



LINCS BUILDING
CONSULTANCY

Guidance Note No. 9

Smoke Alarms in
Dwellings

*Building Regulations require that **ALL** new buildings (including those converted into dwellings, and loft conversions to existing dwellings) are fitted with an automatic fire detection and alarm system.*

Self-contained smoke alarms are suitable unless the dwelling is very large (e.g. more than 200m² per floor), in which a detection and alarm system should be designed and installed to the "LD3" standard of BS5839 Part 6. (however, if the large dwelling has more than 3 storeys you must obtain advice from your Building Control Surveyor)

Type of smoke alarm

The self-contained smoke alarm should be mains operated (preferably with a secondary power supply) and designed to conform to BS5446 Part 1.

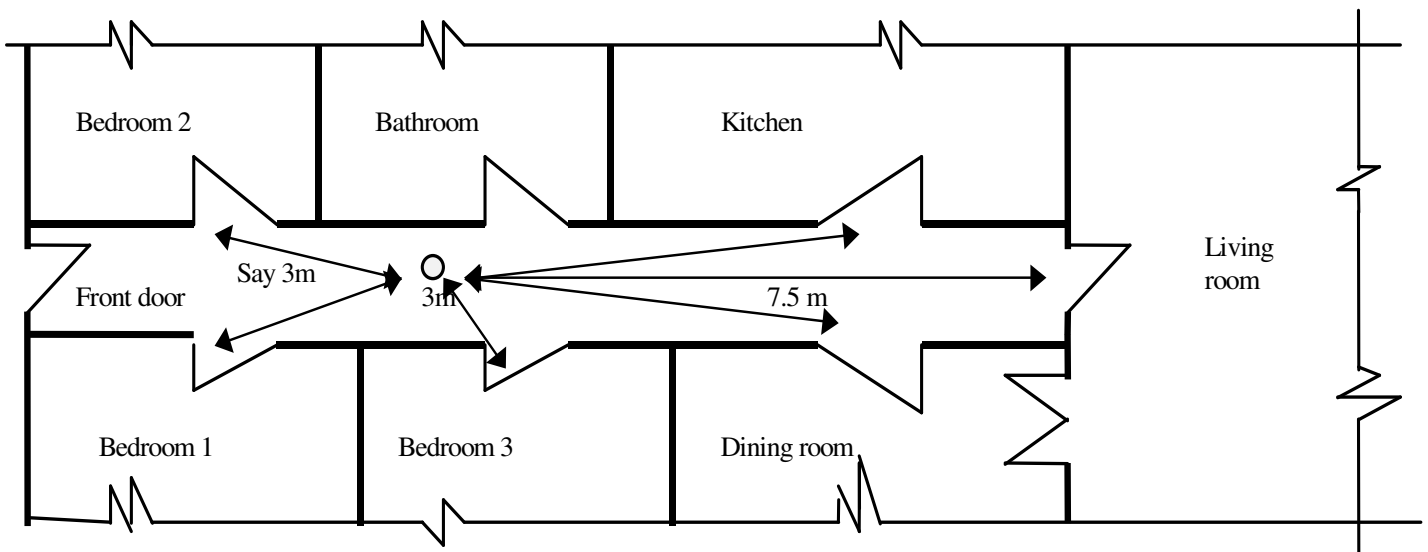
Where more than one alarm is provided they should be interconnected, so that detection by one unit operates the alarm signal in all of them.

Number and position of smoke alarms

The smoke alarms should be provided to the circulation area of each and every floor of the dwelling. The unit should be no more than 7.5m from the door to every habitable room, whilst also being close enough to bedroom doors for the alarm to be effective when occupants are asleep (say 3m).

Note: If the kitchen is not separated from the circulation space by a door, a compatible interlinked heat detector should also be provided in the kitchen.

