

### Types of Energizers

**110V, Plug-in Energizers** are the best choice if you have access to a power outlet. The Energizers are reliable in every situation with exception of a power outage and will provide you with the most power for the least about of money. You will need to install them inside a structure where they are protected from moisture.



**Battery Energizers** are typically portable and great for remote areas far from power outlets especially in cases where they are periodically moved. These are powered by a 12v rechargeable battery, "D" cell batteries or a 9 volt disposable dry cell battery.















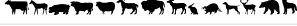


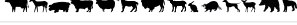






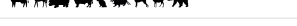
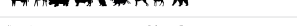
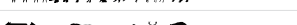




**Solar Energizers** are portable and an excellent choice for temporary fence applications. They are a logical choice for remote areas where there is no 110V outlets. While they have the highest upfront cost per joule, the power to operate them is free as long as they have adequate sunlight.



The solar panel charges the battery by converting light directly into electricity. The battery stores this electricity to operate the energizer. This enables the energizer to operate at night or during periods of low sunlight.

**Multi Powered Energizers** combined with various adaptors will allow you to power your Energizer using any one of the methods listed above: 110V Outlet, Battery or Solar. This is a great choice if you move your fence to locations where 110v power will exist and other locations where it is not available.



		STORED JOULES	'UP TO' DISTANCE CLEAN FENCE (MILES/ACRES)	RECOMMENDED DISTANCE TYPICAL FENCE (MILES/ACRES)	1 SERIES OPTION	LIVESTOCK CONTROLLED
110 VOLT	M10000i	100.0	1,000 / 6,000	125 / 3,000	▪	
	M5800i	58.0	430 / 2,700	87 / 2,200	▪	
	M1500	15.0	160 / 900	40 / 360		
	M1100	11.0	110 / 650	36 / 280		
	M800	8.0	90 / 520	30 / 200		
	M560	5.6	75 / 400	23 / 130		
	M360	3.6	55 / 250	19 / 95		
	M160	1.6	30 / 100	11 / 60		
	M120	1.2	15 / 60	6 / 30		
	M60	0.6	10 / 40	3 / 20		
MULTI-POWER	M30	0.3	5 / 20	2 / 10		
	M10	0.1	2 / 10	0.5 / 3		
	MBS2800i	28.0	250 / 1,500	50 / 1,000	▪	
	MBS1800i	18.0	200 / 1,200	42 / 420	▪	
	MB1000	10.0	100 / 600	34 / 250		
	MBS800	8.0	90 / 520	30 / 200		
	MBS400	4.0	60 / 280	20 / 120		
BATTERY	MBS200	2.0	45 / 160	14 / 90		
	MB150	1.5	30 / 100	11 / 60		
	B60	0.6	15 / 60	5 / 40		
ALL IN ONE SOLAR	B11	0.11	4 / 20	0.6 / 6		
	B10	0.1	4 / 20	0.6 / 6		
	S400	4.0	60 / 280	20 / 120		
	S200	2.0	45 / 160	14 / 90		
	S100	1.0	30 / 100	8 / 60		
	S40	0.4	25 / 80	5 / 30		
	S20	0.20	12 / 40	2 / 14		
	S16	0.16	10 / 30	1 / 10		
	S10	0.1	3 / 15	0.5 / 5		

**Gallagher Recommends** - comparing on stored joules only, since these distance/acreage ratings are always manufacturers estimates because two properties of the same acreage/fence distance may have dramatically different conditions e.g.: number of wires, vegetation growth, stocking intensity.

## i Series Fence Energizer Systems

The **i Series Energizers** have extremely reliable power that adapts output up or down depending on your fence conditions. Each one also comes with a separate controller that can be mounted outdoors for easy fence performance checks.

### ENERGIZER

Reliable and adaptive performance even in extreme conditions



### ENERGIZER CONTROLLER

Easily monitor and control fence performance



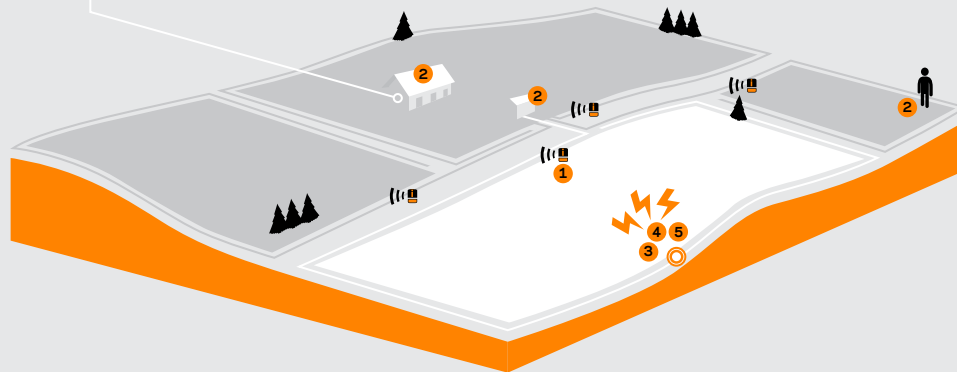
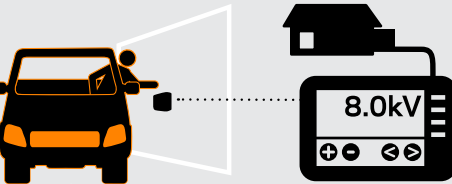
### FENCE MONITOR

Create fence zones and monitor fence performance around your property



### ENERGIZER REMOTE & FAULT FINDER

Quickly locate and repair faults



### ALARM SYSTEM

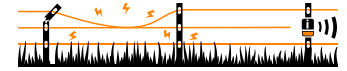
Secure your assets



On i Series models you can also add monitors around the fence line that feed information back to the Controller and tell you if all is well or if there is a fault in their area.

