

SPECIFICATION AND GUIDANCE FOR FIRE ALARM SYSTEMS IN DWELLINGS

BS 5839: PART 6, 2004, (GRADE D)

This is the specification for fire alarms that meet the above British Standard. They are usually installed in HMOs of 1 or 2 storeys which are smaller and with no problematic or unusual layouts. They may be used to form a "mixed" system either with a Grade A panel controlled system in the halls and landings or a further Grade D system. Grade D detection systems may be used to provide high quality and long life detection in flats, either a single point detector in the circulation area of main living area, or as part of an interconnected system for larger flats. Interconnected systems may also be used to overcome poor layout problems in older flat conversions, such as through lounges.

Power for the system

Power for the fire alarm and detection system must be taken from a dedicated supply which is controlled and funded by the landlord. If there is no separate electric meter for the landlord's supply this must be installed prior to the fire alarm system. This supply should be on a contract only – no prepay meter is permitted - this is to ensure that power is always available for the fire alarm and in no circumstances, other than a power cut, will power fail. The rechargeable batteries which form an intrinsic element of each detector unit provide a standby supply in the event of mains failure.

Single interconnected system

Grade D systems comprise a series of mains operated alarm/detection units which are sited in the hall, stairs and landing and may also be sited in every risk room. The level of installation is to be found on the schedule of works specific to the property concerned. Each detector/ sounder is a stand alone unit in its own right which operates from the mains power supply. These individual detectors are then interconnected so that when one unit is activated by fire (or test) the whole system sounds. This allows for the proper sound level of 75dbA to be achieved in all rooms in the house where occupants may be sleeping.

Optical smoke detectors to be sited in living rooms, dining rooms, bedsits, halls, landings, **Fixed heat detectors** to be sited in kitchens or kitchen diners.

Each detector is fitted with a hard wired rechargeable battery back up supply with a 10 year guarantee, so that the system still works if the mains fails (as it does when there is a fire).

Each detector should have both a "hush" button for silencing false alarms and a test switch.

Power for this system must come from a dedicated landlord's supply.

Mixed systems

A mixed system comprises two separately operating smoke detection systems. The benefits of this installation is that it minimised false alarms. It is most suited to HMOs comprising converted self contained flats, but may be specified for other HMOs where risk is reduced.

The system to be provided in two parts. Where a single system is being improved it is possible to utilize existing wiring and/or detector heads where appropriate.

Main system to comprise a series of optical smoke detectors in the ground floor hallway, first floor landing and second floor landing. Inside each flat/letting, in a suitable location in the circulation space, close to the flat/letting entrance door, provide a heat detector. All these detectors to be linked together to form a system which, when activated, indicates and sounds throughout the house that evacuation is necessary.

Within each flat/letting, in a suitable location, usually the circulation space or living area (taking care not to site too close to kitchens) install a stand alone optical smoke detector that is wired for remote hush and test. Power for the detector to be taken from electricity supply for the flat.

No remote hush to be fitted to the main system as it is designed to sound when evacuation is necessary. A remote test may be fitted for the landlords convenience.

Power for the main interlinked system to come from a dedicated landlord's supply. Each individual detector within each letting should be powered from the supply within the flat, if this is separately metered.

Method to upgrade existing systems using Radiolinking

This is applicable to new build houses which have an existing mains operated system fitted when the house was built. The Building Regulations require detectors in hallways/landings – linked together. The best solution is to extend the system to that specified in the schedule of works by changing one of the detector heads to a radio link head. Then other heads can be linked to this main detectors and adjusted to the radiolink frequency so that when one detector is activated by smoke, all the detectors sound. Power will still need to be supplied to each head, as they are mains operated, but the interlinking is provided by radio transmission. This kind of work is more specialized and it

may be useful to contact the manufacturers – EI - through their distributors – Aico. The Regional Specification Manager for this area is

Briony Martin
0870 758 4029
07771 925 694

briony.martin@aico.co.uk

Aico switchboard – for general enquiries 0870 758 4000

Before commencing any works, check that your electrician is experienced in using this new technology.

General

For HMOs it is recommended that further simple features be added on the system. The remote hush and test switch (sited in a hallway at a convenient height for single systems), allows these functions to be used without getting on a chair or ladder. An alarm locator switch is useful as it turns all alarms of except the one that is activated. This helps pinpoint the incident by the fire brigade or locate the false alarm so that action can be taken. In order to have a remote facility on any mains wired system it may be necessary to have additional wiring (3 core plus interlink plus remote). **Contractors to check the specification for the product before proceeding**. For remote hush there is a particular product spec, so check before purchase if putting in this feature. Radio link interlinking is also permitted.

Landlords and electricians should ensure that systems are purchased which include all these features. There is a lot of disparity between different manufacturers equipment.

The maximum number of units which may be linked together in this way depends on the manufacturers recommendations, but 14 is the usual number. Any more rooms than this and the premises would tend to be larger and would require a higher specification of system (Grade A).

On completion the electrician who has designed and installed the system should certify that it meets the standard and has been installed in accordance with the above BS 5839 Part 6 2004 Grade D.

Detectors are guaranteed for 10 years and so planned replacement of detector heads should take place every 10 years, or sooner if faults of defects appear. The use of the *Easifit* system allows existing detectors to be unclicked and replaced without any changes to the wiring. For information on these systems check the British Standards concerned and also <http://www.aico.co.uk>

All Electrical work required to meet the requirements of Part P (Electrical Safety) must be designed, installed, inspected and tested by a person

competent to do so. Prior to completion the Council must be satisfied that an appropriate electrical installation certificate has been issued for the work, and it has been signed by a person competent to do so.

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