



Handy Fire Alarm Guide

Most buildings commercial or not for profit require a fire alarm fitted for identification of a fire and safety of staff and the building. However, there are instances when they are just not required, for example a small office with low fire risks and all areas can be seen by staff occupying the site. A fire would be visible quickly and either attempts to fight the fire or for staff make their escape quickly.

Although not legally required, it would still be sensible to always have at least battery operated smoke detectors in all buildings where an automatic fire alarm is not required.

The current RRO – Regulatory Reform (Fire Safety) Order 2005 details the requirement for suitable detection and notification.

RRO 2005 - Article 13 – Fire-fighting and fire detection

The Regulatory Reform (Fire Safety) Order 2005

Fire-fighting and fire detection

13. —(1) *Where necessary (whether due to the features of the premises, the activity carried on there, any hazard present or any other relevant circumstances) in order to safeguard the safety of relevant persons, the responsible person must ensure that—*

(a) the premises are, to the extent that it is appropriate, equipped with appropriate fire-fighting equipment and with fire detectors and alarms;

So who decides if we need a fire alarm?

It should be stressed that the responsibility for determining the appropriate system category for any automatic fire alarm does not rest with the designer/installer/servicing company of the fire alarm system, such as a fire alarm contractor. The decision rests with the fire safety specialist / Fire Risk Assessor rather than the fire alarm system specialist – please see Handy Fire Risk Assessors guide.

Why do we Need Fire Alarms

It is common sense really and most will know this, there are many reasons the most important two reasons are to provide the earliest notification possible for both staff and the protection of the building. By the earliest notification possible, staff have, at least a chance to ideally fight a fire if safe to do so, and the remainder of the staff to safely evacuate the building for the fire service to attend site.

Will the fire alarm go straight through to the fire service?

Sadly there is a misconception that if a fire alarm sounds then this automatically sends a signal to the fire service. In fact, only a very small percentage of alarms do this in very high risk situations, some will be

wired to go through to a monitoring centre (basically a call centre), whilst the rest will be bells only onsite, sending no notification to anyone.

It is therefore very important to understand if you have a fire alarm system, if notification is in place and to have plans dealing with all eventualities.

What does a fire alarm look like?

There are various systems currently in customer's premises. Some are only set off if someone presses a 'call point' (that red break glass box on the wall) and have no detectors. Most alarms have detectors fitted to the ceilings as well as call points and sounders (the bell on the wall). Some detectors have sounders fitted in them as well and no bells on the walls.

Most automatic fire alarm systems will go back to what is called a fire alarm panel which is normally situated at the front entrance to the building.

What is a zone?

Medium to larger buildings on several floors normally are broken down into zones from a fire perspective and detectors in a specific zone are linked back to the fire panel. If a fire occurs the panel should display which zone detectors have been set off. It is therefore critical that all panels where the building is broken down into zones has a fire zone chart displayed next to the fire alarm panel, this could be just a written explanation for example first floor marketing office, or a map of the building highlighting specific area into zones.

What happens if we don't have one and we require it

The Regulatory Reform (Fire Safety) Order 2005 (RRO) lays out the regulations used by the fire service to determine the fire protection required for each premises. In cases where businesses or individuals are not compliant with legislation the Fire Service can use the RRO to issue 21 day repair notices, close businesses down, and even to prosecute offenders where necessary.

What types of fire alarms are there?

There is an abundance of fire alarms, and detectors, and the list grows everyday as new technology improves. Cameras, beam detectors, normal smoke and heat detectors and many more.

There are various panels and systems from hard wired, to wireless to a hybrid of both.

Systems are installed based on the buildings size and what it is made from, the risks inside the building, the volume of staff and customers and many more factors. Again the Fire Risk Assessment should detail the level of fire alarm required and this could be from one of the categories listed on the next page

BS 5839-1 defines eight categories of system, according to whether the system is purely manual or incorporates automatic fire detection, and, in the latter case, the purpose and extent of the automatic fire detection.

