

Livestock Management Solutions рворист бијдевоок



### datamars Livestock

We empower producers by enabling data-driven decisions, ensuring consistent and profitable results. We support you through everyday livestock production needs, with innovative technology aiding day-to-day tasks. Our tools enhance animal health, precision management, and protein production, working seamlessly together and with you. Whether in the field or online, our digital platform provides real-time livestock information, enhancing decision-making. Our products not only work together but, more importantly, work for you.

Datamars Livestock, a division of global company Datamars, Inc., is a leading provider of precision livestock management solutions. Our top-quality tools, including Z Tags, Temple Tag, Tru-Test, and others, support efficient and profitable livestock management. Backed by the Datamars Livestock cloud software, our products offer real-time data for producers.

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**DIPHILIPS** 

Simcro, DATAMARS

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### Electric Fence Planning & Building Steps

This product guidebook explains the products and tools needed to build an effective electric fence.

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### **CUSTOMER SUPPORT:**

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### An electric fence energizer (also called a charger or fencer) takes electric energy from a power source and delivers it to a fence as pulses.

These pulses are commonly referred to as the "shock" felt by any animal which touches an electrified fence. Unlike a conventional fence, an electric fence is a psychological barrier so animals learn to respect the fence. Electric fencing offers you a number of benefits over conventional fencing.











Durability

Safety

Low Cost

Flexibility

Ease of Usage

**Ease of construction:** Relatively simple and easy to build, electric fences can be installed quickly and with minimum tools saving you labor, time, and costs.

**Flexibility:** Wire spacing and fence design can be modified to control a variety of animals. Temporary electric fences can also be moved quickly and easily.

**Long life:** Using quality components and materials, electric fences can last a long time, with permanent electric fences lasting up to 20 years.

**Animal safety:** A safe and effective option to barbed wire or woven fences, electric fence systems also deter and protect against trespassers and predators.

**Lower cost:** Electric fence requires less labor and material than conventional fences (barbed or woven wire, wood rail, vinyl). Savings can also be achieved through reduced maintenance–animals are less likely to damage an electric fence because they don't usually touch it more than once. It is important to invest in quality components as these will also provide fewer maintenance problems and greater fence life-expectancy, increasing your value for money.

Our industry-leading brands to meet anyone's electric fencing needs. Whether building a fence to last 20 years or installing temporary netting to protect a campsite, our brands are a quality solution for any fencing needs.



### SPEEDRITE.COM

No nonsense electric fence solutions for the serious farmer and rancher.

Speedrite premium electric fence has provided producers with superior features and technology since 1938.



### PATRIOTGLOBAL.COM

Patriot electric fence offers quality fencing at an outstanding value.

Provides you the flexibility to enjoy your lifestyle while meeting your needs for simplicity, reliability, and performance.

### **1. Electric Fence Selection Needs**

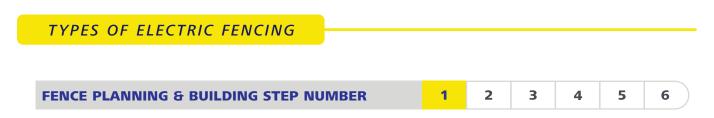
FENCE PLANNING & BUILDING STEP NUMBER	1	2	3	4	5	6

The best electric fence is the one that is suited to your requirements. The table below outlines the 3 main types of electric fence structures as a starting point to help you identify which fence type best suits your needs.

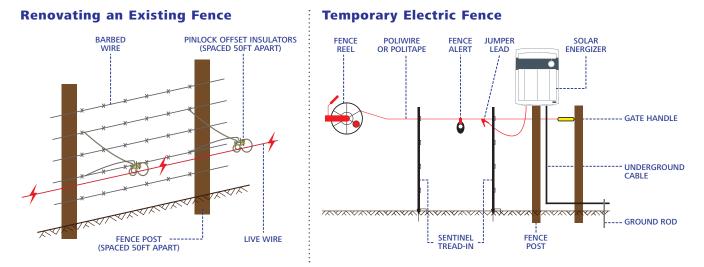
	PORTABLE/TEMPORARY	SEMI-PERMANENT/ PERMANENT	PERMANENT HIGH-TENSILE
Longevity of Fence	Short—moves frequently	1–20 Years*	1–20 Years*
Ease of Construction	Simple and fast	Easy to Medium	Medium. Requires special tools
Recommended For	Horses, cows, pets, garden, and small nuisance animals	Deer, horses, cows, sheep, goats, pigs, exotics (llamas, emus etc.), predators	Deer, cows, sheep, goats, pigs, exotics (llamas, emus etc.), predators
Containment Area	Short/Small	Unlimited	Unlimited
Primary Need	Temporary containment, intensive grazing	Pastures and cross fencing	Perimeter fencing
Key Benefits	Easy to install, use, and move	Use any combination of post type and conductive wire	Offers greatest fence life. Requires minimal maintenance

MAIN FENCE COMPONENTS								
Energizer Type	Solar, dual-purpose,	Solar, dual-purpose,	Solar, dual-purpose,					
	AC, battery	AC, battery	AC, battery					
Wire Type	Poliwire, tape, rope,	Poliwire, tape or rope,	12.5 gauge					
	or braid	steel/Aluminum wire	high-tensile wire					
Post Type	Tread-in, rod, steel,	Wood posts, T-posts, rod	Wood posts, T-posts, rod					
	or fiberglass posts	posts, metal pipes	posts, metal pipes					

\*This time frame indicates the expected fence life using quality products and keeping the fence maintained.

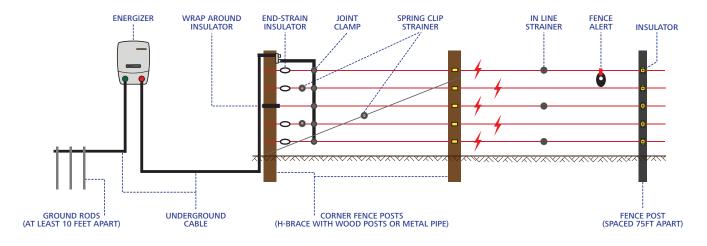


Speedrite and Patriot offer a variety of flexible fencing solutions to meet your needs. Speedrite offers premium products for high-tensile, long-term solutions. Patriot offers solutions for low-strain fencing, with high-quality products at an outstanding value. Both brands also offer a range of products for temporary applications.



Speedrite premium electric fence products are well-suited for high-tensile, permanent fencing. Premium accessories and quality construction are crucial to building an electric fence to last.

### **Permanent Electric Fence**



### 2. Fence Design

### **FENCE PLANNING & BUILDING STEP NUMBER**

3 4 5

### **Containment vs. Exclusion**

**Traditional containment electric fence applications,** such as those used to control cattle, horses, sheep, and goats, are primarily designed to keep these animals in a limited area. These animals are usually domesticated and are somewhat predictable. Most importantly, you are fencing these animals **IN** with their food source.

**Containment fences** for dogs are primarily designed to keep them in a residential yard. Usually, a single electrified wire placed 4-6" above the ground will be sufficient as most dogs will try to dig under the existing permanent fence. Make sure the wire is not too close that it actually touches the ground itself. If you want to add a 2nd or 3rd wire, allow 4-8" vertical distance between each wire. Unlike containment fences for livestock, those designed for dogs can typically be used with any energizer depending on the total area to be fenced.

**Standard exclusion fences** – such as those designed to keep out bears, wolves, coyotes, deer, or feral hogs – are different from traditional electric fence applications.

These animals are not domesticated, are highly unpredictable, and can be extremely dangerous. Most importantly, you are fencing these animals **OUT** of their food source. Electric fence is an effective solution for exclusion fences, but it is absolutely critical that you do it right – for you, your property, and the animals.

2

1

**Exclusion fences** for small nuisance animals are primarily designed to keep them out of small flower gardens, landscaped areas, and other similar areas around a house or business. Usually, a single wire fence placed 4-6" off of the ground will be sufficient. Make sure the wire is not too close that it actually touches the ground itself. In some cases, you may need to add a 2nd or 3rd wire (allow 4-8" vertical distance between each wire). Unlike standard exclusion fences, those designed for small nuisance animals can typically be used with any energizer depending on the total area to be fenced.

### **Basic Guidelines For Standard Exclusion Fences**

### DO'S

- **Do:** Research the type of fence design and conductor wire required for specific application.
- **DO:** Solicit sound, professional advice before starting any project.
- **DO:** Use an **energizer with a MINIMUM of 0.5 OUTPUT joules** (NOT stored joules). Wildlife agencies recognize 0.5 output joules as the minimum output energy required to control predators.
- **DO:** Use proper grounding and fence construction techniques when building the electric fence. Both of these elements are crucial to the success of the fence.

### DON'TS

- **No DO NOT:** Use inferior products. This is NOT the time to go cheap on your energizer, fence materials, and ground system just to save a few dollars.
- **No DO NOT:** Annoy the animal by using underpowered energizers. The energizer must deliver a powerful enough shock to deter the animal. Under-powered energizers just make the animal mad, making the animal try harder to get through the fence.
- **No DO NOT:** assume that all conductors (wires) are good or acceptable to use when controlling predators. Certain applications are fine with poli products, while others will require heavier gauge steel or Aluminum wires.

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### CONTAINMENT FENCE

FENCE PLANNING & BUILDING STEP NUMBER	1	2	3	4	5	6	)
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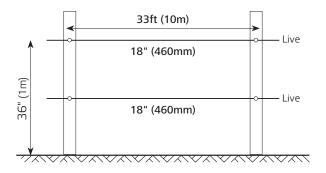
### Recommended for domesticated livestock.

### **Common Uses:**

- Small or large pastures
- Strip grazing/managed grazing

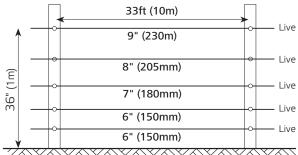
### **CATTLE AND HORSES**

33ft (10m) spacing, posts only



### **GOATS, SHEEP, AND DOMESTIC PIGS**

16 - 33ft (5 - 10m) spacing, posts only



### **6 WIRE BOUNDARY OR SUBDIVISION**

33ft (10m) spacing, posts only 33ft (10m) Live 9" (230m) Live 8" (205mm) 42" (1.1m) Live 7" (180mm) Live 6" (150mm) Live 6" (150mm) Live 6" (150mm) 

"Deer and hogs have always been a problem for us. Putting in a Patriot electric fence was one of the best business decisions we ever made. We now harvest fields that previously were too damaged from deer and hogs for us to get a crop. Plus, the fence has helped us to achieve the maximum benefit from our seed, chemical, and fertilizer inputs. In fact, the fence easily paid for itself within the first year."

JOHNNY & CRAWFORD HENRY -Cotton and Peanut Growers



### **Key Considerations:**

- Size of the animal determines the wire spacing needed
- Jumping ability of the animal will determine height of the fence
- Maintain low wire spacings for animals known to dig
- As a general rule, all exclusion fences should use a hot-ground system
- Netting can be an acceptable solution in some cases. Use "Pos/Neg" electrified netting in areas with poor grounding conditions. See page 76 for a list of available netting products.

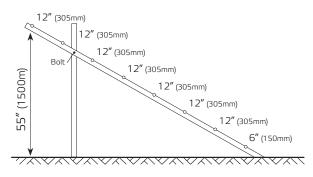
### **Common Uses:**

- Beehives
- Chickens
- Campsites
- Residential garbage protection
- Fencing off hay/equipment

Remember, you need an energizer with at least 0.5 OUTPUT joules to effectively control bears.

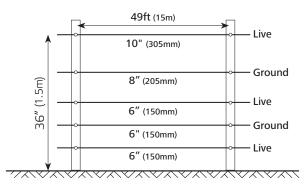
### SLANT FENCE

### Recommended for animals that jump (deer and elk).



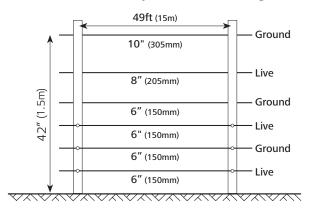
### **5 WIRE FENCE**

Recommended for coyotes and feral hogs.



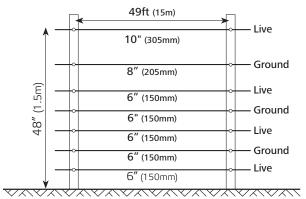
### **6 WIRE FENCE**

### Recommended for coyotes and feral hogs.



### **7 WIRE FENCE**

#### Recommended for bears.



### CROP PROTECTION FENCING

### FENCE PLANNING & BUILDING STEP NUMBER123456

### **Feral Hogs**

Most feral hog fences are similar in design to the crop protection fence, except there is no need for the inside fence. The 5 wire fence diagram on the previous page is also an acceptable solution. A hot/ground system is preferred.

### **Key Considerations:**

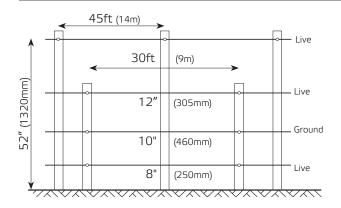
The 2 fence system (i.e. inside and outside fence), with differing heights, and the slant fence achieve a 3-dimensional effect on the deer. This impairs the deer's ability to judge the height and distance they need to jump to clear the fence.

### **Common Uses:**

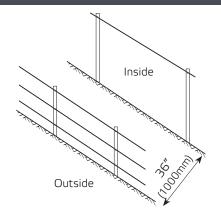
- Commercial row crop protection
- Food plots
- Gardens
- Certified organic operations

Make sure there is enough energizer to deliver an effective shock. Most applications require a minimum of 1 output joule per 10 acres.

### FRONT VIEW OF 3D FENCE



### TOP VIEW OF 3D FENCE







Crop damage due to wildlife is estimated to cost nearly \$1 billion annually. Whether you are a full time producer or a subsistence farmer, electric fencing is an inexpensive, flexible solution to deter pests and predators in any situation.

### **3. Selecting An Energizer**

### FENCE PLANNING & BUILDING STEP NUMBER



The first component to building an effective electric fence is selecting a quality energizer to meet your power needs. Below will walk you through the factors to consider when selecting a Speedrite or Patriot energizer.

### 1: Power Type

The first step in choosing your energizer is to decide on your power source. Patriot and Speedrite energizers are available in AC, solar, and battery powered. There are also dual-purpose models that can work with any of those power sources.

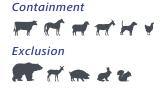


### 2: Animals Controlled

The next factor to consider is the type of animal the fence would control. There are two types of fence: containment and exclusion. Containment fences are designed to keep livestock and pets in a fenced area. Exclusion fences are designed to keep predators and pets out. For voltage considerations, see page 13.

#### 3: Coverage Area

The recommended amount of power is 1 joule of output power per every 40 acres fenced. We recommend connecting live wires with vertical jumpers every half mile for maximum conductivity.



#### Total Power Need = 1J per 40 acres fenced

240 acres fenced ÷ 40 acres per 1 joule

= 6 joules of power needed



### Speedrite Premium Energizer Features

Speedrite premium energizers feature professional technology for ultimate power and reliability. For more information about Speedrite features, see pages 34, 36, 39 and 43.



















Cyclic Wave™ Technology

**Bi-Polar** Smart Technology Technology

#### Adjustable **Pulse Speeds**

Remote Compatible

Day/Night Sensor

Low Energy Terminal

Repairable

3-year Warranty

### ANIMAL CONSIDERATIONS

FENCE PLANNING & BUILDING STEP NUMBER	1	2	3	4	5	6	)
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Containment	Min. Fence Voltage*	Characteristics/Tips
Beef Cattle	3,500V	Bulls require a higher voltage as they are more aggressive.
Dairy Cattle	3,000V	If kept separately, calves and heifers require lower wire and less spacing.
Horses	2,500V	Intelligent, learn quickly, easy to control. A fence made of politape, wire, or rope is less likely to injure if a spooked horse tries to run through it.
Llamas	6,000V	Thick coats insulate from electric shocks, requiring higher voltage.
Deer & Elk	6,000∨	Spook easily and jump higher than most other animals. Above head height, electric high-tensile fence recommended. Space wires close enough to prevent stepping through or heads between wires.
Sheep	6,000V	Wool insulates from electric shocks, requiring higher voltage.
Goats	6,000∨	Some species have thick insulating coats requiring higher voltage. Tend to test fences—space wires low to ground and high enough to prevent being jumped.
Pigs	3,000V	Start wires close to ground and finish at nose level.
Pets	750V	Start wires close to ground.

Exclusion	Min. Fence Voltage*	Characteristics/Tips
Wild Hogs	6,000V	Aggressive and persistent. Deter from rooting by starting wires close to ground.
Wolves & Coyotes	6,000V	Very thick, insulating fur requires high voltage. Can dig to reach prey so place first wire low to the ground.
Bears	6,000V	Thick, insulating fur requires high voltage. Bait fences to train avoidance.
Deer & Elk	6,000V	Move quickly and often run through unseen fences so make fence highly visible.
Small Nuisance Animals	2,000V	Start wires close to ground as most species are small and prone to digging.

### NOTES

Fences enclosing both mothers and offspring require an electrified wire at the nose-level height of each.

See predator voltage ranges if you want to keep animals in and predators out. To cover all predators, use a minimum voltage of 6,000.

\*RECOMMENDED MINIMUM VOLTAGE. Please note voltage levels are impacted by vegetation on the fence line, length of fence, and type of wire. To check voltage levels on your fence line, use a voltage tester.

