



Hard Wired Residential Smoke and Heat Alarms

Specify with confidence from the
World leader in fire detection and
suppression products



From aerospace technology to the home

Who are KIDDE?

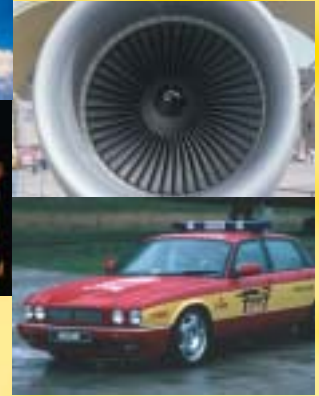
KIDDE is the largest manufacturer of fire suppression and detection systems in the World.

KIDDE Worldwide works closely with regulatory bodies, fire services, national and local governments etc. to ensure that we can provide our experience and input as new legislation is developed. In the UK we work closely with many Fire Brigades with whom we share a common interest in reducing injuries and deaths from residential fires.

Many Fire engines in the UK carry our logo, as part of our ongoing commitment to partnership development with the Fire Service.



Demanding applications for KIDDE's fire detection/suppression products



KIDDE Support Vehicle for 1999 Thrust World Landspeed Record

Who are KIDDE Fyrmetics?

A division of KIDDE Safety Europe, who have thoroughly researched the UK residential property market to develop a range of hard wired smoke and heat alarms, offering quality you'd expect from a world class manufacturer in its own ISO assessed plants.

Features specifically for the UK housing market, including the demanding Social Housing area.

- Modern and aesthetically pleasing alarms, that are feature packed e.g. easy to see and use test and hush buttons.
- Value for money; cheapest isn't always best in the long run is a view we subscribe to.
- 10 year guaranteed models with sealed in lithium cells for maximum performance; ideal for contracts awarded under the governments "Best Value" initiatives.
- Locally based sales team to service your needs, with the extensive resources of Kidde behind them.
- Clear commitment to focus purely on residential fire and CO safety, and to educate specifiers and installers about the key areas of:

Good Practice - SSIAM

Selection (i.e. right type)

Siting (i.e. right location/s)

Installation (In accordance with manufacturers instructions/ BS Codes of Practice)

Adequacy (Is a single alarm enough?)

Maintenance (All alarms need regular testing and vacuuming to ensure they are working, and to prevent the build up of dust contaminants; these lead to nuisance alarms)

Failure to follow these common sense tips leads too often to unhappy householders, who may decide to disable the alarm, thus defeating the whole object of the exercise.

Siting

In a minimum installation, fit one Optical downstairs and one Ion upstairs.

Current legislation/Codes of Practice (England & Wales)

The Building Regulations 1991 (Approved Document) 2000 edition.



The Building Regulations (as far as residences are concerned), basically only apply to new build homes, but will catch some refurb work i.e. loft conversions. In this scenario not only lofts would require alarms, but also each floor.

Regulations do not specify any type of alarm to be used, save that they must be hard wired. This rules out DC (battery) alarm types therefore. Requires minimum one per floor, and all to be interconnected.

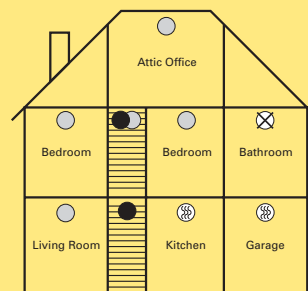
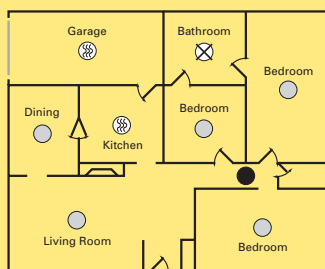
Regulations do not even specify that alarms have to have battery (secondary) power back up i.e. in fire/loss of power scenario e.g. metered prepayment. In a fire, the cabling could well get damaged, hence importance of secondary/local power back up.

Introduced in 1992 after the Kings Cross tragedy: Requirement for the first time, from July 1st 2000, is the installation of Heat alarms in kitchens where it opens on to a room – proviso is that they must also be interconnected to the other hard wired smoke alarms. Therefore a typical house will now have 3 alarms not 2.

