



Smoke Alarms

Which technology to use – ionisation or photoelectric?

In choosing the correct smoke alarm for a particular location four issues must be considered.

1. What is likely to burn?
2. What type of fire am I likely to have – fast flaming or slow smouldering?
3. Will the smoke given off be visibly dark?
4. What other airborne particles are likely to be present with the potential to cause a false alarm i.e. cooking fumes or steam

The correct choice is the technology that provides the fastest response with minimum potential for false alarms. Excessive false alarms can lead to the disabling of the smoke alarm.

Ionisation Smoke Alarms respond to a significantly wide range of smoke particles as to be suitable for general use. However they are particularly responsive to fast flaming fires where little visible smoke is present. They are seldom troubled by dust and insect contamination but are vulnerable to irritating nuisance alarms caused by cooking fumes, or gas heating appliances. Ionisation alarms are slower to respond to smoke particles produced by smouldering fires. Ionisation, with consideration to the above, can be installed in passageways and areas leading to bedrooms.

Photoelectric Smoke Alarms respond to a significantly wide range of smoke particles as to be suitable for general use. However they sense visible smoke particles and are particularly responsive to smouldering fires where optically dense smoke is given off. This includes bed linen, foam filled furnishings and overheated PVC wiring. Photoelectric smoke alarms are less prone to nuisance alarms from cooking fumes but are vulnerable to nuisance alarms from dust, steam and insect contamination. An insect screen is fitted to reduce the ingress of insects, but it is impossible to make the alarms insect and dust-proof, as this would effectively make them also smoke proof. It is essential that photoelectric smoke alarms are cleaned regularly. Photoelectric alarms also contain no radioactive element, and, with consideration to the above, can be installed in bedrooms and areas adjacent to kitchens.