

est. 1946

DARE

ELECTRIC FENCING

HOW IT WORKS

ELECTRIC FENCING **MADE EASY**

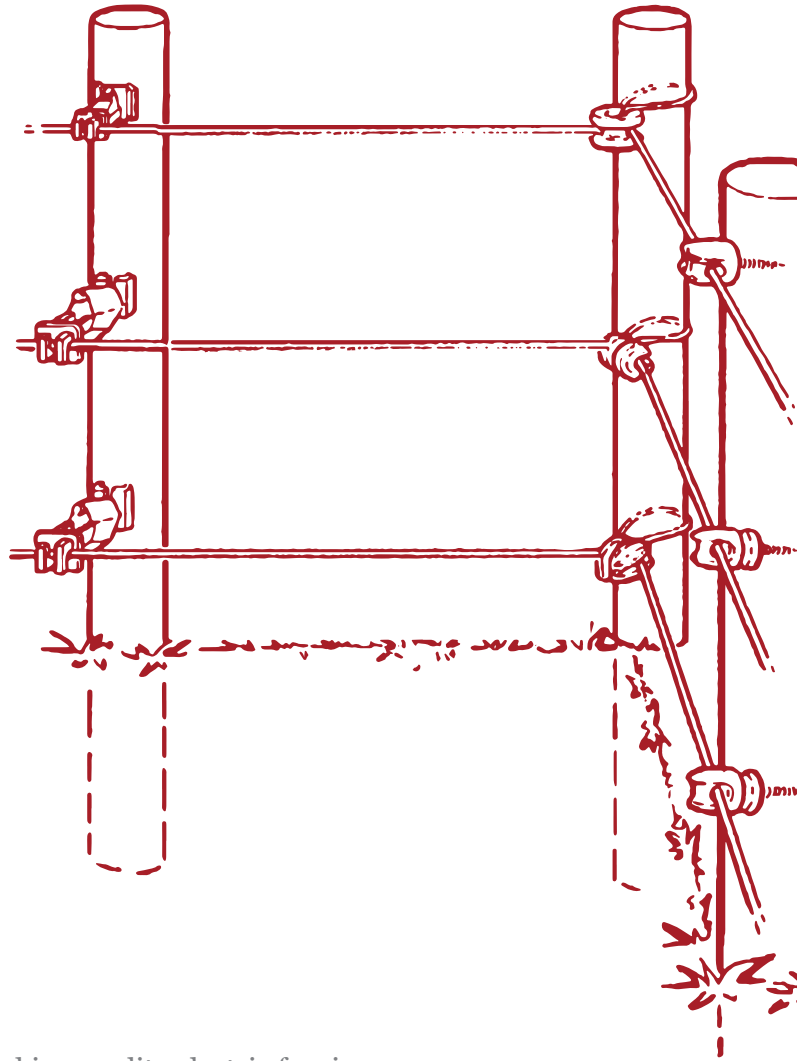


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ELECTRIC FENCE EXPERIENCE – *Since 1946*

CONFUSED BY ELECTRIC FENCING? DON'T FEEL LIKE A DUMMY,

ELECTRIC FENCING SEEMS COMPLICATED
TO MOST PEOPLE—SO MANY DIFFERENT
FENCE CHARGERS, INSULATORS AND WIRES
TO CHOOSE FROM.



