

# The two basic energizer types compared...

## 1. Solar & Battery

**Energy input is 12v DC (battery).** If solar, the battery is recharged by a panel that is directly attached to the energizer's case.

- Because they need a battery, these units are more costly to purchase and operate than plug-in units (but still less so than solar units).
- Solar units always cost more per joule than AC units because they include a battery, a solar panel and a larger case.
- Battery **capability declines in colder temperatures.**
- Solar units are very portable—no need for lead-out wires.
- Most farmstore solar units are too weak, in joules of output, to stop more than a horse or dairy cow.
- Limitations on output (due to price, size and weight) also limit the amount of weed-laden fence that can be properly energized.

## 2. Plug-In

**Energy input is 110v AC (plug-in).**

- **Least cost to purchase and operate** per joule of output.
- **No battery, so cold temperatures and sunlight are not a concern.**
- Because they are available with higher outputs, they are essential for complex *whole farm* systems—with long permanent fences plus portable electric fences.
- Best for fences that experience high weed contact on *live* wires.
- **Can be complex to install.** High output needs more ground rods. Needs lead out wires (which often must be buried), “feeder” fences and switches, underground cable across gateways, etc.

Compare our fence energizers...



**Consult our website and “Click to View a Comparison Chart”** under any energizer. By clicking on the headings of the charts on the website you can arrange them in ascending or descending order by your choice of features (price, joules, brand, etc.).

## Have we field-tested all of the energizers we offer?

Some we have—but not all. We have 7 units working on our 3 farms at this time on 20 miles of permanent, semi-permanent and temporary fences.

On our website under the “Reviews” tab, we indicate which ones we have personally field-tested on our farms.



*Our website also allows users to write their own reviews and thoughts about all Premier products—including energizers.*



*A 0.5 joule PRS 50 can power 3-5 rolls of ElectroNet.*

# About our Energizers...

## Solar

### PRS, HotShock & IntelliShock units...

All-in-one units that arrive ready for field use. IntelliShock I-25 and I-50 units have load-sensing technology. Original PRS units (brown case) are assembled at Premier and feature up to 2 joules output.

## AC 110v Plug-In

### HotShock & IntelliShock units...

IntelliShock 506 maintains a consistent output against heavy resistance.

HotShock (600 and 1000) are low impedance units for long, weed-laden fences. Low cost per joule output.

### Kube unit...

A truly impressive unit for the cost. Maintains high output even in dry soils and high ohms conditions.

### Gallagher units...

M2800i, M1800i and M1200i units arrive with a controller that allows fence information to be monitored in detail.

- Displays voltage readings.
- Identifies fault zones.

Other available features:

- Fence updates via text message.
- Alarm system for fence failure.

M2800i and M1800i are compatible with these fence monitoring accessories:

- Remote and fault finder.
- Monitors that feed information to the energizers to maintain performance.

## DC Battery

### Speedrite units...

AN90 energizer. Small portable unit for short fences. Fast or slow pulse settings.

## AC/DC Plug-In or Battery

### HotShock & IntelliShock units...

The IntelliShock 10, 20, 31 AC/DC units are **uniquely** able to **automatically adjust the milliamp draw from the battery** to a much lower level *when the fence is free of green vegetation*.

So these units use much less battery energy when the fence is weed-free (cattle and horse fences).

Therefore they also require smaller solar panels if needed.

They are made by a company whose products we have used for 15 years.

### Speedrite units...

The 1000, 2000, 3000, 6000i, 12000i, and 18000i have these extra features:

- AC/DC (plug-in or DC battery).
- Switch that will:
  - > Indicate battery charge level.
  - > Slow pulse rate to 25 per minute.
  - > Fast day pulse and slow night pulse—works for trained livestock without predator exposure.
  - > Set a low day pulse and fast night pulse—reduces battery demand but still deters predators at night.
  - > Can turn it on/off remotely (only the 6000i, 12000i and 18000i).
- 1000, 2000 and 3000 include 3 ft lead-out wires to connect fence and ground rod. The 6000i, 12000i and 18000i do not.
- A light bar that indicates approximate voltage.
- 6000i, 12000i and 18000i also indicate the voltage *at the energizer* digitally (3100 volts is 3.1) in a small window in the upper right corner.

