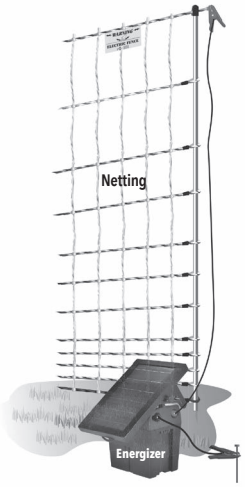
Energizer Installation & Operation Instructions

1. Keep energizer ground system 30 to 40 ft away from any other electrical ground source. This includes house ground systems and wells.
2. Use only galvanized lead-out wire and galvanized ground rods. Do not use copper lead-out wire or copper ground rods.
3. Use only insulated wire designed for electric fencing. Do not use wire rated at less than 10,000 volts.
4. Tight electrical connections are always required.
5. When constructing positive/negative fences, re-ground negative wires every 1,200 ft.

Net Fences

DC battery/All-in-one solar units

Mounting



DC (Battery/Solar) units need to be mounted as required on a support box, ground rod or post. The positive (+) and the negative (-) battery leads from the energizer will connect directly to the positive (+) battery terminal and the negative (-) battery terminal. A solar panel (if used) will also connect to the battery positive (+) and negative (-) terminals.
See manual for complete instructions.

Connecting to the fence/ground

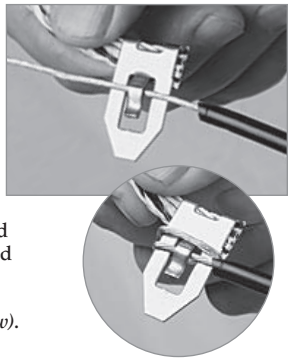
1. Attach black ground lead from energizer ground terminal to ground rod(s). See ground rod installation below.
2. Attach lead with orange clip from the energizer fence terminal to one of the metal clips at one end of the net.
3. If the energizer has a power button, turn it on and test fence to ensure properly electrified.

110v/AC plug-in

Mounting

Mount the energizer vertically on a wall or other surface, within reach of an AC power outlet. No extension cord. *(Extension cords not recommended due to potential power drop.)* Keep out of reach of animals. Using a surge protector is recommended. Most AC energizers are not water tight, so cover from the elements.
See manual for complete instructions.

Connecting to the fence



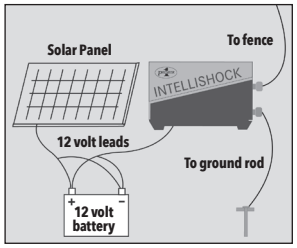
1. Measure the appropriate length of insulated leadout wire to go from your energizer to your net.
2. Strip 4" of insulation from each end of wire.
3. Attach one to the energizer fence terminal.
4. Attach the other end of the leadout wire to one of the metal clips at either end of your net. Place the stripped wire end underneath the tongue of the metal clip and then tightly wrap the bare wire around the metal clip 2 or 4 times.
5. Connect energizer ground system *(see below)*.
6. Plug in energizer and test fence to ensure properly electrified.

Note: *Remember that with a net fence, the metal clip at the end of your fence DOES NOT connect back to the metal clip at the beginning of your net. Test the end of the fence ensuring adequate voltage.*

Permanent Fences

DC battery/solar

Mounting



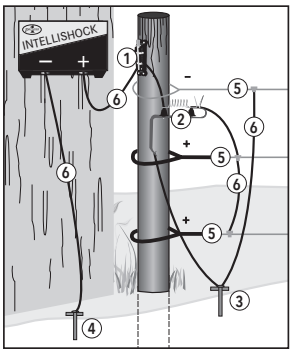
DC (Battery/Solar) units need to be mounted as required on a support box or post. The positive (+) and the negative (-) battery leads from the energizer will connect directly to the positive (+) battery terminal and the negative (-) battery terminal. A solar panel (if used) will also connect to the battery positive (+) and negative (-) terminals. Some variation of solar panels will connect differently.
See manual for complete instructions.