### WHY DO JOULES MATTER?



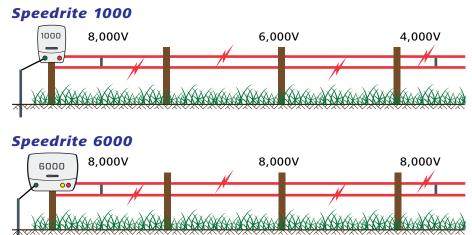
A joule is a measure of energy. More joules push voltage further down the fence. More joules also help maintain power when there is an increased load on the fence (i.e. vegetation, fault or short, broken insulator).

When choosing your energizer, consider the type of environment (high vegetation, long distance) and choose enough joules to maintain power on the fence.

**The graphics below are to illustrate** a scenario where the 1000 model is used on a fence too large for the energizer. For appropriate fence lengths and load, the 1000 will produce high voltages like all Speedrite premium energizers.

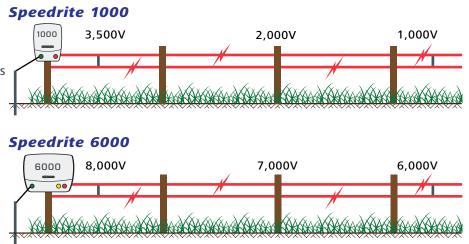
### **CLEAN FENCE**

Here is a comparison of 1J and 6J energizers on a clean fence with minimal load. Both energizers will produce approximately 8,000V, but the 6J energizer will carry the voltage much farther.



### TYPICAL FENCE

Here is a comparison of 1J and 6J energizers on a typical fence with a heavy load (high vegetation level and potential shorts). Under these conditions with the 1J energizer, there will be around 3,500V on the fence and the voltage a will travel a shorter distance. Under the same conditions with a 6J energizer, there will be more voltage on the fence and the voltage will not decrease as significantly along the fence line.



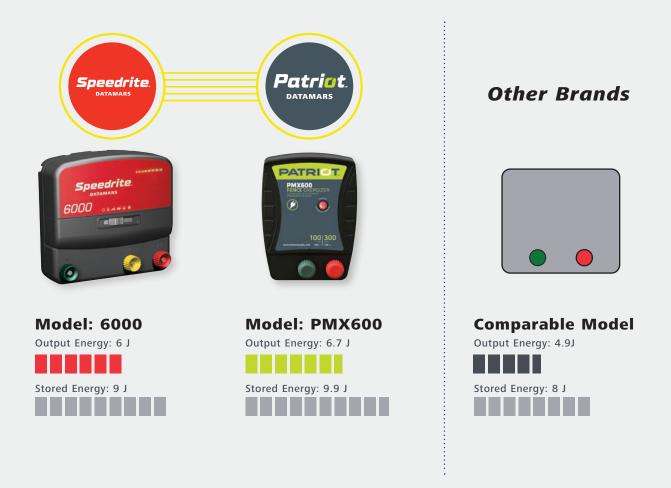
\*Note: Voltage amounts and distance are approximations for comparison purposes.





### **Output Joules = Power on the fence**

All energizers can be measured in stored and output joules. Stored joules measure how much energy is produced internally by the unit. Output joules measure how much energy is converted through the transformer and is discharged on the fence. When comparing energizers, output joules are what matter, so you know exactly how much power you'll get on your fence. At Datamars Livestock, we stand behind our products. That's why we rate our energizers in output joules.



### 4. Selecting Wire Products

FENCE PLANNING & BUILDING STEP NUMBER	1
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When choosing your wire products, it is important to consider your fence design. The recommended products will vary based on whether the fence is designed for permanent, semi-permanent, or temporary applications. Recommendations will also vary based on the animals being controlled and visibility and conductivity needs.

### 1: Fence Type

### **Temporary or Semi-Permanent Fences**

- Rotational/intensive grazing
- Equipment/hay protection
- Seasonal uses
- Separating livestock
- Short-term containment

### **Permanent, High-Tensile Fences**

- Permanent containment/exclusion
- Perimeter fencing
- Cross fencing
- Crop protection

### **2: Animals Controlled**

### **Poliwire Products**

- Recommended for all temporary applications
- Available in wire, rope, braid, tape, or netting
- Built to be flexible and portable

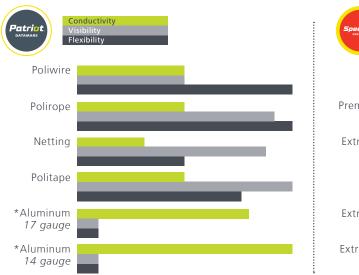


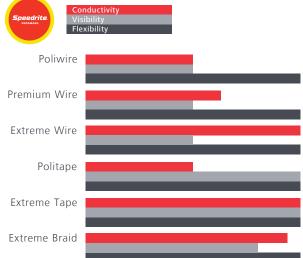
### **Aluminum/Steel Wire Products**

- Recommended for permanent fences
- High-tensile, 12.5g wire recommended for long-term fences
- Ranges from 18g to 12.5g

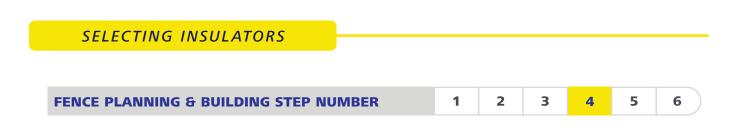


### **3: Other Characteristics**





\*Aluminum and steel wire are more conductive than all Patriot and Speedrite poli-products.



Using quality components is crucial for building an effective electric fence. Consider the following when selecting your insulators. For high-tensile, permanent fencing, we recommend using Speedrite premium insulators.

### 1: Type of Post

The first thing to consider when choosing your insulators is the type of post you want to use for your fence. Depending on your fence design, you may use a couple of different types of posts, so you may need multiple types of insulators.



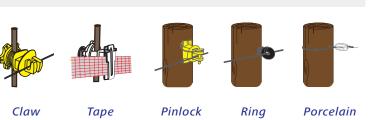
### **2: Installation Type**

Installation type refers to the way the insulator is installed on the post. Various installation types work with various wire types, so it is important to consider the type of wire being used as well as the type of post.



### **3: Attachment Type**

The attachment type describes the way the wire attaches to the insulator. There are several types of attachment types, which vary based on the post and installation types.





Speedrite premium insulators are built to last. These insulators are made with high quality materials and are designed for high-tensile fence. We believe in the quality of our products, so we back these insulators with an industry leading 10-year warranty. For more information, see pages 49-50.

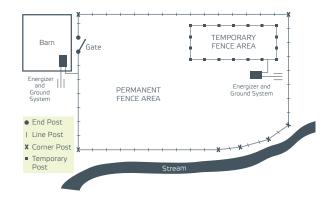
### LAYOUT PLANNING OF ELECTRIC FENCE



1 2 3 <mark>4</mark> 5 6

Once you have decided on your type of fence (permanent, semi-permanent, or temporary) and the fence design that will best suit your needs, you should plan your fence layout to ensure you get the correct amounts of all of your necessary accessories.





### Grab a pencil and walk around the area you want to fence, measuring and sketching your layout. Also include in your plan:

- Location of buildings/ barns enclosed by or sitting adjacent to your fence
- Location of your fence energizer and electrical source (if required)
- Trees, hills, low and/or wet areas, or other obstacles
  - If necessary, it is also a good idea to have your utility company mark any underground cables/lines that may be in the immediate vicinity.
- Water supply and feeding locations
- Gate locations
- Fence termination points

### As you are sketching your layout consider these questions:

- What type of gate(s) do you plan on using?
- Where will you put cut-out switches?
- How will you secure your corners?

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# ELECTRIC FENCE CHECKLIST FENCE PLANNING & BUILDING STEP NUMBER 1 2 3 4 5 6

Depending on the type of fence you're building, these check-lists will ensure you've gotten all of the components you need.

### **Permanent Fencing**

Use this checklist if you are building a permanent, high-tensile fence. We recommend Speedrite products for premium features and technology to serve your professional needs.

Energizer	Posts	Lightning Protection
Ground Rod	Wire (12.5g recommended)	Cut-Out Switch
Ground Rod Clamps	Wire Strainers	Digital Voltmeter
Underground Cable	Spinning Jenny	Fence Alert
Joint Clamps	Insulators (End Strain and Post)	

### **Temporary Fencing**

For temporary fencing, this checklist will help you find what you need. Patriot offers flexible, quality products for rotational grazing or other temporary applications. Speedrite premium features are suited for professional temporary or semi-permanent fences.

Energizer	Poliwire Product
Ground Rod	Fence Reel
Ground Rod Clamps	Digital Voltmeter
Underground Cable	Fence Alert
Pigtail/ Tread-In Posts	Gate Handle

### **Renovating an Existing Fence**

For adding an electric component to an existing barbed wire or perimeter fence, we recommend pairing Speedrite energizer and offset insulators with 12.5 gauge wire. For adding an electric component to a backyard chain link or other existing fence, check out Patriot's specialty insulators.

Energizer
Ground Rod
Ground Rod Clamps
Pinlock Offset Insulators
Wire (12.5g recommended)
End-strain insulators

### 5. Fence Installation

FENCE PLANNING & BUILDING STEP NUMBER	1	2	3	4	5	6	)
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Below are a few things to consider when installing your electric fence.







Wire Tension

Interference

Training



### Wire tension

Electric fencing provides a psychological barrier rather than a physical one, so there is no need to excessively tension wire. Heavy strainer assemblies are not required either, reducing the overall cost of construction. Electric fence wire should be tensioned to 200 lb. By comparison, conventional fence wire should be tensioned to 340 lb. The tension of each wire can be measured using a tension meter.

### **RFI (Radio Frequency Interference)**

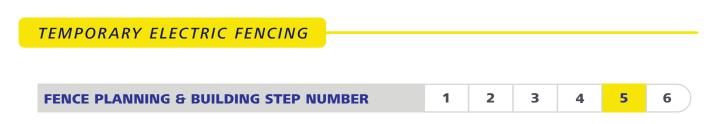
Many farms suffer from RFI. This often results in poor radio reception and an annoying ticking noise on the telephone line. Most energizers are fitted with special components and advanced circuitry that significantly reduces the levels of electrical emissions that might otherwise affect adjacent electrical equipment.

### **Animal training**

One method to train animals to respect electric fencing is to use a small, well-fenced holding paddock. Divide the holding paddock using your energizer and poliwire. Introduce the untrained livestock to the paddock. The animals will quickly learn to avoid the electric fence barrier.

### Mixing metals

Avoid using different metals in your electric fence. In damp conditions, when an electric current passes through the differing metals, electrolysis will occur. For example, using copper ground rods and steel lead out wire will cause problems. This will cause corrosion at the point of contact. Using the same metals in your electric fence will avoid problems altogether.



A temporary electric fence works well for maintaining a small number of livestock for relatively short periods of time. The fence can be quickly constructed and moved as often as needed. Temporary electric fences are excellent choices for cattle and horses. They are sufficient for sheep and goats, but require more work and greater attention to detail (i.e., wire spacing, available posts, line tension, etc.). Temporary electric fences are also ideal for overnight trail rides to control horses and on camping trips to keep unwanted animals away from your camp site.

### **Fence posts**

Temporary electric fences are generally constructed with either Sentinel Tread-In or Pigtail Tread-In posts.

### **Fence wire**

For temporary fences, good poliwire, polirope, or politape with at least 6 strands of conductors are the best choice.

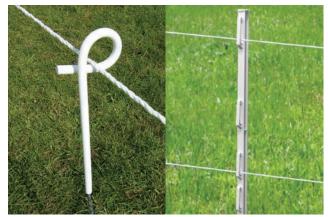
Our temporary fencing wire contains 6 stainless steel conductors and white UV stabilized yarn for greater visibility and longevity. The biggest difference is the thickness and visibility of the different products i.e. politape is larger and therefore more visible than poliwire.

### How do you join Poliwire or Politape?

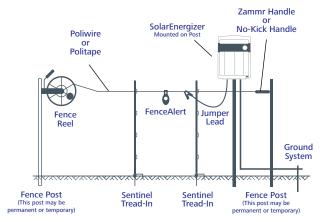
To join broken (or separate ends) of poliwire or politape, use poliwire joiners or tape buckles.

### Can a temporary fence be used as a boundary fence?

No. A temporary fence is not suitable for a boundary fence. A permanent fence is a much better choice.



Section of temporary fence using Pigtail Tread-In Post and Poliwire.



5

4

6

### PERMANENT ELECTRIC FENCING

3

### FENCE PLANNING & BUILDING STEP NUMBER

### **Converting a barbed wire or woven wire fence**

Do you already have a good barbed wire or woven wire fence, but want to add an electric component?

Note: You should never try to electrify the existing barbed or woven wire as it is too dangerous for your livestock.

Wood Post Extenders and T-Post Extenders allow you to maintain your current fence structure while adding high tensile wire, poliwire, politape, or polirope to make it electric. This is a safe and highly effective way to convert a barbed or woven wire fence to electric.

### **Fence wire**

The best permanent electric fences are constructed using 12.5 gauge galvanized high-tensile wire. It provides a lower level of resistance than a smaller gauge of wire and has sufficient capacity to carry the electrical current of the fence. Some people use a smaller gauge galvanized wire (i.e. 14 ga., 16 ga., etc.); however, these have higher levels of resistance, do not allow you to achieve the maximum benefits of your energizer, and your fence life may not be as long. (Aluminum wire is not the same as steel galvanized wire. Small Aluminum wire also has less resistance than comparable size steel wire.)

#### **Fence posts**

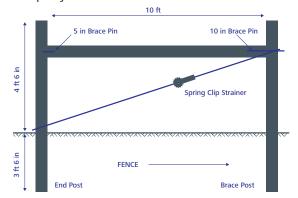
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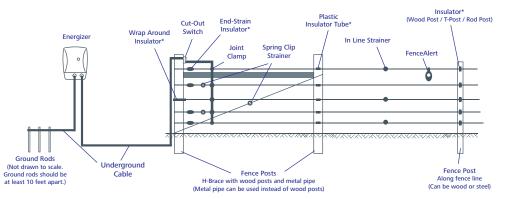
Permanent electric fences can be adequately constructed with wood posts, T-posts, rod posts, or metal posts. Typically, the type of post chosen is determined by local availability and price.

2

### **Corner/End braces**

Corner and end braces are most commonly made of wood posts with a metal pipe between them. (You can also use metal pipe posts instead of wood posts.) The most common braces are made of at least two posts spaced at least 10 feet apart or 2.5 times the height of the finished fence. These H braces serve as the foundation of the fence line and help to maintain the tension, which is very important for high-tensile fences. For more information on brace construction, please consult your local electric fencing dealer or a fence construction company.





\* Insulator style and type may vary depending on individual need and type of post

### 6. Grounding & Testing

### FENCE PLANNING & BUILDING STEP NUMBER

6 1 2 3 4 5

This is one of the most important parts of the fence. Without a proper ground system, you will not be able to achieve the maximum benefits of your electric fence.

### What is a Ground System?

A ground system is the most important component of any electric fence system. If an electric fence is not properly grounded, it will be much less effective.

A ground system consists of a number of ground rods (stakes) that pass electric current back from the soil to the energizer. The larger the energizer and the longer the fence line, the more ground rods are required.

#### How does grounding work?

For an electric fence to give an animal an electric shock, electrical current (produced by the energizer) must complete a circuit. The current from the energizer flows along the wires, through the animal's body, down through the soil to the ground system, then back up to the energizer. If the ground system isn't working properly, the animal won't get an effective shock.

### What factors will affect the Ground System?





Soil Type





Metal Type

### Soil Type

Dry, sandy, and non-conductive soil types limit the current flow to the ground rods. If you have soil that is not well suited to grounding, use additional ground rods, choose a better location for the ground system, or use an alternate method of grounding such as a ground wire return.

### Vegetation

Vegetation touching the live fence wires allows current to leak, causing the fence to "short" and voltage to drop. Check the fence regularly to make sure that long grass and overhanging branches are not touching the live fence wire.

### **Metal Type**

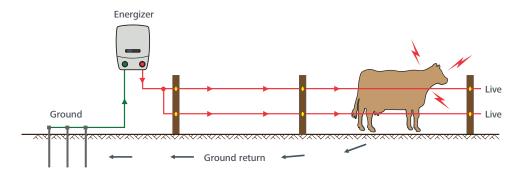
Using a mixture of metals in the ground system will lead to corrosion. This will cause problems with your grounding system. For example, never use copper wire with galvanized ground rods. You should also avoid using steel T-posts as ground rods because they will corrode and become non-effective.

NOTE: If it is not possible to locate the ground system in close proximity to the energizer, you may be able to use the existing fence line to connect to a remote ground system. In dry weather, it may be necessary to water the ground system in order to improve soil conductivity.

	ΤY	PES	OF G	ROUI	VD SY	STEN	15
FENCE PLANNING & BUILDING STEP NUMBER		1	2	3	4	5	6

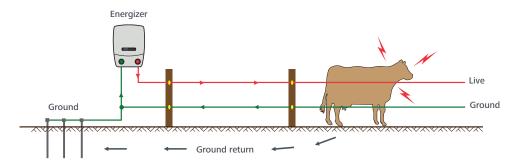
### All Live Grounding System

An all live ground system is recommended where soil is conductive (most moist soils are conductive). When an animal standing on the soil touches the fence, the circuit is completed when the current travels back to the energizer via the ground rods, at which point the animal gets a shock.



### **Ground Wire Return (Hot/Ground)**

A ground wire return, or hot-ground system, is recommended where soil is not conductive (most dry or sandy soils). The fence is constructed using both live and ground wires. When an animal touches a live wire and a ground wire at the same time, the circuit is completed and the animal gets a shock.



### Selecting a Site for the Ground System

### A suitable place for the ground system is:

- At least 33ft (10m) away from any other ground system (i.e. telephone, house power line, etc.)
- Away from livestock or other traffic that could interfere with the installation
- Where the system can easily be accessed for maintenance
- Ideally, where there is damp soil all year-round (i.e. a shaded area or under the drip line of a building).

