THE FIVE THINGS YOUR SWITCHBOARD NEEDS TO KEEP YOUR HOME AND OFFICE SAFE

PEOPLE NEED TO BE AWARE ABOUT THIS

Every householder in NSW is legally obliged to keep their home safe, including the way it uses electricity. The same goes for business owners – they are responsible for the electrical safety of their premises to keep employees and guests safe.

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01 CIRCUIT BREAKER MAIN SWITCH

Whether you have three phase or single phase wiring to your house, your main switch must be a circuit breaker.

The main objective of a circuit breaker is to have overload protection and short circuit protection. Essentially, the Amp rating of your circuit breaker is in reference to the size of your properties incoming consumer mains (the main electricity line powering up your house or office).

Each cable is rated at a differentamount of load it can withstand depending on the cable size.

Making sure that your MAIN switch at your switchboard is a circuit breaker ensures that incase of any overload current from all your other circuits combined, the incoming cable will not melt or be damaged given its protection on overload.

If a circuit breaker picks up load coming through its unit, it will automatically turn off providing the protection needed for the cable.

USEFUL HINT:
If a main switch ever switches off on its own and you are certain there is no overload or short circuit at the property, the main switch is faulty.

02 SAFETY SWITCHES, RCDS, AND RCBOS

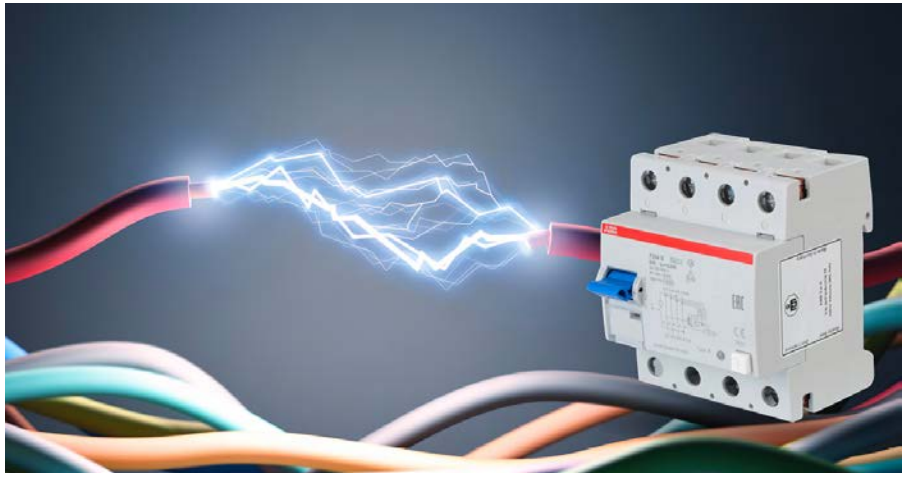
An RCD, other wise known as a Safety Switch, is the protection device in your switchboard that saves lives by shutting off power before any potential electrocution or bodily harm can be done.

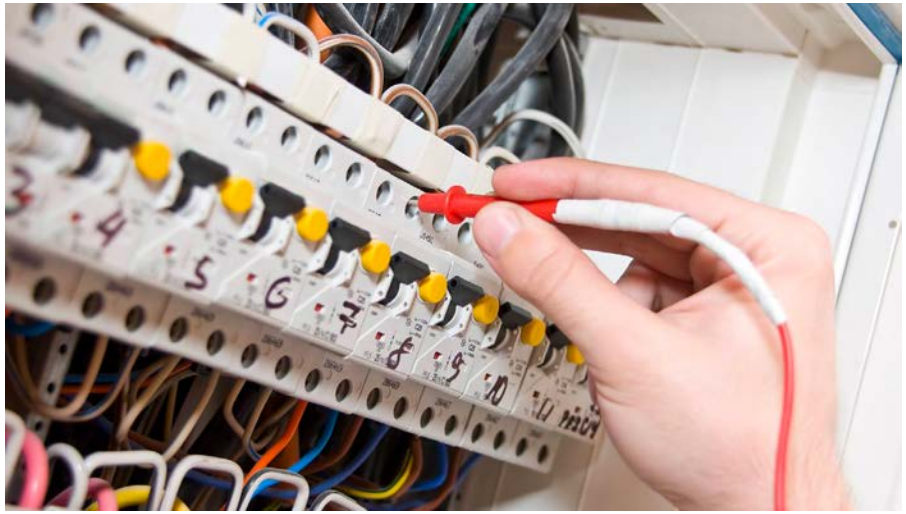
RCD's must be installed in your switchboard protecting all your circuits. A safety switch will pick up on any Earth leakage current that runs through your switchboard circuits.
i.e. If electricity has gotten in contact with something it shouldn't.

A safety switch is designed to trip at around 0.3 of a second (very quickly). This is the legal requirement of a safety switch as any electrical contact longer than 0.3 seconds risks serious harm.

Safety switches should be tested every 6 months by pushing the 'T' (test button) on the device, ensuring that the internal mechanisms of the unit are operational and withour fault. Safety switch checks should also be done regularly by a licensed electrician to measure the trip rate of the unit ensuring it stays under its range of 0.3 of a second.

When upgrading your switchboard its recommended to install RCBO's for each of your circuits, these are safety switches that have circuit breaker functionalities as well, giving you earth leakage protection as well as short circuit and overload protection.