The eight categories of system are defined as follows:	
Category M systems	These are manual systems and therefore, incorporate no automatic fire detectors.
Category L systems:	These are automatic fire detection systems intended for the protection of life. They are further subdivided into the following subcategories of system as follows:
Category L1:	Systems installed throughout all areas of the building.
Category L2:	Systems installed only in defined parts of the building, including all parts necessary to satisfy the recommendations of the code for a Category L3 system. The additional areas protected, over and above those protected in a Category L3 system, are those in which there is either high likelihood of fire starting or a high risk to life if fire does start.
Category L3:	Systems designed to give warning of fire at an early enough stage to enable all occupants other than, possibly those in the room of fire origin, to escape safely, before the escape routes are impassable due to the presence of fire, smoke or toxic gases. To satisfy this objective, other than in the case of very short corridors, fire detectors need to be installed in all rooms or areas that open onto the escape routes
Category L4:	Systems installed within those parts of the escape routes comprising circulation areas and circulation spaces, such as corridors and stairways.
Category L5:	Systems in which the protected area(s) and/or the location of detectors is designed to satisfy a specific fire safety objective (other than that of a Category L1, L2, L3 or L4 system).
Category P systems:	These are automatic fire detection systems intended for the protection of property. There are then two subcategories, namely:
Category P1:	Systems installed throughout all areas of the building.
Category P2:	Systems installed only in defined parts of the building.

How often do they need to be checked or serviced?

All fire alarms should be checked by someone onsite **weekly** and the details of these checks recorded, preferably in a fire log book. Your fire alarm company should be showing you how to carry out this check, if you need more advice on this please let us know, but a simple guide is detailed at the end of this document.

Simple Guide to weekly checking of fire alarms

Weekly, a trained member of your staff should be testing the fire alarm system onsite. This is a simple process and to do this you must select a different call point each week, activating that call point ensuring the signal from this call point sets off the fire alarm around the building.



This should occur ideally the same time on the same day each week so the staff can assume that the test is a test and they are not required to evacuate the building unless the alarm continues.

The alarm only needs to sound for a couple of minutes and checks should also be made to ensure the alarm can be heard in all parts of the building.

Servicing of your fire alarm

Fire Alarms then should be serviced every 6 months by a competent person/company. Most companies use fire protection companies to undertake this servicing. It is recommended that servicing is completed to BS5839 standards and your servicing company provides a certificate to confirm they are doing this.

Care should be taken when choosing a fire protection company. With any fire service or product you must choose a 'competent' person or company. Failure to do so will leave you personally open to prosecution.

How often should detectors be changed?

You must ensure that a fire alarm system is working at all times and your weekly checks will give some sort of confidence it is. However with a fire alarm your products have a shelf life and a warranty period. These are generally the smoke detectors and the batteries. Most fire protection companies will replace these items when the shelf life is up. For example a detector may have a shelf life of 7 years.

To make it easier for you and for our engineers when servicing we ensure all our detectors and batteries have a clear date of installation so we can identify the date of change.

By changing equipment when due you are also reducing the risk of any false alarms which can affect many businesses.

4. Selection of System Category

Given that purchasers and specifiers are often unable to articulate the category of system required and any additional information that should be provided, it is of value for contractors and designers to have a good awareness of the category of system that will commonly be appropriate. The guidance below is intended to assist in this respect.

A Category M system is generally sufficient to satisfy the requirements of fire safety legislation in workplaces in which no-one sleeps. In the case of premises in which people sleep, quite extensive automatic fire detection is normally required. Generally, this will be a Category L2 or L1 system. In premises with cellular accommodation such as hotels, there is in fact, very little difference between a Category L2 and a Category L1 system. In a hotel or similar sleeping risk, the bedroom floors are generally protected by a system that is effectively equivalent to a Category L3 system but additional detection is provided throughout the premises, thereby making the system a Category L2 or Category L1 system.

5. Legislative Requirements

In virtually all new buildings, a fire alarm system will be required by building regulations. In England and Wales, guidance on compliance with the Building Regulations 2010 is given in Approved Document B, which subscribes to the view that automatic fire detection systems are not normally needed in non-residential occupancies. However, Approved Document B acknowledges that, even in non-residential occupancies, fire detection may be needed:

- to compensate for some departure from the guidance elsewhere in Approved Document B (e.g. relating to means of escape from fire)
- as part of the operating system for certain fire protection systems, such automatic door releases or smoke control systems
- where a fire could break out in an unoccupied part of the premises and prejudice the means of escape from any occupied parts of the premises
- in a building with phased evacuation, in which case, a system complying, at least, with the recommendations for Category L3 is advocated

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