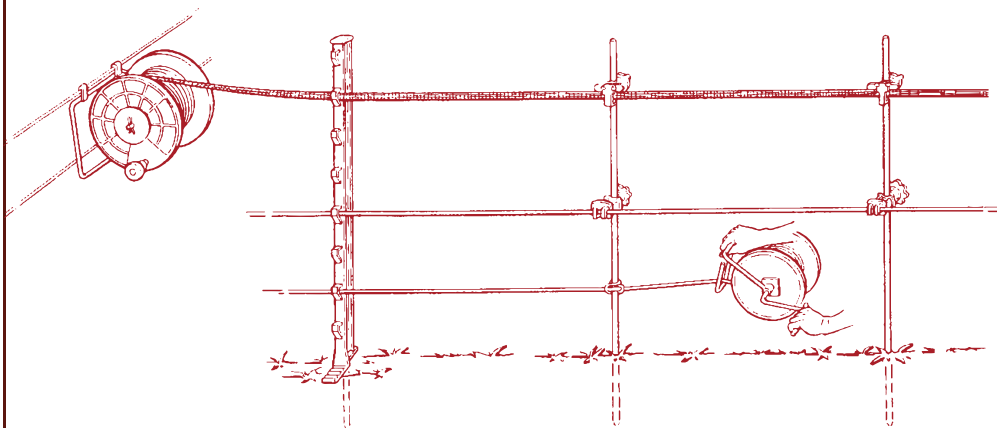
At DARE PRODUCTS we have been making quality electric fencing products since 1946. We hope this information will help you build an effective electric fence that will accomplish your purpose.

Keep in mind that electric fencing is NOT complicated. However it must be installed correctly to work properly.

ALL ELECTRIC FENCES CONSIST OF THREE EQUALLY IMPORTANT ITEMS...

1. **THE FENCE** (posts, wires, insulators & gates)
2. **THE ELECTRONICS** (fence charger, insulated cable & switches)
3. **THE GROUND SYSTEM** (ground rods, clamps & wiring)

STEP ONE DECIDE WHETHER YOU WANT TO BUILD A TEMPORARY OR PERMANENT ELECTRIC FENCE.

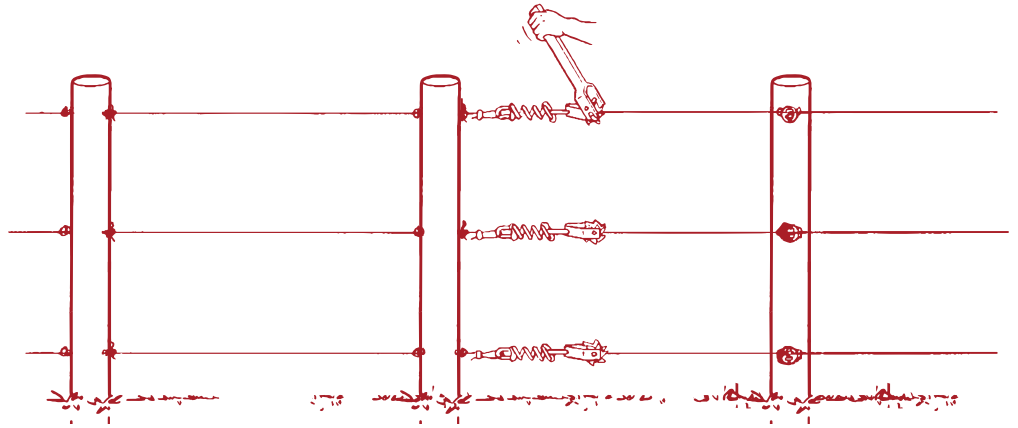


TEMPORARY ELECTRIC FENCES

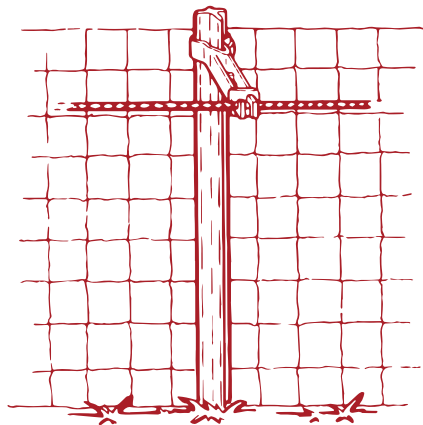
Temporary electric fences are used to control animals inside a permanent fence, usually consisting of one or two wires attached to plastic or metal rod posts. They are easy to install, move, and take down.

PERMANENT ELECTRIC FENCES

Permanent electric fences are used to fence animals inside a property, fence out predators, and separate breeding animals. A permanent fence usually consists of multiple wires attached to steel “T” posts or wood posts.

