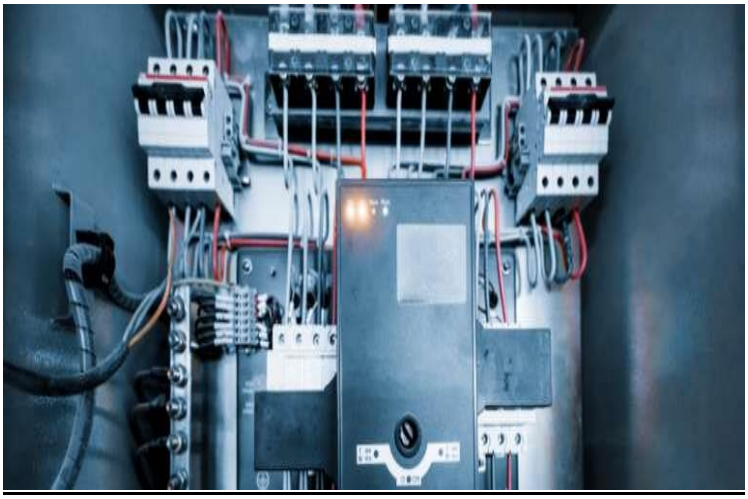
Fuseboxes

Definition of a Fuse Box

A fuse is a safety device to prevent excess current flowing in an electric circuit. It consists of a thin metal wire of low resistance and low melting point. When an electrical appliance or some other piece of electrical equipment becomes faulty, therefore allowing an excess electric current to flow through its circuit, this causes the wire inside the fuse to melt and thus break the flow of current.

Fuses, by design are a one-time-use protective device - once they are used ("burn out"), they're worthless. That is why homes typically use circuit breakers: a breaker acts similarly to a fuse in that it opens a circuit when excessive current flows, but - because nothing actually melts inside it - it can then be reset without having to be replaced by a new one, as has to be done for a fuse.

If there were no fuse in the circuit, serious damage could be caused to the wiring which feeds the equipment. It could get so hot that it catches on fire, which might start a fire in the building or vehicle in which the electrical equipment is installed.



Explain how a fuse works as a safety device

A fusebox, also sometimes known as a consumer unit, should be easy to find and is where the electricity in your home is controlled and distributed.

It's important that you know where your fusebox is in case you ever need to turn the electricity off in an emergency. It contains three things – the main switch, fuses and/or circuit breakers, and Residual Current Devices.

A) **Main Switch** – this allows you to turn off the electricity supply to your home. You might have more than one mains switch, for example if your home has electric storage heaters. In this case you may have a separate fusebox.

B) **Residual Current Devices (RCD)** these are switches that trip a circuit under dangerous conditions, and instantly disconnect the electricity.

For more on RCDs please **click here**.

C) **Circuit Breakers** – these are automatic protection devices in the fusebox that switch off a circuit if they detect a fault. They are similar in size to fuses, but give more precise protection. When they 'trip', you can simply reset the switch. But make sure you correct the fault first.

Fuses (may be found in place of circuit breakers) –rewirable fuses have a piece of special fuse wire running between two screws. When a fault or overload current flows through the fuse wire, it will become hot and melt. The melted fuse breaks the circuit, disconnecting the faulty circuit and keeping you safe.

If your fusebox has a wooden back, cast iron switches, or a mixture of fuses it is likely that it dates back to before the 1960s and will need to be replaced.

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