The Remote & Fault Finder helps pinpoint any faults quickly, saving hours hunting for and fixing the issue.

## How the System Works:



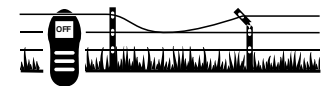
- 1 Fence Monitor(s) recognize any significant drop in fence zone or Energizer performance and raise alarms.



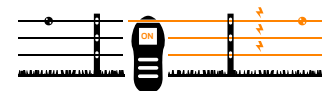
- 2 Alerts are sent to the Energizer Controller and/or optional Alarm System.



- 3 The Controller and Remote indicate which zone is in fault. The Remote is used to find the fault within the zone.



- 4 Power to the fence at the fault location is turned off using the Remote, allowing a safe and convenient repair.



- 5 Once the fault is repaired, power is restored to the fence and tested using the Remote.

Grounding Systems

The ground must be as conductive as possible for the fence to give the animal an effective shock. A simple guide is one ground rod for every five joules of stored energy with a minimum of three ground rods.

Follow the recommendation in the chart to get the maximum benefit. When in doubt, add more ground rods. The number of ground rods will vary depending on the power of the energizer and the soil type. High powered energizers need more ground rods than low powered energizers. Dry, sandy, rocky or frozen soil will require more ground rods than wet soils.

Energizer Size	Required Ground Rods
Up to 15 Joules	3 Rods minimum
Up to 28 Joules	6 Rods minimum
Up to 58 Joules	12 Rods minimum

Handy Hint

The rule for ground rods when installing permanent fencing

10' Between ground rods

6' Minimum length of rods

3 Ground rods minimum

1 Wire connecting all rods to Energizer ground terminal

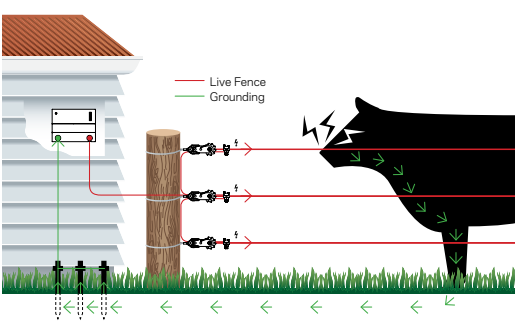
As a rule of thumb, use at least 3 ground rods or the Energizer Stored Joules rating divided by 5.

**Why does the Energizer need a ground system?**

The ground is half the circuit of your fencing system. Electrons travel from the energizer, along the fence wires and back through the ground to the Energizer to complete the circuit. Like a radio antenna collects sound waves, the ground system collects the electrons. The ground must be as conductive as possible for the fence to give the animal an effective shock.

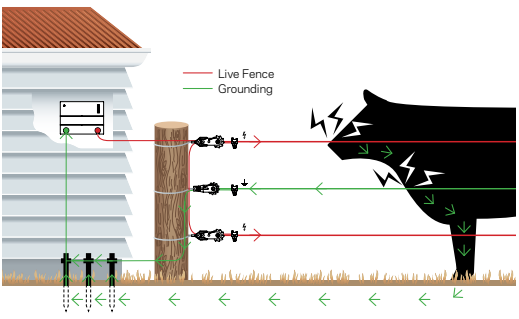
- Main causes of a poor ground system are:**
- Rusty or corroded ground rods
  - Broken ground wire connecting the rods
  - Not enough ground rods
  - Ground rods too close together or too short
  - Poor connections at the rod or in the connecting wire

Additionally you will need to setup your electric fence according to how 'green' the area is all year round.



**All Live Wire System**  
– best suited for wetter regions

For use in greener regions with good ground conductivity. All fence wires connect to the red terminal on the Energizer and a shock is delivered to an animal when it's touching the ground and the fence at the same time.



**Ground Return Wire System**  
– best suited for drier regions

For use where the ground struggles to conduct enough power (for year-round dry, frozen or snow conditions). The live & ground wires on the fence create the shock when the animal touches them both at the same time.

Don't	Do
Allow bare wires to touch an iron clad building - use double insulated cable	Keep energizer ground system 33-40' away from other electrical ground connections
Do not use rebar for ground rods	Keep energizer ground system 33-40' away from any metal pipes carrying water
Do not use copper lead-out wire or copper ground rods.	Use galvanized ground rods. Rusty or corroded ground rods will not be effective
Place near fertilizer, animal urine and manure (corrosion)	Locate rods where soil tends to stay moist, north sides of buildings, low spots
Place your ground rods where they are likely to be hit by equipment	Use high conductive cable for connecting the Energizer to the ground system and fence
	When constructing ground return wire fences, re-ground negative wires with a ground rod every 1,200'