

# FIRE ALARM CONTROL SYSTEM

## What does it do ?

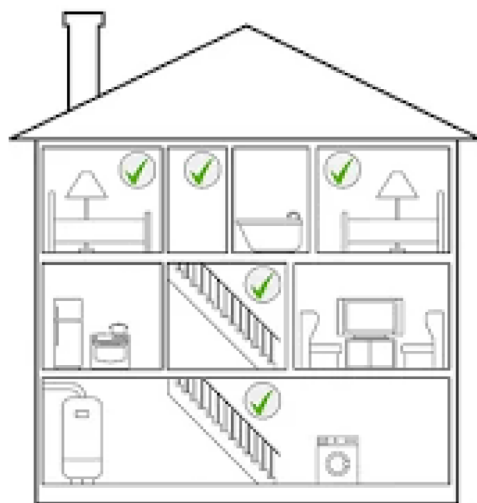
- A fire alarm control system is used to alert residents or people in buildings in the event of fire..
- All fire alarms operate on the same principle, if the detector detects smoke, heat or a rise in humidity it will set the alarm off.
- Or in an emergency situation, a manual break point can be used. It will trigger the alarm horn to warn other residents in the building.



## Who is it for ?

- In 2017 42 individuals died from fires in Ireland. So, in Building Regulations 2017 they made fire alarms and a means of escape in case of emergency, mandatory in every new build and new extensions. In the new figures published in 2019 of how many individuals have died in fires has gone down to 16.
- So essentially fire alarms are for everyone. Meaning fire alarm companies have a wide range of customers and need to supply for many different types of buildings.
- Two examples of this is, when a fire alarm goes off a bright red-light flashes to warn people with hearing impaired. The second example is the high pitch siren which makes it very noticeable and can't be ignored, like an ambulance or a police car siren. This is used for people who may be in further parts of the building and only hear the alarm distantly.
- Thanks to the improvement in technology they have been able to also design the fire alarms, so that they are less visibly noticeable. Which I would prefer as I wouldn't like a big red alarm on my ceiling. Now they are normally white and small.
- They can now also be included in a whole complex and be monitored remotely by fire department or security agents

## Which fire alarm is best for your house ?



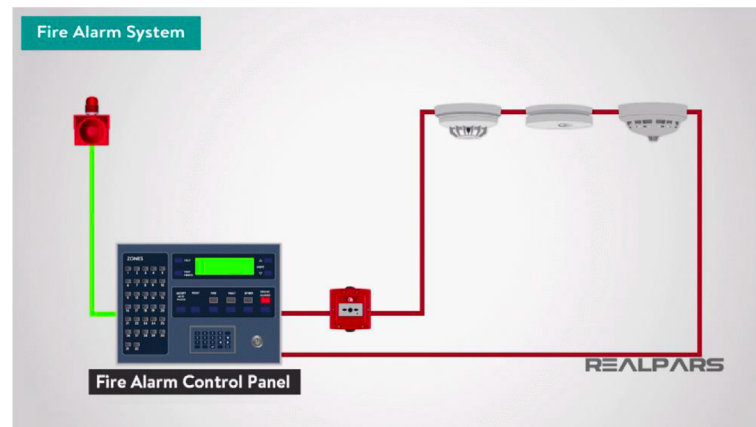
- When you are buying an alarm you need to consider which is the best for the area you are putting it in.
- Heat alarms are recommended for the kitchen, garage, loft.
- Smoke alarms are recommended for all circulation areas, e.g. landings, bedrooms and sitting rooms.
- A carbon monoxide alarm is recommended in fuel burning areas.



## Fire alarm circuit

A standard fire alarm circuit is very simple.

- The fire alarm circuit is the key component in a fire alarm. It detects or senses a fire, using the heat or smoke sensor and then sets off the alarm horn.
- The fire protection system circuit we have at school can be found in many other big buildings. It uses cables to connect all call points, (e.g. manual pull points, fire detectors and smoke detectors and buzzers. )



They automatically transmit all the data / information they have gathered and send it to the fire alarm control panel.

They could also include a battery back up in case of power cut

## What is a fire control panel ?

You may find a fire alarm control panel (FACP) in larger buildings, as it has control over the equipment e.g. manual pull points, fire detectors, sprinklers and smoke detectors. It also controls the necessary information transmitted from the devices to itself to prepare building for a fire based on a "predetermined sequence."



