

PowerPlus

Thank you for purchasing this PowerPlus Energizer. Gallagher, as world leader in Power Fencing is committed to providing leading products. Gallagher Power Fences are alternatives to traditional barbed and net wire fences at a lower cost. Your new Energizer incorporates the latest in electric fencing technology, ensuring powerful animal control. This Energizer has built-in lightning protection devices to reduce the incidence of lightning damage and built-in RFI (Radio Frequency Interference) Suppressed Circuitry (except 110V Energizers).

If for any reason you are not happy with your purchase, please return the Energizer to your dealer within 30 days of purchase and we will give you a full refund - guaranteed. If you have any questions regarding this product please email us or contact the store where you purchased this Gallagher product.

Important Information

- **WARNING:** Read all instructions.
- In areas of public access, use an electric fence warning sign every 10m (33ft) to identify the electrified wire(s).
- Check your local ordinance for specific regulations.
- Avoid the fence line passing under or running parallel to power lines. If unavoidable, the crossing should be made underneath the power and at right angles to it. Where they are in the vicinity of overhead power lines, no fence wires should be higher than 2m (6ft) above the ground.
- Fence wiring should be installed well away from any telephone or telegraph line or radio aerial.
- Do not use more than one Energizer on the same fence line at one time.
- Do not electrify barbed wire in an electric fence.
- **WARNING:** Risk of Electric Shock. Do not connect simultaneously to a fence and to any other device such as a cattle trainer or a poultry trainer. Otherwise, lightning striking your fence will be conducted to all other devices.
- Do not install an earth (ground) system for your Power Fence within 10m (33ft) of any utilities type ground system.
- Use lead-out cable (046099/116273) in buildings and where soil could corrode exposed galvanised wire. Never use household electrical cable.
- Refer servicing to qualified Gallagher service personnel.
- Do not place combustible materials near the fence or Energizer connections. In times of extreme fire risk, disconnect Energizer.
- Do not touch live fence with the head or mouth, or become entangled.
- Do not handle power cord if temperature is below +5°C.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid a hazard.

This Energizer complies with international safety regulations and is manufactured to international standards.

Gallagher reserves the right to make changes without notice to any product specification to improve reliability, function or design. E & OE.

Gallagher *world leader in Power Fencing*[™]

Leader in Power Fencing[™]

Gallagher provides comprehensive power fence systems for both permanent and portable applications. Power fence systems that over many years have proven to be safe, simple, easy to erect, and highly cost effective. Most importantly power fencing provides superior animal control to other forms of fencing.

Product Range

Gallagher offers a product to suit any farmer's need: unique, high performance products, like **SmartPower**[™], designed for the professional farmer; traditional products, like **PowerPlus**, offering exceptional value; easy to install, yet sophisticated Energizer systems, like the **Fence Master**, designed specifically for the lifestyle farmer; highly robust, highly efficient battery Energizers, like **PowerBox**, for strip grazing; and for the environmentally-conscious, a range of high performance **solar battery solutions**.



Leader in Service and Integrity

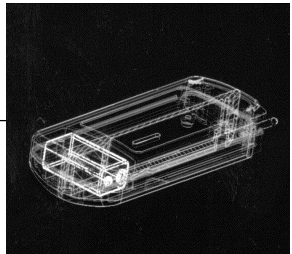
The Gallagher Energizer is supported by the Gallagher Module Exchange Programme which guarantees only genuine Gallagher parts are used. Under this programme all world-wide modules are serviced in New Zealand by highly skilled technicians ensuring only the highest quality components are used when servicing Gallagher Energizers.



World-wide, Gallagher representatives provide market leading on-farm support, ensuring our customers and products achieve the excellent performance you would expect from Gallagher products.

Leader in Innovation

Sixty years in the industry, and distribution in over 100 countries, has made the name Gallagher synonymous with powerful, innovative and high quality Power Fencing.