### SETTING UP A GROUND SYSTEM

### **Ground Rods**

The number of ground rods required depends on the type of energizer being used to power the fence and soil condition. As a general rule, you should use one ground rod per 2 output joules. You can use a T-handle ground rod for all integrated solar energizers and energizers rated for .5J or less.

### For long ground rods (5ft- 6ft length):

- Space the required number of 5 6ft (2m) ground rods at least 10ft (3m) apart.
- Drive the ground rods deeply into the soil, at least 10ft (3m) apart. Make sure that the ground rods protrude out of the soil at least 4" (10cm) so they can be easily connected.
- Join the ground rods in a series using ground clamps and underground cable.

### For T-handle ground rods (3ft length):

• Insert the rod out of the soil least 4" (10cm)

### **Testing the Ground System**

- 1. Turn off the energizer.
- 2. At least 330ft (100m) away from the energizer, short circuit the fence by laying several steel rods (or lengths of pipe) against the fence. In dry or sandy soils, drive the rods up to 12" (30cm) into the soil.
- 3. Turn on the energizer.
- 4. Use a digital voltmeter to measure the fence voltage. It should read 2kV or less. If not, repeat steps 1 to 3.
- 5. To check the ground system, attach the voltmeter's clip to the last ground rod and insert the ground probe into the soil at the full extent of the lead. The voltmeter reading should be no more than .3kV. If the reading is higher than this, the ground system is insufficient. See the grounding checklist, add more ground rods, or find a better location for your ground system.

Grounding Checklist							
All wires are joined securely.	There are a sufficient number of ground rods.						
Connections to ground rods are secure.	All parts of the ground system are made of the same metal.						
Ground rods are at least 5 – 6ft long and at least 10ft apart.	Ground rods are buried deeply in the soil.						
Ground	Live						

TROUBLESHOOTING

FENCE PLANNING & BUILDING STEP NUMBER	1	2	3	4	5	6
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### **Finding a Fault Using a Digital Voltmeter**

Electrical current flows toward a fault (short) in the same way that water flows towards the plug-hole in a bath tub. A digital voltmeter allows you to follow the direction of the current towards the fault.

### Check the energizer and the ground system

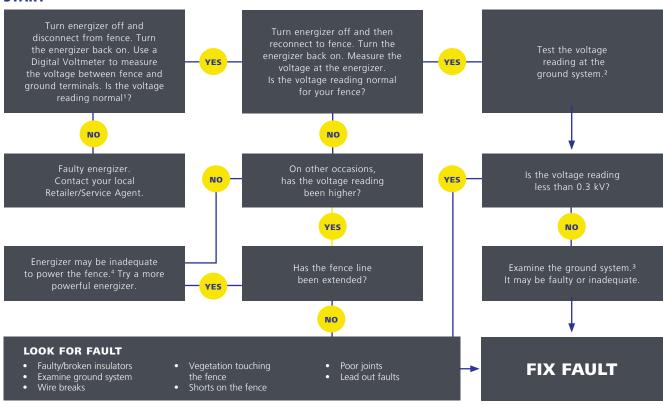
At the first cut-out switch, disconnect the rest of the fence and take a voltage reading. The voltage should be normal.

Move along the fence line stopping at each cut-out switch. Take a voltage reading with the cut-out switch closed and again with the cut-out switch open. A spike in the voltage reading with the cut-out switch open indicates a fault in the section of the fence which has been disconnected.

If you are still having trouble, follow the troubleshooting flow chart below.

When using the Digital Voltmeter to find faults, isolate sections of the fence line with a cut-out switch.

#### START



1. Compare this voltage reading to the voltage output on the user manual or Energizers section

Compare two days reading to the voltage output of the user manual of the gizer's sector of this brochure.
 There are different ways a ground system can be set up. To find out the best way to test the

There are aning of your ground system see page 27, or contact your local Retailer for assistance.
 Refer to the Grounding and Testing section of this brochure.
 Refer to Animal Considerations section for more information on recommended minimum fence

voltage for animal containment. 5. Always check that the fault has been fixed correctly. If fault is still present, return to start. 6. For further assistance, contact your local Retailer or call Datamars Livestock Customer Service at 800-433-3112

# Fence Monitoring

# System

### Receive Real-time Voltage via a Smart Phone, Anytime, Anywhere

The convenience of real-time, continuous fence voltage readings directly to your smart phone. Secure your livestock or crops. The Fence Monitoring System is compatible to use with any energizer brand.



**FAST FENCE REPAIR** Approximate fault location so you can get to it guickly.

SAVE TIME, LABOR, & EFFORT No more checking miles of fence. Install the system to view and control it.

When a fault occurs, the solar-powered nodes positioned along the electric fence line promptly notify you on your smart phone. Throughout the day, the fence nodes consistently measure voltage and communicate with both the Farm Gateway and other Fence Nodes. The Gateway easily connects to a building and utilizes Cloud-based software to transmit alerts to the Datamars Livestock Farm App. This enables you to quickly identify the fault and safeguard your livestock or crops before the problem escalates.



FENCE NODE: 880 0004-540 FARM GATEWAY: 880 0004-541

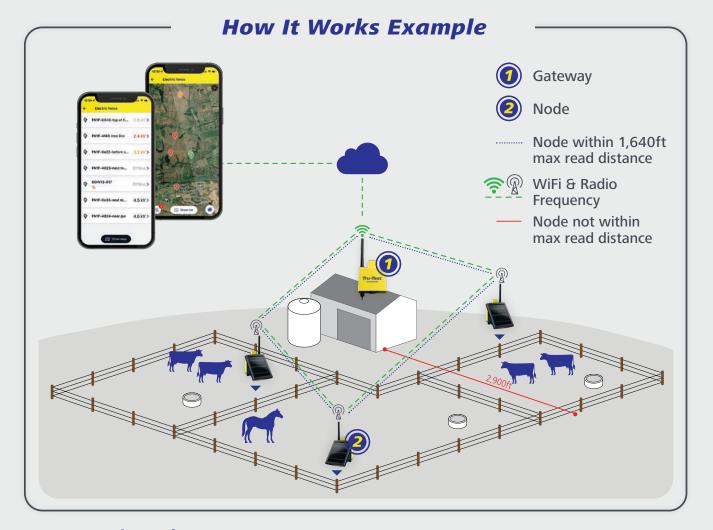
LEARN MORE: TRU-TEST.COM

datamars Livestock.

> **Tru-Test**. Datamars

### No Other Fence Monitoring System Compares:

- Ocompatible with any energizer brand
- linstant voltage readings to a smart phone
- Gateway connects by WiFi or Ethernet
- 24/7 Cloud-based data storage & monitoring
- 🐼 Expandable system;
  - 1 Gateway & up to 50 Nodes per system
- OV stabilized hardware; weatherproof durability
- Easy installation with LEDs & in-app instructions using just a cordless drill, wrench & wire cutters



### **Datamars Livestock App:**

- Installs the Fence Monitoring System
- Register your farm and add users
- Solution View current or change voltage thresholds
- Set admin permissions and update information
- Adjust notifications & GPS locations
- Opdate WiFi network as needed

### KEY TERMINOLOGY

AC	Alternating Current, AC power supply 110V – 120V or 220V – 240V
Amp	Unit of current. Short for Ampere.
Capacitor	Used to store energy in the energizer.
Current	Duration and magnitude of current causes the shock given by the electric fence. Increasing the voltage increases current, while increasing resistance decreases current.
DC	Direct current, battery power supply (e.g. 12V battery input).
Fault / Short	Energy loss from the fence (i.e, live wire lying on the ground, vegetation growing over the fence, etc.).
Ground System	The rod(s) in the ground connected to the ground terminal on the energizer.
Joule	Unit of energy. One joule is one watt of power for one second.
Lead Out Wire	Section of underground cable or wire that carries the electrical current from the energizer to the fence.
Live	The current-carrying wire connected to the energizer fence output terminal.
Ohm	Unit of resistance.
Output Energy	Effective energy delivered by the energizer. Also known as output joules.
Pulse	Brief electrical current given by an energizer, approximately 0.0003 seconds per pulse.
Resistance	What causes loss of power and voltage on the fence.
Stored Energy	Energy accumulated in the storage capacitor(s) in between output pulses. Also known as stored joules.
Watt	Unit of power. One watt is one joule per second.
Volt	Unit of electrical pressure. Sometimes it is stated as "kV" or kilovolts which is equal to 1,000 volts.
Voltage	Electrical pressure causing current to flow.





## Learn about Datamars Livestock solutions and products in a easy, accessible way!

### Join our FREE Datamars Livestock Training Academy

Courses are short and available 24/7. Work at your own pace and share your certificate on LinkedIn when you're done!

### **REGISTER** ACADEMY.LIVESTOCK.DATAMARS.COM







Speedrite

Decades of rigorous research and development have culminated in Speedrite distinguished line of energizers and electric fencing accessories. Renowned and trusted for their exceptional quality and cutting-edge technology, makes them the epitome of excellence. Speedrite products are a testament of commitment to delivering state-of-the-art pasture management solutions.

LEARN MORE: SPEEDRITE.COM



# Selecting An Energizer



### A range of superior energizers to suit any need.

From cost effective and reliable AC energizers to all-in-one Unigizers,<sup>™</sup> the Speedrite range of energizers also includes portable options and a solar range, ideal for isolated areas where no AC power is available.

Speedrite Energizers deliver maximum power and reliability from results of intensive research and development. All energizers feature unique market-leading technologies and promise of power in action!



### **Energizer Selection Chart**

MODEL	REMOTE CAPABLE	POWER	CONTAINMENT OR EXCLUSION	COVERAGE AREA*
86000W	$\bigcirc$	4	🗊 ला की तो करते तो	6,200 acres / 540 miles
46000W	$\bigcirc$	4	ही ला भी तों करते तो	3,300 acres / 290 miles
18000i	$\bigcirc$		🕂 ला की तो कर से तो	1,300 acres / 120 miles
12000i	$\bigcirc$		🗊 ला हो तो रू ल तो	500 acres / 90 miles
6000i	$\bigcirc$		🗊 ला ही तो रू स तो	240 acres / 60 miles
6000	No		🗊 ला ही तो रू ल तो	240 acres / 60 miles
3000	No		🗊 ल ही तो रू म तो	120 acres / 30 miles
3 J SOLAR SYSTEM	No		🗊 ला ही तो रू ल तो	120 acres / 30 miles
2000	No		🗊 ला ही तो रू ल तो	80 acres / 20 miles
2 J SOLAR SYSTEM	No		🗊 ला ही तो रू ल तो	80 acres / 20 miles
1000	No		🗊 ला ही तो रू ल तो	140 acres / 40 miles
S1000 INTEGRATED SOLAR ENERGIZER	No	· ····	🗊 ला ही तो करते तो	140 acres / 40 miles
S500 INTEGRATED SOLAR ENERGIZER	No	,	ही ला भी तों करते तो	100 acres / 30 miles
AN90	No	<b>6V)</b> 12V) <b>D</b> ) 🎢	er el 🜨	5 acres / 1.25 miles
AN20	No		er et	1 acre / 0.6 miles

\*NOTE: Range claims are a general guide and based on multi-wire fences. Actual range claims depend on many factors including fence and operation conditions, livestock type, and environment. Fence conditions can have a major impact on the voltage and effectiveness of any electric fence. Fence condition is dependent upon a number of factors including fence layout, vegetation, grounding conditions, age and state of repair. Solar panel wattage numbers are only general recommendations and may vary based on geography. Please consult your local electric fence professional to determine the best solar panel for your operation. All Speedrite energizers are low impedance.

### **AC Mains**



An AC Mains Energizer is the most cost-effective, reliable way to power a permanent electric fence. Unigizers are also compatible with AC power.

### Solar



Suitable for strip grazing, permanent, semipermanent, and temporary fencing, and the ideal solution for isolated areas where no AC power is available. Our Solar Systems and Kits provide remote power for permanent installations. Permanent installations are an all-in-one solution with built-in solar panel and battery. The Unigizer range is also solar compatible.

### Unigizers™



A Unigizer is a flexible, all-in-one AC and battery energizer with solar compatibility. It is a versatile solution that works across permanent, semi-permanent, and temporary fencing.

### **Battery**



Convenient, portable, and quick to set up, battery units are suitable for temporary, strip grazing, and semi-permanent fencing. Unigizers are also compatible with battery power.





### Speedrite AC powered energizers are high performing, powerful units designed for extensive electric fence systems.

From hi-tech components and a compact, rugged design, to advanced Cyclic Wave<sup>™</sup> and Bi-polar technologies, our energizers are rugged, made for all weather conditions, and backed by a 3 year warranty.



### Cyclic Wave<sup>™</sup> Technology

Provides a cleaner, more powerful pulse, maximizing the energy that travels down the fence for optimal stock control.



### **Bi-Polar Technology**

Enables the user to power a fence system to perform exceptionally well in dry, low conductive soil.



### Low Interference

Cyclic Wave<sup>™</sup> technology delivers outstanding fence performance and helps to minimize electromagnetic interference in line with international standards.



### **Compact, Rugged Design**

Hi-tech components and advanced research and development have enabled us to make powerful energizers in a compact, rugged polymer case.



### Load Response Feature

Controls energizer output to match conditions, providing maximum fence voltage for effective stock control.



### 120V AC Plug\*

Operates on standard 120V outlets in the United States and Canada.

\*110V and 120V plugs are synonymous. The 110V term has become obsolete since power is now standardized to 120V at 60Hz.



### **Robust Split Bolt Terminal Design**

Allows multiple fence wires to be connected easily, with a robust connection without needing to bend the fence wire or over-tighten.



### Large Terminals

Front mounted terminals for convenience, making adjustments and multiple fence wire usage. Terminals are slotted for ease of access and a superb connection.



### Remote Capable (included)

Enables the user to turn the energizer on or off anytime, anywhere along the fence line to manage maintenance or repairs.

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### **Output Voltage & Indicator Lights**

Light bar display provides an instant measure of the energizer output voltage for quick fence diagnostics. Red light indicates when the fence is under a heavy load.

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### Datamars Livestock App,

WiFi Network & Bluetooth Capabilities Connect the energizer: see the fence voltage in real-time, configure the energizer settings, and connect the energizer to a WiFi network. Energizer is also Bluetooth compatible.



### **3-Year Hassle-Free Warranty**

We stand behind the reliability of our products. Visit **SPEEDRITE.COM** for full warranty details. Starter plan included with purchase.

### AC MAINS ENERGIZERS

### World's Most Powerful Energizer AC Mains 86000W Energizer

### Up to 540 miles / 6,200 acres 86 J Maximum Output Energy (128 J Stored Energy)

· Voltage display

Robust split bolt

terminal design

Farm App

· 3-year warranty

• Use with 110V

• Control energizer and

monitor performance with

the Datamars Livestock:

- Cyclic Wave™ technology
- · WiFi and Bluetooth capable
- Bi-polar technology
- Remote capable (included)
- Indicator lights (voltage)
- · Compact, rugged design
- Low interference
- · Load response feature

#### STARTER PLAN INCLUDED WITH PURCHASE.

AC Mains 46000W Energizer

### Up to 290 miles / 3,300 acres 46 J Maximum Output Energy (68 J Stored Energy)

- Cyclic Wave<sup>™</sup> technology
- WiFi and Bluetooth capable
- Bi-polar technology
- Remote capable (included)
- Indicator lights (voltage)
- · Compact, rugged design
- Low interference
- · Load response feature

- terminal design
- · Control energizer and monitor performance with the Datamars Livestock:

STARTER PLAN INCLUDED WITH PURCHASE.



- Farm App
- 3-year warranty
- Use with 110V

2 Livestock FARM APP FREE 1 11 11

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AC MAINS ENERGIZER COMPARISON	86000W	46000W
Area/Distance You Want the Energizer to Power	540 miles / 6,200 acres	290 miles / 3,300 acres
Maximum Output Energy	86 J	46 J
Maximum Stored Energy	128 J	68 J
No Load Voltage	10,000V	9,500V
Standard Load Voltage	10,000V at 100 Ω	9,300V at 500 Ω
Heavy Load Voltage	6,800V at 25 Ω	8,900V at 100 Ω
Minimum Number of Ground Rods	12	9
Input Voltage	120 - 240V, 50 - 60 Hz	100 - 240V, 50 - 60 Hz





# Unigizers™ Features



### *Versatile 3-in-1 solution to manage your electric fence system.*

You have the flexibility to choose from either 110V, battery, or solar energy to power your electric fence – all in one unit. The 3-in-1 capability allows the Unigizer to be used for temporary, semi-permanent, permanent, and strip grazing fence systems. It's never been easier to create an electric fencing solution.



### Cyclic Wave™ Technology

Provides a cleaner, more powerful pulse, maximizing the energy that travels down the fence for optimal stock control.



### **Bi-Polar Technology**

Enables the user to power a fence system to perform exceptionally well in dry, low conductive soil.



### Low Interference

Cyclic Wave<sup>™</sup> technology delivers outstanding fence performance and helps to minimize electromagnetic interference in line with international standards.



### **Multiple Power Options**

AC, battery or solar power applications provides convenient livestock control.



### Versatile Mounting Options

Mount unit to a wall, post, or fence wire. Indoor or outdoor capabilities depends on fence location and power supply.



### Ground Monitoring

Indicates faults by monitoring voltage levels around the grounding system.



### Battery Saver

Microprocessor automatically adjusts the output energy depending on the battery condition extending the life of the battery. Highly effective for solar installations.



### Large Terminals

Front mounted terminals for convenience, making adjustments and multiple fence wire usage. Terminals are slotted for ease of access and a superb connection.



