Operating Light (RED)  
Flashes approximately every 45 seconds confirming unit is powered.
- Low Battery Warning  
Unit 'beeps' approximately every 45 seconds for at least 30 days when the battery needs replacing.
- Sensitivity Test Button  
Test sensitivity, circuitry, battery, horn.
- Loud 85 Decibel Piezo Electric Alarm  
Automatically resets when hazardous condition has passed.
- Easy Installation  
Fixings supplied.

### SPECIAL FEATURES

Each family of alarms supports several special features:-

- 'AP': Alarm Pause. Fitted to the SA900/SA300 and models with the suffix 'AP'. Silence your smoke alarm by momentarily pressing the test button. Ideal when non-emergency smoke (eg cooking fumes) causes nuisance alarms. The red light flashes every 10 seconds to remind you that the smoke alarm has been silenced. Your smoke alarm will automatically reset after approximately 10 minutes.
- 'i' Interconnect. Fitted to models with the suffix 'i' Connect up to 12 alarms together so that when one alarm sounds all properly connected alarms with this facility will follow.
- 'S' Sealed-in battery. Model numbers with the suffix 'S' have the battery sealed in to prevent tampering.

For example a model SA900Si is an alarm with a sealed in battery that can be interconnected to other alarms.

### SA900 / SA900Si / SA300L

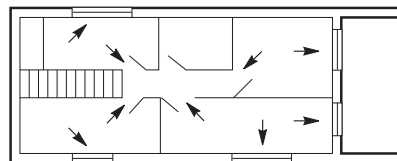
Supplied complete with Long Life Lithium Powercell. Under normal use and conditions this lithium powercell is guaranteed for 10 years, the typical life of the alarm. In the SA900Si the battery is sealed in place and is not removable/replaceable.

### BE PREPARED

Smoke and heat alarms properly installed and maintained are an essential part of a good home fire safety programme. Review fire hazards and eliminate dangerous conditions whenever possible. When fire strikes, a prepared and practiced escape plan could prove vital. Your local fire brigade may be willing to advise you. Call them and ask. Consider and discuss the following safety hints:

- Ensure everyone is familiarized with the alarm signal.
- Always test doors with your hands before flinging them open. If they feel warm, fire may be walled up behind them - leave closed and find another escape route.
- Don't waste time collecting possessions. Rouse all occupants and leave the building. Your life is more valuable!
- **GET OUT. STAY OUT. GET THE FIRE BRIGADE OUT.**
- Keep everyone in a set meeting place after your escape.
- If trapped inside, stay close to the floor, cover mouth with cloth, conserve breath as you crawl to safety.
- Keep all doors and windows closed except for escape purposes.
- Prepare and practice an escape plan before a fire starts!

Draw a Floor Plan. Have Fire Drills Often. Practise Your Escape.



### WHERE TO LOCATE

1. As a minimum, smoke alarms should be located between sleeping areas and potential sources of fire such as living rooms and kitchens. In single storey homes with one sleeping area a smoke alarm should be installed in the hallway, as close as possible to the living accommodation. To ensure audibility in bedrooms it may be necessary to install more than one smoke alarm, particularly if the hallway is more than 15m long. In single storey homes with two separate sleeping areas, a minimum of two smoke alarms is required, one outside each sleeping area. In multilevel or split level homes, as a minimum a smoke alarm should be installed on the ground floor between the staircase and any rooms in which a fire might start and on each storey in circulation areas which form part of the escape route (normally hallways and landings).