## Shortcuts to finding the right unit for you...

### Best least-cost small to midsize plug-in units

- HotShock 5
- IntelliShock 10, 20, 31
- Patriot P5, P10, P20, P31

### Least hassle to set up

- All PRS solar units
- Speedrite AN90

### Most hassle and risk of failure

- DC units  
*They require recharging the battery with a recharger.*

### Best for wildlife fences

- Premier plug-in (110v) units that are not AC/DC
- Gallagher iSeries  
*Their pulse frequency is up to 25% faster (more per minute) than most solar, battery and AC/DC energizers. It's important for stopping wildlife.*

### Good DC units for cattle, horses and deer fences

These fences need high output but won't have wires close to the soil. Their energy usage is uniquely low in these situations.

- IntelliShock 10, 20, 31

### Good when soil is dry and grass is brown

#### Long fences:

- Kube 4000
- IntelliShock 31, 506

#### Short fences:

- Kube 4000

### Good for green-weed contact

#### Long fences—high joule units:

- HotShock 1000
- Speedrite 6000i-18000i
- Gallagher iSeries

#### Short fences:

- HotShock 600
- Kube 4000
- IntelliShock 20, 31
- Patriot P10, P20, P30
- PRS 100 units

## Energizer Kits

### Why purchase a kit?

Users tell us that kits simplify their purchasing decisions—because electrified fences require energizers, ground rods, accessories, etc.

And for those with minimal experience, it's complicated to choose and buy multiple components and build fences.

### However, we also know that:

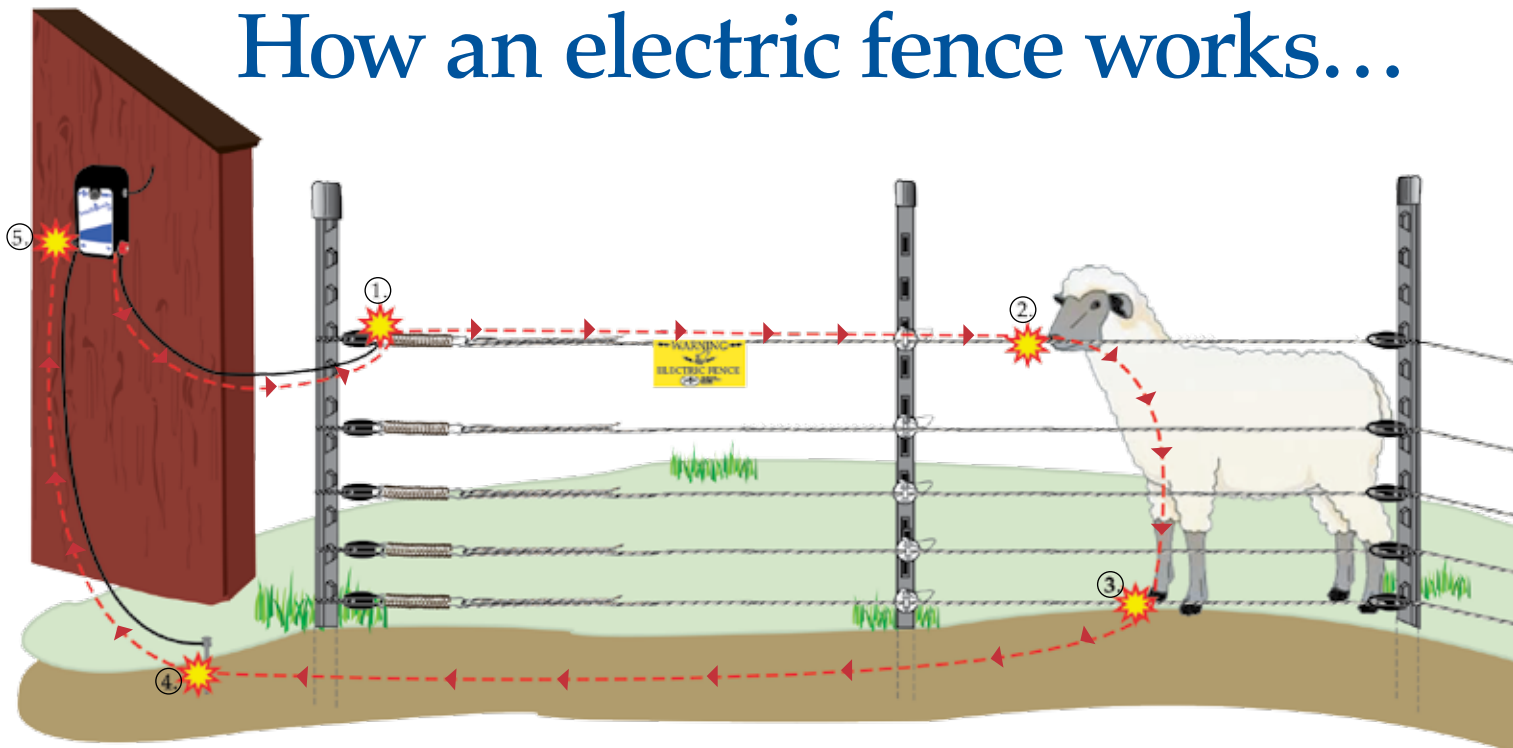
1. Many already own an energizer that they can use. If you're not sure whether it will work well with our fences, call us. We won't try to sell you anything you don't need.
2. Many need, or want, larger energizers than those in our kits. **In our experience, folks rarely regret buying and using a larger energizer.**
3. **Seeing helps.** View the videos on our website to see how to set up an energizer.



