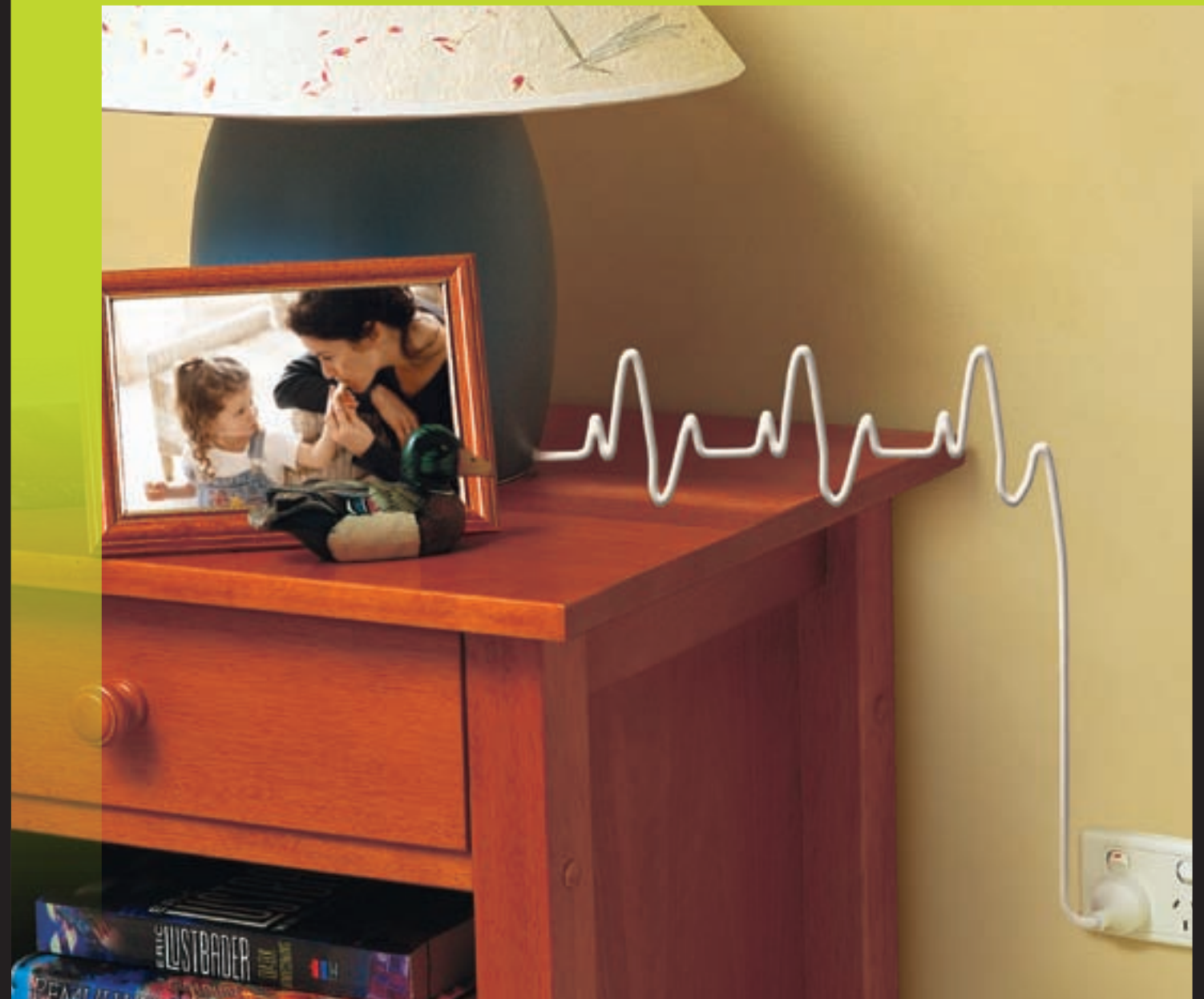


# Electrical safety starts with you.

## PHONE NUMBERS

<b>000</b>	For an emergency situation
<b>13 19 62</b>	For an electrical life threatening situation like reporting fallen powerlines (24 hr service)
<b>13 62 62</b>	To report and receive updates about loss of electricity supply (24 hr service)
<b>13 12 53</b>	For general enquiries (Monday - Friday 8am - 6.30pm)
<b>1100</b>	For information on the location of underground cables (24 hr service)