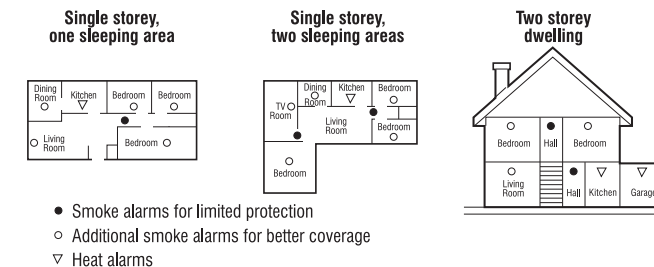
- NOTE:** Heat alarms should not be used in escape routes instead of smoke alarms. They should only be used in the applications listed below in addition to smoke alarms and should always be interconnected with smoke alarms.
2. Additional alarms should be installed in bedrooms in anticipation of fires originating there, caused by faulty wiring, lights, appliances, smokers or other hazards.
  3. For best protection, smoke alarms should be installed in every room in your home, apart from those listed in the Locations to Avoid section. Heat alarms should be used in kitchens, boiler rooms, laundry rooms, garages and such like, where smoke alarms would be unsuitable. All alarms must be interconnected.
  4. Install smoke alarms in circulation areas at a distance no greater than 7.5m from the farthest wall, no greater than 7.5m from a door to any room in which a fire might start and no greater than 7.5m from the next smoke alarm.
  5. When heat alarms are installed in a room, they should be at a distance no greater than 5.3m from the farthest wall, no greater than 5.3m from a door to any room in which a fire might start and no greater than 5.3m from the next heat alarm.
  6. As it is impossible to predict the source of a fire, the best location for an alarm is usually the centre of a room or hallway. If it is necessary to place a smoke alarm on a wall, always locate the detection element of the alarm 150mm to 300mm (6 to 12 inches) below the ceiling and the bottom of the alarm above the level of doors and other openings. NOTE: Heat alarms must not be wall mounted.
  7. In rooms with simple sloped, peaked or gabled ceilings, install smoke alarms on the ceiling 900mm (3 feet) from the highest point of the ceiling. 'Dead air' at the peak of a ceiling may prevent smoke from reaching the alarm in time to provide an early warning.

8. Closed doors and other obstructions will interfere with the path of smoke and heat to an alarm, and may prevent occupants on one side of a closed door from hearing an alarm on the other side of the door. Install sufficient alarms to compensate for closed doors and other obstacles.

READ 'LIMITATIONS OF SMOKE & HEAT ALARMS' in this manual.

Further help and information may also be found in BS5839 Part 6 and the Fire Safety guidance given by the Department of Transport, Local Government and the Regions (DTLR).

**CAUTION:** Research indicates that substantial increases in warning time can be obtained with each properly installed, additional alarm. It is strongly recommended that the advice in 3 above be followed to ensure maximum protection.



**IMPORTANT:** These alarms are intended primarily for single-occupancy private dwellings. For use in other applications the manufacturers advice must be sought.

### LOCATIONS TO AVOID

DO NOT locate alarms :-

1. In turbulent air from fans, heaters, doors, windows, etc.
2. In high humidity areas such as bathrooms and shower rooms, or where the temperature exceeds 39°C (100°F) or falls below 5°C (40°F).
3. At the peak of an 'A' frame ceiling. 'Dead air' at the top may prevent smoke from reaching the alarm in time to provide early warning.
4. Less than 300mm (12 inches) from the wall when mounted on the ceiling.
5. In insect-infested areas. Tiny insects may affect performance.
6. (Smoke alarms) in poorly ventilated kitchen or garage. Combustion particles from cooking or car exhaust could trigger a 'nuisance' alarm.
7. In very dusty or dirty areas. Dirt and dust can build up and impair performance.
8. Within 300mm (12") of light fittings or room corners.
9. In locations which would make routine testing or maintenance hazardous (eg over a stairwell).
10. On poorly insulated walls or ceilings.
11. Near objects such as ceiling decorations which might impede the path of smoke or heat to the alarm.
12. Within 1500mm (5 feet) of fluorescent light fittings.

Further help and information may be found in BS5839 Part 6.

### CARAVANS AND MOBILE HOMES

The National Caravan Council (N.C.C.) requires that all new or used caravans sold by its members be fitted with an approved smoke alarm. The BRK Dicon M300AP and SA900 are N.C.C. approved for this purpose.

### Touring Caravans

1. The preferred position for fitting the smoke alarm is horizontally on the ceiling in the living area.
2. As close to sleeping area as possible.
3. Whenever possible out of line of sight of the kitchen area.
4. DO NOT locate in the kitchen or bathroom areas. Cooking fumes and high humidity can trigger nuisance alarms.
5. DO NOT locate smoke alarms close to exhaust fans or air conditioning units, which could draw smoke away from the alarm.

**N.B.** In older, poorly insulated caravans, layers of hotter or colder air surround the uninsulated walls and may prevent smoke from reaching the smoke alarm. Therefore, in poorly insulated caravans, place smoke alarms on an inside wall, 6 inches from the ceiling.

**WARNING:** When installed in touring caravans, test smoke alarm operation after vehicle has been in storage, before each trip and at least once per week during use.

### Caravan Holiday Home

1. The preferred position for fitting the smoke alarm is horizontally on the ceiling in the living area. Avoid proximity to the kitchen
2. An additional smoke alarm may be fitted in one or more bedrooms.
3. DO NOT locate in kitchen or bathroom area. Cooking fumes and high humidity can trigger nuisance alarms.
4. DO NOT locate smoke alarms close to exhaust fans or air conditioning units, which could draw smoke away from the alarm.