Connecting to the fence/ground

1. Large permanent battery/solar units should be connected with lead-out wire like AC units *(see below).* Some small battery units use a wiring harness that would allow you to simply use clips to connect to the fence and ground rod(s). See ground rod installation below.
2. Turn the energizer on and test the fence ensuring adequate voltage.

110v/AC plug-in

Mounting



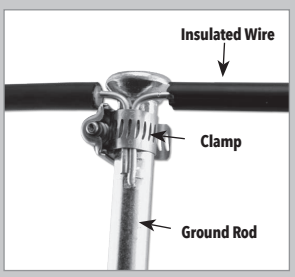
Mount the energizer vertically on a wall or other surface, within reach of an AC power outlet. No extension cord. *(Extension cords not recommended due to potential power drop.)* Keep out of reach of animals. Using a surge protector is recommended. Most AC energizers are not water tight, so cover from the elements.
See manual for complete instructions.

1. Cut-out switch *(optional)*
2. Lightning choke *(optional)*
3. 3' fence ground rod, connects diverter to the soil *(optional)*
4. 3' or 6' ground rod(s) and ground rod clamp(s)
5. Manual joint clamp *(for high-tensile fences)*
6. Insulated wire

Connecting to the fence/ground

1. Connect from energizer fence terminal to the fence using insulated galvanized lead-out wire. Lead-out wire may be buried or left above ground. If buried in a high traffic area like gates, it is best to run the insulated wire though conduit. Double insulated lead-out wire is best for permanent installations. In lightning prone areas, connect the lead out wire through a lightning choke before making the final connection to the fence. Lightning chokes should be connected to their own ground rod separate from any other grounding source including the energizer ground source.
2. Attach energizer ground system *(see below)*.
3. Test the end of the fence ensuring adequate voltage.

Ground rod(s) installation



Install galvanized ground rod(s) a minimum of 30' to 40' away from any other electrical grounds.

Use as a rule of thumb—3' (minimum) of ground rod for each released joule of energizer output. Examples: 1 joule energizer—requires 3' ground rod or 1.5 joule unit—requires 4.5' of ground rod.

If 6' ground rods are used, then any additional 6' rods should be spaced at least 8' apart in a straight line. If 3' ground rods are used, then any additional 3' rods should be spaced at least 4' apart in a straight line. Make sure to place the energizer ground system in a moist location.

For AC units and large battery/solar units, use insulated galvanized lead-out wire to connect the energizer's ground terminal to the ground rod(s). Shed off about 3 inches of insulation off each end of the lead-out wire. Use a galvanized or stainless steel clamp to connect the end of the lead-out wire to the ground rods ensuring a tight electrical connection. Some small battery units (1 joule or less) use a wiring harness that would allow you to simply use a clip to connect onto the ground rod.

Common Mistakes & FAQs

Common energizer mistakes

1. Buying too small an energizer. Power = pain = a fence that works!
2. Buying on price alone. 85,000 50 amp. pulses per day requires very high quality design.
3. Too short or too small a ground rod. An energizer is only as big as its ground rod allows it to be.
4. Tiny lead-out wires to fence and ground stakes. Never put a tiny pipe on a large pump.
5. Not protecting the system from lightning strikes. Install lightning/choke diverters every 1,000 feet of permanent fence line.
6. Poor wire connections force a powerful energizer to perform like a weak one. The more permanent the fence and the larger the energizer, the better the connections must be. A large energizer has five times the electricity flow rate of normal household current, so connections must be first-rate.

How do I tell if I have adequate ground rods from my permanent fence system?

By seeing if voltage will build up around your ground rods in "worst case" conditions. Follow this procedure.