BS CODE OF PRACTICE (BS5839: Pt6: 1995)

These are guidance notes, but are followed by large specifiers such as housebuilders/local authorities and housing associations. e.g Typically they will specify that the installer be approved (e.g. ECA approved), that the products meet the relevant standard BS5446, and be installed/sited in accordance with the relevant BS Code of Practice. They are seen as best practice. (See illustration below).

Recommended Type/Siting Installations



- Heat Alarm
- Ion Alarm
- Optical Alarm
- ⊗ Do not fit

Selecting a Smoke/Heat alarm

- In new build property DC alarms are not permitted, and hard wired (AC) interlinkable alarms are required to comply with the Building Regulations.

Type Selection:

- This is a key area, and you should seek the advice of professionals, if you are uncertain; we would be delighted to help. Alternatively other sources are: Local fire service/Building Control at Local Council, *though generally only involved with New Build and projects requiring Planning permission/electrical installer.* However, this leaflet may well provide you with the answers you need. Residential Alarms use the same technology in sensing smoke and heat as used in Commercial premises; these comprise Ionisation, Optical (Photo electric), and Fixed Point Heat alarms.
- No one type of alarm is suitable for every type of fire – ideally therefore, you will be using a combination of all three to provide maximum protection.**

Interconnectability

- All AC Smoke and Heat Alarms have this feature, and means that any alarm interconnected, will also sound in the event of one sensing fire. In practice this can provide those vital extra seconds for the family upstairs to escape, if the alarm downstairs has detected a fire in the lounge area. In a commercial environment every detector is connected back to a panel. In residential applications alarms need no central panel, as they can be linked directly to each other.
- It is only possible to connect KIDDE Fyrnetics AC alarms to other KIDDE Fyrnetics Smoke, Heat and CO Alarms. Equally our DC (battery) types can only be interconnected to each other.



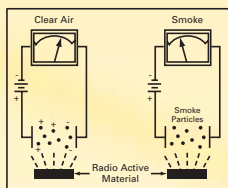
Selection of right sensor type, regards location

- OPTICAL** alarms are best for areas such as escape routes/circulation spaces, and in areas where there is danger of ignition of furniture and surroundings by cigarettes.
- Less prone to nuisance alarm from cooking particles/steam from near kitchen.
- IONISATION** ALARMS ARE BEST FOR AREAS SUCH AS DINING and LIVING ROOMS THEREFORE, and WHERE A FAST FLAMING FIRE IS MORE LIKELY TO BE A HAZARD THAN A SLOW SMOULDERING ONE. A fast flaming fire would for example, be electrical equipment catching fire.

Types of Smoke Alarm/Siting

Ionisation (also known as ION):

- Using the ionisation principle these are best for fast flaming fires, and are the sort you will normally see sold in DIY outlets. React to small particles that are often invisible to the human eye e.g. polyurethane foam, as used in older furniture. When these particles enter the sensing chamber, a balanced current state between this and the reference chamber is disturbed and so triggers the 85db sounder. More prone to nuisance alarm from steam/invisible cooking particles that may be generated if located too close to kitchens for example. Because of this models will often offer the option of a hush button. (Contain a very small amount of Americium 241 radioactive material, within the inner chamber.)
- NO ALARM SHOULD BE SITED WITHIN 3 METRES OF A SOURCE OF STEAM** e.g. kitchens/bathrooms



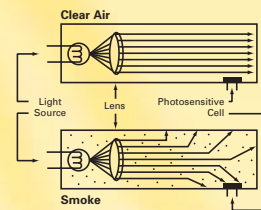
- In a typical 2 storey dwelling we would recommend an Optical alarm downstairs in the hallway, interconnected to an Ionisation, upstairs. This is a minimum installation; from July 1st 2000, most new homes built will also require an interconnected hard wired Heat Alarm in the kitchen too. Also refer to BS5839 Pt 6 for guidance.
- Bedrooms:** the special danger of fire when the family is asleep: It is increasingly recognised that each sleeping area, should also have its own interconnected alarm. The increasing amount of electrical equipment in children's bedrooms e.g. PC's/Electronic Games/Audio and TV equipment, that often runs on an overloaded adapter increases the fire risk. Australian Research also indicated that children were more likely to react to an alarm in their bedroom, than one located outside e.g. on the Hallway.
- HEAT ALARMS** These are for use in environments where ordinary alarms will not operate satisfactorily such as kitchens/boiler rooms/attics/garages. These are humid and/or dusty locations, best suited to Heat Alarms, but must always be interconnected to other Kidde Fyrnetic Smoke Alarms.