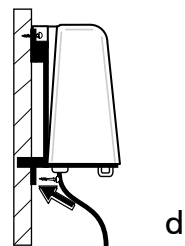
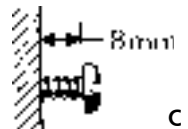
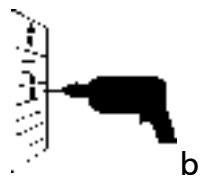
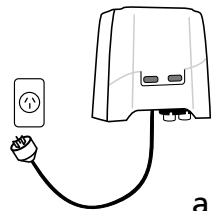
PowerPlus 2

Easy

4 step installation guide

Step 1 Mount the Energizer

- For inside use only. Mount the Energizer on a wall, out of reach of children, adjacent to a power outlet. Install where there is no risk of the Energizer incurring fire or mechanical damage (illustration a).
- Drill holes using the template on the inside back page as a drilling guide (A and B holes). Use a 4mm (5/32") diameter drill for timber walls or a suitable wall plug for brick and concrete walls (illustration b).
- Using the screws clipped to the Energizer, secure a screw in hole (A) as shown (illustration c).
- Hang the Energizer on the screw. Fit screw through Energizer into hole (B) for extra stability if necessary (illustration d).



Step 2 Connect to earth (ground) system

Using Lead-out Cable 046099/116273 remove 5cm (2") of plastic coating from one end of the cable and attach to the green terminal on the Energizer. Attach the cable to the earth system by removing 10cm (4") of insulation from the cable at each Earth Stake, then clamp the exposed wire to each stake using an Earth Clamp. Tighten the clamp.

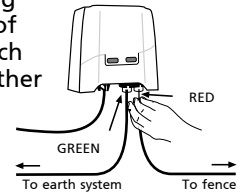
For further instructions on the earth (ground) system see "How to install earth (ground) system" section.

Step 3

Connect the fence

Connect Energizer's red terminal to the fence using Lead-out Cable 046099/116273: remove 5cm (2") of plastic coating from one end of the cable and attach to the red terminal on the Energizer. Attach the other end of the cable to the fence using a Joint Clamp (010851/010868).

For instructions on fence installation see "How to install the fence" section.



Step 4

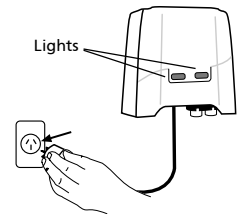
Plug the Energizer into a power outlet


Check that the lights on the front of the Energizer are flashing.

The green (ENERGIZER) indicator light flashes when the Energizer is working correctly.

The red (FENCE) indicator light flashes with each fence pulse, if the voltage is over 4000 volts (approx.) to indicate fence condition.

If the fence is overloaded the indicator will either flash intermittently or not at all.



SERVICE OF DOUBLE INSULATED APPLIANCES: In a double insulated controller, two systems of insulation are provided instead of grounding. No equipment grounding means is provided in the supply cord of a double-insulated controller, nor should a means for equipment grounding be added to the controller. Servicing a double insulated controller requires extreme care and knowledge of the system, and should be done only by qualified service personnel. Replacement parts for a double-insulated controller must be identical to the parts they replace. A double insulated controller is marked with the words "DOUBLE INSULATION" or "DOUBLE INSULATED". The symbol for double insulation  may also be marked on the appliance.

For 110-120V Energizers only: To reduce the risk of electric shock, this fence controller has a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

Handyhint

Earthing (Grounding)

Earthing the Energizer is the key for a successful Power Fence. Poor earthing is the most common reason for poor electric fence performance. Check the voltage on

your earth system using a Digital Volt Meter 075037. Keep adding Earth Stakes until earth voltage is 200 volts or below.