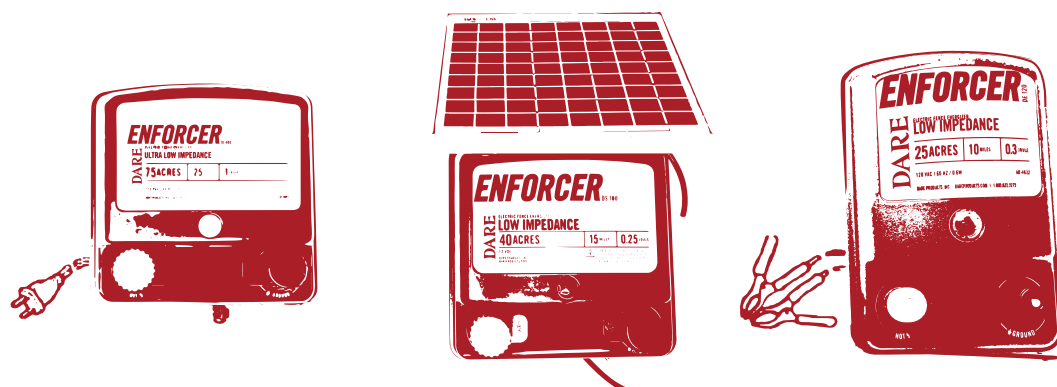


- Most people use a combination of permanent and temporary fencing to control animals.
- Another option is to add electric fence wires to an existing non-electric fence. Attach one or more “hot” wires to existing fence posts or fence wires to keep animals away from the fence. Whether on the inside or the outside of the fence.



STEP TWO SELECT THE MATERIALS

The type of animals to be controlled will determine material selection. dareproducts.com for more detailed help.



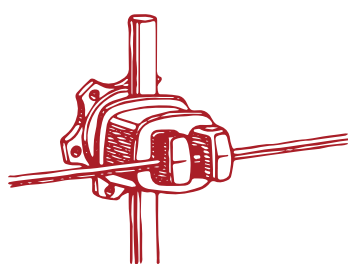
ENERGIZERS

Buy the most powerful fence charger (energizer) you can afford. “Miles of Fence” means nothing, keeping animals under control is your goal. Buy a fence tester specifically designed for electric fence to check voltage on your fence regularly. Visit the dare website for options. There are three types of fence chargers...

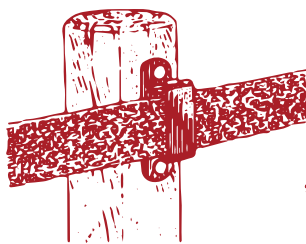
- 1. 110-VOLT PLUG-IN:** Most power for the money, often rated in “joules” - the more joule output, the more acres controlled. **BEST Value.**
- 2. 6-12 VOLT BATTERY-POWERED:** Less power for the money spent, good for remote areas. **SECOND BEST Value.**
- 3. SOLAR-POWERED:** Least power for the money, good for short fences in remote areas. (Can be used on longer single wire clean fences.) Most convenient, however and often the only option.

Always use high-quality insulators. DARE brand insulators and energizers are designed for ease of installation and durability. Use the appropriate designed insulator, specific to the application and fencing material being electrified. Use insulated burial cable designed for electric fencing (see DARE catalog at dareproducts.com for examples of various types of insulators)

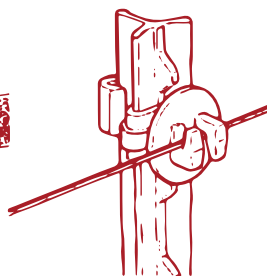
TEMPORARY ELECTRIC FENCES



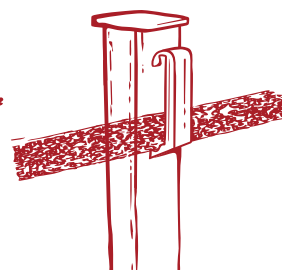
Western RP-25



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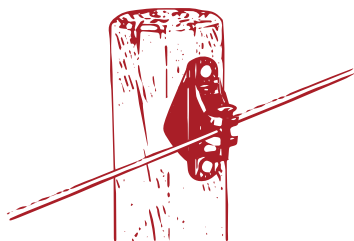
Snug STP



