Smoke Alarms Webinar

May2015

House Fire Facts

- Over 50 deaths a year in Australia are caused by accidental house fires

- Over 11,000 residential fires occur yearly in Australia

- Most house fires occur in colder months

- Most common causes are: kitchen stoves, electric blankets, faulty wiring, lighting, candles, clothes dryers, home heating or flammable liquids

- A fire doubles in size every minute. In 4 minutes a fire can totally in involve a house

- 000 response time range from 4 to 20 minutes

- Most households do not have a fire escape plan

Ionisation Technology

Pros

- More effective at detecting **fast flaming fires**

- Slightly cheaper than other types of smoke alarms

- Still owns the majority of the volume on the market

Cons

- Can be susceptible to nuisance alarms

- May be slow to respond to slow smouldering fires

- Contain a very small amount of radioactive material

- Already banned in Northern Territory and Europe

- Many experts believe they provide insufficient protection in case of typical residential fires

Ionisation Technology

1. Inside the smoke alarm there are two tiny metal plates called electrodes that are connected to a battery.

2. There is also a substance (Americium-241) that converts air molecules into positive and negative ions. The negative ions move towards to positive plate and the positive ions move towards the negative plate. This creates a complete circuit or path of electricity

3. When smoke enters the smoke alarm chamber, the ions bond with the smoke particles breaking the path of electricity

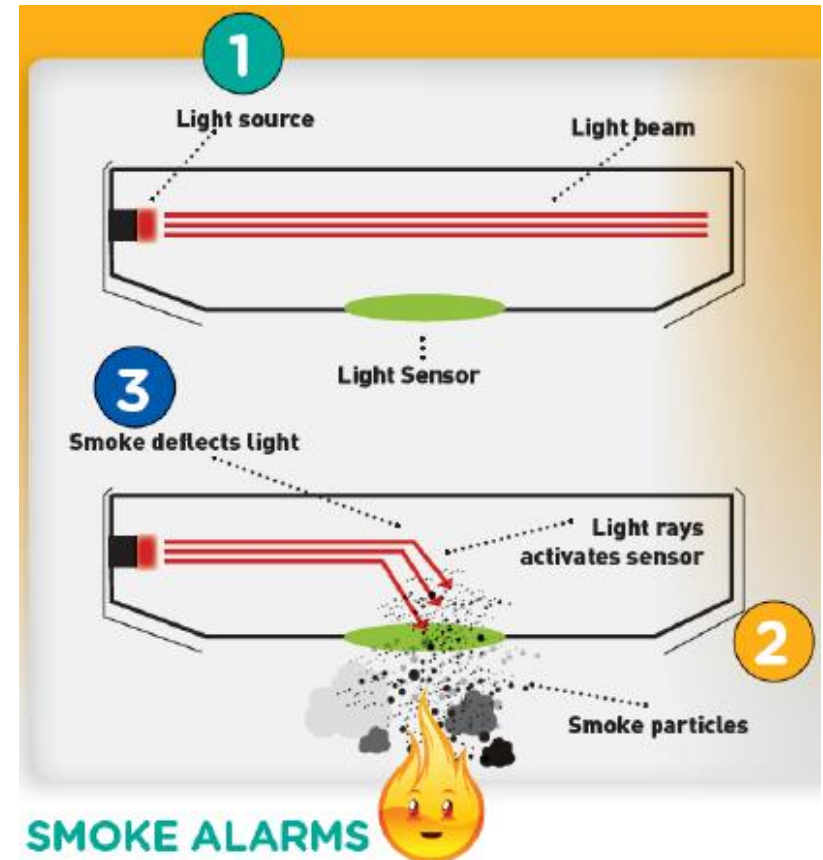**4.** When the flow of electricity is reduced, the alarm goes off
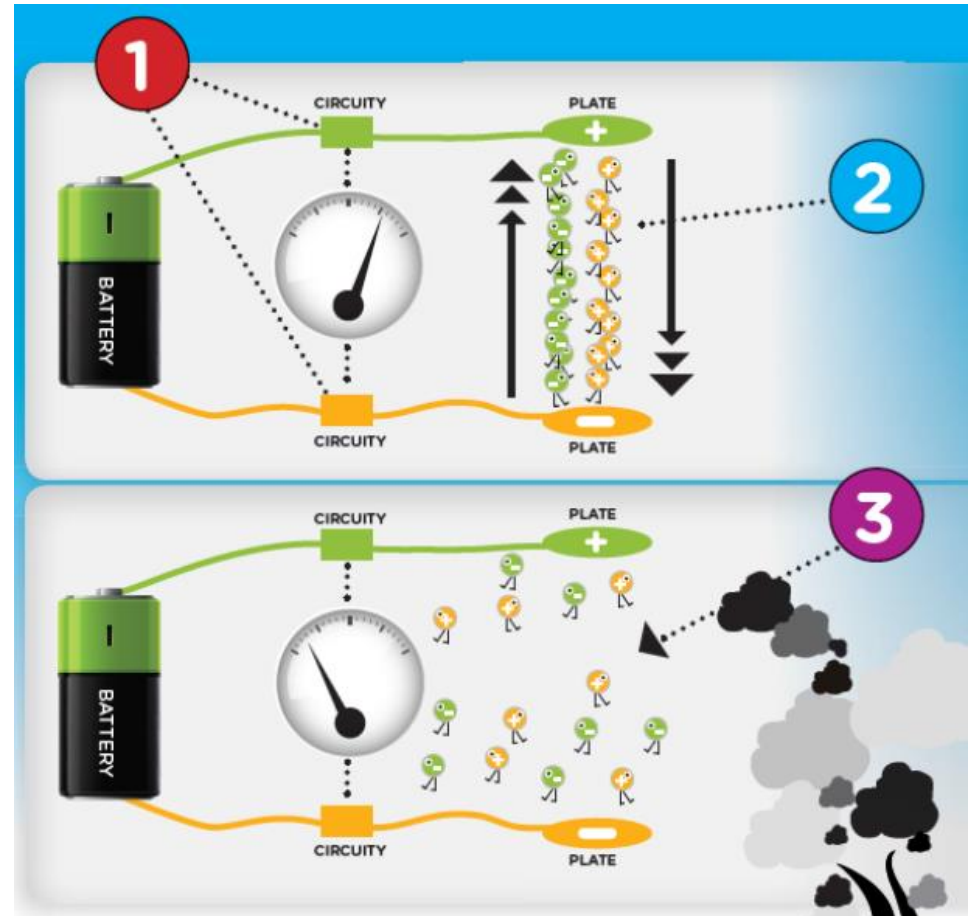
Photoelectric Technology

