Guidance for Homeowners relating to New Regulations for Smoke Alarms

New regulations relating to smoke, heat and carbon monoxide alarms were due to come into effect February 2021.

The Government has extended the compliance date due to delays caused by Covid-19 in order to give homeowners more time to comply. The new date for compliance is February 2022. Further information can be found at the following websites:

https://www.firescotland.gov.uk/your-safety/for-householders/fire-and-smoke-alarms-in-scottish-homes.aspx

http://www.gov.scot/publications/fire-and-smoke-alarms-in-scottish-homes/

Fire and smoke alarms: changes to the law - gov.scot (www.gov.scot)

Homeowners should be aware that when selling a property, Home Reports may include details of alarms. In addition, house insurance policies may insist on alarms being fitted.

The purpose of this guide is to help homeowners to understand and choose the most suitable products for their home. At the time of writing, there are many alarms on the market which do not meet the British Standards (BS EN 14604: 2005) required to comply with the new regulations. This includes smart systems such as Nest Protect Systems which do not meet BS 5839-6: 2019.

Some examples of products which do comply are given below and are available to buy from various outlets in-store or online. This list is not exhaustive and is intended only to help people identify the type of alarms which meet the regulations and to give indicative costs.

Homeowners may prefer to employ the services of specialist companies which can supply and install suitable products. A list of some local companies is also included (Disclaimer – no recommendations are being given, purely contact details of companies who operate in the locality and have given permission for their details to be included).

The new standard requires:

- one smoke alarm installed in the room most frequently used for general daytime living purposes
- one smoke alarm in every circulation space on each storey, such as hallways and landings
- one heat alarm installed in every kitchen

All alarms should be ceiling mounted and interlinked so if one alarm sounds, they all go off.

Where there is a carbon-fuelled appliance (such as boilers, fires (including open fires) and heaters) or a flue, a carbon monoxide detector is also required but does not need to be linked to the fire alarms.

Homes which have existing non interlinked alarms will have to change them to ones that can be interlinked.

Homeowners can choose between having alarms which are hard-wired into the electricity system (with a battery back-up in the event of mains electricity failure), or sealed lithium battery alarms which are not hard-wired in.

It is also possible to have a hybrid system utilising a mixture of hard-wired and sealed battery units but they need to use the same radio frequency system to interconnect them.

Hard-wired alarms vs sealed unit lithium alarms

Hard-wired alarms

The advantages of hard-wired alarms are they are cheaper to buy and are long lasting. The disadvantage is they have to be installed by a qualified electrician so are more expensive to install. In addition, the work involved can be disruptive and may necessitate redecoration to ceilings etc.

Sealed unit lithium battery alarms

The advantage of the sealed unit lithium battery alarm is that they can be installed by anyone so do not have to incur the costs of an electrician.

The disadvantages are that they are more expensive to buy and only last for approximately 10 years, after which the whole unit has to be replaced as the battery in the sealed unit can't be replaced.

Either type of alarm must be fitted to the ceiling and interlinked (by radio frequency or wiring).

Whilst the battery type can be fitted by anyone with basic DIY skills, some homeowners may not be confident working at height to screw them into the ceiling or set up the radio frequency interlink so may prefer to ask a competent person to assist.

Hybrid Systems

If a house already has wiring in place for some smoke alarms but there is a need to update and augment the system, a hybrid system is worth considering. The existing wiring can be used for replacement new alarms with minimal upheaval and any rooms that require additional alarms can be fitted with sealed unit alarms with no need for additional wiring. All alarms can then be interlinked using a compatible radio frequency system. For this reason, it is advisable to install units from the same manufacturer so the units all use the same interconnecting system.

Costs

Costs vary depending on the type and functionality of the alarms. For example, some of the more expensive alarms can communicate with mobile phones and send a message in the event of a fire. It has been estimated that an approximate cost of 4 basic alarms for a 3-bedroomed house is £300-£400 (sealed lithium battery units) and £200- £300 (wired units). Prices correct Jan 2021. This does not include installation costs (if required).