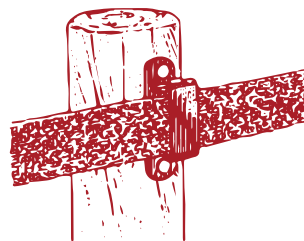
2400

- Most temporary fences use small gauge (14 to 17 gauge) steel wire, or polywire or polytape. Metal rods with insulators or plastic posts are usually spaced 12 to 20 feet apart. Making the fence visible is important but not necessary. If using steel wire, flag the fence with warning signs or colorful tape if desired.*

PERMANENT ELECTRIC FENCES



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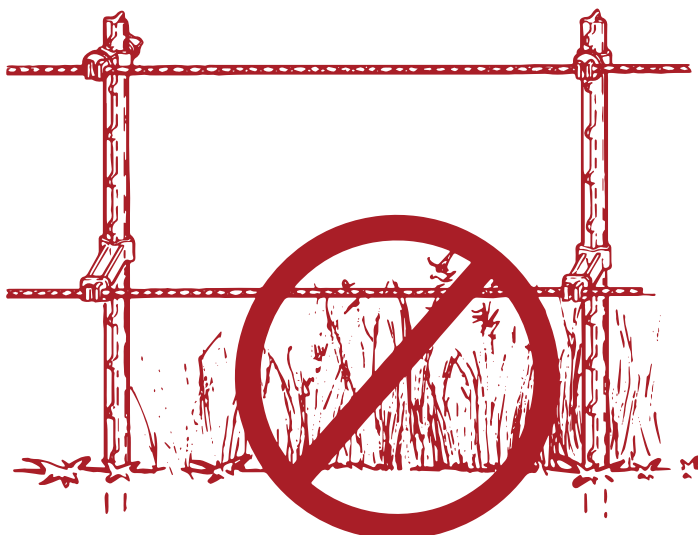


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- Most permanent electric fences use high-tensile smooth wire (12.5 gauge), or heavy-duty polytape or polyrope for horses. Posts are spaced according

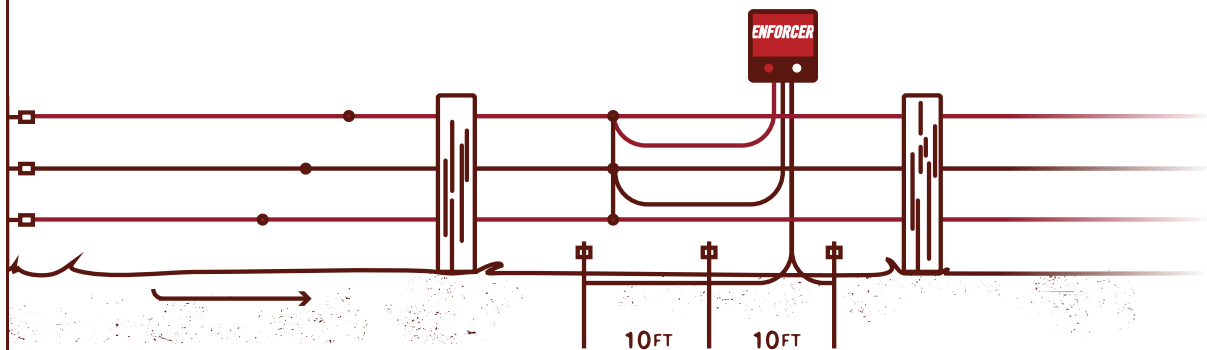
to terrain and size of fenced area (see DARE High Tensile Fence System & DARE Equine Fencing brochures at dareproducts.com)

NOTE: Electric Fences should to be kept clean of vegetation. No matter how powerful your fence charger claims to be, weeds and grass touching the wires will reduce voltage and can make your fence less effective.



**Electric Fencing is a psychological barrier—animals remember and will stay away for the most part.*

STEP THREE INSTALL THE FENCE & GROUND SYSTEM



Install the fence, fence charger and ground system.

- Install an effective ground system with three 6 to 8 foot long ground rods, spaced ten feet apart.* Use ground rod clamps and galvanized wire or insulated electric fence cable to connect ground rods to each other and to the fence charger. Without a good ground system your animals won't get the maximum 'shock' when they contact the fence.