Pros

- More effective at detecting **smouldering fires and dense smoke**

- No radioactive components used

- Technology recommended by most fire authorities

Cons

- Slightly more expensive than ionisation smoke alarms

Source: National Fire Protection Association

Things to look for

- Australian Standards certification or CSIRO ActivFire registration

- Buy from reputable brands

- Test button

- Hush button

- Battery test

- Interconnection: usually from up to 20 - 40 units

- Features for those with hearing problems if required
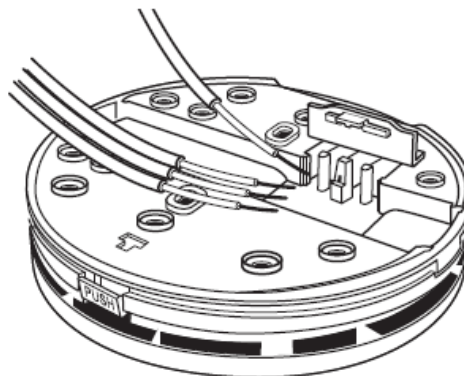
- Insect screen

Installation

■ Terminals at back of mounting base are marked as follows:

A - Active
I - Interconnect
N - Neutral
E/Loop - Earth or Loop

Legrand Photoelectric Smoke Alarm Cat No. 643085

Mounting Instructions:

1. Strip the Active/Neutral and Interconnect (i
   strip length shown above.
2. Connect the wires to the correct terminals on the base as indicated and ensure the screws are fully tightened.
3. Clip the flap closed to prevent accidental contact with the live terminals.
4. Screw the mounting base to the ceiling or wall using the plugs and screws provided or No.6/No.8 superscrews.
5. Install the 9V battery. The smoke alarm will not latch to the base unless battery is installed.
6. Turn on the mains power and check the green and red LED function. Green LED should glow to show main power present. Red LED will pulse every 60 seconds to indicate correct operation and the 9V battery is OK.
7. Press the Test/Hush button for 5 seconds to check the alarm works.
8. When installing onto a wall the mounting hinge must be on left hand side.

Interconnection

A maximum length of 300 metres of wire can be used in interconnecting smoke alarms. Spacing between interconnected smoke alarms must not exceed 30m per alarm

Installation Tips

- General principle: smoke alarms should be positioned to detect smoke before it reaches sleeping occupants giving them time to evacuate

- Best locations are in hallways leading from bedrooms

- Install at least one alarm on every floor level and in each separate sleeping area

- Most effective when located on the ceiling, preferably away from walls and fittings.

- Avoid installing them in kitchens, bathrooms, laundries, garages and areas with strong drafts

- Always keep the dust cover on until the house construction or renovation is complete

- If multiple smoke detectors are installed, make sure they are interconnected

Trends moving forward

- The ban of ionisation technology

- Dual tech: photoelectric smoke alarm and carbon monoxide detector

- Better integration into the ceiling: low profile, recessed models, improved aesthetic

- **Connected Homes:**
    - Wireless interconnection
    - Alerting your smarphone if out of range
    - Giving you additional information such as how many people are in the building, fire location etc.
    - Automatically alerts the fire brigade for faster response
    - Connected devices with built-in smoke detectors (Google, Apple have already got patents)