### Remote Capable (included)

Enables the user to turn the energizer on or off anytime, anywhere along the fence line to manage maintenance or repairs.



### **Output Voltage & Indicator Lights**

Light bar display provides an instant measure of the energizer output voltage for quick fence diagnostics. Red light indicates when the fence is under a heavy load.



### **Low Energy Terminal** Limits energy to below 1.5 J for usage close to buildings or home.



### Solar Compatible

Electrify the fence with solar power by connecting solar panels to any Unigizer which charges the battery for reliable livestock control.



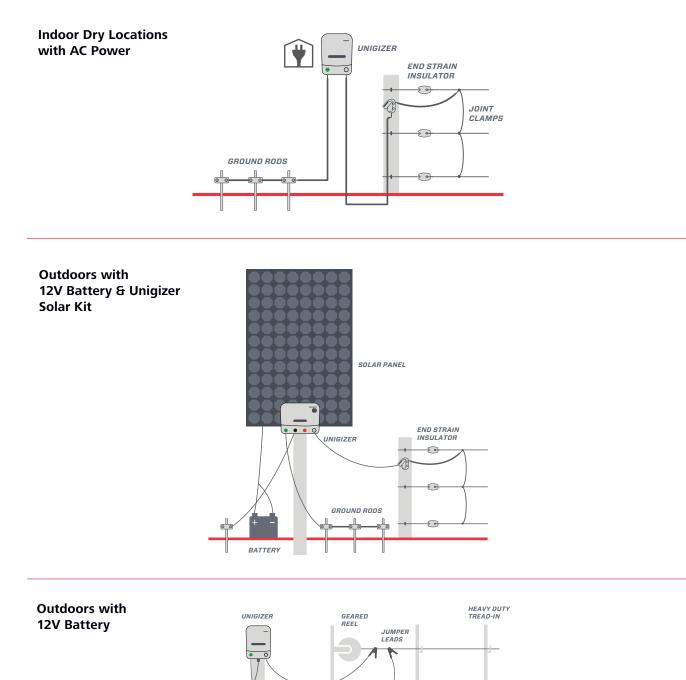
### LCD Display

Displays output voltage and battery/ground voltage. Backlit readable screen for poor lighting conditions. Only on select models.



### **3-Year Hassle-Free Warranty**

We stand behind the reliability of our products. Visit **SPEEDRITE.COM** for full warranty details. Starter plan included with purchase. The below diagrams are ways to utilize a Unigizer unit and a ground system. The number of ground rods will vary, depending on the Unigizer unit and soil conditions.



GROUND RODS

BATTERY

### **UNIGIZERS**

### 18000i Unigizer Up to 120 miles / 1,300 acres

- Cyclic Wave technology
- · Low energy terminal
- Solar compatible
- Remote capable (Remote sold separately)
- LCD voltage display Indicator lights
- (voltage and battery) Battery saver
- · Day/Night sensor pulse speed

- Large terminals
- Low interference
- · Ground monitoring
- Versatile mounting
- and power options
- · Adjustable output power and pulse speeds
- 3-year warranty
- Includes battery leads
- and 110V power adaptor
- 18 J output power



### 12000i Unigizer

### Up to 90 miles / 500 acres

- · Cyclic Wave technology
- Bi-polar technology
- Solar compatible
- Remote capable (remote sold separately)
- · LCD voltage display Indicator lights
- (voltage and battery) Battery saver
- · Day/Night sensor pulse speed
- Large terminals

- Low Interference
- Ground monitoring Versatile mounting
- and power options
- Half voltage terminal
- · Adjustable output power and pulse speeds
- 3-year warranty
- Includes battery leads and
- 110V power adaptor
- 12 J output power



814086, 880 0000-838

\*6000I : 812654, 880 0000-742 6000: 81264, 880 0000-689

**M** 

821014, 880 0000-269

### 6000i & 6000 Unigizers

### Up to 60 miles / 240 acres

- Cyclic Wave technology
- Bi-polar technology
- Solar compatible (60w panel)
- Remote capable (Remote included)\*
- LCD voltage display\*
- Ground monitoring\*
- Indicator lights (voltage and battery)
- Battery saver
- · Day/Night sensor pulse speed
- \* Only a feature of the 6000i unit

- Large terminals
- Low Interference
- · Versatile mounting and power options
- Half voltage terminal
- · Adjustable output power and pulse speeds
- 3-year warranty Includes battery lead and 110V
- power adaptor · 6 J output power



### 3000 Unigizer 2000 Unigizer Up to 30 miles / 120 acres Up to 20 miles / 80 acres Up to 10 miles / 40 acres Speedrite Speedrite Speedrite 3000 2000 1000 · 3 J output power · 2 J output power 1 J output power · Compatible with 30w solar panel · Compatible with 20w solar panel · Compatible with 10w solar panel 809448, 880 0000-547 809447, 880 0001-050 809446, 880 0000-698 **Unigizer Features & Benefits**

- Indicator lights (voltage and battery)
- Day/Night sensor pulse speed
- Large terminals

- Versatile mounting and power options
- Adjustable output power and pulse speeds
- **T**
- 3-year warranty
- Includes battery lead, 110V power adaptor and fence lead set

To achieve the peak performance of your energizer, it is essential you have the correct number of ground rods. Please refer to your user manual for this number. NOTE: Area recommendations are a guide only and are listed in multiple wire terms. Performance will be affected by the condition of your fence or environment.

UNIGIZER COMPARISON	18000i	12000i	6000/ 6000i	3000	2000	1000
Area/Distance	120 miles/ 1,300 acres	90 miles/ 500 acres	60 miles/ 240 acres	30 miles/ 120 acres	20 miles/ 80 acres	10 miles/ 40 acres
Maximum Output Energy	18 J	12 J	6 J	3 J	2 J	1 J
Maximum Stored Energy	24 J	16 J	9 J	4.5 J	2.7 J	1.5 J
No Load Voltage	10,000V	9,100V	9,500V	11,400V	11,000V	9,800V
Standard Load Voltage	7,800V @ 500Ω	7,800V @ 500Ω	8,000V @ 1000Ω	7,900V @ 1000Ω	7,700V @ 1000Ω	6,900V @ 1000Ω
Minimum Number of Ground Rods	6	6	4	3	3	2
Input Voltage	12V / 100 - 240V					
Current Consumption	1.4A	1.1A	700mA	290mA	180mA	95mA
Solar Panel (Recommended)	180w	120w	60w	30w	20w	10w

### **1000 Unigizer**

# Integrated Solar Energizers



# *Speedrite Integrated Solar Energizers incorporate an internal battery for portable uses like strip grazing or powering a small area.*

These self contained energizers feature an integrated solar panel and a sophisticated battery management system in a rugged carry case.



**Steel & Wood Post Mounting Options** High impact enclosure is designed to securely mount on T-posts and wood posts.



Internal Rechargeable Battery Includes an internal rechargeable sealed battery.



**Solar Recharge Battery** During sunny weather, the energizer automatically recharges the battery.

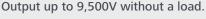


Minimal Sunlight Required Energizer needs minimal sunlight hours to

keep battery at, or near, full charge.



High Voltage Output





### Compact, Rugged Design

UV resistant case provides maximum weather protection for extreme environments.

1	

### Battery Saver

Microprocessor automatically adjusts the output energy depending on the battery condition extending the life of the battery. Highly effective for solar installations.

-	11	4	

### Indicator Lights

Red light indicates that the solar energizer is operating.



### **3-Year Hassle-Free Warranty**

We stand behind the reliability of our products. Visit **SPEEDRITE.COM** for full warranty details.

### INTEGRATED SOLAR ENERGIZERS

### S1000 Integrated Solar Energizer

Powers fences up to 40 miles / 140 acres

- Requires minimal sunlight
- Indicator light (pulse)
- ${\boldsymbol{\cdot}} \; {\sf Battery} \; {\sf saver}$
- Rugged design
- High output voltageRechargeable internal
- battery
- Steel and wood post mounting options
- On/off switch
- · 3-year warranty
- Built-in solar panel and 12V,
- 7-amp hour battery
- 1 J output power





834996, 880 0002-723

### **S500 Integrated Solar Energizer**

### Powers fences up to 30 miles / 100 acres

- Requires minimal sunlight
- Indicator light (pulse)
- Battery saver
- Rugged design
- High output voltage
- Rechargeable internal battery

- Steel and wood post mounting options
- On/off switch
- 3-year warranty
- Built-in solar panel and 12V, 7-amp hour battery
- 0.5 J output power



834994, 880 0002-721

COMPARING INTEGRATED SOLAR ENERGIZERS	S1000	\$500	
Area/Distance	40 miles / 140 acres	30 miles / 100 acres	
Maximum Output Energy	1 J	.50 J	
Maximum Stored Energy	1.3 J	.65 J	
No Load Voltage	9,600V	9,600V	
Standard Load Voltage At 1000 $\Omega$	7,100V	6,200V	
Heavy Load Voltage At 500 $\Omega$	5,600V	4,500V	
Minimum Number of Ground Rods	1	1	
Input Voltage	12V internal battery		



# *Portable and practical solution for strip grazing and large or small electric fence systems.*

Convenient, portable and quick set up. Unigizers are also compatible with battery power.

COMPARING BATTERY ENERGIZERS	AN90	AN20
Area/Distance to Power	1.25 miles	.6 miles
Maximum Output Energy	.12 J	.04 J
Maximum Stored Energy	.16 J	.05 J
No Load Voltage	8,000V	5,800V
Light Load Voltage At 2000 $\Omega$	4,500V	2,800V
Current Consumption	7-24mA	14mA
Solar Panel	1 Watt (optional)	N/A
Battery Type (sold separately)	D Batteries (x4) OR 12V or 6V External Battery	D Batteries (x2)

### **AN90**

### Up to 2 miles / 5 acres



- Powerful and versatile strip grazing unit
- Simple set up
- $\cdot$  On/off switch
- Fast and slow options
- Optional tread-in stand
- Flashing LED
- 3-year warranty
- 1.2 J output power

۲۵ ۳ ۳ ۵ ۵ ۲۵ SE117-01, 880 000-775 WITH STAND: SE117WS-01, 880 0000-185 WITH STAND/SOLAR PANEL: 814072, 880 0001-045

### **AN20**

### Up to 1 acre



- Simple set up
- On/Off Switch
- Intelligent battery management to extend battery life
- 3-year warranty
- .04 J output power



### **Corral Kit**

### Up to 40 acres / 10 miles



- Great for rodeos, horse shows, or trail rides
- · Works for most types of animals
- Includes: AN20 energizer, 12 Sentinel Tread-In posts, No Kick handle, 660ft 1/2" politape, reel, carry bag, ground rod, assembly instructions

'Fence-in-a-bag' kit includes basic assortment of items to easily construct a reliable temporary electric fence.



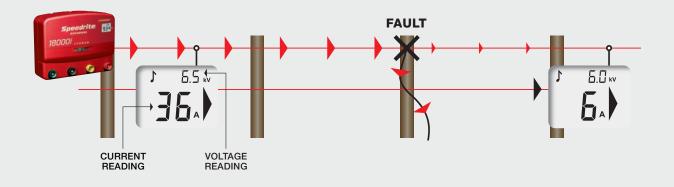
# Management Tools

### To get the maximum performance from an energizer you need to be able to measure and monitor your fence system effectively

Speedrite

No matter how good an energizer is, if the fence line is badly insulated, has shorts, or is poorly grounded, it will perform well below its optimum.

Advances in remote and fault-finding technology mean you can quickly locate and fix faults on your fence with minimal fuss.



### How to Use a Fault Finder

Start near the energizer's lead-out wires with your Speedrite Remote with Fault Finder or your Speedrite Fault Finder. Move down the fence line following the arrow away from the energizer. Take readings at regular intervals and at any junction point.

The previous current reading is shown briefly in the top right corner of the screen so that you can compare readings. If the current reading suddenly falls, you have gone past a fault. Retrace your steps to find the fault. Note that after a few seconds the previous current reading will be replaced with the present voltage reading (kV).

### MANAGEMENT TOOLS

### **Remote with Fault Finder**

- Turns compatible Speedrite energizer on or off from anywhere along the fence line
- Quickly & easily locates faults along the fence line
- · Large back-lit display
- Displays current, voltage & current direction simultaneously
- Audible current indicator
- Displays previous current reading to compare values
- Convenient belt clip
- Insulated, rugged, water resistant case
- Replaceable 9V battery
- $\boldsymbol{\cdot}$  Low battery warning system
- Automatic energizer
   polarity detection
- 1-year warranty\*



ST102, 880 0000-860

### **Digital Fault Finder**

- Quickly & easily locates faults along the fence line
- Large back-lit display
- Displays current, voltage & current direction simultaneously
- Displays previous current reading to compare values
- · Audible current indicator
- Convenient belt clip
- Insulated, rugged, water resistant case
- Replaceable 9V battery
- · Low battery warning system
- Automatic energizer
   polarity detection
- · Can be used with all energizers
- 1-year warranty\*



ST100, 880 0000-771

### **Digital Voltmeter**

- · Tests fence, energizer and ground system
- Ground probe provides accurate fence to ground voltage measurements
- Rugged design
- Readings from 200V to 9,900V (0.2kV to 9.9kV)
- · Automatic On/Off
- Replaceable 9V battery
- 1-year warranty\*



### 822643, 880 0002-503

822643, 880 0002-50

### **Fence Alert**<sup>™</sup>

- · Warning light begins flashing when voltage is too low
- Visible up to 1-mile away
- · Rugged impact & water resistant case
- Can be used on any type of electric fence including steel or Aluminum wire and on portable poli-products
- · Works with all energizers
- No ground wires or external power sources required
- Typical battery life 5 years on standby or up to 2 weeks of continuous flashing
- Two preset voltage triggers can be selected
- Replaceable CR2032 lithium button cell battery
- 1-year warranty\*



ST0303, 880 0000-521







## Flexible, Durable & Versatile

Speedrite has a range of both temporary and permanent electric fencing products.

Portable fencing solutions help to increase production through providing a quick, easy and inexpensive way to subdivide paddocks. This gives you the versatility to strip graze, make temporary paddocks or pens, and protect trees and crops from damage by stock.

Permanent electric fence solutions are easy to install and operate with less maintenance. They are also a safer fencing solution for your livestock. Animal contact with the fence is reduced and it's less likely to injure if a fence is breached.

### WIRE STRAINERS

### Spring Clip Strainer

- Suitable for high strain use
- · Spring clip design for easy tensioning
- Rust resistant
- Rugged & easy to use
- Galvanized frame with aluminum spool
- Use with Strainer Tensioner Handle (880 0003-217)

SA100-50, 880 0000-044 10/PACK

### Bullnose Insulated Strainer

- Suitable for high strain use
- · Spring clip design for easy tensioning
- Heavy duty insulator protects against arcing
- Rust resistant
- Rugged & easy-to-use
- Galvanized frame with aluminum spool
- UV stabilized
- Use with Strainer Tensioner Handle (880 0003-217)



814570 , 880 0000-002 10/PACK

### In-Line Strainer

- Suitable for high strain use
- Can be added to fence without cutting wire
- Rust resistant
- Rugged & easy to use
- Lightweight high strength aluminum construction
- Designed to work with Speedrite In-Line Strainer Handle (880 0000-099) or 1/2 " Drive Ratchet



813398, 880 0000-005 25/PACK

### Strainer Tensioner Handle

• For use with Patriot Spring Clip Strainer



814209, 880 0003-217



### **INSULATORS**

### Dual-Purpose Pinlock

- Works with T-posts, wood, or metal pipes
- · Sturdy pin for longer life
- Reinforced jaws
- Pinlock allows for easy wire removal
- UV stabilized

### Wood Post Claw

- Rugged claw design for strength & support
- Twin spark guards prevent arcing & increased distance from wire to post reduces risk of leakage
- Supports up to 8ga steel wire
- Unique staple guides
- UV stabilized

Insultube

• Dimensions:

· Heavy-duty polyethylene tube

39ft (L) X 3/16" (ID) X 3/8" (OD)



SI0292, 880 0000-629 BLACK 25/PACK

### Wood Post Pinlock

- Rugged, high strength Pinlock design
- UV stabilized
- Twin spark guards prevent arcing & increased distance from wire to post reduces risk of leakage
- Supports up to 8ga steel wire
- Unique staple guides
- Design conveniently allows easy removal of wire



SI027, 880 0000-833 BLACK 25/PACK

SI037, 880 0003-483 BLACK 25/PACK

### **Rod Post Multi-fit**

- Holds high tensile wire, poliwire and tape
- Heavy-duty screw nut for a secure fit
- UV stabilized
- Fits rod posts 1/4" 9/16"



820847, 880 0002-504 BLACK 25/PACK



807936, 880 0000-947 BLACK

### END STRAINS, OFFSETS & POSTS

### **Heavy-duty** White End Strain

- · Suitable for high strain use
- Reinforced glass filled polymer for maximum strength
- Deep grooves hold wire in place & prevent twisting
- · Long leakage path prevents arcing
- · Use with most sizes of fence wire
- UV stabilized



812842 880 0003-209 WHITE 5/PACK

### **Power Staple** Wood Post Claw

- · Designed specifically for use with STOČKade\* ST400/ST400i fencing staplers and staples as part of a world-first electric fencing installation system
- · Dramatically reduces the time required to build a fence
- · Robust design securely holds wire and ribbed claw provides added strength and support

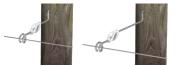


831743 .880 0000-421 BLACK 200/CARTON

### **Hot Tip Outriggers**

### · The ONLY Live Hot Tip Outrigger on the market

- For use on wood posts
- · Deters livestock from contacting the outriggers
- 6mm galvanized steel
- UV stabilized
- · Holds steel or aluminum wire, braid, poliwire, polirope up to 8mm or politape up to 20mm



880 0004-829 SMALL 6.7" (170 MM) 880 0004-830 LARGE 11.8" (2300 MM)

### Black End Strain

- · Suitable for medium strain use
- Deep grooves hold wire in place & prevents twisting
- · Long leakage path prevents arcing
- · Use with most sizes of fence wire
- UV stabilized



SI031D 880 0000- 260 BLACK 25/PACK

### **Power Staple Guide Attachment**

- · Exclusive guide attachment required for insulator to work with STOCKade\* ST400/ST400i fencing staplers and staples
- · Designed to guide staples safely and accurately through Power Staple Wood Post Claw Insulator (880 0000-421)



831311, 880 0000-272 BLACK

829704, 880 0003-413 WHITE

### Porcelain **End Strain**

- Suitable for high strain use
- Deep grooves hold wire in place & prevent twisting under tension
- High quality long life porcelain
- · White glaze finish



SI023 880 0000-677 WHITE 10/PACK

### **Pinlock Wire** Offset

- Extends the life of barb & woven wire fences
- · Electrified wire sits 12" from existing fence
- · High tensile galvanized steel frame securely attaches to existing fence wire
- Pre-Assembled
- UV stabilized
- · Pinlock insulator for easy wire insertion and removal

SI060SP, 880 0000-191 BLACK 50/CARTON (5/PACK OR BULK PACK)

REPLACEMENT INSULATOR: 800 0001-046

### Pigtail Tread-In

- · For use with poliwire, polirope or 1/2 " politape
- Easy to move, steel step-in post with large foot and insulated top
- · Measures 41" (H)
- · Sets 34" (H) above ground

### **Sentinel Heavy-duty** Tread-In

- 49" (H) post with (8) different positions for poliwire, politape or polirope
- · Simple step-in feature and pointed tip for easy installation
- High-strength "H" profile design for rigidity
- UV stabilized

820013, 880 0002-506 WHITE 50/CARTON 820014, 880 0003-259 BLACK 50/CARTON

All Speedrite insulators come with a 10-year warranty. \*NOTE: STOCKade fencing staplers and staples are only available from STOCKade distributors.