150 Charlotte Street, Brisbane QLD 4000  
GPO Box 1461, Brisbane QLD 4001  
Facsimile (07) 3407 4609  
[www.energex.com.au](http://www.energex.com.au)  
ENERGEX Limited  
ABN 40 078 849 055



positive energy



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# Short cuts. Short life.

## Electricity can kill

No one ever thinks they're about to be electrocuted. Yet sadly, it happens. And it happens to people like you – home handymen and women, young and old – who think that doing electrical work like rewiring plugs and fixing toaster elements is easy and perfectly safe. Nothing could be further from the truth.

Hundreds of Queenslanders have been killed as a result of unauthorised or unsafe electrical work being carried out around the home by people just like you.

## Is there a killer in your home?

You or a family member could become another statistic if you take it upon yourself to undertake specialist tasks such as:

- replacing or rewiring a plug, switch or power point
- repairing electrical appliances (e.g. irons, toasters, washing machines, etc.)
- installing or altering fixed electrical wiring.

You may have done jobs like this before and seemingly had no problems. But the risk attached to this kind of behaviour is enormous. One slight mistake and someone could be killed. So, if you think that a job is too easy or too expensive for a licensed electrician, please think again. It's your choice. Make the right one for your family's sake.

## Some simple jobs you can do yourself

Not all work involving electricity requires a licensed electrician. It is safe for you to perform simple tasks such as:

- changing an electric light bulb
- changing the starter in a fluorescent light fitting
- replacing a fuse
- resetting a circuit breaker or safety switch.

However, when doing any of the above work, you should be careful. Ensure the electricity is turned off (except when resetting a circuit breaker or safety switch where power needs to remain on) and take due care.

## Think before you act

Tempted as you may be to do unauthorised electrical work and repairs around the home, stop and think about your family. There are many serious consequences to doing unauthorised electrical work. Most importantly, you may seriously injure or even kill someone. Secondly, it is illegal and you can be fined. Plus, you can void your home insurance policy if it is found that damage has occurred as a result of unauthorised electrical work.

*Broken casing, such as on this kettle, can be dangerous. Particularly if wires become exposed. Throw the appliance away or have it professionally repaired.*



# Electrical maintenance and appliance safety

*Electrical maintenance includes looking out for worn or damaged appliances, such as the exposed lead wires on this iron.*

## A bit of electrical maintenance makes a big difference

Any electrical wiring, switches or appliances in your home that are not properly maintained are potential killers. Hundreds of Queenslanders have been hurt or seriously injured in their homes by unsafe electrical items.

Signs that you or your family could be in danger include:

- faulty or unsafe fixed wiring
- broken or damaged power points and switches
- broken or damaged appliances
- electrical leads with exposed wires
- damaged extension leads.

Always watch out for danger signs and act quickly. Throw away broken or worn electrical items or have them professionally repaired by a qualified person. Even if fixing the problem seems simple, never try to fix electrical items yourself. It's just not worth the risk.

Buying a new electrical item or arranging professional electrical maintenance could save your life or the life of someone you love.

## Cleaning appliances

Cleaning appliances after use is a simple yet effective form of electrical maintenance, because build-up of grease and dirt can affect the electrical functioning of your appliance. When cleaning an appliance, turn it off at the power point and unplug it. Use a damp cloth – never immerse an appliance in water unless stated in the manufacturer's instructions.

