

# Troubleshooting Electric Fences

## Is the problem with the energizer or the fence?

1. To check—first turn off the energizer.
2. Then disconnect the wires going to the fence and ground rod system.
3. Turn the energizer back on.
4. Then measure the voltage on the energizer between the 2 terminals (fence and earth) with a digital fence voltmeter or other fence testing device. Touch one end to “-” earth terminal and the other end to “+” fence terminal.
5. If the tester reads under 4000v, the energizer (or possibly the battery if it's a battery/solar energizer) is the problem.
6. If the tester reads more than 4000 volts, the energizer is working properly and the fence is the problem.

## If the fence is at fault...

### How to find the fault(s)

First, re-attach the fence and ground wires to the energizer and turn it on. Then you must walk or drive along the fence looking for situations that are reducing the voltage.

1. If you have a **Fault Finder** use it. The arrow will tell you which direction the energy is flowing (leaking). Follow the fence from the energizer outward. Move in the direction of the arrow, testing as you go until you arrive at the problem.



*Note: Fault Finders can tell which section of net is at fault if you touch it to the clips where 2 nets join. But they are not able to locate the exact location within a net because energy flows in multiple directions within a net.*

2. If you don't have a Fault Finder, but do have a voltmeter or fence tester: Walk or drive along the fence.

#### a. Netting—look for:

- The lowest live strand touching a post's metal spike near the soil.
- Damaged strands touching the soil.
- Netting touching a wire or steel post.



- b. **HT wire, twine or rope fences—** look for:

- Damaged or broken insulators.
- Any point where an energized wire touches the soil, a steel or wood post or a non-energized wire. Separate them.
- Branches lying on the fence, forcing wires together (*above*). Remove them immediately.

- c. **Listen for snapping sounds** as you walk along a fence. These occur when a conductor is close to a grounded wire, stake, tree or large green weed.

- d. **Separate the fence into parts—**

by turning off switches, if it's an HT permanent wire fence, or by disconnecting portions of electric netting. Then progressively reconnect it, checking voltage as you do so. When the voltage drops, you've located the problem.



3. If no faults are found the soil may be too dry. Conventional fence systems rely on soil moisture to be effective. However, not all areas have the required moisture.

If that's the case, a **Pos/Neg fence** (*see at right*) can be used. These fences are wired to allow the use of every other horizontal strand as an extension of the ground terminal, eliminating the dependence on soil moisture to carry the energizer's pulse.

In order to receive a shock, the animal must touch both a “+” and “-” strand. This delivers more pain to animals than normal nets. Fence maintenance is very important—grass contact across both a positive and negative wire reduces voltage. Pos/Neg fences can be used as all-positive in moist conditions, if insulated and wired correctly.



# If the energizer is at fault...

## 110 volt plug-in unit

1. Use a test light to check if the 110v outlet is working.
2. If the test light works and the energizer does not, call Premier.



## DC battery unit

First determine whether it's the battery or the energizer that's not working.

1. If it's a 12v energizer, carry it to a nearby vehicle. Attach the input cords carefully to the battery.
2. If the energizer works, then the energizer's battery needs to be recharged or replaced.
3. If the energizer does not work, call Premier.



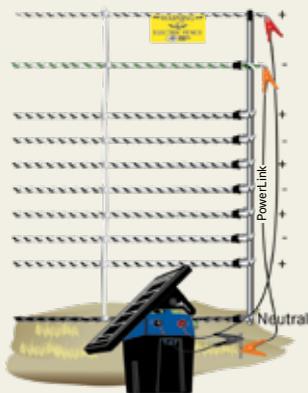
## Solar unit

1. Disconnect energizer from the battery.
2. Carry it to a nearby vehicle. Attach the input cords carefully to the vehicle's battery.
3. If the energizer works, then the unit's battery needs to be recharged or replaced.
4. If the energizer does not work, call Premier.



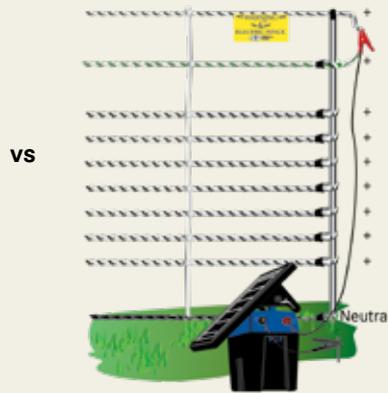
### PN (Pos/Neg) for dry conditions

Connect energizer fence lead to positive "+" net clip and energizer ground lead to ground rod. Connect a PowerLink from negative "-" net clip to ground rod.



### All strands electrified for moist conditions

Connect both net clips together and attach energizer fence lead to net clips. Then attach energizer ground lead to ground rod.



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## Fence testing mistakes

- Standard multimeters are not able to test fences (fence voltage is too high). Use a fence voltmeter.
- If receiving an inconsistent reading, check voltmeter's battery.

## "Insulated" animals

Animals standing on dry soil or snow may not receive an adequate shock even when the fence is properly energized.

Why? Dry soil and dry snow act as insulators, reducing the ability of the energizer's electric pulse to pass through an animal.

If this is the case, Pos/Neg fence systems or higher-output energizers are better adapted for such situations.

## Is the energizer "On"?

Push-button energizers must have their on/off switch activated.



## Energizer testing mistakes

- Some testers require batteries. If the tester's battery is low, it will give no reading or a misreading (sharp contrast in consecutive pulse voltage).
- Fault finders are unable to test fence energizers.
- If a battery energizer's light is pulsing but less than 3000v is measured across the terminals, check the battery charge level (with a digital battery tester). Energizers with undercharged batteries may produce an insufficient pulse.