# **Poli-products & Gate Accessories**



The Speedrite Extreme range provides the ultimate in conductivity and strength for demanding professional livestock/ animal control applications. Tinned copper strands for extreme shock power.\*



The Speedrite Premium range provides greater conductivity and strength for more demanding professional livestock/animal control applications. Stainless steel strands for greater shock power.



Speedrite.

The Speedrite Poli range provides effective conductivity and strength for professional livestock/ animal control applications. Stainless steel strands for shock power.

	EXTREME WIRE	PREMIUM WIRE	POLIWIRE	EXTREME TAPE	POLITAPE	BRAID
Resistance (OHMS/Mile)	105	7,000	11,000	105	11,000	160
Starting Voltage of Fence (V)	8,000	8,000	8,000	8,000	8,000	8,000
Voltage at 330' (V)	7,900	4,200	3,400	7,000	5,700	7,800
Voltage at 1,650' (V)	7,500	1,500	1,000	7,500	2,700	7,300
Voltage at 3,300' (V)	7,100	800	550	7,100	1,600	6,700

\* Some Extreme products in the Speedrite Equine range also contain stainless steel strands.

### WIRE

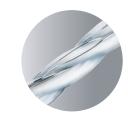
### **Extreme Wire**



- (6) tinned copper strands
- 105X more conductive than standard poliwire
- Increased shocking and stopping power, ideal for long lengths of temporary fence
- White with red weave for ultimate visibility
- UV stabilized

SP040, 880 0000-212 SP041, 880 0001-038 813241, 880 0003-240

### **Premium Wire**



- (9) stainless steel strands
- 1.5X more conductive than standard poliwire
- Ideal for temporary fencing and strip grazing
- UV stabilized

### Poliwire



- (6) stainless steel strandsIdeal for temporary fencing and strip grazing
- UV stabilized

SP21,1 880 0000-679 WHITE 1320FT

SP013, 880 0000-701 SP011, 880 0000-319

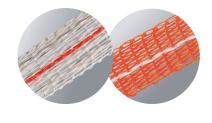
### TAPE

### 1/2in Extreme Tape



- $\cdot$  (6) tinned copper strands
- 106X more conductive than standard politape
- Increased shocking and stopping power, ideal for long lengths of temporary fence
- Heavy duty tape, tightly woven for superior strength
- 1/2" (W) white & red weave for ultimate visibility
- UV stabilized

1/2in Politape



- $\cdot$  (9) stainless steel strands
- 1.5X more conductive than standard poliwire
- Ideal for temporary fencing and strip grazing
- UV stabilized

### 3mm Extreme Braid





- (6) stainless steel and (3) tinned copper
- 72X more conductive than standard poliwire
- Increased shocking & stopping power, ideal for temporary and semi-permanent fence
- Complex weave and polypropylene core for superior strength
- Red and white weave for ultimate visibility
- UV stabilized

SP050, 880 0000-772 SP052, 880 0000-514 SP016, 880 0000-876 SP018, 880 0001-794

880 0001-796

### BRAID, REELS & ACCESSORIES



### **Geared Reel**



- Holds 1,650ft poliwire or 660ft 1/2" politape
- · 3:1 gear ratio with a solid steel crank
- Use with carry handle or on mounting post
- Galvanized steel frame
- Rugged steel locking system
- UV stabilized
- Includes: Speedrite ZAMMR Handle

822714A, 880 0000-434 REPLACEMENT BOBBIN: 880 0000-740

### **Jumbo Reel**



- Holds 3,300ft poliwire or 1,320ft politape
- Use with carry handle or on mounting post
- · Galvanized steel frame
- Rugged steel locking system
- UV stabilized

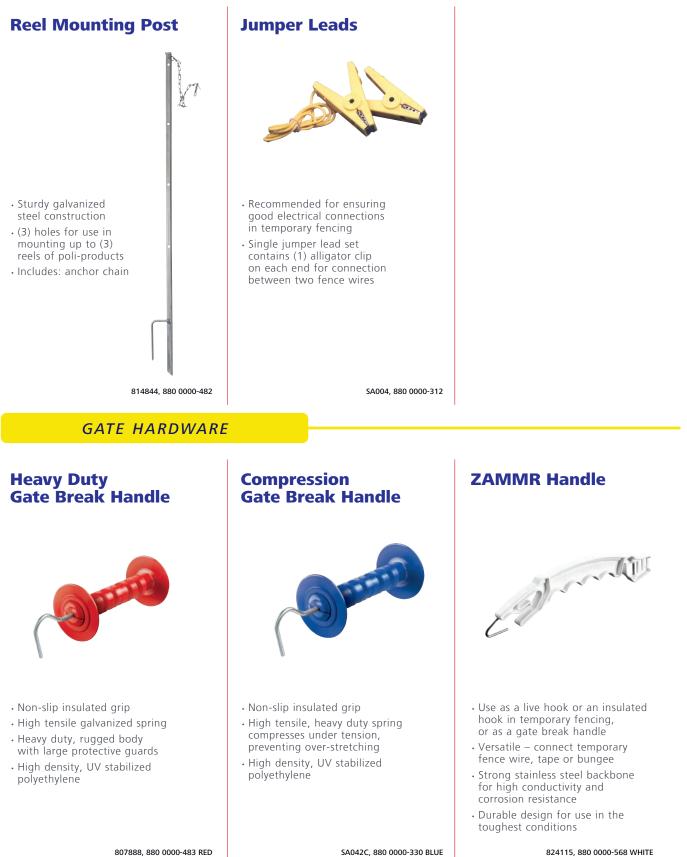
SR001, 880 0000-862 REPLACEMENT BOBBIN: 814356, 880 0000-831

### **Econo Reel**



- Holds 1,650ft poliwire or 660ft 1/2" politape
- · Frame insulated from spool
- Use with carry handle or on mounting post
- Galvanized steel frame
- Rugged steel locking system
- · Innovative notch frame design for
- easy & secure fence attachment • UV stabilized

SR015, 880 0000-999 REPLACEMENT BOBBIN: 814357



### **Spring Gate**



- · Electrifies gateways up to 26ft (W)
- · Versatile & easy to install
- Fully insulated, heavy duty handle with protective guards & non-slip grip
- · Galvanized rust resistant spring
- · Includes: Heavy duty insulated handle, wood post Pinlock insulator, gate activator & galvanized spring

SA0448M, 880 0000-924 REPLACEMENT SPRING: 814632, 880 0000-508

### **Bungy Gate**



- · Electrifies gateways from 11ft – 23ft (W)
- · Versatile & easy to install
- · Bungy cord with four stainless steel strands provides extreme stretch, high conductivity and maximum shock exposure
- Extra bungy cord 165ft roll
- Includes: Insulated handle, wood post Pinlock insulator, gate activator, high visibility flag & bungy cord

### 813719, 880 0000-623 BUNGY CORD: 805194, 880 0000-844

### **Gate Activator**



- · For use with all Speedrite gate break handles
- · 3 connection points for flexibility
- · Long lasting, hot-dipped galvanized steel

824843, 880 0003-312 BLACK

## **GROUND RODS**

No Kick Handle	Ground Rod & Ground Rod Clamp	T-Handle Ground Rod
G		
<ul> <li>Used when an insulated connection is required</li> <li>For use in temporary fence application</li> <li>Slim design for ease of use</li> <li>UV stabilized</li> </ul>	<ul> <li>6ft (H) galvanized steel ground rod with tapered end</li> <li>Heavy duty, brass clamp for use in securing underground cable to ground rod</li> </ul>	<ul> <li>30" (H) galvanized steel ground rod with 6" handle and tapered end</li> <li>Ideal for energizers and temporary fences that will be moved frequently</li> <li>Use with integrated solar energizers and energizers rated for 0.5 J or less</li> </ul>
SA013, 880 0000-543 RED	GROUND ROD: SA110, 880 0003-477 GROUND ROD CLAMP: SA112, 380 0012-149	SA111, 880 0003-478

### UNDERGROUND CABLE

### Extreme Underground Cable



- Ideal for large properties with high powered energizers, including all Speedrite energizers with 12 J of output energy or greater
- 10ga aluminum coated steel for extreme conductivity
- 8X more conductive than standard underground cable
- UV stabilized

### Premium Underground Cable



- 12.5ga galvanized steel
- 3X more conductive than standard underground cable
- UV stabilized



806042, 880 0000-718 12.5 GA X 82FT (2.5MM X 25M) 806045, 880 0000-777 12.5 GA X 165FT (2.5MM X 50M) 806046, 880 0000-208 12.5 GA X 330FT (2.5MM X 100M)

### GENERAL ACCESSORIES

806052, 880 0000- 567 10 GA X 330FT (2.7MM X 100M)

### Heavy Duty Joint Clamp



- Creates an effective electrical connection between wires
- Galvanized construction for superior rust resistance
- Claw design to allow multiple connecting wires

### Split Bolt Joint Clamp



- Creates an effective electrical connection between wires
- Solid zinc for superior corrosion resistance
- For wires up to 12ga

### L-Shape Joint Clamp



- Ensures a highly conductive connection for wire up to 8ga
- Use to create electrical connections between wires
- High-spec galvanized construction for superior rust resistance
- · Ideal for most farm conditions

SA052, 880 0000-113

827518, 880 0000-103

### **Extreme Cut-Out** Switch



- · Use to isolate sections of electric fence with minimal disruption to your farm
- · Long life stainless steel contacts
- Easily sighted on/off position
- UV stabilized
- · Recommended for use with Extreme Underground Cable and larger energizers including the 12000i, 18000i, 46000W & 84000W

807882, 880 0000-542

**Standard Cut-Out** Switch



- · Use to isolate sections of electric fence with minimal disruption to your farm
- · (2) stainless steel contacts for positive connection
- · Highly visible on/off position
- · Fits securely onto post
- UV stabilized

SA064, 880 0000-082

### Lightning Diverter



- · Redirects lightning to ground minimizing energizer and fence damage
- Simple to use
- · Easily mounts to wood post

822024, 880 0003-296

### Wire Links



- Internal spring-loaded clamps securely hold wire
- · Quickly splices 2 lines of fence wire together
- · Use with 12.5ga high tensile wire

### **Warning Sign**



· Clear warning for safety

· Signs may be required by law, refer to local government for more information





•9" spring

- · Helps properly tension wire on permanent fences
- · High-quality galvanized steel

SA046, 380 0012-147

805543, 880 0003-193

805542, 880 0003-192

### **Maun Fencing Pliers**



- 8" parallel action, side-cutting pliers
- · Cuts high tensile wire
- · Plastic covered handle

SA070, 880 0003-475

### **Flood Gate Controller**



- · Limits energy loss from heavy growth or flooding
- · Fully sealed from insects and the environment
- · Ideal for use near creeks, streams, river beds & areas prone to flooding

The easiest and most effective means of joining wire. Creates a joint that exceeds

SA038, 880 0000-597

### Crimping & Fencing Tool

- Wire Crimper for use on fence wire <u>1.6 – 4</u>mm
- Wire Cutter for wire up to 4mm
- Wire Stripper for use on 2.5mm underground cable



827085, 380 0012-147

### Smooth Grip **Chain Strainer**

The original chain and grab wire strainer. Proven in the field for over 100 years.

Heavy duty industry leader



## 7/8" length (Nearly 3X longer than standard 807979, 880 0000-124

HC3 Suitable for 10 – 12.5 ga fence wire Jar of 50

**Fence Tools** 

**Crimp Sleeves** 

Suitable for 16 - 121/2 ga

(1.6 – 2.5mm) fence wire

*crimp sleeves!)* Jar of 100

HC<sub>2</sub>

the breaking strength of wire.

Suitable for 8 – 9 ga fence wire Jar of 50





HCB Suitable for barbed wire Jar of 50

FENCE INNOVATION

Since 1895 **Made in New Zealand** 



872051, 880 0000-034

### HCE For connection to electric fences 12.5 – 16 ga Jar of 50



H300 872002, 880 0000-015

808210, 880 0000-105











Your ground system is the most important component of your electric fence system. An effective ground system is necessary to achieve the maximum results of your energizer and your fence.

### What is a ground system?

The ground system consists of a number of ground rods that provide an effective (low resistance) path for the current to return to the energizer's ground terminal. Larger energizers with large fence lines require more ground rods.

### How does grounding work?

For an electric fence to give an electric shock the current produced by an energizer must complete a full circuit. The current leaves the energizer and moves along the fence wires through the animal, into the soil and back to the energizer via the ground system.

### What factors affect your ground system?

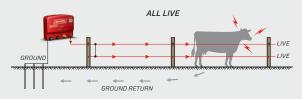
Dry, sandy or non-conductive soil provides an ineffective ground system. If you have this type of soil, it's a good idea to:

- 1) Use additional ground rods; or
- 2) Choose a better location for the ground system (such as damp soil); or
- Consider an alternative method of grounding such as the hot/ground system.

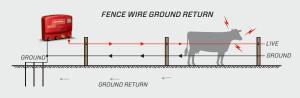
\*For T-handle or 3ft length ground rods, insert the rod at least 6'' - 12'' into the soil.

### CHOOSING THE RIGHT SYSTEM

**Option 1 All Live** – Recommended where soil is conductive. This system is suitable for most moist soils. Current flows through the animal and the ground back to the ground rods.



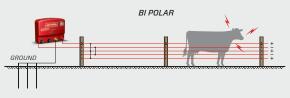
**Option 2 Hot/Ground** – Recommended where soil is not conductive. If the soil is dry or sandy it is usually not very conductive. The fence is constructed using both live and ground wires. If the animal touches the live wire the current flows through the animal and the ground back to the ground rods. If the animal touches the live wire and the ground wire the current flows through the ground and fence ground wire to the ground rods.



**Option 3 Bentonite Salt Ground** – Recommended for extremely dry soil conditions. A mixture of bentonite and salt surrounds each ground rod. The salt attracts moisture and acts as a conductor while the bentonite retains moisture over long periods of time. Stainless steel ground rods are required in order to prevent salt corrosion.



**Option 4 Bi-Polar** – Recommended where soil has little or no conductivity (sand, extremely dry conditions) and for fences that require all wires to be live. Enables you to set up an electrical system that performs exceptionally well in dry, low conductive soil.







Patriot electric fence energizers and accessories are designed to offer flexibility, allowing you to enjoy your lifestyle while addressing your requirements for simplicity, reliability, and performance. These products embody over 70 years of experience from Datamars Livestock, one of the world's leading electric fence manufacturers.

## **Safety First**

Before commencing the installation of your electric fence or any digging activities, ensure to review all local zoning laws, regulations, and guidelines in your area.

Most importantly, consult with local utility companies to identify any buried cables or natural gas lines on or near your property.





Forming the heart of your electric fence system, energizers provide the source for the electric current that flows through the fence wire. The amount of electric current output (size) and power source, AC plug (110V), battery, or solar differs across energizer products.

### The type of fence energizer depends on the following key factors:

- 🐼 Total Coverage Area
- Power Source
- Type of Livestock/Predator to Contain or Exclude

### Things to Consider

### Where should you install your energizer?

If you plan to use a 110V plug to power your energizer, it should be placed inside a barn or shed near the power source.

**Patriot dual-purpose energizers** (P30, P20, P10, P5) offer both a weather-resistant case and a built-in clip-on-wire feature allowing them to be attached directly to the fence wire.

If you are using the **Patriot SolarGuard 1000, SolarGuard 500, SolarGuard 150, SolarGuard 80 or PS5**, these are most effective if placed along the middle of the fence with the panel facing towards the south.

In all cases, refer to your energizer's user manual for specific installation instructions and always mount out of reach of children and animals.