Simple cleaning tips for common home appliances include:

- pay special attention to cleaning fat off electrical cooking appliances, especially around the connection
- keep hot plates and ovens clean
- remove breadcrumbs and residue from toasters
- jugs and kettles should be regularly wiped down, particularly around the plug area.

## Cords and power points

To disconnect appliances, always turn them off at the wall and remove the plug from the power point by holding the plug - not by pulling the cord.

If there are young children in your house, it is wise to put plug protectors on all power points.

## Double adaptors and powerboards

Never overload a power point by "piggy-backing". This is when you put two double adaptors together on top of one another. This is dangerous. If you need more power points, use a power board or have extra power points installed by a licensed electrical contractor.

Power boards should only be used with items like televisions, videos and stereos. You should never use power boards for items like heaters or dryers. In these cases, please consider having an additional power point installed.

## Extension leads

Extension leads are a convenient way to provide power for temporary use. However, a power point should be installed where extension leads are regularly used.

**When using extension leads:**

- do not take them through doorways as a door closing on a lead can cause damage
- protect them from weather or water
- ensure the lead is fully unwound before use, otherwise overheating could occur.

**Always buy a ready-made lead and use it in conjunction with a portable safety switch if there is no safety switch on your switchboard. Ready-made leads are preferable as they are:**

- **convenient** – leads of various lengths are always readily available from any electrical retailer or department store
- **cheaper** – the cost of a ready-made lead from a retailer is much cheaper than buying separate components
- **legal** – in Queensland, it is illegal to make up an extension lead. To do so could result in a fine, or worse the lead you make up may be responsible for someone's serious injury – incorrect electrical work by unauthorised people is a significant factor in electrical fatalities.

**Use your extension leads safely by:**

- keeping leads clear of moving machinery like routers or portable saws
- where possible, keeping leads off the floor or the ground
- checking the extension lead for signs of damage on a regular basis. Never continue to use a damaged lead or repair the lead with electrical tape. If a lead requires repair, always use a licensed electrician
- using products such as "cord locks" to prevent accidental disconnection of extension leads and provide limited protection from weather.

## Second-hand appliances

All electrical appliances sold by second-hand retailers are required by law (Electricity Act 1994) to be labelled as either "electrically safe" (by a qualified electrical worker) or "not been proven electrically safe". Before you decide to buy a second-hand electrical appliance, check for this label.

**Warning signs that a second-hand electrical appliance may not be safe include:**

- missing guards
- broken pieces
- frayed cords
- signs of scorching
- melting and blistering
- bare wires
- smoke or sparks when in operation
- spluttering sound when in operation
- popping sound when in operation
- erratic stop/start operation
- fumes or smoke when in operation
- burning smell when in operation.

Any of these signs could indicate overloading or overheating of the appliance and are a serious safety risk. **Stop using the appliance immediately** and either discard it in an environmentally friendly manner or have it repaired by a licensed electrician.



# Electrical safety around the home

You can help avoid dangerous situations around the home by following some simple electrical safety guidelines.

## Safety checks

It is recommended that an electrical contractor check your home's electrical wiring installations every 10 years. Any existing or potential problems can be identified and fixed before they cause harm.

## Tingles

Always recognise that a tingle or slight shock is a warning. If this occurs, do not use the appliance and call ENERGEX on **13 19 62** immediately. Never touch an appliance that's caused a shock until it has been disconnected and ensure no one else uses it until it has been repaired and tested.

## Water

Water conducts electricity – do not touch electrical appliances or switches with wet hands.

## Swimming pools

Water and electricity do not mix. To minimise the risk of injury to you or your family:

- eliminate as much electrical wiring and equipment as possible from the pool area
- ask your electrical contractor to install permanent outdoor lighting in preference to underwater lighting. If underwater lighting must be used, special equipment is required. Your electrical contractor can advise on suitable lights. Check underwater lights regularly for glass cracks or defective seals
- do not locate a pool under or close to overhead electrical wires

- never use electrical appliances and cords near the pool where they can be splashed and become wet
- never install meters and switchboards near a pool area or within 3.5 metres of a pool.