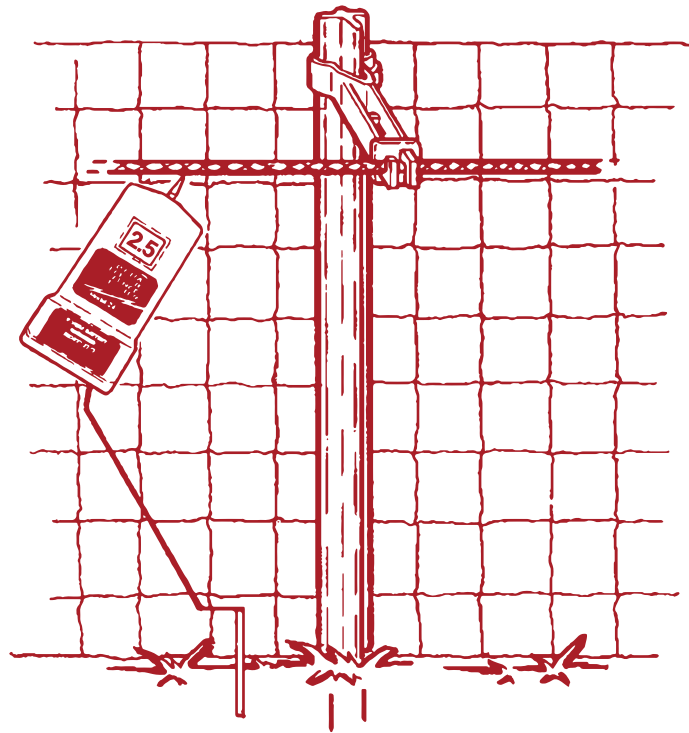
**RULE OF THUMB: Use one 6 - 8' ground rod per joule output of energy.*

**Most electric fence problems are due to improper grounding - see page 7*

- Install the plug in fence charger under cover, at a convenient height above the ground. Install solar-powered fence chargers in an open area facing south (in northern hemisphere). Use insulated hhok-up wire designed for electric fence rated up to 20,000 volts to connect the fence charger to the fence. Install cut-off switches to isolate sections of your electric fence if desired. Again - dareproducts.com for more detail.
- Test your ground system

STEP FOUR TEST THE FENCE

Before connecting the fence charger to the fence and ground system, turn it on and check the voltage with your fence tester. It should read 5,000 volts +. Now connect the fence and ground system and check the voltage again. If the voltage drops below 2,000 volts, you have a problem on the fence line or your fence charger isn't powerful enough. Models DE 20, DE 60 and DE 80 will register only 2,000+ on a clean fence.