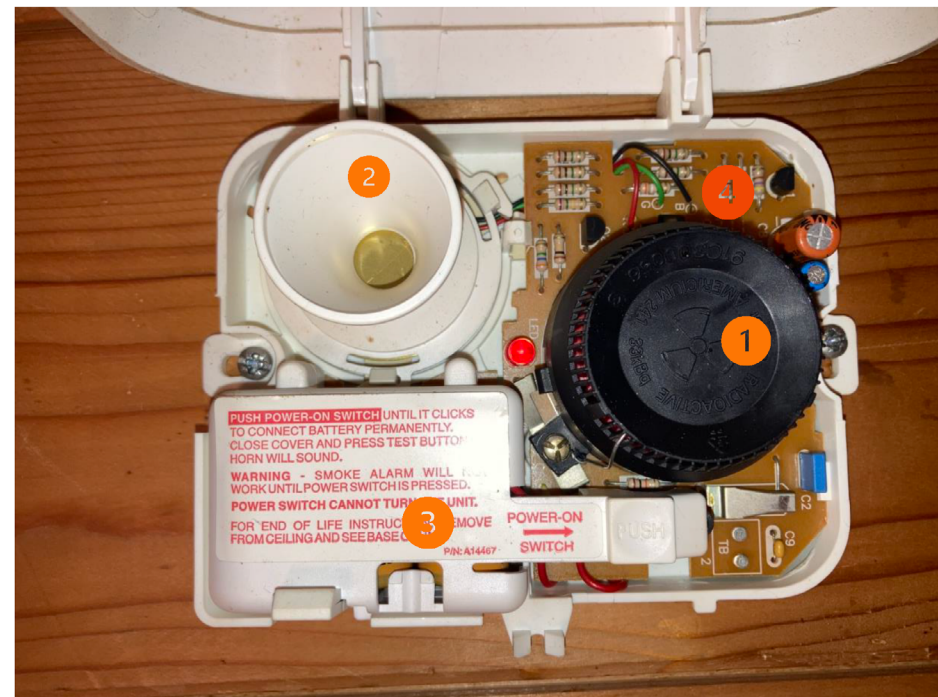
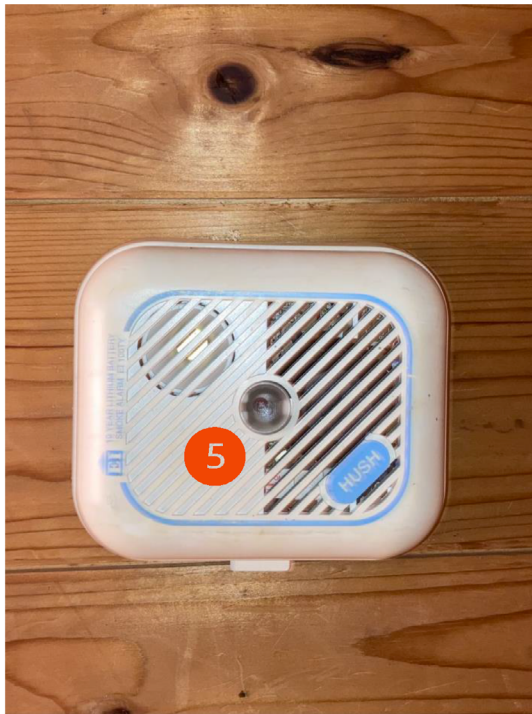
# Independent fire alarms

- Independent fire alarms are normally found in small dwellings.
- They are powered by batteries; unlike the larger fire alarm control system which we have at school.



## My fire alarm

We have one fire alarm in our house. it is in the utility room, which is next to my bedroom and the kitchen. So if there is a fire at night, we will be able to get an early warning and be able to escape out the window. We also placed the fire alarm here as we have our fuse board and gas bottles nearby.



- 1 The ionization chamber -This is what detects the smoke. It has a small amount of radioactive material between two electrically charged plates, which ionize the air and causes air to flow between the two plates. When smoke enters the chamber it disrupts the flow of ions. When it reduces the current of ionised air it activates, the alarm.
- 2 The alarm horn, it is used to warn everyone in the house or building.
- 3 Battery compartment. Like our fire alarm most fire alarms use 9-volt alkaline batteries, as they don't need changing as much.
- 4 The circuit board it connects all the components together like the micro-bit we use at school. It is very important because it is the reason everything works correctly.
- 5 The test alarm button, is to make sure your fire alarm works. Specialists recommend to test it every week.

We also have a fire extinguisher in case of a fire.



## Teacher Annotations

The research did demonstrate a comparison of a range of sources which supported a comprehensive analysis of smoke alarms.

The work presented showed an excellent understanding of the function of a controlled system within a smoke alarm.

The evaluation was included throughout the presentation and did include a brief but accurate conclusion.

The presentation was very effective in communicating the function of a smoke alarm as a controlled system. The presentation included a label image of the alarm which further communicated the students own research and analysis of the Classroom-Based Assessment.

## Overall Judgement

Exceptional



Exceptional



Above expectations



In line with expectations



Yet to meet expectations