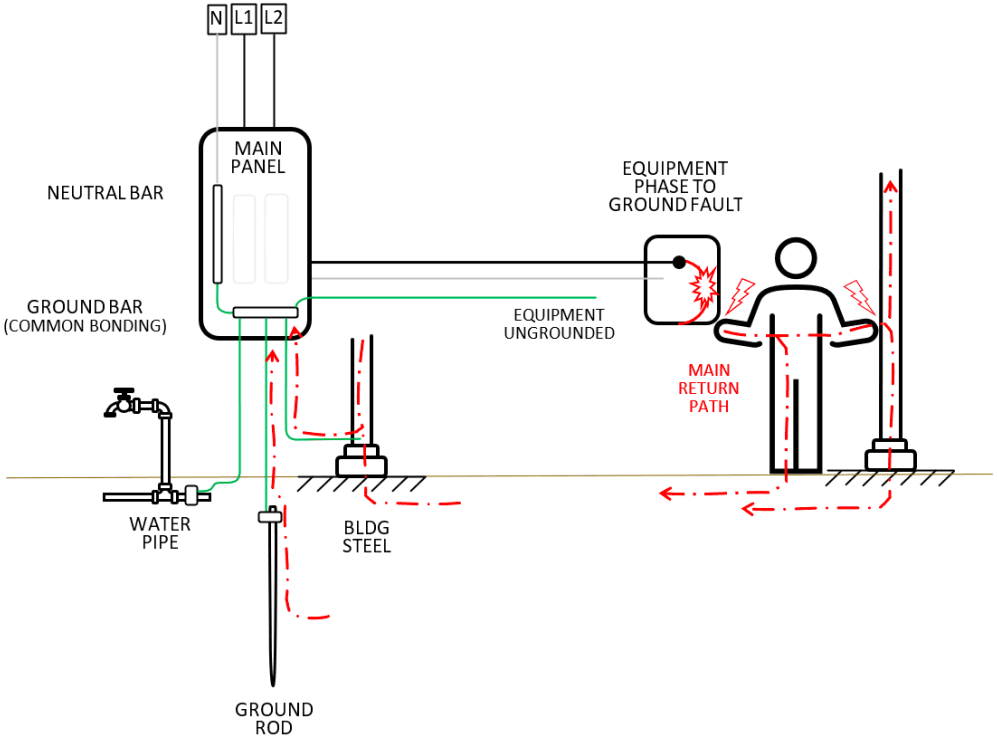




03 MAIN EARTHING SYSTEM

In the earlier days, homes would use their main earth (ground) as the copper water pipes for the property. This is no longer the case due to updated Australian Wiring Rules. An earthing system for a property should measure less than 0.5 Ohm and the correct way to have an earthing system installed in a property would be the following:

- 1.6m full copper earth rod dug into the ground ensuring at least 1.2m of the rod is under ground, while the rest above ground is for connection
- 6mm earth cabling from your earth connection in your switchboard clamped onto the copper earth rod using the correct sized earthing clamps and earth tag
- Equipotential bond connection on the property copper water pipe in 6mm earth wiring to be continuous from earth connection and clamped using the correct sized earthing clamp for the pipe
- Correct labelling in the switchboard describing the location of the Main Earth Connection
- Switchboard enclosure earthed in 6mm earth cabling (if switchboard is a conductive material)
- MEN link between the neutral and the main earth connections in the switchboard in 6mm earth cabling



USEFUL HINT:
Ensuring that your property is properly earthed will prevent any tingles or zaps on metallic fixings, also making sure all electrical protection devices will be working to their potential.

04 SURGE PROTECTORS

Surge Protectors are the best defence for home elctronics and appliances against lightning and other electrical spikes. The value of surge protectors in a property is under valued and usually looked over.

A surge protector is a device installed in your switchboard that is designed to take the “hit” when any spike in electricity may randomly occurs in your incoming lines. The most common cause for a spike in electricity are thunderstorms and other unusual bad weather that may effect the energy suppliers power.

In a split second, a spike in electricity (an insanely highamount of voltage) can be shot down your incoming electrical lines and can result in electronic devices throughout the house to become fried sporadically.

The surge protector will prevent the spike entering your house, protecting all your house hold appliances and electronics.

USEFUL HINT:
Each phase of power taken to a property will need its own surgeprotector. e.g. Single phase homes only need one surge protector, where as three phase homes will need three.

05 CORRECT LABELLING

Being an electrical company proud of our standards, we've seen it all and a pet hate of ours is incorrect or poor labelling on switchboards.

Each circuit in your switchboard should be labelled clearly corresponding to the area it takes care of, such as lights, power, stove, hot water, etc.

All RCD protected circuits must be labelled in a green background describing what that circuit is for – the green represents the circuit being RCD (safety switch) protected.

The one thing you want to avoid as an occupier of the property or as an electrician is coming to do work at the property and turning off the wrong circuit. This may cause inconvenience or run a safety risk.

For instance, if the light circuit wa sbeing worked on and the electrician goes to the switchboard to try and turn the circuit for the lights off, to only find each of the circuits labelled as 'power', each circuit will then need to be turned off to check which one controls the lights (very frustrating!).

USEFUL HINT:
Circuits cannot be mixed. All general power outlets (10A power points) must be on a dedicated circuit only for power. All lights throughout the house must be on a dedicated circuit only for lights. Same goes of course for hot water, air conditioning, stoves, etc.

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