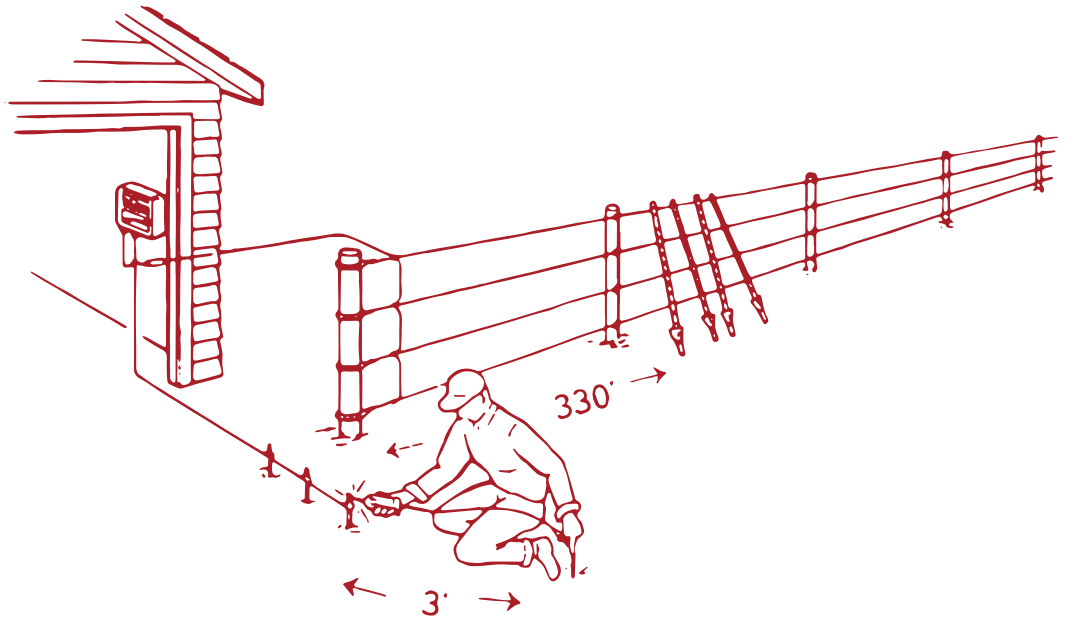


Visit dareproducts.com for the fencing problem solver.

Check your fence at the farthest point from the fence charger. Touch probe on top of tester to an electrified wire and touch the other lead to the ground. This will tell you how much voltage is on the fence line. Voltage equates to the speed the energy is being delivered to your animals. A minimum of 2,000 – 3,000 volts is necessary to contain most animals. A properly constructed electric fence will have 3,500 to 7,000 volts, depending on your fence charger, fencing material, length of fence, and types of animals. Goats for example are hard to control and need more voltage (speed) because of their dense hooves = high resistance.

Animal	Minimum recommended voltage on fence line
Horses	2,000 - 3,000 volts
Cows	2,000 - 3,000 volts
Bulls	3,000 - 4,000 volts
Sheep/Goats	4,000 - 5,000 volts
Nuisance Pets	1,000 - 2,000 volts
Pigs	2,000 - 3,000 volts
Wolves/Predators	4,000 - 5,000 volts
Bison/Deer	4,000 - 5,000 volts
Pets	700 - 1,000 volts

NOTE: An electric fence requires regular checks to make sure it is working properly. Check the voltage once a day if possible. Walk the fence on a regular basis looking for broken insulators, loose connections, arcing, heavy weeds and other potential problems.