## Trees

Never trim trees near powerlines. If you notice a tree in or near powerlines call ENERGEX for advice on **13 12 53**.

To avoid trees growing into powerlines, always plant “powerline friendly” trees under or near powerlines or plant away from powerlines.

Contact ENERGEX on **13 12 53** for a free “powerline friendly” planting guide or visit [www.energex.com.au](http://www.energex.com.au)

## Overhead powerlines

Be aware of the location of any powerlines on or near your property. Whenever you are carrying long metal objects like ladders, swimming pool skimmers, extendable garden saws, pipes or other tall poles, watch out for powerlines running overhead. Look up and live.

## Installing equipment

Never attach swings, clotheslines, hanging baskets or the like around the beams supporting electrical wires. To do so could cause damage to the wire insulation.

## Digging

Take care when digging that you don't strike buried electrical cables. Before digging, consult your electrical plans for the location of any underground cables on your property. For advice about the underground location of electricity and telecommunications cables or gas and water pipes, please call **1100**.

## Switchboards and fuses

If your switchboard has replaceable fuses, be aware that repairing a fuse can be dangerous. It is recommended that the main switch be turned off before replacing the fuse.

When replacing a fuse always insert the fuse by holding it in the middle – not at the ends. Ensure that each switch, circuit breaker or fuse within the switchboard is clearly labelled to identify the electrical parts of the house it controls.

If you find a fuse missing from the switchboard, contact a licensed electrical contractor before replacing it. Fuses used to protect circuits must never be replaced with fuses of a larger capacity.

## Decorative lighting

**When using decorative lighting:**

- use extra-low-voltage equipment for additional safety
- follow the manufacturer's instruction when installing lights and replacing lamps
- avoid temporary decorative lights above or around your pool
- do not alter or modify lighting kits
- ensure all outdoor connections are weatherproof
- use a plug board with overload protection if the installation involves high-powered lights such as flood lights or spot lights
- be aware that multiple use of high-powered lamps may overload your electrical circuits
- secure outdoor lights to avoid breakage in windy or stormy conditions
- keep yourself, lights and equipment well clear of overhead powerlines
- use specifically designed outdoor lights.

**When connecting decorative lighting it is recommended that:**

- if your power points are not protected with a built-in safety switch, use a portable safety switch
- if you are using multiple sets of lights, plug them into a powerboard fitted with over load protection. Plug this powerboard into a safety switch or safety-switch-protected outlet.



# Storm safety

## Prepare your place for summer

During storms, unsecured items can be blown into overhead powerlines, causing electricity interruptions or live powerlines to fall to the ground. Fallen powerlines can be deadly.

Just doing a few simple things around the home before the summer storms hit is an easy way to prevent problems and keep your home and loved ones safe from danger.

## What things can become airborne?

Take a look around your home and see if you can identify any potential hazards, such as:

- overgrown tree branches
- outdoor furniture
- garden debris
- corrugated roofing iron
- garden tools
- outdoor toys.

Trimming overgrown tree branches and removing or securing loose items outside your home will ensure you're prepared for storm season. Do not attempt to prune trees in or near powerlines. If you are concerned that a tree is too close to a powerline, call ENERGEX on **13 12 53**.

## Storm Safety Checklist

### Before storm season

- ✓ Tidy up loose items and trim overhanging tree branches.  
**Do not** attempt to trim trees near powerlines
- ✓ Keep a battery-operated torch and radio handy to listen for power restoration updates
- ✓ Keep a torch in an easily accessible place in case of loss of electricity supply
- ✓ Keep spare batteries for torch and radio.

### During a storm

- ✓ If power is lost, turn off and unplug electrical items
- ✓ Listen to your favourite major radio station for power restoration updates
- ✓ For your safety, always use a torch for light if you have lost power
- ✓ Do not use wet or damp electrical items.