Recommended Locations

- Ideally locate near centre of room on ceiling but at least 300mm (12") from any light fixture and 300mm away from any wall.
- On peaked ceilings install within 900mm (36") of highest point.
- Install one in every room, including occupied attics, but not in kitchens/bath rooms/shower rooms/boiler rooms/garages.

Locations to be Avoided (Smoke Alarms)

- Within 3m of a steam source e.g. kitchen/bath room or garage.
- In locations where temperature may fall below 5°C (41°F), or above 40°C (104°F).
- In very dusty/dirty/insect laden areas.
- Within 1m of dimmer controlled lights and cabling.
- Within 1.5m of fluorescent lighting fittings.
- Any location where the free flow of smoke to the alarm could be interrupted (e.g. next/above a door/air-vent/heater/air-con unit).
- Areas where routine maintenance or operating hush/test button is difficult (e.g. top of stairwells).
- Siting should be in accordance with the current Building Regulations and/or BS5839 Pt6/current I.E.E. Regulations.
















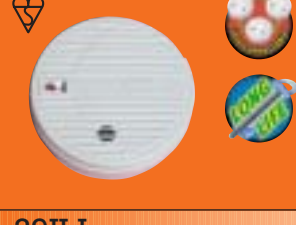


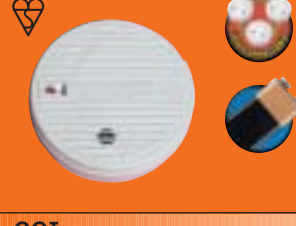

Optical (Photo Electric):

- Increasingly popular because of their better resistance to nuisance alarms than Ion types. (Ideally a minimum of one of each type + interconnected would be specified.)
- Best suited to slow smouldering fires such as PVC cabling/foam filled furniture/bedding material.
- This could typically be where a cigarette has fallen behind some furniture and produces over an extended amount of time, a slow smouldering fire. Optical alarms react best to larger and denser smoke particles.

Heat Alarms:

- A relatively new product in residential fire detection, **BUT MUST ONLY BE USED WHEN INTERCONNECTED TO OTHER INSTALLED SMOKE ALARMS.** These are triggered when the ambient temperature reaches 57°C, and are recommended in locations such as Kitchens. *(The kitchen is the source of most residential fires).*


A range of hard wired Smoke and Heat alarms, offering quality you'd expect from a World Class manufacturer.










	Optical	Ionisation	Heat
 230V AC/DC (Long Life)	 223/9HILL	 123/9HILL	 323/9HILL
 230V AC/DC (Alkaline)	 223/9HI	 123/9HI	 323/9HI
 230V AC	 223I	 123I	<p>Deactivation Tab</p> <p>At end of a Long Life model's service life, the battery will chirp for a minimum of 30 days, once a minute.</p> <p>As the battery is sealed inside, this KIDDE feature enables the householder to silence the alarm whilst waiting for a replacement.</p> 
 9V DC (Long Life)	 29ILL	 19HILL	
 9V DC	 29I	 19HI	


Deactivation Tab

At end of a Long Life model's service life, the battery will chirp for a minimum of 30 days, once a minute.

As the battery is sealed inside, this KIDDE feature enables the householder to silence the alarm whilst waiting for a replacement.



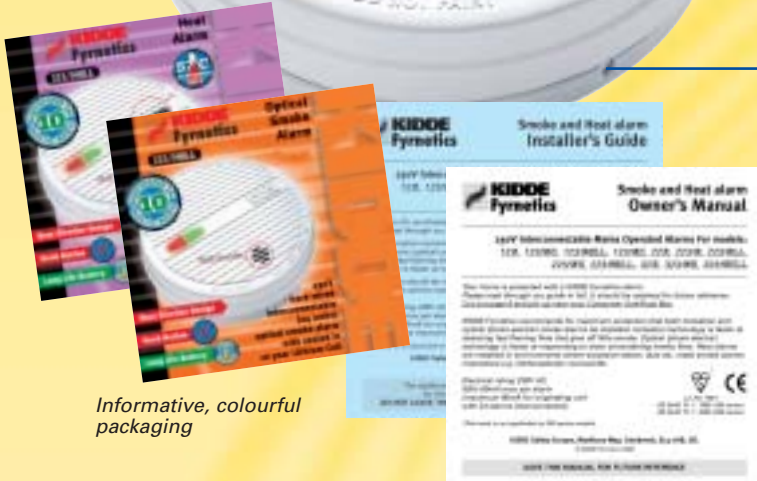
- Key**
-  Interconnectable (Up to 24 Units)
 -  Interconnectable (Up to 12 Units)
 -  Hush Feature
 -  Sealed in Long Life Battery
 -  Alkaline Battery
 -  Activation at 57°C
 -  **(Optical)** Lic No: 7861 BS 5446, Part 1, 2000
 -  **(Ion)** Lic No: 7861 BS 5446, Part 1, 1990
 -  All alarms CE marked