### Can I use more than one energizer?

Yes, you can use more than one energizer, but each energizer must be on a separate fence system.

Never connect more than one <u>energizer to the same fence</u>.

### ENERGIZER COMPARISON CHART

MODEL	POWER	COVERAGE AREA	CONTAINMENT OR EXCLUSION
PMX1500	-	600 ACRES / 200 MILES	🗺 ना ही तो का ना तो भी से के प्र
PMX600	-	300 ACRES / 100 MILES	ही हो हो हो के ले तो भी के क
PMX350	-	200 ACRES / 65 MILES	ही हो हो हो के ले हो में से के भ
P30		200 ACRES / 65 MILES	ही ना हो तो कता तो भी से कर
SG3500 NEW*		200 ACRES / 65 MILES	रि तो तो कत तो भी से भ र
SG2000 NEW*		165 ACRES / 50 MILES	ही को हो हो के में में के कर्म
P20		165 ACRES / 50 MILES	ही ना तो तो कत तो भी से कर
PBX200		165 ACRES / 50 MILES	ही। तो का तो भी के कर्म
PMX200	-	165 ACRES / 50 MILES	ही हो तो क ल तो में दे के र
P10		100 ACRES / 30 MILES	हिंदी हो हो के ल तो में दे के र
PBX120		100 ACRES / 30 MILES	ही हो तो कल तो में से कर्म
PMX120	-	100 ACRES / 30 MILES	
SG1000		140 ACRES / 40 MILES	
SG500		100 ACRES / 30 MILES	रि मा ही तो कर तो तो भी से कर र
Р5		60 ACRES / 15 MILES	ही जा ही तो करते तो भे के प्रभ
PBX50		60 ACRES / 15 MILES	ही जि तो करते तो भ के प्रभ
PMX50	-	60 ACRES / 15 MILES	रि मा लो तो करत तो में से कर र
PB12	,	40 ACRES / 10 MILES	
PE10B	,	40 ACRES / 10 MILES	
PE10	-	40 ACRES / 10 MILES	
SG150		40 ACRES / 12 MILES	
PE5B	,	20 ACRES / 5 MILES	The test
PE5	-	20 ACRES / 5 MILES	T M H d te t
SG80	×. •	15 ACRES / 3 MILES	The text
PE2	-	8 ACRES / 2 MILES	H & & Y
PS5		8 ACRES / 2 MILES	H & W X

Table represents typical values. \* NOTE: Range claims are a general guide and based on single-wire, weed-free fences. Actual range claims depend on many factors including fence and operation conditions, livestock type, and environment. Solar panel wattage numbers are general recommendations and may vary based on geography. Please consult your local electric fence professional to determine the best solar panel. All Patriot energizers are low-impedance.



OUTPUT ENERGY (UP TO)	STORED ENERGY (UP TO)	OUTPUT VOLTAGE (UP TO)	INTERNAL RECHARGEABLE BATTERY	CURRENT CONSUMPTION	SOLAR PANEL
12 J	20 J	10.6kV max, 8.4kV @ 500 Ω	No	No	No
6.7 J	9.9 J	10.2kV max, 7kV @ 500 Ω	No	No	No
3.5 J	6.4 J	10.2kV max, 6.2kV @ 500 Ω	No	No	No
3 J	4.5 J	11kV max, 6.4 kV @ 500 Ω	No	300mA	30 watt
3.5 J	4.6 J	10.1kV max, 9.2kV @ 2,000 Ω	12V; 24Ah	<290mA	INTEGRATED
2 J	2.6J	10.5kV max, 9kV @ 2,000 Ω	12V; 12Ah	<170mA	INTEGRATED
2 J	2.7 J	10.5kVmax, 6kV @ 500 Ω	No	170mA	20 watt
1.9 J	2.7 J	10.4kV max, 5.8kV @ 500 Ω	No	170mA	20 watt
2 J	3 1	9.5kV max, 5.7kV @ 500 Ω	No	No	No
1 J	1.4 J	9.7kV max, 5.4kV @ 500 Ω	No	90mA	10 watt
1.2 J	1.7 J	10kV max, 5.5kV @ 500 Ω	No	110mA	10 watt
1.2 J	1.7 J	10.2kV max, 5.5kV @ 500 Ω	No	No	No
1 J	1.3 J	9.6kV max, 7kV @ 1,000 Ω	12V; 7Ah	90mA	INTEGRATED
0.5 J	0.65 J	9.8kV max, 6.2kV @ 1,000 Ω	12V; 7Ah	50mA	INTEGRATED
0.5 J	0.7 J	8kV max, 4.5kV @ 500 Ω	No	45mA	10 watt
0.5 J	0.67 J	8.2kV max, 4.4kV @ 500 Ω	No	50mA	10 watt
0.5 J	0.85 J	10kV max, 4.8kV @ 500 Ω	No	No	No
0.12 J	0.16 J	8kV max, 4.5kV @ 500 Ω	No	7-25mA	No
0.3 J	0.49 J	5kV max, 3.5kV @ 500 Ω	No	36mA	No
0.3 J	0.49 J	5kV max, 3.5kV @ 500 Ω	No	No	No
0.15 J	0.21 J	9.3kV max, 4.1kV @ 1,000 Ω	6V; 4Ah	30mA	No
0.2 J	0.3 J	5kV max, 3.2kV @ 500 Ω	No	24mA	No
0.2 J	0.32 J	5kV max, 3.2kV @ 500 Ω	No	No	No
0.08 J	0.10 J	7.3kV max, 3.2kV @ 1,000 Ω	6V; 4Ah	16mA	No
0.1 J	0.16 J	5kV max, 2.8kV @ 500 Ω	No	No	No
0.04 J	0.06 J	7.4kV max, 2.6kV @ 1,000 Ω	4V	No	No

# AC (110V)



AC (110V) powered energizers are the most cost-effective, reliable way to power a permanent electric fence. Patriot's AC energizers come in a variety of sizes to meet your needs.

### **Dual-Purpose**



Patriot dual-purpose energizers are compatible with AC (110V), battery, or solar power. These flexible options allow you to choose the power source that best works for your fencing area.

# SolarGuard™



The integrated SolarGuard energizers are compact, portable, and energy efficient. These feature an all-in-one design, letting you harness free energy from the sun and giving you power wherever you need it. **Battery** 



Battery energizers are an effective alternative where AC (110V) power is unavailable. Whether you need portable energizer or you're fencing larger areas, Patriot has a battery option for you.

# Dual-Purpose Energizers

# Patriet. datamars

**R n** n n n n n h





### **Multiple Power Options**

Dual-purpose feature allows energizer to run on AC 110V plug or 12V battery\* (e.g., deep cycle, marine type).



### Low Impedance Energizer

Designed to deliver power to the end of the fence, even under heavy load (e.g. foliage, undergrowth).



### Solar Compatible

Solar panel\* charges a 12V (deep cycle, marine type) battery\* to power the Patriot Dual-Purpose energizer and fence line. Ideal for remote areas where AC 110V power is not available.

\*Batteries sold separately.



805153, 880 0000-362 REPLACEMENT POWER CORD: 807426, 880 0000-472 REPLACEMENT BATTERY LEADS: 807396, 880 0000-990

### **P10**

**P30** 

200 acres/65 miles

Most powerful

energizer in the dual-

purpose line-up with

and livestock control3 J output power

the greatest range

100 acres/30 miles

- Great choice for fencing a small number of livestock
- 1.0 J output power



803402, 880 0000-913 REPLACEMENT POWER CORD: 807426, 880 0000-472 REPLACEMENT BATTERY LEADS: 807396, 880 0000-990



### Robust Design

Easy, safe installation and good wire connection.



### Easy Mounting Option Unique, clip-on wire feature allows mounting on fence wire.

### LED Indicator Light

Indicator pulses when energizer is working.



### 3-Year Warranty

We stand behind the reliability of our products. Visit **PATRIOTGLOBAL.COM** for full warranty details.

### **P20**

### 165 acres/50 miles

- Greater range for more acres and a larger number of livestock
- 2 J output power



803403, 880 0000-996 REPLACEMENT POWER CORD: 807426, 880 0000-472 REPLACEMENT BATTERY LEADS: 807396, 880 0000-990

### P5

60 acres/15 miles

- Ideal for small applications, stripgrazing or portable fencing
- 0.5 J output power



803401, 880 0000-179 REPLACEMENT POWER CORD: 807426, 880 0000-472 REPLACEMENT BATTERY LEADS: 807396, 880 0000-990





### **Features & Benefits**

Solar panel and battery integrated in one convenient robust case.



Multiple Mounting Options\* T-post and wood post mounting option.



### Compact, Rugged Design

Fully portable, weatherproof,\* & compact design. Energizer comes with an internal battery and a solar panel, providing a convenient, all-in-one energizer.



### Battery\*

Battery saving mode maximizes battery life.



**Low Impedance Energizer\*** Designed to deliver power to the end of the fence, even under heavy load (e.g. foliage, undergrowth).

**Internal Rechargeable Battery** Solar power recharges the battery as

required to support long battery life.



### Solar Powered

Energy-efficient solar panel charges the internal battery to power the fence line.



### Optimal Voltage for Maximum Control\*

\*PS5 does not have this feature. Not all SolarGuard Energizers contain the features listed here. See product specifications for specific unit details.



### Flashing Lights

Indicates at a glance the energizer is working and powering the fence.



### 3-Year Hassle-Free Warranty\*

We stand behind the reliability of our products. The 3-year warranty excludes the PS5, which carries a 1-year hassle-free warranty. Visit PATRIOTGLOBAL.COM for full warranty details.

### SOLARGUARD ENERGIZERS

### SolarGuard 3500

200 acres/65 miles



- · More electric fence power
- · Plug-and-play integration, all-in-one solar units
- · Designed for temporary or permanent installation
- Ideal for large, remote locations without
- traditional power source
- · Easily mount to a wood or T-post
- · Multiple power modes
- · Battery indication mode

אר איז איז איז איז או 880 0004-860 REPLACEMENT 12V BATTERY: 880 0004-880 FENCE LEAD SET: 821229, 880 0003-287

### SolarGuard 1000

140 acres/40 miles

- · Lightweight, easy-to-carry portable housing
- More powerful than comparable energizers
- · Reliable year-round performance in harsh weather
- 1 J output power





### SolarGuard 2000 165 acres/50 miles



- · More electric fence power
- · Plug-and-play integration, all-in-one solar units
- · Designed for temporary or permanent installation
- · Ideal for large, remote locations without traditional power source
- · Easily mount to a wood or T-post
- · Multiple power modes
- · Battery indication mode



### SolarGuard 500 100 acres/30 miles

- · Lightweight, easy-to-carry portable housing
- More powerful than comparable energizers
- Reliable year-round performance in
- harsh weather
- 0.5 J output power



834685, 880 0002-625 REPLACEMENT 12V BATTERY: 880 0003-113 FENCE LEAD SET: 821229, 880 0003-287

### SolarGuard 150

40 acres/12 miles

- · Lightweight, easy-to-carry portable housing
- · More powerful than comparable energizers
- · Reliable year-round
- performance in harsh weather
- 0.15 J output power



- More powerful than comparable energizers
- · Reliable year-round performance in harsh
- 0.08 J output power



नि ती का ती ती 834373, 880 0002-608 REPLACEMENT 6V BATTERY: 821212, 880 0003-284 FENCE LEAD SET: 821229, 880 0003-287

### **PS5**\*

8 acres/2 miles

- Ideal for keeping small nuisance pests out or for keeping small animals safely contained
- 0.04 J output power



### 

817369, 880 0003-523 REPLACEMENT 4V BATTERY: 818953, 880 0003-246 FENCE LEAD SET: 821229, 880 0003-287





SolarGuard 80

15 acres/3 miles

· Lightweight, easy-to-carry portable housing



### AC 110V ENERGIZERS



- Low Maintenance Design Simple operation.
- LED Indicator Indicator pulses when energizer is working.
- Robust Knob Design Easy installation and good wire connection.
- Low Impedance Energizer Designed to deliver power to the end of the fence even under heavy load (e.g., foliage, undergrowth).
- Multiple Mounting Options (PMX range only) Easily mounts on wall, wood post, or T-post.
- Warranty Includes lightning PMX series: 3-year | PE series: 2-year

### BATTERY ENERGIZERS

### **PBX200**

- 165 acres/50 miles
- Ideal for medium to large operations with a larger number of livestock
- Easily mounts on wall, wood post, or T-post
- Power with 12V battery
- Solar compatible with external solar panel
- 1.9 J output power

**PB12** 

40 acres/10 miles

Simple set up
On/off switch
0.12 J output power

· Ideal for small remote areas or

· Can be powered externally 6V or

12V or internally (4) D batteries\*

quick temporary fences



### **PBX120**

- 100 acres/30 miles
- Suited for operations with small numbers of livestock
- Easily mounts on wall, wood post, or T-post
- Power with 12V battery
- Solar compatible with external solar panel
- 1.2 J output power



818351, 880 0003-244

### PBX50

60 acres/15 miles

- · Ideal for smaller fence lines
- Easily mounts on wall, wood post, or T-post
- Power with12V battery
- Solar compatible with external solar panel
- 0.5 J output power



818350, 880 0003-243

### **PE10B**

- 40 acres/10 miles
- Ideal for fencing small properties up to 40 acres
- Power with 6V or 12V battery
- 0.3 J output power

### **PE5B** 20 acres/5 miles

- Ideal for fencing small properties up to 20 acres
- Power with 6V or 12V battery
- 0.2 J output power



## 819962, 880 0000-856

### **Battery Energizers Features & Benefits**

Portable
 Convenient Energizer

820947, 880 0000-283 OPTIONAL TREAD-IN STAND\* SA063P, 880 0002-499

- Low Maintenance Design Simple operation.
- LED Indicator Indicator pulses when energizer is working.
- Robust Knob Design\*\* Easy installation and good wire connection.
- \* Batteries sold separately. \*\* PB12 does not feature knobs.

- Low Impedance Energizer Designed to deliver power to the end of the fence even under heavy load (e.g., foliage, undergrowth).
- Multiple Mounting Options (PBX range only) Easily mounts on wall, wood post, or T-post.
- Warranty Includes lightning. PBX series & PB12: 3-year | PEB series: 2-year



819963, 880 0000-235

### MANAGEMENT TOOLS

### 6 Light Fence Tester

- Measure voltage readings up to 10,000V
- · Bright light, easy-to-read indicators
- · Suitable for most types of electric fence wire



### Fence Alert

- · Ideal use with poliwire, polirope/ braid, politape (1/2 " & 1 1/2 "), steel or aluminum wire
- · Light flashes if fence voltage is too low or a loss of power
- Light visibility up to 1 mile away Replaceable lithium
- battery powers up to 5 years on standby or 2 weeks of continuous flashing



804565, 880 0000-801

### **Digital Voltmeter**

- · Essential for most accurate testing of fence and energizer ground system
- Robust design
- Reads from 200V 9,900V



806217, 880 0000-178

### GROUND RODS & CLAMPS

### **Ground Clamp**

- · Secures underground cable to ground rod
- · Suitable for use with most ground rods



### 6ft Ground Rod

· Ideal use with underground cable · Galvanized steel for long life



SA110, 880 0003-477

### **T-Handle Ground Rod**

- · 30" (L) galvanized steel ground rod with 6" handle and tapered end
- · Ideal for energizers and temporary fences moved frequently
- · Ideal use with integrated solar energizers and energizers rated for 0.5 J or less

SA111, 880 0003-478

824726, 880 0002-507

### **3 Ground Rod Kit**

- Complete kit for building an energizer ground system
- Includes: 3 6ft galvanized steel ground rods, (3) ground rod clamps, 50ft of steel wire, and instructions



826479, 880 0003-378

### Wrap-around **T-Post Claw**



- Ideal use with poliwire, polirope, steel or aluminum wire
- Special wrap design secures insulator to post



### Wrap-around T-Post Pinlock

- Pinlock design allows easy removal of wires
- · Ideal use with poliwire, polirope, steel or aluminum wire
- · Special wrap design secures insulator to post



820017, 880 0003-261 BLACK 25/PACK

820018, 880 0002-509 YELLOW 25/PACK

# Screw On

T-post

T-POST INSULATORS



- For use with T-posts or metal pipes
- · Ideal use with poliwire, polirope, steel or aluminum wire



816064, 880 0003-241 BLACK 25/PACK 819047, 880 0003-247 YELLOW 25/PACK

### 2" Wrap-around **T-Post Extender**

- · Ideal use with poliwire, politape, polirope, steel or aluminum wire
- · Secure fit for all T-post sizes



820028, 880 0003-268 BLACK 25/PACK 820029, 880 0003-269 YELLOW 25/PACK

820015, 880 0003-260 BLACK 25/PACK

820016, 880 0002-508 YELLOW 25/PACK



### 5" Wrap-around **T-Post Extender**

- · Protects existing fence by extending electric fence wire 5in off the T-post
- · Ideal use with poliwire, polirope, steel or aluminum wire
- Special wrap design secures insulator to post



820021, 880 0003-262 BLACK 25/PACK 820022, 880 0003-263 YELLOW 25/PACK

- · Ideal use with poliwire, polirope,
- Special wrap design secures



820035, 880 0003-274 BLACK 25/PACK 820036, 880 0003-275 YELLOW 25/PACK

### **T-Post** Topper

· Ideal use with poliwire, polirope or braid, politape (1/2 " & 1 1/2 "), coated or sighter wire



814705, 880 0002-413 WHITE 10/PACK 819728, 880 0003-254 YELLOW 10/PACK



· Ideal use with politape (1/2 " & 1 1/2 ")



814717, 880 0003-237 WHITE



- For use on T-posts
- · Use as a corner or end strain insulator
- · Ideal use with politape up to 11/2" (W)



