

# How to?

## How does an electric fence work?

Electric current (AMPS) only flows when a circuit is completed between a positive and negative terminal.

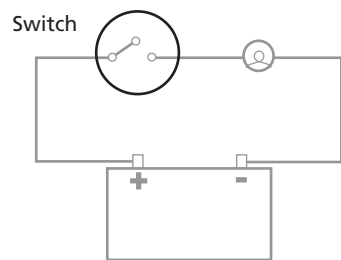


Diagram A:

In this diagram the current cannot flow from the positive terminal to the negative terminal because the switch is open.

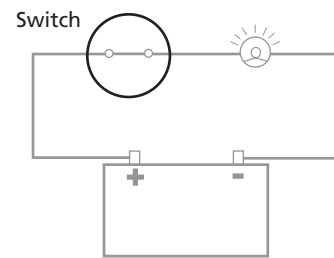
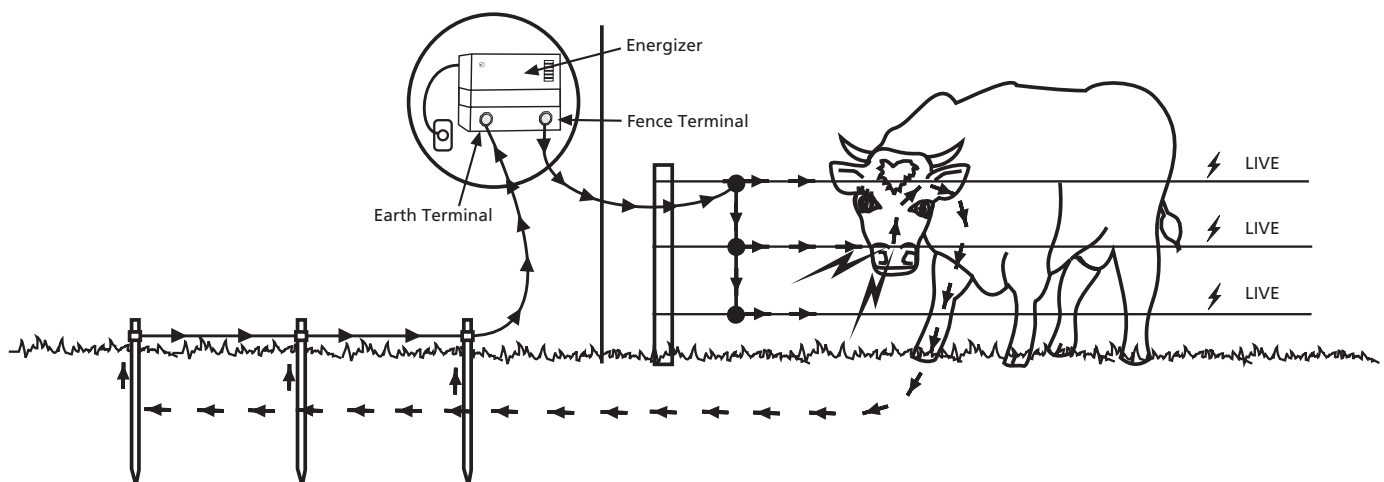


Diagram B:

In this diagram the switch is now closed, allowing the current to flow from the positive terminal through the light bulb (lighting the bulb) to the negative terminal.

An electric fence circuit is made on a larger scale. The energizer **fence** terminal (positive) is connected to the insulated fence wires, and the energizer **earth** terminal (negative) is connected to galvanised metal stakes driven into the ground.

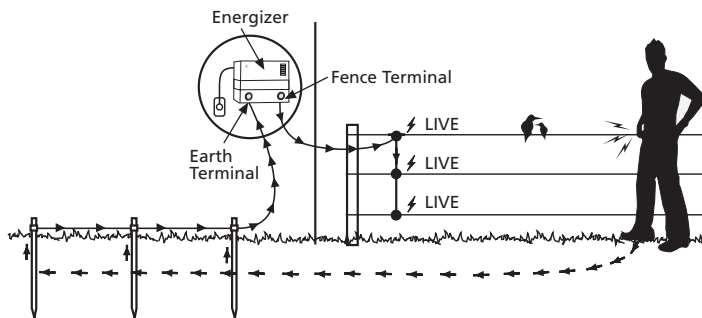
The same 'circuit completion' (as in Diagram B) is necessary before the animal gets a shock. An animal standing on the ground and touching the electrified wires will complete the circuit like the closed switch in Diagram B above.



## Typical electric fence system

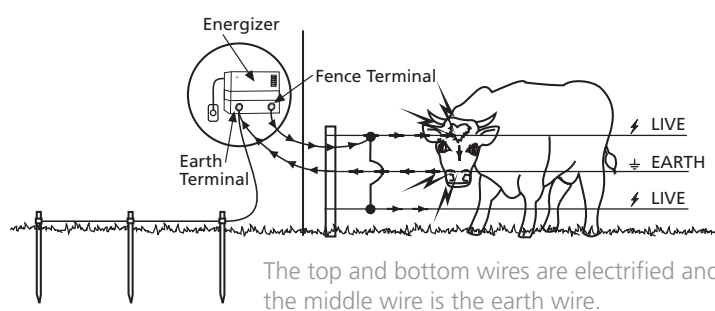
For example, a bird sitting on the wire will not receive a shock. It is not touching the ground so the circuit is not completed.

A person wearing insulated footwear will only receive a small shock.



## Earth return system

Dry, sandy or pumice soil is a poor conductor of electric current, so it is sometimes necessary to add an earth (negative) wire into the fence. The animal must touch both a live wire and the earth wire to feel an effective shock.



The top and bottom wires are electrified and the middle wire is the earth wire.

## Why use electric fencing for animal control?

### SAFE

Animals remember the short, sharp but safe shock and develop respect for the fence.

### EASY TO INSTALL

An electric fence takes less than half the time to build compared to traditional fence systems.

### DURABLE

A non-electrified fence experiences constant wear and tear under stock pressure. Because your animals learn to avoid an electrified fence, your fence will last longer and remain in good condition.

### ECONOMICAL

Electric fences cost less than 50% of traditional non-electric fences.

## Types of fencing

There are two types of electric fences, permanent and portable:

- Unless you want a temporary or removable fence, a permanent electric fence will be your best choice. See our "How to?" guide on Permanent Sheep/Cattle or Horse electric fencing for more details on what you need.
- Portable electric fencing is an effective temporary barrier for short-term animal control and rotational grazing. See our "How to?" guide on Portable Sheep/Cattle or Horse electric fencing for more details on what you need.

Also pick up a copy of our Power Fence Systems Manual at any Gallagher supplier for a comprehensive guide to everything you need to know about building an electric fence. Alternatively download a copy from [www.gallagher.co.nz](http://www.gallagher.co.nz) or phone 0800 731 500 to have a copy sent to you.

## Types of energizers

The correct energizer size for your property is related to the distance of fence to be powered, the number of wires in the fence and the vegetation load.

There are two types of energizers:

**Mains powered** - these are energizer units which are plugged into a mains power supply.

**Battery powered** - these are energizer units which can be left out in your paddock and require a battery to run them. Solar panels are also an effective means of continuously charging your battery powered energizer.

See your nearest Gallagher stockist or visit [www.gallagher.co.nz](http://www.gallagher.co.nz) for the complete range of Gallagher energizer products to best suit your requirements.