View Premier's "how-to" instructional videos.

[www.premier1supplies.com](http://www.premier1supplies.com)

# How an electric fence works...



## When animals touch a fence...

- ① The energizer pushes an electric pulse through its “+” terminal to the fence.
- ② The pulse travels through the conductors and **pressurizes** the fence with excess electrons. The **pressure** is measured in volts.
- ③ When an animal touches the fence, excess electrons enter it and travel through the animal to the ground.
- ④ After exiting the animal, the **pressurized** electrons travel through the soil’s moisture back to the energizer’s ground rod.
- ⑤ The electrons enter the energizer via the ground rod. The amount that returns is equal to the **shock effect**.

## Factors that affect a pulse’s strength and **shock effect**...

- **Joules of output** from the energizer equal the volume of electrons in a pulse. The more joules, the larger the potential **shock effect** to an animal.
- **Resistance of conductors, animal and soil.** High total resistance absorbs more electrons and reduces the **shock effect**.
- **Electron loss via grass contact and poor insulators.** Electrons that leak this way are not available to shock the animal.
- **Soil resistance.** This also absorbs electrons and reduces the total electrons that complete the circuit.

## Ground rods?

Ground rods guide the pulse from the soil, back into the energizer. The larger the pulse or higher the resistance of the soil (because it’s dry, sandy, or rocky), the more ground rods that are needed to collect the electrons from the soil.

## What is the effect of dry soil?

Soil moisture determines the conductivity (or not) of soil.

Dry soil increases resistance and absorbs more electrons. A weaker, less effective pulse occurs that does not deter animals.

To overcome this, use wide impedance energizers, higher output units and/or more ground rods.

# 2-Year Energizer Warranty

*When you buy an energizer from Premier, you purchase more than an energizer.*

## You obtain these benefits:

- 1. If an energizer fails within 2 years of its date of purchase, we will replace the failed 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 2 years old, we will repair it, but you pay for the repair cost and freight.

*Note: Policy does not apply to failure due to abuse or neglect.*

*Warranty does not cover batteries.*

- 2. Free next-day air shipment of warranty replacement energizers.**

If you think your energizer has failed, call us at 1-800-282-6631. We’ll help you test your energizer to ensure that it has truly failed. **This is important because we’ve found that 25% of the units returned to us work fine;** the fence was at fault, not the energizer.