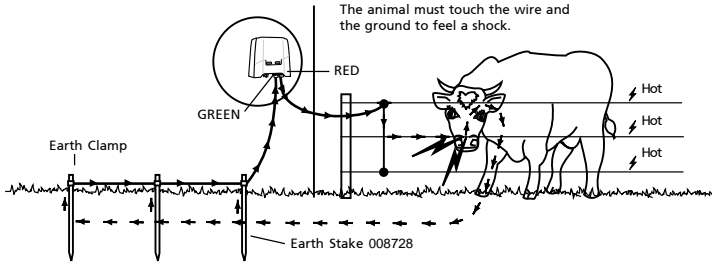


How to install earth (ground) system

Improperly earthed Energizers can cause barns, gates etc to become hot. Follow earthing instructions carefully.

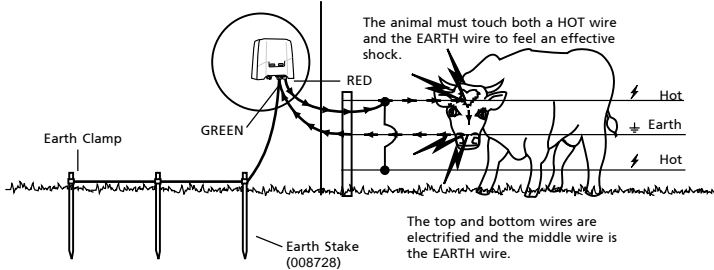
The most effective place for an earth system is in continuously damp soil (illustration a).

a ALL HOT WIRE SYSTEM for areas with good earthing conditions



For dry areas with poor earthing conditions, install the fence using illustration b.

b EARTH RETURN SYSTEM for areas with poor earthing conditions



Earth stakes, at least 2m (6ft) long, should be spaced 3m (10ft) apart. Use a minimum of 3 earth stakes for the M1000, 2 earth stakes for the M500 and M250.

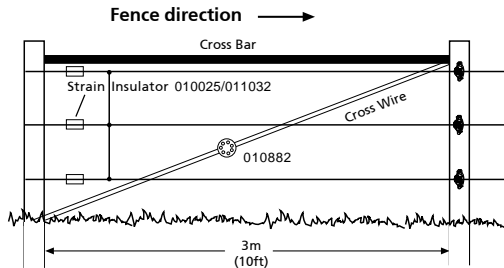
Find a location for your earth system that is permanently damp, has high fertility or salinity and is away from dairy sheds. Install the earth system at least 10m (33ft) from any power supply earth peg, underground telephone or power cable. The best

construction is 2m (6½ft) long galvanised stakes 008728 or Super Earth Kits 008773, 3m (10ft) apart, connected to the Energizer by high quality Lead-out cable 046099/116273. Do not use materials that rust.



How to install the fence

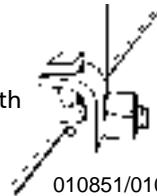
- a. Plan the fence line. Avoid rough, stony or steep areas if possible. For best electric fence performance use multi-wire (at least 3 wires connected in parallel) fencing.
- b. Install end strain posts and corner posts. Ensure that all corner posts are well installed to withstand the wire strain.



- c. Run out the bottom wire between the end posts.
- d. Tension wires until there is only a slight visible sag.
- e. Connect all live wires in parallel at the end of each fence section using Joint Clamps 010851/010868.

Use Joint Clamps to ensure tight wire connections.

Connect any earth wires together in parallel. Never connect live and earth wires together.



010851/010868

Handyhint

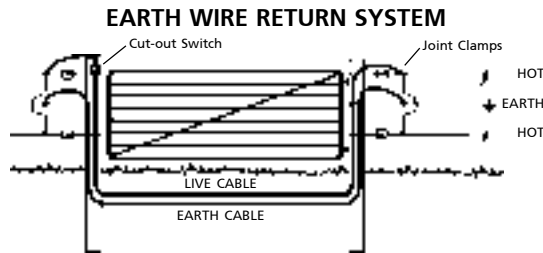
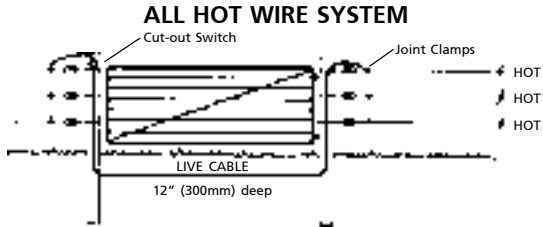
Fence Lead-out

Inadequate fence lead-out is often the reason for poor voltage on the fence. Particularly on either larger fence systems or fence systems heavily loaded with vegetation.