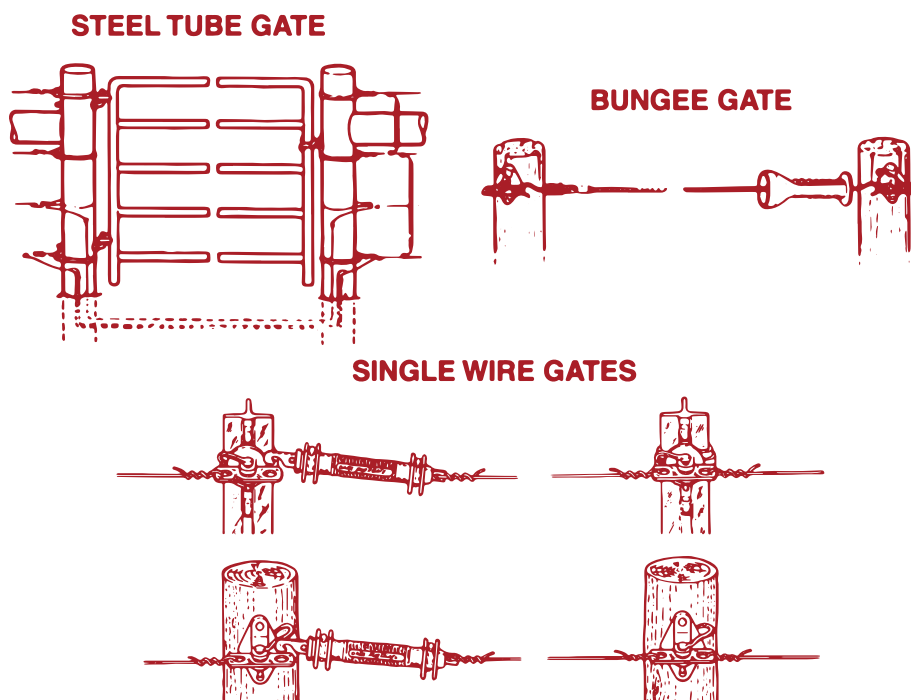
GROUNDING SYSTEM TEST

1. Create a dead short on the fence line, preferably 300 ft. from the ground rods, or as far as possible if the fence is shorter than that. Lean steel posts on a hot wire as shown to short out your fence.
2. Use a fence tester (Dare #2411 Digital Voltmeter is best). Place the meter probe on the ground wire or ground rods. Extend the meter lead wire as far away as possible, attached to a wire probe inserted into the soil.
(Wire probe supplied with Dare model no. 2411).
3. If the voltage reading exceeds 300 volts, the grounding system is inadequate and more ground rod(s) should be added. Add 1 rods at a time and recheck until voltage reads 300 or less. Generally you will need one ground rod for each Joule of output from your energizer, or less, depending on overall conditions

Install posts and wires and gates. Space wires according to the type of animal you want to control. See Fence Design Tool at www.dareproducts.com

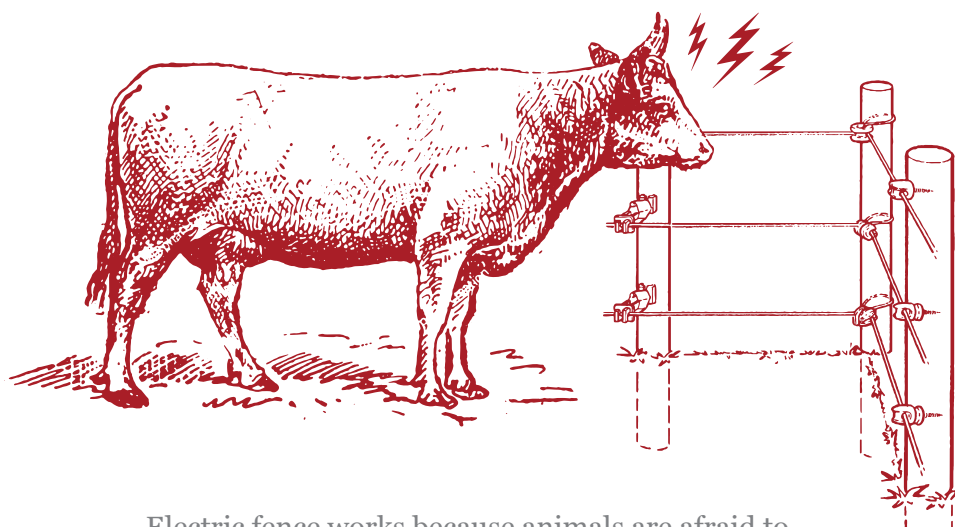
RULE OF THUMB: Hot wires should touch the animals at the chest and/or nose and the back of the neck on grazing animals.

Gates require extra care to run voltage from one side of the gate to the other. Though designed for direct burial, we recommend running insulated hook-up wire in plastic PVC pipe under the gate (seal the ends of the pipe to keep out water.) Connect all electrified wires together at gates and corners with jumper wires to increase voltage to the entire length of the fence. Refer to High Tensile Guide on Dare website.



NOTE: Connect the fence charger so it charges the fence from the middle for best results - maximizing voltage, if possible. Otherwise, connect at the start of your fence. Remember, you do not have to make a complete loop.

STEP FIVE INTRODUCE ANIMALS TO THE FENCE



Electric fence works because animals are afraid to touch it, but they must learn that touching the fence will shock them. Put animals behind a new electric fence during daylight hours, giving them a chance to see it. If necessary put some hay or grain under the fence to speed up the “learning” process. It can take up to three days to train animals to your fence.

NOTE: It’s best to leave your electric fence ‘On’ if animals are behind it.

KEEPING ANIMALS OUT

Electric fences can be used to keep out dogs, predators, deer, and other pests. Fencing animals out often requires more wires, posts, and often a more powerful fence charger for higher voltage (5,000 volts minimum). Pest/predator fences must be checked constantly. For best results keep the fence completely clear of vegetation for several feet on both sides of the fence.