List of local electrical installation companies

Aberdeen PAT Test Services. Tel: 01224 399173

Sandy Walker. Tel: 07977 376 777

Cumming Fire and Security Ltd. Tel: 01467 643917

Aberdeenshire Electrical Services. Tel: 013398 85355

Wayne Alexander. Tel: 07802 317 300

Examples of products

The following list gives some examples of products currently on the market which meet the criteria of the new regulations.

The main choice for homeowners is to decide if they want lithium battery alarms (which they can fit themselves or by a competent handyman), or employ an electrician to fit wired alarms. Either way, they must be interlinked, either by radio frequency or wires. There are some combination alarms also available.

Examples of Wired Smoke Alarms

FireAngel Pro ST-230 Thermoptek Smoke Alarm | Smoke Alarms | Screwfix.com

Mains Radio-Interlink Smoke Alarms & Heat Alarms with Self-Charging 10 Year Back-up Battery - Kidde Slick SFLLWRF (safelincs.co.uk)

Examples of Wired Heat Alarms

Kidde Slick 3SFWRF Radio-Interlinked Heat Alarm (safelincs.co.uk)

Mains Radio-Interlink Smoke Alarms & Heat Alarms with Self-Charging 10 Year Back-up Battery - Kidde Slick SFLLWRF (safelincs.co.uk)

Examples of Wired Combined Smoke & Heat Alarms

Mains Powered Combined Optical Smoke and Heat Alarm with Self-Charging 10 Year Back-up Battery - Aico Ei3024 - £58.79 inc VAT (safelincs.co.uk)

Mains Radio-Interlinked Combined Optical Smoke & Heat Alarm with Self-Charging 10 Year Back-up - Aico Ei2110eRF (safelincs.co.uk)

Examples of Sealed Battery Heat Alarms

FP1720W2-R | FireAngel

10 Year Sealed Lithium Battery Heat & Optical Smoke Alarms - Ei600 Series (safelincs.co.uk)

Examples of Sealed Battery Smoke Alarms

10 Year Longlife Battery Radio-Interlinked Smoke Alarms and Heat Alarms - FireAngel Pro Connected Series (safelincs.co.uk)

Ei650RF RadioLINK+ Battery Optical Alarm - Aico

Examples of Sealed Battery Carbon Monoxide Alarms

Sealed Lithium Battery Wireless Carbon Monoxide Alarm - Firehawk CO7B-10YW (safelincs.co.uk)

Kidde 10LLDCO - 10 Year Long-Life Battery Digital Carbon Monoxide Alarm (safelincs.co.uk)

Examples of Wired Carbon Monoxide Alarm

Mains Powered Carbon Monoxide Alarm with Self-Charging 10 Year Back-up Battery - Aico Ei3018 - £55.19 inc VAT (safelincs.co.uk)

Mains Powered CO Alarm with Optional Digital Display - Kidde 4MCO (safelincs.co.uk)

Examples of Wired Carbon Monoxide & Heat Alarm

Mains Powered Combined Heat and Carbon Monoxide Alarm with Self-Charging 10 Year Back-up Battery - Aico Ei3028 - £71.99 inc VAT (safelincs.co.uk)

Mains Radio-Interlinked Combined Heat and Carbon Monoxide Alarm with Self-Charging 10 Year Back-up - Aico Ei3028RF - £119.98 inc VAT (safelincs.co.uk)

Glossary of Alarm Types

This is provided for information only. All types are acceptable as long as they meet British Standards BS EN14604:2005. Carbon Monoxide alarms must meet British Kitemark (EN 50291-1).

Ionisation – work by ionising the air between two electrodes which are negatively and positively charged, creating a current. When smoke enters the ionisation chamber the current is broken and sets off the alarm.

Good for landings but not kitchens as prone to false alarms from cooking fumes.

Specialised disposal of unit required as contains small radioactive element (Americium 241).

Electrochemical – works by reduction or oxidation of the gas/smoke entering the alarm resulting in changes to the electrical current which then sets off the alarm.

Optical/Photoelectric – works by an infrared light beam in a chamber. When smoke enters the chamber the light beam is broken and this sets off the alarm.

Information collated by Joyce Scott, January 2021