Lead-out is defined as the wire system that takes the power from the Energizer to the centre of the fence system - not just from the Energizer to the fence! Basically, the more wires



- f. Conduct the fence system under gateways, rather than overhead. Do not use electric gates to get power across gateways. Install Lead-out Cable 046099/116273 in a plastic pipe (for physical protection), 30cm (12") deep. Turn the ends of the pipe down to keep water out. Connect each end of the cable to the Joint Clamps (010851/010868).



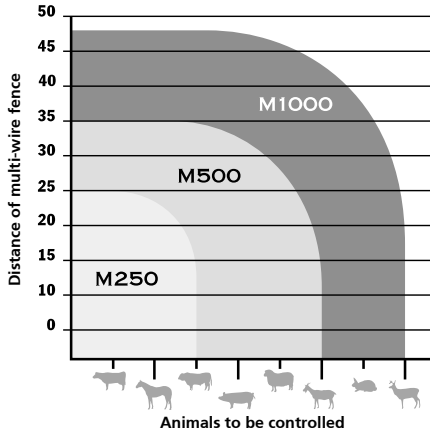
Offset Fence

Existing non-electric fences can be protected to last for many more years simply by attaching Offset Brackets and a electrified wire on one or both sides of the non-electric fence. Use a single offset wire, positioned at two thirds the height of the animal (chest height) to be controlled.

connected in parallel, the better the voltage at the end of the fence. If the centre of the fence system is more than 100m (300 ft) from the Energizer, at least 1 x 2.5mm wire is required. If the centre of the fence system is more than 1km (5/8 mile) from the Energizer, a minimum of

3 x 2.5mm wires or a single High Conductive 2.5mm "PowerWire" is required. Larger fence systems or heavily loaded fence systems with large Energizers may require more wires to adequately transfer the power from the Energizer onto the fence system.

Animal Control Chart



Game Fencing

Power Fencing has been used widely throughout the world for game animals, deer, bears, elk and elephant. Power Fences are a psychological barrier and should not be considered a complete physical barrier fence. With any Power Fence occasional animal penetration may occur (as with any other type of fence). It is important for game fencing to have power on the fence the same day as the fence is constructed. Animals investigating the new obstruction will be shocked and will relate the shock to the new obstruction. If no power is on the fence and animals learn to walk through the fencing system with no electric shock, this causes major problems later on since they will not relate the electric shock to the fence after the power is turned on. A Power Fence is not recommended for animals under hunting pressure. For specific questions on game fencing contact your Gallagher dealer.

Bird Determent

Where the Energizer is used to supply a system of conductors used for deterring birds from roosting on buildings, no conductor should be connected to earth. A switch should be installed to provide means of isolating the Energizer from all poles of the supply and clear warning signs should be fitted at every point where persons may have ready access to the conductors. The notice should bear the words "LIVE WIRES" in block letters not less than 13mm (1/2" high). The letters should be red on a white background. Each notice should be at least 62mm x 50mm (2 1/2" x 2").