### Park Homes

1. If only one smoke alarm is to be fitted, it should be located horizontally on the ceiling, either in the living room or the hall, but not in the proximity of either kitchen or bathroom.
2. Additional alarms can be fitted in bedrooms.
3. DO NOT locate alarm close to exhaust fans or air conditioning.

### INSTALLATION

1. Open the cover and handle unit with care to avoid damage.
2. Locate keyhole slots.
3. Mark holes through alarm base. Then remove alarm. Drill two 4.75mm holes.  
DO NOT drill with alarm still in position as this will contaminate the unit with dust.
4. Insert the plastic anchors. Screw alarm base to mounting surface.

**NOTE:** When wall mounting a unit, ensure that the keyhole fixing slots are positioned with the narrow aperture uppermost, to prevent the unit from being dislodged.

For interconnect units only (Models with the suffix i, eg 300i - SA900i)

5. Using standard figure eight twin solid core bell wire, connect like to like, i.e. Positive terminal block to positive terminal block, negative to negative.

### OPERATION: HOW TO TEST

1. Connect battery(ies). For models with the suffix S (eg SA900Si), the battery is already connected. Remove activation tab.

Storage in low humidity, and certain transportation conditions, may cause electrostatic charges to build up in the alarm system housing. Although harmless, they may increase the length of time that the horn sounds upon battery insertion or test button operation. The condition may be cleared by gently wiping the inside and outside of the plastic cover with a clean, damp cloth.

2. Check LED operating light flashes approximately every 45 seconds in standby mode.
3. Depress and hold test button until alarm sounds. Note: It may be necessary to depress test button for up to 20 seconds for alarm to sound. Alarm is indicated in a loud 3 beep pattern. Alarm may continue for up to 10 seconds after button is released.

#### After installation:

1. Press test button until alarm sounds, then release. Repeat test weekly.

**WARNING:** The electronic test button provides a full test of the unit's functionality. DO NOT try to test the alarm with a naked flame, as this may present a potential fire hazard in itself.

For interconnect units only (Models with the suffix i, eg 300i)

2. Test each alarm separately in the system.
3. Determine that initiating alarm triggers all other alarms.

### BATTERIES

Your alarm requires one 9 volt battery to power the smoke detector portion of the unit. Recommended batteries are: GP 1604A or GP 1604P, Duracell MN1604 or MX1604, Eveready 1222. Under normal use, the battery powering the smoke alarm should last approximately one year.

#### SA900, SA900Si & SA300L

Your SA900, SA900Si & SA300L Smoke Alarms come complete with a Long Life Lithium Powercell. In the SA900Si the battery is not replaceable. Do not remove this battery from the alarm. Under normal use and conditions the U9VL Lithium Powercell guarantee is 10 years, the typical life of the alarm. The U9VL Lithium Powercell is the only acceptable battery for this smoke alarm. When the U9VL Lithium Powercell reaches the end of its normal life, a low battery warning (intermittent beeping, for at least 30 days) will indicate the need for U9VL Lithium Powercell replacement and in the case of the SA900Si, complete smoke alarm replacement.

**IMPORTANT:** Test alarm using test facility whenever battery is replaced.

### SIMPLE MAINTENANCE

Vacuum every six months to help keep the unit working efficiently. Open cover and gently vacuum interior of detector. Keep vacuum nozzle from touching the unit.

Problems are indicated by two events:

1. The alarm does not sound upon pressing the test button.
2. The operating light remains steadily on or off. (i.e. does not flash approximately once every 45 seconds, when the unit is not in alarm).

#### TRY THE FOLLOWING:

1. Inspect for obvious damage.
2. Visually check that unit contains recommended battery type.
3. Check that battery is properly connected.
4. Gently vacuum as recommended above.
5. Replace battery.

If these procedures do not correct the problem, do NOT attempt repairs. If the smoke alarm is within warranty period and terms, indicate the nature of the problem and return the unit with proof of purchase to distributor. Units beyond warranty cannot be economically repaired. For address see back page.

### FALSE ALARMS

Abnormal air conditions may cause the highly sensitive smoke alarm to give a 'false' alarm. DO NOT DISCONNECT THE BATTERIES. If no fire is apparent, ventilate the room and/or operate Alarm Pause.

