

CUSTOMER FACT SHEET

What's the difference between a circuit breaker (fuse) and a safety switch or Residual Current Devices (RCD's)



FUSE



CIRCUIT BREAKER



SAFETY SWITCH

Device	Main purpose	Example	
<i>Fuse</i>	Protects wiring	If you overload your circuit a fuse wire will burn out.	Turn off the appliances. The fuse wire would require replacing. Unplug the ceramic fuse holder and rewire with correct rated fuse wire at the switch board.
<i>Circuit Breaker</i>	Protects wiring	A circuit breaker will trip off before the wire burns & causes a fire.	Turn off the appliances and reset the CB at the switch board.
<i>Safety Switch (RCD)</i>	Protect life	If you put a fork in a power point you would be electrocuted. With an RCD the power is tripped off before electrocution occurs.	Rectify the fault and reset the circuit at the switch board.

The older protection devices such as the ceramic fuses generally protect the wiring, they do not protect you.

A Fuse blows for 2 reasons. Firstly, a short circuit, when a live wire makes contact with an earthing system. A fuse blows secondly, when overloading the circuit. Such as when you have too many items on the one circuit drawing too much power. The fuse and circuit breaker are designed to prevent damage to the house such as through fire.

Safety switches are a protection against electric shock. They are designed to prevent injury or death.

On a normal power circuit, the current flowing to an appliance returns through the neutral wire. If the circuit is compromised, the electricity can leak to the earth through a person in contact with the appliance, causing death or serious injury.

A safety switch detects this loss of current from the circuit, and cuts the supply of electricity very quickly. Importantly, this response time is faster than the critical section of a heartbeat, and therefore significantly reduces the risk of death or serious injury.

Note: it is vital the fuse wire and CB have the correct rating for the circuit to insure this process occurs or a fire may occur in the wiring, hence these devices protect the wiring of the home.

Upgraded Switch board