Example position of smoke alarm within a single level dwelling



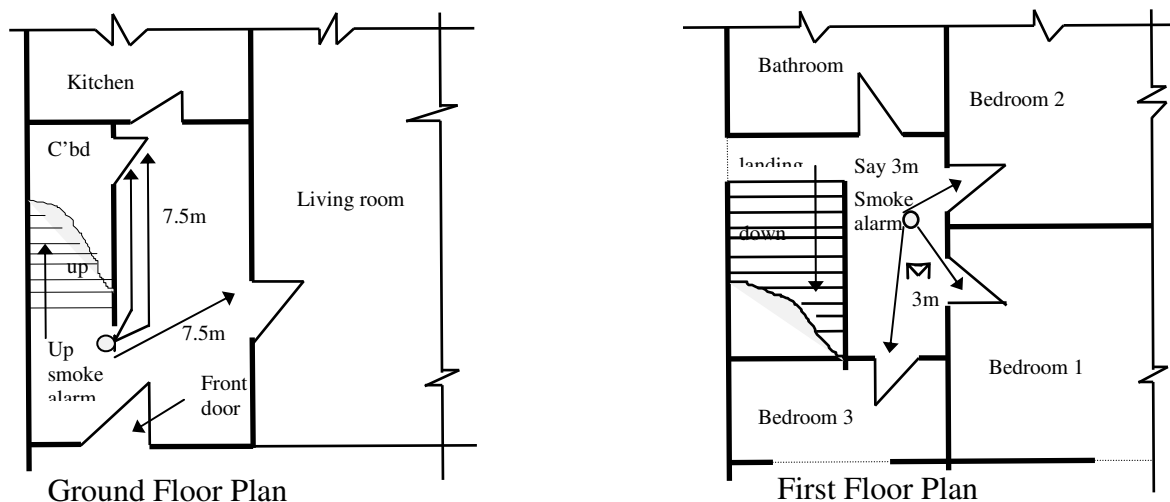
Each alarm should preferably be fixed to the ceiling in a central position and at least 300mm from any wall or light fitting. If the unit is designed to be wall mounted, it should be fixed above the level of the doorway opening in accordance with the manufacturers instructions.

Note: The sensor in ceiling mounted devices is between 25mm and 600mm below the ceiling (25mm – 150mm in the case of heat detectors)

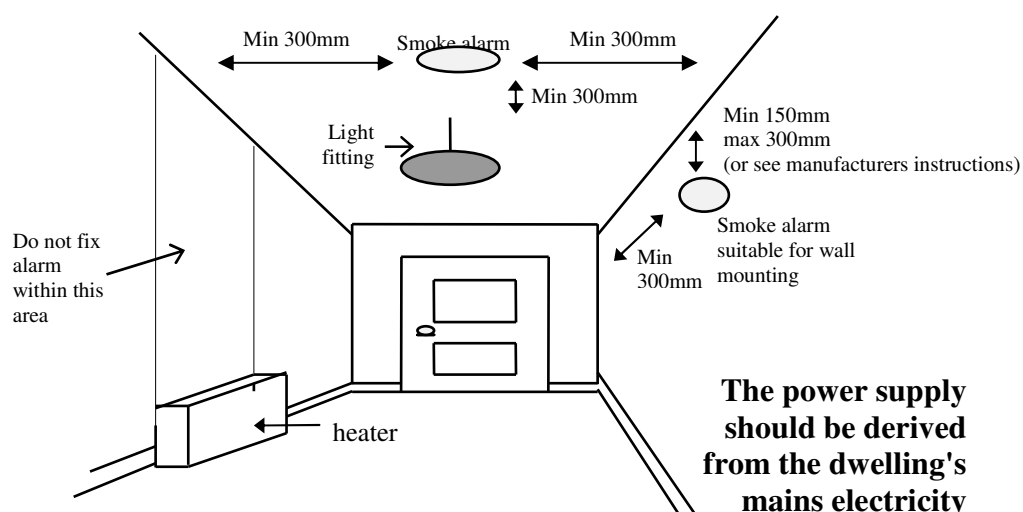
Alarms should not be fixed next to or directly above heaters, ducted air outlets or in bathrooms, showers, cooking areas or garages, where steam, condensation or fumes can give false alarms. Likewise, alarms should not be fitted in very hot or very cold rooms (e.g. boiler rooms or unheated porches), where the air currents may move smoke away from the unit.

When positioning a self-contained smoke alarm consideration should be given to the safe testing, cleaning and maintenance of the unit. For this reason the alarm should not be fixed over a stair shaft or an opening in a floor.

Example position of smoke alarms within a two level dwelling



Example position of smoke alarm within the circulation area



Installation & Maintenance

All electrical works are required to meet the requirements of Part P (Electrical Safety) and must be designed, installed, inspected and tested by a person competent to do so. Prior to completion the Council should be satisfied that Part P has been complied with. This may require an appropriate BS 7671 Electrical Installation Certificate to be issued for the work by a person competent to do so.

The unit should be permanently wired to a separate fused circuit at the distribution board, via mains transformer if they operate on a low voltage supply or fixed in accordance with BS5446 Part 1. No other electrical equipment should be connected to this circuit (apart from a dedicated monitoring device installed to indicate power failure) unless the system has a stand-by power supply which can operate during mains power failure. It can therefore be connected to a regularly used local lighting circuit. All should conform to the IEE Wiring regulations. There is no need to have any special fireproof wiring. The alarm should preferably not be protected by any residual current device (RCD) however, if this is unavoidable please consult your Building Control Surveyor.

The manufacturers instructions containing the operating, testing and maintenance of the unit should always be passed to, and retained by the occupier of the dwelling.



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If you would like to receive this information in another language or in another format, such as large print, Braille or on an audio tape, please contact Administration at either of the offices shown above.

Please note that these guidance notes are for advice only and may not cover all situations. It is your responsibility to ensure that they are appropriate for use in your particular circumstances.