824729, 880 0003-305, WHITE 1/PACK



- · Protects existing fence by extending electric fence wire 5" off the back side of the T-post
- steel or aluminum wire



### ROD & MULTI-USE INSULATORS

### Jumbo Dual-Purpose Pinlock

- For use with T-posts. wood posts, or metal pipes
- Pinlock design allows easy removal of wires
- Can be used with electric fence wire, polirope, coated wire or braid
- Excellent arcing protection to reduce shorting
- UV stabilized



814587, 880 0003-230 WHITE 25/PACK

### 1 1/2" Rod Post Wide Tape

· Ideal use with politape (1/2" or 1 1/2") • Fits 1/4" - 3/4" (D) posts



816066, 880 0003-242 WHITE 25/PACK

### 24" Wrap Around

- · For use with T-posts, wood posts, or metal pipes
- · Ideal use with steel or aluminum wire
- · Economical solution to create corners in electric fences



811413, 380 0012-145 BLACK 10/PACK

### Safety Cap

- Fits most T-Posts
- · Safely protects against scrapes from exposed metal • Helps prevent injuries
- to people, pets, and livestock Strong, sturdy cap
- won't slip off post · Easy installation,
- no tools needed



### Screw-on **Rod Post**



- · Ideal use with poliwire, 1/2" politape, polirope, steel or aluminum wire
- Fits 1/4" 3/4" (D) posts



820019, 880 0002-505 BLACK25/PACK 820020, 880 0002-510 YELLOW 25/PACK

### **End Strain**

- · For use with T-posts, wood posts, or metal pipes
- · Ideal use with poliwire, steel or aluminum wire

3 1/2"

**Chain Link** 

aluminum wire

from chain link fence

· Effective end strain for termination of electric fence wire



· Ideal use with poliwire, steel or

· Extends electric fence wire 3 1/2 "

809981, 880 0000-556 BLACK 10/PACK

816065, 880 0002-028 BLACK 25/PACK 819056, 880 0003-249 YELLOW 25/PACK

828936, 380 0012-144 WHITE 10/PACK

### **Corner Insulator**

- For use with T-posts, wood posts, or metal pipes
- · Ideal use with poliwire, steel or aluminum wire
- · Economical solution to create corners in electric fences



814715, 880 0003-236 BLACK 10/PACK 819054, 880 0003-248 YELLOW 10/PACK

### **Pipe Clamp** Insulator

- · For use on metal pipes from 11/2" - 15/8" (D)
- · Great with most panels
- · Works on vertical or horizontal pipe configurations
- · Supports poliwire, 1/2" politape, or polirope up to 3" from pipe



828938 880 0003-407 BLACK 10/PACK

### WOOD POST INSULATORS

### Wood Post Claw



· For use with wood posts or metal pipes · Ideal use with poliwire, polirope, steel or aluminum wire



820023, 880 0003-264 BLACK 25/PACK 820024, 880 0003-265 YELLOW 25/PACK



• For use on T-posts, wood posts, or metal pipes

Jumbo Dual-Purpose

- · Pinlock design allows easy removal of wires
- · Ideal use with electric fence wire, polirope, coated wire or braid
- Arch protection to
- educe shorting • UV stablized

Pinlock



814587, 880 0003-230 WHITE 25/PACK

### **Ring Insulator** Tool

- · Use with Patriot ring insulators
- Use with drill to install ring insulators into wood posts. Can be used to remove insulators from posts
- · Galvanized steel for corrosion resistance
- Sold individually



815042 880 0002-352



- · For use with wood posts or metal pipes
- · Pinlock design allows easy removal of wires
- · Ideal use with poliwire, polirope, steel or aluminum wire



820033, 880 0003-272 BLACK 25/PACK 820034, 880 0003-273 YELLOW 25/PACK

### 5" Wood Post Slant Nail

- Protects existing fence by extending electric fence wire 5" off the wood post
- · Ideal use with poliwire, polirope, stee or aluminum wire



820026, 880 0003-266 BLACK 25/PACK 820027, 880 0003-267 YELLOW 25/PACK

### 4" Plastic **Insulator Tube**

- · Ideal use with steel or aluminum wire
- · Economical way to insulate electric fence wire when using wood posts



825017, 380 0012-146 BLACK 25/PACK

### 2" Wood Post Slant Nail



- · Protects existing fence by extending electric fence wire 2 " off the wood post
- · Ideal use with poliwire, polirope, steel or aluminum wire



820030, 880 0003-270 BLACK 25/PACK 820031, 880 0003-271 YELLOW 25/PACK

### Wood Post Square



- · Ideal use with poliwire, thin gauge steel or aluminum wire
- Economical single nail installation



820032, 880 0000-380 BLACK 25/PACK

### Ring

- · Ideal use with poliwire, polirope, steel or aluminum wire
- Use with Patriot Ring Insulator Tool



817201 880 0001-367 BLACK 25/PACK





### Jumbo Wood Post Claw



- For use with wood posts or metal pipes
- Ideal use with poliwire, polirope or braid, and steel or aluminum wire



814718, 880 0002-361 WHITE 25/PACK

### Wide Tape Corner/End Strain

- For use on wood or metal pipe posts
- Ideal use with politape up to 1 1/2" (W)



814593, 880 0003-231 WHITE 2/PACK

1 1/2in (40mm) Tape Wood Post



- For use with wood posts or metal pipes
- Ideal use with politape (1/2 " & 1 1/2 ")



814596, 880 0003-520 25/PACK

### PORCELAIN INSULATORS

### **Corner Lag**



- For use on wood posts
- $\boldsymbol{\cdot}$  Use to continue fence line in corners
- Suitable for use with most types of electric fence wire



824731, 880 0003-307 BLACK 4/PACK

### Jumbo Ring Insulator

- For use with wood posts
- · Ideal use with poliwire, polirope or braid, and steel or aluminum wire
- · Use with Patriot Ring Insulator Tool



814590, 880 0002-056 25/PACK

### Porcelain Donut

- For use with T-posts, wood posts or metal pipes
- · Ideal use with steel or aluminum wire
- Creates corners and termination in electric fences. Use on fence ends, curves and corners
- Fire resistant



812511, 880 0001-253 WHITE 10/PACK

### **Bullnose Porcelain**

- For use with T-posts, wood posts or metal pipes
- $\boldsymbol{\cdot}$  Ideal use with steel or aluminum wire
- Effective end strain for termination of electric fences
- Fire resistant



814206, 880 0003-216 WHITE 10/PACK

### Porcelain Screw-In Large

- For use with wood posts
- · Ideal use with poliwire, polirope, steel or aluminum wire
- Suitable for use as a line or corner post insulator
- Fire resistant



826051, 880 0003-375 WHITE 15/PACK

### Porcelain Screw-In Small

- For use with wood posts
- · Ideal use with poliwire, polirope, steel or aluminum wire
- Suitable for use as a line or corner post insulator
- Fire resistant



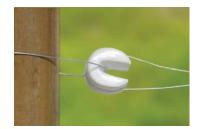
814208, 880 0002-212 WHITE 25/PACK

#### Heavy Duty U Porcelain

- For use with T-posts, wood, or metal pipes
- · Ideal use with steel or aluminum wire
- Effective end strain for termination of electric fence wires
- Fire resistant

## Wood Post Porcelain with Nail

- For use with wood posts
- · Ideal use with steel or aluminum wire
- Effective as a line insulator
- Fire resistant



814211, 880 0002-268 WHITE 10/PACK

100

814213, 880 0003-219 WHITE 25/PACK

#### TREAD-IN POSTS

#### Sentinel Heavy Duty Tread-In

- Ideal use with poliwire, polirope or politape (1/2 " & 1 1/2 ")
- Up to (8) positions for poliwire, politape (1/2" & 1 1/2") or polirope
- UV stablized
- Measures 49" (H)
- Sets 39" (H) above ground



820013, 880 0002-506 WHITE 820014, 880 0003-259 BLACK

#### Pigtail Tread-In

- Ideal use with poliwire or 1/2" politape
- Easy to move, steel step-in post with large foot and insulated top
- Measures 41" (H)
- Sets 34" (H) above ground



### GATE HANDLES & ACCESSORIES

When planning an electric fence layout, give thought to the location of the gates. Ideally, a place where animals, people, and equipment have easy access to pasture or buildings such as stables and barns.

All Patriot gate handles and accessories come with a 1-year warranty.

#### 16ft Spring Gate Kit

- Ideal use with poliwire, polirope, steel or aluminum wire and 1/2 " politape
- For use with electric fence energizers, creates a quick and easy gate
- Fully insulated
- UV stabilized
- Includes: yellow gate handle, anchor, activator and 16ft spring

#### **Black Gate Handle**

- Ideal use with poliwire, polirope, steel or aluminum wire and 1/2" politape
- Fully insulated handle with non slip grip and galvanized spring used to electrify gate ways
  UV stabilized

#### **Rubber Gate Handle**

- Ideal use with poliwire, polirope, steel or aluminum wire and 1/2 " politape
- Convenient solution to electrify
   gate ways
- UV stabilized



809983, 380 0012-154 YELLOW



817217, 880 0001-369 BLACK



828230, 880 0001-851

#### Yellow No-Kick Handle

- · Ideal use with poliwire, polirope, politape and steel or aluminum wire
- Fully insulated handle, used to safely hold electrified wires
- UV stabilized



810838, 880 0000-163

#### T-Post Gate Anchor Insulator

- For use on T-posts
- Economical option for building a gate between T-posts
- Ideal use with poliwire, polirope and steel or aluminum wire



814210, 880 0003-218 2/PACK

#### Wood Post Gate Anchor Insulator

- For use on wood posts
- Economical opt on for building a gate between wood posts
- Ideal use with poliwire, polirope and steel or aluminum wire



814212, 880 0001-300 BLACK 2/PACK

#### POLI-PRODUCTS

Patriot Poli-Products are compatible with Sentinel Heavy-duty Tread-In or Pigtail Tread-In posts and are made of long-life, UV stabilized yarn that is white for greater visibility.

#### All Patriot Poli-products come with a 1-year UV stabilized guarantee.

#### Poliwire

easy handling

· For use with Sentinel Tread-in or

flexible, woven for strength and

PATRI

PLACE OF MININ ADDREETING

821449, 880 0003-288 WHITE 822757, 880 0003-300 WHITE

· (6) stainless steel conductors,

· Lengths: 660ft or 1,320ft

pigtail Tread-in posts

- Polirope
  - For use with Sentinel Tread-in or pigtail Tread-in posts and equine range insulators
    - (6) strands of durable stainless steel conductors, tightly woven for superior strength
    - · Length: 660ft



821450, 880 0003-289 WHITE

#### 1/2" Politape



- For use with Sentinel Tread-in or pigtail Tread-in posts
- (6) stainless steel conductors, flexible, woven for strength and easy handling
- Lengths: 660ft or 1,320ft



821451, 880 0003-290 WHITE 821452, 880 0003-291 WHITE

#### 1 1/2" Politape

- For use with Sentinel Tread-in or pigtail Tread-in posts and equine range insulators
- (6) stainless steel conductors, flexible, woven for strength and easy handling
- Length: 660ft



821453, 880 0003-292 WHITE

#### Green Garden Kit Poliwire

Ideal use for garden kitsLength: 100ft



- For tensioning poli electric fences
- Ideal use with poliwire or 1/2 " politape
- Non-conductive
- UV stabilized



820150, 880 0003-280 5/PACK



880 0003-058

#### NETTING, ALUMINUM, & STEEL WIRE

Electrified netting is a great option for a variety of temporary fence applications including campsites, free range chicken operations, and keeping small nuisance animals out of gardens – just to name a few. Each roll of netting comes with a detailed set of instructions and pictures to help guide you through the set up and storage process.

#### 164ft Poultry Netting

- 164ft (L) x 40" (H)
- Posts are spaced 12ft apart
- · Includes: (15) posts and (12)
- horizontal wires



#### 164ft Positive/Negative Netting

- 164ft (L) x 40" (H)
- Posts are spaced 10ft apart
  Includes: (18) posts and (12)
- horizontal wires

#### 164ft Sheep & Goat Netting

- 164ft (L) x 35" (H)
- Posts are spaced 12.5ft apart
- Includes: (14) posts and (8)
- horizontal wires



828941, 880 0003-410



828940, 880 0003-409

828939, 880 0003-408

#### 50ft Positive/Negative Netting

- 50ft (L) x 40" (H)
- Posts are spaced 10ft apart
- Includes: (6) posts and (12) horizontal wires



828942, 880 0003-083

### Steel & Aluminum Wire



100ft 17ga Steel Wire, 880 0003-400

100ft 17ga Aluminum Wire, 880 0003-399 250ft 17ga Aluminum Wire, 880 0003-401

1,320ft 14ga Aluminum Wire, 880 0003-404 2,640ft 14ga Aluminum Wire, 880 0003-405 1,320ft 17ga Aluminum Wire, 880 0003-402 2,640ft 17ga Aluminum Wire, 880 0003-403

#### EXCLUSION KITS

#### Pet & Garden Electric Fence Kit

- Great for yards, flower and vegetable gardens, and other similar areas
- Safely contains pets and deters small nuisance animals
- Includes: 110V Patriot PE2 energizer, (10) 28.5" (H) posts with (4) clips on each post for quick installation, 100ft of green poliwire, ground rod and fence connectors, step-by-step instructions and storage box when not in use



820963, 880 0003-283 GARDEN KIT EXTRA POSTS: 824169, 380 0012-148 100FT GREEN POLIWIRE: 821816, 880 0003-058

#### **Pet & Garden Accessories Kit**

- Includes: (10) 28.5" (H) posts with (4) preset clips on each post for quick installation, 100ft of green poliwire, ground rod and fence connectors
- · ENERGIZER NOT INCLUDED



824168, 880 0003-538 GARDEN KIT EXTRA POSTS: 824169, 380 0012-148 100FT GREEN POLIWIRE: 821816, 880 0003-058



- Solution to deter bears, raccoons, wild hogs, or other similar size nuisance animals.
- Safely protect beehives, garbage bins, compost piles, feed grain, fruit trees, small campsites, and more
- Meets USDA Food Storage Act\*
- Lightweight
- · Easy-to-use, set up and tear down
- Includes: Positive/negative netting 40" (H) x 50ft (L), corner stakes, repair kit, T-handle ground rod, fence & ground connectors, fence light tester



 $^{*}Compliance$  Regulation: State and Federal requirement to store food products out of reach of bears. PB12 or AN90 energizer (or larger) must be used.

830491, 880 0003-414

#### **Garden Kit Extra Posts**

• 28.5" (H) • Includes: 5 posts



380 0012-148

#### Warning Sign

- Clips onto electric fence wire to create clear warning for safety
- · Installs on most electric fence wires



809700, 880 0002-215 YELLOW

#### **Lightning Arrestor**

- Helps to protect energizer in the event of lightning strike to the fence line
- Strong porcelain frame with steel connection points



814630, 880 0001-058 WHITE

#### **Cut-Out Switch**

**GENERAL ACCESSORIES** 

- For use with wood posts or metal pipes
- Use to isolate sections of fence
- Stainless steel fittings for positive non-corrosive contact



817216, 880 0000-014 BLACK

### **GENERAL ACCESSORIES**

## Underground Cable 50ft (15m)

- Use as a lead out wire to connect your energizer to electric fence wires
- Double insulated with 12.5ga galvanized wire
- UV stabilized



809731, 880 0000-254 BLACK

### Fence Lead Set

• Use to connect energizer to fence wire and ground system

821229, 880 0003-287

#### **Jumper Leads**

- For use with poliwire, polirope, braid, or 1/2 " politape
- Use to ensure quality connections in temporary fencing



810836, 880 0003-001

#### Economy Spinning Jenny

- Standard spinning jenny
- $\boldsymbol{\cdot}$  Non-wheel, pivots on a pin
- · Steel spike with tapered point
- (4) adjustable steel arms
- Works with all common wire and coil sizes



823827, 880 0003-301

#### Brace Pins

- For use with wood posts
- Secures horizontal brace post to upright brace posts in corner and brace post assemblies
- Galvanized for rust resistance and long life

### Joint Clamp

- Ideal use with underground cable, steel or aluminum wire
   Holds multiple fence wires or
- underground cables to provide electrical connection
- Solid zinc for long life and excellent conductivity



809984, 880 0001-225 5/PACK

#### Hi-Tensile Wire Cutter

- Cuts most fence wire, including high tensile wire
- · Suitable safety glasses must be worn



814237, 880 0003-228

#### 3-Hole Wire Twister Tool

- Use to twist fence wire several times at the end of fence line for a solid connection

814218, 880 0003-220 5"/13CM 5/BOX 814219, 880 0003-519 10"/26CM 5/BOX

· Suitable for use with up to 8ga wire



824732, 880 0003-308

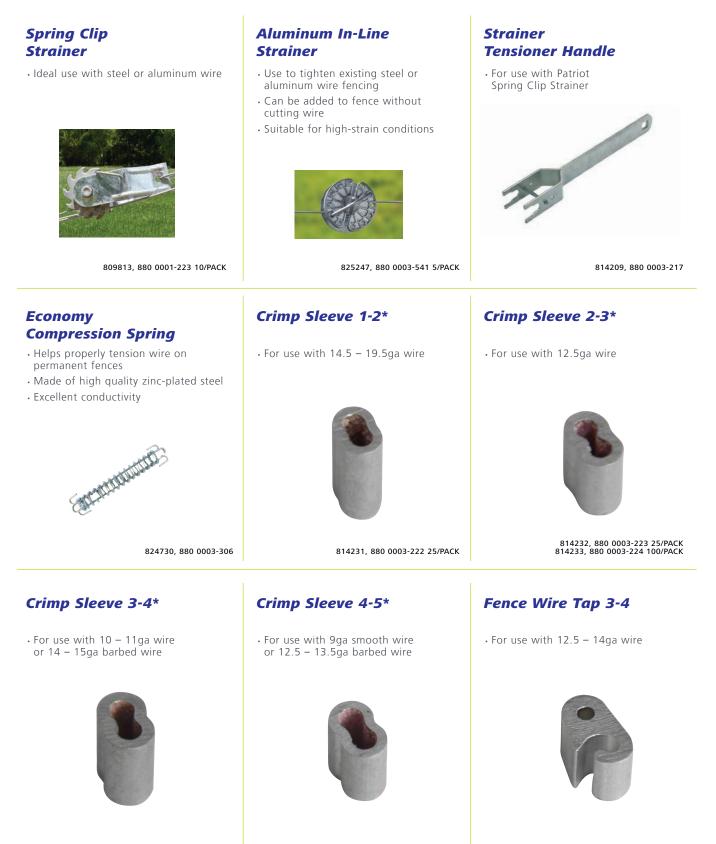
### Fence Reel

- Ideal use with poliwire or 1/2" politape
- Holds 600ft poliwire or 300ft 1/2" politape
- Compact size
- · Portable, easy to use
- Sold individually



824736, 880 0003-310

#### HARDWARE & CRIMP SLEEVES



814235, 880 0003-226 10/PACK

814234, 880 0003-225 10/PACK

\*Joins high tensile wire strands together. Use Patriot 4 Slot Crimp Tool to crimp.