 **SMK23:** A surface pattress for retrofit projects typically. Entry via surface cabling/mini trunking through side knockouts or via rear.

SMK23R: As above but with built-in switchable relay (will not function without live mains supply). For operating remote devices such as: door closers, warning lights or signalling to Warden control systems.



Dust Cover



Informative, colourful packaging

Features

- **10 Year guarantees on Long Life AC models, 6 Year guarantees on others.**
- **On non sealed in models, battery drawer cannot shut or alarm cannot be mounted on it's base if battery is missing.**
- **Twin, easy to see and use test/hush buttons.**
- **All AC models with Red and Green leds (indicating healthy ac and alarm state).**
- **85db alarm sounder at 3m.**
- **Neat slimline design**
- **All alarms are interconnectable (12 on DC models, 24 on AC models),**
- **Locking pin. Deters unauthorised removal.**
- **Auto reset after triggering (resets after smoke etc. has cleared).**
- **Plug in cable harness.**
- **Dust cover supplied, prevents dust ingress by construction trades.**
- **2 separate easy to follow manuals (1 for User, 1 for Installer).**
- **30 day low battery warning.**
- **All smoke alarms BS Kitemarked.**

Comprehensive Manuals

Selection Criteria

- **Power Supply:** You are faced with battery powered DC supply or hard wired AC. The former are generally the sort you will see in DIY outlets and were fitted in great quantity after the Kings Cross fire tragedy. Hundreds of thousands were also fitted by Local Authorities to provide protection for their tenants.
- Many of these are now past their useful service life of ten years, and the Fire Brigade each year reports increasing numbers of these alarms not working in fires they are called to. These are often basic models with no hush or interconnection facilities. Home Office data indicates flat or missing batteries as a primary cause, along with incorrect siting, lack of maintenance etc. This is why increasingly professionals are moving up to hard wired alarms; the additional cost if the property is having other wiring done is therefore greatly reduced.

Hard Wired Benefits

- Always interconnect up to 24 units. (Often with hush feature; essential on Ion alarms which are more prone to nuisance alarming from steam sources.)
- Twin LED's indicating healthy power and state of alarm.
- Far less likely to be tampered with than DC alarms, where battery misappropriation is an issue. (e.g. Where the battery is borrowed for use in another household appliance and never replaced).
- Though 'The Building Regulations' permit AC only alarms (i.e. without battery back-up) the majority installed do have battery back up.



What's Interconnection?

- This means an alarm downstairs that senses fire at night will sound the interconnected alarms upstairs. This extra few minutes of warning can mean the difference between life and death.

What's battery back up?

- With a mains only alarm if there is loss of power supply, the secondary or back up battery provides power for the alarm to continue functioning. There have been a number of fires attributed to candles which were lit after the mains power was lost – a good example of the importance of battery back up. Of course in a real fire there is also the danger that damaged mains cabling may also disrupt supplies.



Heat Alarms

- This is a relatively new product for domestic residences and must only ever be installed alongside compatible smoke alarms. The new Building Regulations applicable from July 2000 will require most homes to have them fitted in the kitchen area. This is the source of most domestic fires, but due to steam and cooking particles is unsuitable for smoke alarms.
- Their use in 'New Build' from July 1st 2000 is likely to extend into existing properties when they are refurbished.



10 Year Battery Back Up and 10 Year Guarantee

- On our top-of-the-range products that enjoy a 10 year life and guarantee, we use a sealed-in Lithium Cell. These units therefore have no loose battery that can be misappropriated for use in other appliances. Unlike many manufacturers who claim a 10 year life – we **guarantee** it. (Naturally this assumes they have been installed/maintained in accordance with the supplied manuals.)