### After a storm

- ✓ Stay clear of any fallen powerlines
- ✓ Alert people of any danger
- ✓ If you have, or someone you know has access to the Internet, log onto **www.energex.com.au** to find out the latest power restoration updates
- ✓ Call ENERGEX on **13 19 62** to report fallen powerlines.





# Rural safety

## Safety in rural areas

The main causes of electrical accidents in rural Australia include coming into contact with overhead powerlines, lack of electrical maintenance, working barefoot with power tools and unauthorised electrical work.

To live and work safely with electricity in rural Australia, consider these safety tips:

- familiarise yourself with the layout of the overhead and/or underground electrical network on or near your property
- find out what the clearance is underneath the powerlines (take into account the 'sag' of the line between the poles) and check this against machinery likely to come near powerlines
- regularly assess the risk of operating farm machinery near the electrical system and check for changes in the electricity network or in your plant and equipment.

## Fallen powerlines and other dangerous situations

Fallen powerlines can be deadly. To avoid injury:

- treat any fallen powerline as "live" regardless of whether they are sparking or arcing
- if your machinery contacts powerlines, all metal parts can become live. Do not step down from machinery touching a powerline, as parts of your body could touch "live" metal on the machine as your foot touches the earth, creating a path for the electricity to run through your body to the earth. Try not to move, call for someone to contact Emergency Services and ENERGEX for help\*
- if there is an additional danger (such as a fire), or if you are alone, jump off the machine. Keeping both feet together, try to jump as far away from the machine as you can. Then, still keeping both feet together, hop clear of the machine. Be aware, tyres do not necessarily give insulation from the earth\*
- do not walk near electrified machines, as dangerous voltages may form between your spread feet.

## Wearing shoes

Do not go barefoot while using electrical appliances or machinery. In one third of all electric shocks, current flows to earth through a victim's bare feet. Rubber or plastic soled shoes in good conditions will give far more protection than thongs or no shoes at all. 'Good condition' means shoes are dry and not torn or split to the point where they don't cover the feet entirely.

## Electrical safety and irrigation

Every care should be taken when setting up a crop-watering system near powerlines:

- irrigation pipes should not be moved around, near or under powerlines. If an irrigator pipe comes into contact with a powerline while you are touching it, you could receive a potentially lethal electric shock
- if you have to move an irrigation pipe near powerlines, don't lift it at a right angle to the ground. Irrigation pipes are in lengths that will easily cover the distance between ground and overhead powerlines
- when working near overhead powerlines, place ground markers near them to remind workers to be aware of overhead powerlines or have an electrical contractor put coloured markers on the powerlines
- have someone watch your movements to ensure you maintain a safe distance away from powerlines
- train workers to remember; see a marker – look up and live.

## Protecting stay wires

Stay wires are the wires that help power poles stand upright against the weight of powerlines:

- ensure machinery travels clear of stay wires. Damaged or broken stay wire can result in weakened or leaning power poles
- attach flags or ribbons to pole stay wires to show clearly where they are and install protection where the stays enter the ground.

## Electrical maintenance on the farm

The cost of maintenance is very low compared with the cost of injuries from unsafe electrical equipment or appliances:

- ensure adequate maintenance by arranging regular electrical safety checks. Check for frayed leads, damaged or missing parts, overheating or other signs that a problem exists in your electrical appliances
- if faults or damage occur, ensure only a licensed electrician carries out the repairs.

\*Please note, this is general information and may not apply in all situations.



# Electrical first aid

## Electric shock – what happens

Quite often, electric shocks do not kill a person immediately. Electrocution may stop a person's heart, cause burns or force muscles to contract. In many cases, shock victims cannot let go of the appliance that is passing the current to the body.