814236, 880 0003-227 10/PACK

#### 4 Slot Crimp Tool

• For use with Patriot Crimp Sleeves



#### Wire-Loop Strainer

Time saving, no wire tying solution.

- 23.6" wire loop
- Spring clip design for wire tightening
- UV stabilized
- Galvanized frame
- Aluminum spool
- · 2-year warranty



880 0010-912 10/PACK

814220, 880 0003-221

#### EQUINE & GATE HARDWARE

#### Energizer to Wide Tape Connector



Use to connect politape to energizer
Suitable for use with politape up to 1 1/2" (W)



- Use to connect polirope or braid strands to energizer
- · Suitable for use with polirope or braid

#### Rope-to-Rope Connector



- Allows the electricity from one polirope or braid strand to be transmitted vertically to the polirope or braid strand below
- Suitable for use with polirope or braid



814702, 880 0003-233

#### 814708, 880 0003-234

#### Tape-to-Tape Connector

• Allows the electricity from one politape strand to be transmitted vertically to the politape strand below

• Suitable for use with politape up to 1 1/2" (W)



814822, 880 0003-238



814709, 880 0003-235

- Use to join or splice politape
- Angled end can be used to connect politape to gate handle
- Suitable for use with politape up to 2" (W)



824727, 880 0003-304 3/PACK



Use to join polirope and braidSuitable for use with polirope or braid



814599, 880 0003-232 3/PACK



#### 1/2" Tape Buckle

- · For use on t-posts, wood, and metal pipe posts
- Pinlock design allows easy removal of wires
- Can be used with electric fence wire, polirope, coated wire or braid
- Excellent arcing protection to reduce shorting
- UV stabilized



824725, 880 0003-303 3/PACK

#### **Two-way Lockable** Gate Latch – Large

- · Simple, one-handed operation opens gate from inside or outside
- · Zinc-coated, strong, sturdy materials for long-lasting performance
- · Can be padlocked for increased security
- Gate mounting hardware included

**Gate Wheel** 

Provides smoother

and easier means

· Zinc-coated, strong,

sturdy materials for

of opening and

closing gates

long-lasting

performance

• For use with 1 5/8" - 2" (OD)

Gate mounting

hardware included

round tube gates

• For use with 1 5/8" (OD) round tube gates



#### **Gate Latch – Small** · Simple, one-handed operation opens

Two-way Lockable

- gate from inside or outside · Zinc-coated, strong,
- sturdy materials for long-lasting performance
- · Can be padlocked for increased security
- Gate mounting hardware included
- For use with 1 1/4" 1 1/2" (OD) round tube gates

#### 831694, 880 0003-420

#### **One-way Lockable** Gate Latch

- · Simple, one-handed operation opens gate from inside or outside
- · Zinc-coated, strong, sturdy materials for long-lasting performance
- · Can be padlocked for increased security
- Gate mounting hardware included

831695, 880 0003-421



### **Gate Anchor**

- Simple to use. Holds gate open for easy livestock movement
- Zinc-coated, strong, sturdy materials for long-lasting performance
- Optional use as horizontal slide latch
- Gate mounting hardware included
- 1 3/4" 2" (OD) round tube gates

831696, 880 0003-422

- For use with

831697 880 0003-423



## Monitor Your Fence From the Palm of Your Hand

Monitor and control the 46000W AC energizer from your smartphone with the Datamars Livestock Farm App.











II-lest

DATAMARS

Tru-Test products are globally recognized for their technology, durability, and reliability, with over 30 years of experience in assisting producers with informed decision-making. Ensuring everyday tasks are as effortless as possible is equally crucial. Tru-Test Waterers are specifically designed to provide a continuous supply of fresh water to your livestock throughout the entire year. regardless of environmental conditions.

LEARN MORE: TRU-TEST.COM

### Why Use Automatic Waterers<sup>™</sup>?

*Tru-Test Waterers offer livestock owners a simpler, cleaner, and healthier method to manage their animals' most crucial nutrient.* 

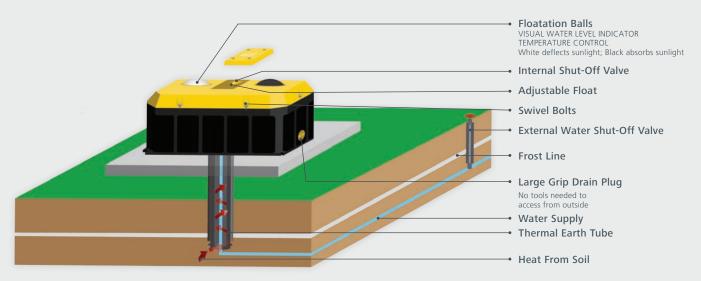
BENEFIT	TRU-TEST WATERERS	TRADITIONAL OPEN TANKS
Automatically Replenishes to Set Level	$\bigcirc$	Νο
Regulates Water Temperature for Weather Conditions		Νο
Freeze Resistant Design	WaterWell Series Resistant to -20°F for 60 hrs	Νο
	WaterPro Series Resistant to -35°F w/ de-icer	
Clean Water Year-Round		Νο
Reduces evaporation		Νο
Easy Maintenance		Νο
Rust Resistant		Νο
Reduced Algae Growth & Insect Breeding	WaterWell Series Only	Νο
Debris Free	WaterWell Series Only	Νο

#### Tru-Test Automatic Waterers Won't Let You Down

- UV stabilized plastics for long term outdoor use.
- Impact resistant materials, so even in temperatures as extreme as -35°F, our waterers withstand the toughest abuse from livestock.
- To prevent freezing, we've focused on the seals, the internal baffles, and how the lid is secured to the tank bottom. Our waterers are filled with solid foam insulation and will stay ice free.
- Valves respond to water levels quickly. The shut-off valve also gives you complete control right at the unit.
- Low-profile design maintains lower water levels to replenish water more often. This design meets all state minimum water capacity requirements, while keeping water fresher at a more consistent temperature. The design is also comfortable for livestock of all sizes to access.
- Flexible, the unit can be split between two pastures with a fence separating the drinking stations.



- 1. Water comes from the underground source through the earth tube and into the unit. This keeps water fresh and prevents water line freezing.
- 2. The tool-free adjustable float controls the water level. When the unit is full, the float shuts off the water. As animals drink, the water is replenished, keeping it fresh and clean.
- **3**. Top-quality insulation keeps water colder in the summer and warmer in the winter, giving your livestock a fresh water supply year-round.
- 4. For maintenance, the reservoir lid gives you access to a shut-off valve inside the unit. Our tool-free design makes it easy to check and maintain your unit.
- 5. To drain the unit, simply remove the large-grip drain plug from the outside of the unit. This gives you full access without having to reach inside the waterer.
- 6. Clean water = healthy livestock. Constantly replenished water discourages algae growth and insect breeding, keeping the water cleaner and easier to manage.



#### Value Information & Ratings\*

	<b>PSI RATING</b> with valve in closed position	MAXIMUM FLOW gallons per minute at 30 PSI
WaterWell Series	5 – 150 PSI	50
WaterPro Series	0 – 150 PSI	3

\*Pressure reducer may need to be installed in areas of PSI greater than valve specifications. Failure to reduce water pressure may affect valve performance. Datamars Livestock and Jobe Valves do not accept any liability for any consequential damage caused, or any cost involved in a malfunction or repairing of Jobe Valve products or Tru-Test Waterers.

#### THERMAL EARTH TUBE

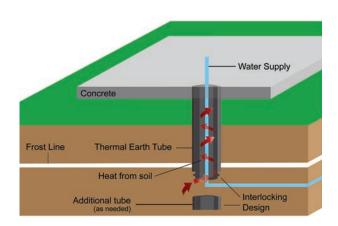
#### **Thermal Earth Tube**

The purpose of the earth tube is to prevent the water line from freezing. Placed beneath the Waterer, the earth tube should extend below the frost line, enabling the thermal heat from the subsoil to rise and circulate around the supply line. Additionally, the tube serves as an insulated barrier against the cold air.

- Prevents the waterline from freezing
- Installs underneath the Automatic Waterer and below the concrete pad
- · Double insulated walls
- Interlocking design to reach any frost line depth
- Wide cylinder keeps air moving upward
- Dimensions: 11.625" (OD) X 26.75" (H)



831833, 880 0003-561



#### Important things to remember:

- 1. The top of the earth tube should sit flush with the concrete pad.
- The vertical water supply line should be positioned in the center of the earth tube.
- **3**. Do not fill the earth tube. This will block the flow of warm air around the water line.
- 4. In areas where the frost line is deeper, you may need to add additional tubes.\*

\*If needed, additional tubes will interlock to keep the tubes together, creating a seal against ground shifting.

#### How To Install An Automatic Waterer

- 1. PREP LOCATION: Choose a place easily accessible by livestock and free of obstacles. Refer to local electrical and plumbing codes before installation.
- INSTALL WATER SUPPLY LINE: Horizontal water line should be at least 1 foot below the frost line. Vertical water line should be placed in the center of the desired location for the earth tube.
- **3.** INSTALL THERMAL EARTH TUBE: Make arrangements to install electricity prior to if using WaterPro 2 with de-icer. Earth tube must extend at least 1 foot below frost line. For colder climates or deeper frost areas, use additional earth tubes.
- 4. POUR THE CONCRETE PAD: Make arrangements to install electricity prior to if using WaterPro 2 with de-icer. Earth tube must extend at least 1 foot below frost line. For colder climates or deeper frost areas, use additional earth tubes.
- 5. POSITION THE WATERER AND CONNECT SUPPLY LINE: For the WaterWell series, lower the water level to train animals. For the WaterPro 2, adjust water level to avoid overflow.

#### WATERWELLS

#### WaterWell<sup>™</sup> 4

#### Energy-free unit for large operations.

- · Low-profile design for cattle
- 60gal / 226L
- · 200 cattle / 100 dairy
- Dimensions:
- 43.5" (L) x 45.5" (W) x 21.9" (H) · Best practice to have more animals drinking from the unit during cold months.



PROUDLY FEATURES AN INDUSTRY-LEADING JOBE FLOAT VALVE.

#### WaterWell<sup>™</sup> 2

#### Energy-free unit for medium operations.

- · Low-profile design for cattle
- 31gal / 119L
- 110 cattle / 50 dairy
- Dimensions:
- 43.5" (L) x 27.5" (W) x 20.2" (H)
- · Best practice to have more animals drinking from the unit during cold months.

PROUDLY FEATURES AN INDUSTRY-LEADING JOBE FLOAT VALVE.

#### WaterWell Features

- Freeze resistant to -20°F up to 60 hours
- Shut-off valve at the Waterer
- Large grip, exterior drain plugs
- Flotation balls help regulate temperature
- Sealed for protection against cold air
- Insulated with polyurethane foam for ultimate protection

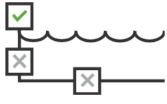
#### WaterWell Benefits

- Easy-to-clean
- Virtually eliminates algae, discourages insect breeding & keeps debris out
- Reduced evaporation
- Easy water level visibility
- Tool-free mainenance
- Can be split across two pens or pastures

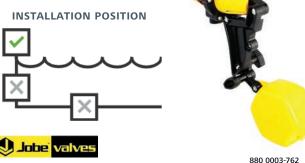


#### Float operated valve for automatic filling use.

- For WaterWells
- Operating pressure: 0.3 10 Bar (5 150psi)
- Easy adjustment with no tools
- · Easy servicing
- Self-cleaning
- On/Off switch









831830, 880 0003-425





8

#### WATERPRO

#### WaterPro™ 2

#### Ideal for horses or larger animals. Compatible with de-icer.

- High-profile design
- 7gal / 27L
- 75 cattle/ 75 horse
- Dimensions:
- 39.125" (L) x 22" (W) x 28.7" (H)



PROUDLY FEATURES AN INDUSTRY-LEADING JOBE FLOAT VALVE.

831832, 880 0003-427

#### Jobe Valve Rojo Compact

#### Optimal choice for low flow when space is limited as the narrow weighted float makes for a compact versatile design

- For the WaterPro 2 only
- Operating pressure: 0 10 Bar (0 150 psi)
- · Easy adjustment with no tools
- Easy servicing
- Self-cleaning
- On/Off switch





834478, 880 0003-588

#### WaterPro Features

- Freeze resistant to -35°F with de-icer
- Shut-off valve at the Waterer
- Large grip, exterior drain plugs
- Plugs can also seal off one or both reservoirs
- Sealed for protection against cold air
- Insulated with polyurethane foam for ultimate protection

#### WaterPro Benefits

**Jobe** valve

- Easy-to-clean
- Replenishes water frequently
- On be split across two pens or pastures
- Omfortable height for larger animals
- Tool-free maintenance



# A Measurable Difference

#### We are dedicated to providing a more comprehensive, integrated livestock management portfolio. As a result, we have united our product brands under a single family – Datamars Livestock.

Our goal is to provide producers with the essential tools to meet the increasing global demand for high-quality protein. The journey begins with tag identification at birth. As animals grow, our products meticulously track data insights, facilitating fact-based decision-making. Our animal health delivery systems ensure dose accuracy, safety, and efficiency, thereby saving time and reducing stress. Taking it a step further, our line of livestock scales and EID readers collects real-time data for effective management throughout the animal's life cycle.

Our strong track record partnering globally with the pharmaceutical industry with confidential and market-sensitive projects. Our collaborative and professional approach has earned us exceptional customer retention. Through stringent quality standards and innovative development, NJ Phillips and Simcro product lines enhance the value of pharmaceuticals and vaccines for production livestock. Our product hallmarks include dose accuracy, user safety, operational convenience, and animal welfare. During the design stage, our engineers consider end-user environments to manage health, safety, and animal welfare risks. All products undergo rigorous testing in both field trials and our in-house laboratories. Integrity is fundamental to our design, ensuring that customers receive an intransigent end product. Our specialty packaging can be tailored to meet specific brand requirements.

At Datamars Livestock, we take pride in delivering quality products and exceptional service. We believe in the future of agriculture and are ready to assist with any challenges at hand.

#### Tru-Test Weighing & EID Systems

VISIT TRU-TEST.COM

#### Speedrite Extreme Electric Fencing

VISIT SPEEDRITE.COM

#### Patriot Value Electric Fencing

VISIT PATRIOTGLOBAL.COM

#### Z Tags & Temple Tag Livestock Identification Tags

VISIT ZTAGS.COM

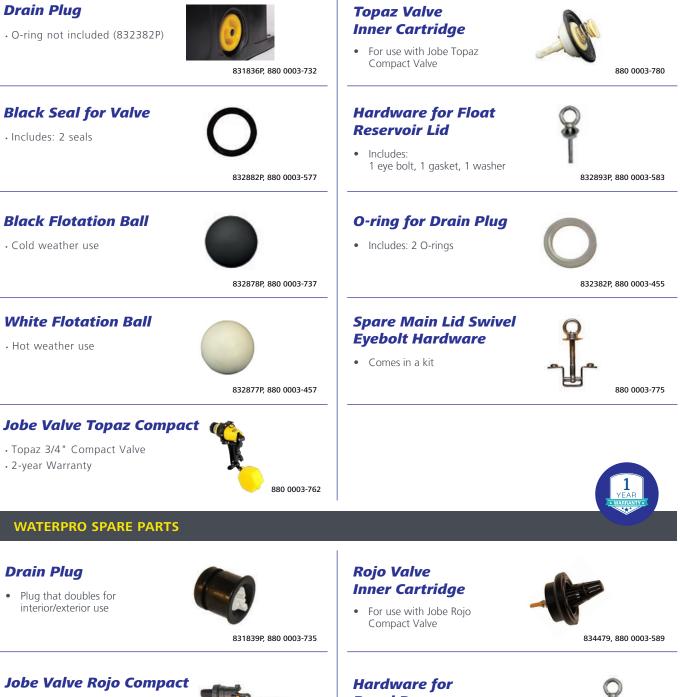
#### NJ Phillips & Simcro Animal Health Disposables & Devices

VISIT NJPHILLIPS.COM VISIT SIMCRO.COM

#### **SPARE PARTS**



#### WATERWELL SPARE PARTS



- Rojo 3/4" Compact Valve
- 2-year warranty



## **Panel Door**

• Includes: 1 eye bolt, 1 washer





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