- 3. Free technical support.**

We provide free advice before you purchase an energizer and free support afterwards for as long as you wish.

- 4. Solar energizer packages.**

With larger energizers (over 1 joule), the panel, battery and energizer need to be correctly sized for each situation. Call us and talk to our consultants.

- 5. Three-year assurance against energizer obsolescence.**

Premier’s “contract” with customers includes repair or replacement of any nonworking units for up to 3 years.

During the 2-year warranty period, Premier pays for the replacement cost.

# To Reduce Risk & Liability



## What NOT to do!

- **Never place your head or upper spine near an electrified wire.** Accidental head or neck contact can occur when pushing a voltage probe into the soil. Be careful when doing so to avoid head-to-wire contact!
- **Never attempt to step over or climb through an energized fence of any kind.**
- **Never encourage anyone to touch an electric fence.**

## What TO do!

- **Instruct all visitors and children to never touch electric fencing.**

## Are electric fences a serious safety risk to humans?

Because touching an electric fence is painful and the voltages are high, most assume that the risks from an energized fence must also be high.

That's a myth. Consider that millions of people throughout the world are "exposed" to millions of miles of electric fences every day—**yet there is less than one death or serious injury per year worldwide—and the fence is often not the cause.**

Compare that to the number of annual injuries and deaths that occur from exposure to tractors, skid loaders, ladders, PTO shafts, balers, mowers, combines, bulls, stallions, rifles, shotguns, knives, etc.

**This is not to suggest that there is no risk at all.** There is, indeed, a small level of risk.

And with risk, there is also liability to the fence's owner.

## To reduce the risk...

1. Be especially careful **not to touch an energized wire with the head or spine.** For reasons not fully understood, this contact point is worse than contact with hands, arms, feet or legs.
2. Never approach a fence without footwear. And **wear footwear that fully encloses the foot** (not sandals). Why? Most footwear are poor conductors. So they reduce (by absorbing it) the energy that will pass through your body if you touch a fence with your hands or head.
3. **Never energize barbed wire.** Animals and humans can become entangled and repeatedly shocked—and thus die.
4. **Hang warning signs** (see left) at critical areas where children or untrained adults encounter the fence.

5. Use smaller energizers on fences located near children and untrained adults. (Most experts agree that **smaller energizers are safer than large ones** as long as animal control isn't put at risk.)
6. **Make the fence as visible as possible to both humans and animals.** How? By using conductors and posts that can be readily seen both day and night, and against both light and dark backgrounds. That's why Premier has long advised the use of white/black conductors—to provide contrast and visibility. Fence suppliers worldwide are now following our lead.
7. **If possible, do not energize wires less than 12" above the soil.** Why? To allow humans who might contact a wire enough space below it to fall away from any energized wires.
8. Make sure that **all energized wires are on the inside of your boundary fence** (less likely to be touched, and anyone who touches them without your permission is trespassing). We achieve this with internal energized offset wires.
9. **Never connect 2 energizers to the same fence. (It doubles the pulse frequency).**
10. The shock from electric fences can panic animals (e.g. horses) and cause them to crash into fences (or people) resulting in injury to one or both.  
To reduce this risk:
  - a. **Do not install electrified wires on feedlot fences, corral fences or around riding arenas.**
  - b. Reduce the available volts and joules on fences that enclose very small areas (e.g. night pens) to lessen the likelihood of animal stress and possible panic.

**Warning:** In 1991 an accidental fatality occurred when a young child's head contacted an electrified fence while the child was crawling on wet grass. The fence was correctly installed and functioning properly. The energizer was a UL approved unit. As a result, Premier strongly advises against allowing toddlers access to any electrified fences. Also, due to this incident and others, experts now suggest that human contact by an energized wire to the head and neck may be the most dangerous point of contact. We urge all to especially avoid this kind of contact.