1. Walk down your fence line at least 500 ft. from the energizer.
2. Insert a galvanized steel wire or rod into the moist soil. Attach one end securely to the live wire(s).
3. Push a second wire into the soil 10 ft. from your ground rod(s).
4. Turn on the energizer. You've temporarily created a dead short on the fence. All the pulse energy will rush out of the fence, into the soil via the wire. Unless you have adequate grounding, it will "pile up" around the ground rods creating voltage.
5. If the existing ground rods are adequate in total length and depth, you should be able to attach a fence voltmeter between the ground rods and the temporary wire and get a reading of less than 300 volts. If more than 300 volts, add more of the ground rods.

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How does a lightning choke/diverter work?

It doesn't arrest lightning. Only the soil does that. The "diverter" offers the lightning a diversion path to the soil. It brings the positive and negative wires/ground rods as close together as possible. Lightning, with its extremely high voltages, leaps easily across the gap and into the ground wire thus by-passing the energizer (in most, but not all cases).

What's the minimum voltage for various species?

- 1,500 volts for dogs, pigs and horses.
- 2,000 for sheep, goats and cattle.
- 3,000 for poultry, deer and furry "critters".

Obviously, if any animal touches an energized wire with its nose or blood-filled ears, it will readily feel pain. But animals with over 3/8" fur or wool can touch an energized 5,000 volt wire and feel nothing at all.

How important is voltage in a fence and fencer?

The higher the voltage (electrical pressure) the further a spark will "leap" from the energized wire through air, hair/fur and into the animal's nervous system. So high voltage is especially vital for furry animals (bear and coyotes), thick-skinned animals (elephants), and hollow-haired animals (deer). Less voltage is required for cattle, pigs and horses since they have less hair and thin skin.

Warning!

All electric energizers are potential fire hazards if not properly installed and maintained. Therefore, their use, maximum output, installation and permitted times of operation are often regulated on state or local level, or both. If there is a likelihood of local regulation, we suggest that you contact local authorities before installing your energizer.

Premier 1 Supplies, LLC learned of an accidental fatality of a very young child which occurred when he came in contact with an electrified fence wire while crawling through wet grass. It appears the fence was correctly installed and functioning properly. The energizer was not large by today's standards (2 joule plug-in unit) and UL approved. The fence wire was standard electroplastic twine and thus a relatively poor conductor compared to steel, copper or aluminum.

We caution parents to keep small children away from electrified fences. Children of all ages should be warned not to play in an area where electrified fences are installed. Individuals of all ages should take care to avoid accidental contact of electrified fences with the head and neck.

3-Year Warranty!

When you buy an energizer from Premier, you purchase more than an energizer. You also obtain these benefits:

1. If an energizer fails within 3 years of its date of purchase, we will replace the module or unit at our cost

Your credit card will be charged for the replacement but you will receive full credit when the failed item is back at Premier. Your only cost is shipping the failed item to us.

If the original energizer is over 3 years old, we will repair and/or replace it, but you pay for the repair cost and freight.

Note: *This policy doesn't apply to failure due to abuse or neglect or flood damage.*

2. Batteries carry a 30 day warranty

3. Free next-day shipment of warranty replacements

A unit can be shipped by 2 p.m. Central Time to be received the next business day. (Calls on Friday after 2 p.m. will ship Monday.)

If you think your energizer has failed, call Premier at **1-800-282-6631**. We'll help you test your energizer to ensure that it has truly failed. (About 25% of the units we receive back work fine. The fence was at fault instead of the energizer.)

4. Free technical support

We will provide free advice and support both before you purchase an energizer or fence and afterwards for as long as you wish our help. This applies to energizer repair issues also. If you are not sure how to replace a module, our people will "walk" you step-by-step through the process via the phone.

5. Solar energizer packages

With larger energizers (over 1 joule), the panel, battery and energizer need to be correctly sized for each situation. We will do this for you at no cost if you call us.

6. Five-year assurance against energizer obsolescence

Premier's "contract" with our customers includes repair or replacement of any non-working units for up to 5 years whether the unit is "obsolete" or not. During the 3-year warranty period, Premier pays for the replacement cost.