

Commercial Fire Alarm Systems

Businesses and commercial establishments often require more advanced fire alarm systems, falling into the A and C grade categories. These systems incorporate multiple technologies, such as smoke detectors, heat detectors, sounders, and indicating equipment, offering comprehensive fire detection and notification capabilities.

What Is A Grade A Fire Alarm System?

Grade A fire alarm systems offer a high level of protection and control, and must conform to British Standards (BS EN 54). They comprise of separate smoke/heat detectors, a central control panel, alarm sounders, and support equipment – all with a back-up power supply.

Fire Alarm Grades

- **Grade A:** The system will have individual smoke/heat detectors, alarm sounders, and a central control panel, support equipment, all running on backed-up power. The system's components, design, and installation must conform to British Standards (BS EN 54).
- **Grade C:** The fire alarm system comprises detectors and alarm sounders that can be set up like smoke alarms with central control equipment and running on the same power supply from the mains with a standby supply.
- **Grade D1:** The system comprises one or more fire detectors powered by a mains supply with a battery-powered tamper-proof standby supply.
- **Grade D2:** The fire alarm system also comprises one or more detectors powered by a mains supply with a user-replaceable battery-powered standby supply.
- **Grade F1:** The system consists of one or more tamper-proof battery-powered detectors.
- **Grade F2:** The fire alarm system has one or more detectors that run on user-replaceable primary batteries.
- **Category M – Manual fire alarm system**
 - These fire alarm systems are the most standard type. Staff must physically initiate the alarm manually on discovering the fire to warn other people in the building of the imminent danger.
 - Manual fire alarm systems often utilise breakable glass units position strategically throughout the building, which then sounds a premises-wide alarm.
 - There are some manual alarm systems that use gongs or handbells if the business is small and doesn't necessarily need over one sounder to sound the alarm effectively across the building.
- **Category L Fire Detection Systems**
 - These fire detection systems are automatic alarm systems intended to protect lives. There are generally five different levels that fall in this category, each providing different fire protection levels. They include:
 - **Category L1 – Earliest possible fire detection**



- The category L1 automated fire alarm system is the most wide-ranging. It features several detectors in all sections of the building where a fire could potentially begin, including voids, roof spaces, and larger cupboards.
- The objective is to provide the earliest warning possible for inhabitants to guarantee the preservation of life. This alarm system should encompass all the parts of a building, with some exclusions such as lobbies and small cupboards.
- **Category L2 – Additional life protection automated fire alarm system**
- The category L2 fire system gives inhabitants of a building an advanced alert that there is a fire in another part of the establishment.
- Generally, this entails positioning smoke and fire alarms in high-risk areas of the building and escape route openings. They are installed in places where the risk of a fire outbreak is high, like kitchens.
- **Category L3 – Standard life protection automated fire alarm system**
- Also referred to as standard life protection alarm systems, L3 are positioned along all the escape routes that lead from the inside of the building to fire exits.
- The objective, in this case, is to make sure that all the occupants in the building have adequate time to evacuate before toxic fumes, smoke, and fire impede their exit. Unlike the category L3 systems, L2 doesn't have to position alarms in high-risk areas.