Handyhint

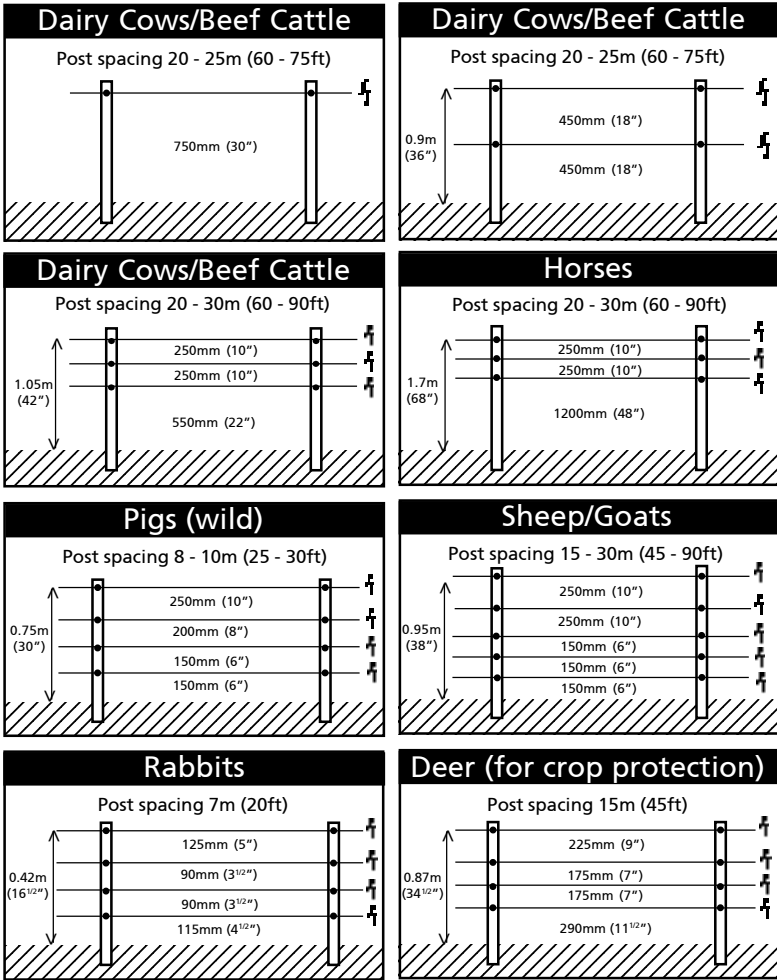
Lightning Strikes

Lightning strikes can damage Energizers. Damage can be minimised by disconnecting the Energizer from the fence line and unplugging it from the power supply during electrical storms.

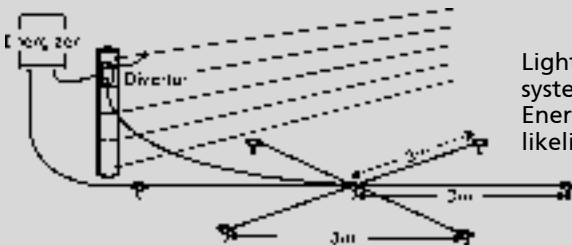
The Gallagher Adjustable Lightning Diverter 064802 with a 'Crow's foot' earth configuration is recommended to minimise Energizer damage.

Options for Wire and Post Spacings

These figures are guidelines only for flat country conditions.



For wire and post spacings in dry areas with poor earthing conditions, see your Gallagher dealer.