## What to do if you witness an electric shock

- protect yourself and any bystanders from the possibility of further shocks
- do not touch the person who has been shocked. The current may still be passing through their body and could electrocute you
- if possible, switch the power off and pull out the plug, but only if there is no danger of being electrocuted yourself
- shout to someone to call for help or call 000 yourself
- if you are trained in resuscitation techniques, you should attempt to revive the victim as soon as they are no longer in contact with the electrical current
- seek immediate medical assistance for the victim.

For more information on first aid courses and resuscitation, contact one of the organisations listed in the Yellow Pages under “First Aid”.

# Safety switches

Safety switches are devices designed to provide increased protection for you and your family against electrocution.

Safety switches monitor the flow of electrical current. When the device detects a current leading to earth, it cuts off the power in both the active and neutral lines in 30 milliseconds (about 1/30th of a heartbeat).

Safety switches are also known as:

- Earth Leaking Circuit Breakers (ELCBs)
- Residual Current Devices (RCDs) or
- Core Balance Circuit Breakers.

If you are unsure if a safety switch is installed in your home, check your switchboard for a test/reset button, or ask a licensed electrical contractor.

**If your premises are not fitted with a safety switch, have one installed as soon as possible.**

## Important information

The law says all homes built since 1992 must have safety switches installed on power circuits. They are not an optional extra! If you are building a new home, you must have a safety switch installed on both power and lighting circuits.

The law also says that if you buy a property without a safety switch, you must install a safety switch for the power circuits within three months of a property transfer. This applies to any transfer of domestic premises including estate, family law and mortgage transfers.

If you sell a property, you should first establish whether a safety switch is installed for power circuits. This must be declared on the standard sales contract and Form 24 Property Transfer.

For a rental home, if it is subject to a residential tenancy agreement from 1 March 2006, the owner must have a safety switch installed for power points within six months of the agreement, or in any case by 1 March 2008.

A safety switch is not a substitute for surge protectors, circuit breakers or fuses. Nor is it a substitute for care and common sense. Nothing is 100% fail-safe. You should always treat electricity with respect and regularly test your safety switch to make sure it is operational. Just like a smoke detector, if it doesn't work it cannot save you.

Safety switches should always be used:

- where flexible cords are vulnerable to damage
- where portable appliances, tools and flexible cords are used in potentially dangerous situations such as wet or damp conditions, outdoors etc
- in the workshop and workplace
- at caravan sites or when camping.







## Types of safety switches

There are three types of safety switches:

- **standard switchboard** – the standard switchboard type is used to protect power outlets and other parts of the installation such as lighting circuits. Qualified electrical contractors can easily install this device
- **power outlet safety switch protector** – these safety switches, when installed on the first power point on a circuit, protect the rest of the power points on the circuit. A licensed electrical contractor must install a power outlet safety switch
- **portable safety switch** – a portable safety switch is ideal for use inside and outside the house. However, it is important to remember when portable safety switches are used outdoors, care should be taken to avoid areas where they may be susceptible to water damage.

## Testing your safety switch

To check that your safety switch is functioning properly, press the “test” button. The test button will simulate a problem which should automatically trip the safety switch to OFF. Turn the switch back on to reset the safety switch.

If your safety switch does not switch off, you should get it checked immediately by a qualified electrician. And remember, your safety switch should be tested at least quarterly to ensure it is working properly and will protect you and your family.

## What to do when the safety switch trips

If your safety switch trips (that is, it cuts off power on that circuit), it is usually the fault of the appliance you last switched on. To check, you may want to reset the safety switch and, if it trips again, disconnect the suspect appliance and have it checked by an electrician before using it again. If you feel uncomfortable about accessing your switchboard, call a licensed electrician.

## Are safety switches fail-safe?

No, in some circumstances, safety switches can fail to operate. Therefore, the installation of a safety switch does not remove the necessity to exercise normal care and diligence with electricity. It is important that all appliances and extension leads are checked regularly and maintained in good working order.

Always remember to treat a tingle or electric shock as a warning and advise ENERGEX immediately on **13 19 62**.