BS Kitemarking

- Always insist on Smoke Alarms that are BS Kitemarked; your guarantee that both the products and the manufacturing facility have been subject to rigorous 3rd party accreditation procedures. These are carried out on an ongoing basis by BSI's worldwide team. *Products claiming to be "made to" a BS, have not been subjected to such processes.*



Model No.	Alarm Type	AC Power	DC Power	LL DC Power	Unit Guarantee	Battery Guarantee	BS5839 Pt6. 1995	Hush Button	Interconnect x12	Interconnect x24
123/9HILL	Ionisation	✓	–	✓	10 Years	10 Years	Grade D	✓	–	✓
123/9HI	Ionisation	✓	✓	–	6 Years	–	Grade D	✓	–	✓
123I	Ionisation	✓	–	–	6 Years	–	Grade E	–	–	✓
223/9HILL	Optical	✓	–	✓	10 Years	10 Years	Grade D	✓	–	✓
223/9HI	Optical	✓	✓	–	6 Years	–	Grade D	✓	–	✓
223I	Optical	✓	–	–	6 Years	–	Grade E	–	–	✓
323/9HILL	Heat	✓	–	✓	10 Years	10 Years	Grade D	✓	–	✓
323/9HI	Heat	✓	✓	–	6 Years	–	Grade D	✓	–	✓
19HILL	Ionisation	–	–	✓	5 Years	5 Years	Grade F	✓	✓	–
19HI	Ionisation	–	✓	–	5 Years	–	Grade F	✓	✓	–
29ILL	Optical	–	–	✓	5 Years	5 Years	Grade F	–	✓	–
29I	Optical	–	✓	–	5 Years	–	Grade F	–	✓	–
Pattress										
SMK23	Retrofit	–	–	–	–	–	–	–	–	–
SMK23R	Retrofit/Relay	Max loading 8A 24V DC – 250V AC, pulse switchable.								



SMK23: A surface pattress for retrofit projects typically. Entry via surface cabling/mini trunking through side knockouts or via rear.

SMK23R: As above but with built-in switchable relay (will not function without live mains supply). For operating remote devices such as: door closers, warning lights or signalling to Warden control systems.

Suggested Specification Clauses

10 year Hard Wired Smoke Alarm

The alarm to be kite marked to BS5446, Pt1, 1990 (or 2000), and be installed in accordance with BS5839 Pt6, 1995. ION or (Optical) sensor and secondary power to be guaranteed for 10 years: alarm to be interconnectable to 24 units, with twin operating LED's, separate hush and test buttons and deactivation tab to isolate secondary power at end of service life. Such as the KIDDE Fyrnetics 123/9HILL Ion (223/9HILL Optical) alarm as supplied by KIDDE Fyrnetics, KIDDE Safety Europe, Mathisen Way, Colnbrook, SL3 0HB, UK.

10 year Hard Wired Heat Alarm

The alarm to be CE marked and be installed in accordance with BS5839 Pt6, 1995. The secondary power to be guaranteed for 10 years. Alarm to be interconnectable to 24 units, with twin operating LED's and deactivation tab to isolate secondary power at end of service life. Such as the KIDDE Fyrnetics 323/9HILL alarm as supplied by KIDDE Fyrnetics, Kidde Safety Europe, Mathisen Way, Colnbrook, SL3 0HB, UK.

Availability and Support

Available through selected electrical wholesalers nationwide. Supported by a national team providing local support.

Distributor:

Carbon Monoxide (CO) and Sealed-in DC Smoke Alarms

Ask for details of our KIDDE Nighthawk CO alarms in AC and DC options.

KIDDE's Nighthawk CO alarm brand, is No 1 in the US, a country with a far higher level of CO alarm penetration than in the UK; indeed many areas there make the fitting of them mandatory. Over the next few months we will be launching new hard wired CO alarms designed for the UK market.

Though our main interest is hard wired alarms we have battery powered alarms, both smoke and CO, where budgets do not permit the installation of hard wired product. We will also have sealed in Long Life versions, for areas where battery theft has proven to be an issue.



KIDDE Quality

KIDDEs Smoke and Heat alarms are made in their own ISO approved factories, ensuring we can provide optimum quality at competitive pricing.

All our Smoke and CO alarms are BS Kitemarked.

Random spot checks by BSI Inspectors ensure that quality and consistency is assured.

Slick Rechargeable 10 Year Range

Ask for our separate brochure or visit our website.