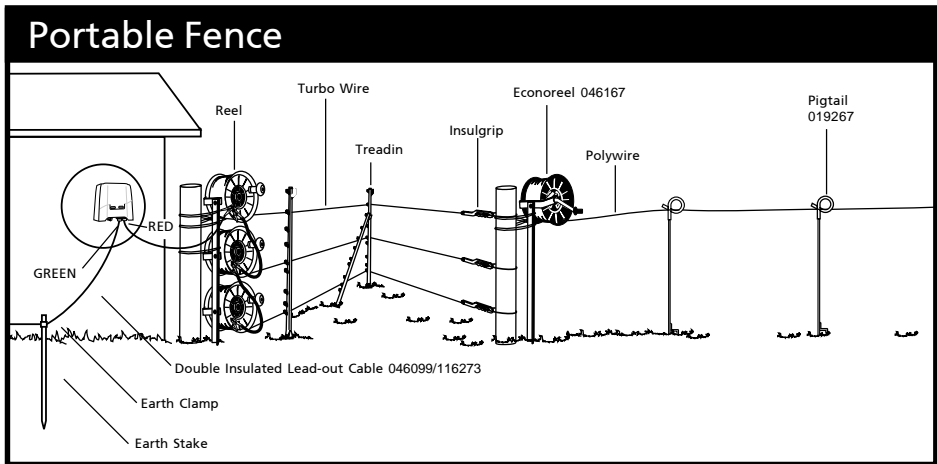
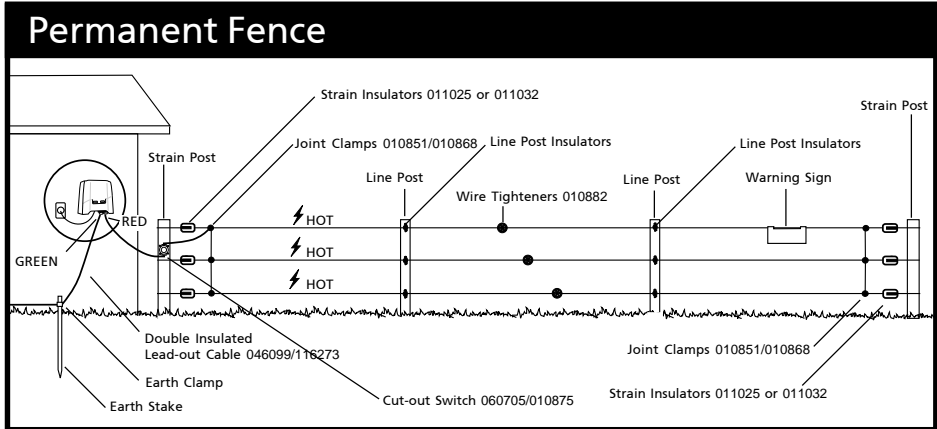


Lightning is transferred to the earth system rather than through the Energizer, thereby reducing the likelihood of Energizer damage.

Materials and Tools

Gallagher dealers offer a complete range of products for your Power Fence. For fence specifications and design contact your Gallagher dealer.

On permanent Power Fencing, use high tensile, 12.5 gauge wire. Do not use barbed wire or 16 or 18 gauge wire. On portable fences, Polywire, Polytape or light gauge wire may be used.



Handyhint

Insultimber

Gallagher Insultimber is a product unique to Gallagher which is made from a self-insulated high-density timber and which does not conduct electricity. Because it does not need any additional insulation, Insultimber is ideal for Power Fencing.

Insultimber is environmentally-friendly because it is a non-rainforest hardwood and a natural renewable resource.

And, best of all, Insultimber is 1/3 the cost of conventional non-electric fence systems!

Energizer and Fence Maintenance Chart

Fault	Possible Cause(s)	Solution
Energizer doesn't operate	Energizer Off	Switch ON
	Break in supply circuit	Test power point
	Faulty Energizer	Have Energizer repaired
Electric fence voltage is below 3000V or your stock are escaping	Faulty Energizer	Unplug the Energizer from the power supply and remove the fence wire from the Red terminal. Plug Energizer in again. Using a Digital Volt Meter (075037) check the voltage across the terminals. If the voltage is less than 5000V, have Energizer repaired.
	Inadequate earthing	Improve the earth system by adding more galvanised earth stakes to the earth system until the earth voltage is 200V or below.
	Short on the fence line	Check the electrical connections are secure eg. from the fence to the red terminal, from the earth system to the green terminal, at gates etc. Check the voltage on the fence every 33m (100ft) using the Digital Volt Meter. Note if the voltage is dropping. The closer to a fault, the lower the voltage reading will be. Become aware of things that cause faults and always be on the lookout for: stray pieces of wire on the fence, heavy vegetation growth, cracked or broken insulators, broken wires.

Handyhint

Use Cut-out Switches to allow sections of the fence system to be switched off during fence maintenance. Put a switch at each gateway and at every major change in fence direction.



When joining wires under tension, use a figure eight or reef knot. Do not use copper wire anywhere in your fence system.

AO M250/M500/M1000

BO M250/M500/M1000

12 Power**Plus**