**WARNING:** IF THERE IS ANY QUESTION AS TO THE CAUSE OF AN ALARM, ALWAYS ASSUME THAT THIS IS DUE TO AN ACTUAL FIRE AND FOLLOW YOUR FIRE EMERGENCY PLANS. Do not assume the alarm is a nuisance alarm and press the test button to activate Alarm Pause.

Dust can have an adverse effect. Vacuum as recommended above.

Do not paint the unit.

Other factors such as nicotine and insect contamination may also adversely affect the alarm.

### LIMITATIONS OF SMOKE & HEAT ALARMS

Quality smoke & heat alarms are designed to provide the earliest possible warning of fire and smoke at reasonable cost. Early warning can mean the difference between a safe escape and no escape at all. Alarms do, however, have limitations.

Alarms cannot work without power. Battery operated alarms will not work without proper batteries, with dead batteries or if batteries are not properly installed. AC powered alarms will not work if their AC power supply is cut off by an electrical fire, an open fuse, a circuit breaker or any other reason. If you are concerned about the reliability of either batteries or your AC power supply for any of the above reasons, you should install both battery and AC powered smoke alarms in your home, or mains powered smoke alarms incorporating a back up power source. (In the event of an AC power failure, alarms with battery or capacitor back up will only work for a limited period, such period being dependent upon the condition of the standby battery or the retained charge in the standby capacitor).

Alarms are incapable of sounding the alarm until smoke or heat reaches the sensing chamber. Anything preventing this from reaching the detector, such as a closed door, may delay or prevent an alarm. A smoke alarm cannot detect fire in the walls, chimney or roof unless and until a significant amount of smoke reaches the alarm. An alarm on any given floor should not be relied upon to detect fire on any other floor. For these reasons a smoke and heat alarm should be installed in every room or at least on every level of your home.

Smoke and heat alarms may not provide protection for a smoker smoking in bed, for children playing with matches, or for violent explosions resulting from escaping gas. Installation of smoke & heat alarms is only part of a complete home fire safety programme.

BRK Dicon and First Alert smoke & heat alarms are manufactured to the highest standards to ensure faultless operation and long life. The manufacturers do, however, recommend that no alarm should be used for more than 10 years, in order to minimise the chance of a fault occurring.

Your smoke and heat alarms are not a substitute for property, disability, life, or other insurance of any kind. Appropriate insurance coverage is your responsibility. Consult your insurance agent.

### RADIOACTIVE CONTENTS

The units in the BRK Dicon Micro 300, SA900 & First Alert SA300, SA200 ranges of ionisation smoke alarms utilise a tiny amount of radioactive material, 0.9 microcuries (33 kilobecquerels) of Americium 241, to detect smoke. This material is in the form of a sealed source and represents no hazard whatsoever to anyone installing or using the smoke alarm. Any stray particles would be unable to 'penetrate through the dead layer of skin and thus do not constitute an external hazard.' (Radiation Protection Guidance for Scientists and Physicians). All BRK Dicon/First Alert ionisation smoke alarms have been rigorously tested by the National Radiological Protection Board to ensure absolute safety.

### DISPOSAL

As a responsible company, BRK Dicon/First Alert is constantly monitoring and updating its systems and procedures to anticipate changes in safety and environmental legislation worldwide. For instance, changes in European legislation will soon have an impact on the disposal of some smoke alarms.

For the latest information on the disposal of smoke alarms, please contact our customer helpline on +44 (0)1452-887570.

### GUARANTEE

Your BRK Dicon/First Alert Alarm, excluding the battery(ies) is warranted for five years from the date of purchase against defect in material and workmanship. For the SA900/SA300 family, this period is ten years and includes the Long Life battery. Units returned to BRK Dicon/First Alert with proof of purchase date during this period as a result of such defects will be repaired, or replaced at BRK Dicon/First Alert's option, without charge. This warranty only covers defects in material or workmanship in normal residential use and does not cover damage resulting from negligent handling, misuse or lack of reasonable care.

YOUR ALARM IS NOT A SUBSTITUTE FOR PROPERTY, DISABILITY OR OTHER INSURANCE OF ANY KIND. APPROPRIATE COVERAGE IS YOUR RESPONSIBILITY, CONSULT YOUR INSURANCE AGENT.

This warranty does not affect a customer's statutory rights in any way.

In the event of a problem with your alarm or you have any questions concerning use and care of the product, please consult your owners manual. If you require further help or clarification, please write to:

#### BRK BRANDS EUROPE Ltd.

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United Kingdom



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Please note that specifications may be subject to change.