

Selecting Your American Farm Works Electric Fence Charger

Fence chargers are the heart of the fence system, providing the source for the electric current that flows through fence wire. Fence chargers, also known as energizers or fencers, vary by amount of current they output and their power source.

Electric Fence Charger Buying Guide

The size of fence charger needed is dependent upon your fencing needs. These needs are determined by four main factors:

1. Length of the fence
2. Number of wires
3. Power source (AC, DC or Solar)
4. Type of animal being contained or excluded

Charger Terminology

- **Low-impedance** - A low impedance fence charger means that there is less resistance (or impedance) in the charger so more power can be pushed through the wire. Low-impedance electric fence chargers are the best, latest technology for land with weeds.

Types of Fence Chargers

There are three main types of fence energizers:

- **AC (Plugin) Powered**
- **DC (Battery) Powered**
- **Solar Powered**

The source of power for the electric fence controller to function determines on the type of charger you will be using. Each type of fence energizer has specific situations in which it is most desirable to use.

Selecting the right electric fence controller with adequate power for your enclosure is critical to keeping your animals safe.

Factors impacting this decision include:

- Location of power source (AC, battery, or solar operated)
- Energy output (in joules)
- Type of animal being controlled
- Length of fence
- Amount of vegetation growing on the fence

Note: If you have access to AC power, the AC operated models are the most convenient. They typically have greater energy output as well. This gives you more flexibility for future expansion.

AC-Powered

AC-Powered fence chargers are a great option where you have a reliable source of 110-volt electrical power. A range of electric fence controllers are available for distances up to 200 miles. Generally speaking, AC electric fence chargers provide the best output of all chargers and are the most popular type of fence charger used in permanent electric fence systems today.

DC-Powered (Battery Operated)

Battery operated fence chargers are ideal for remote locations or areas without access to AC power. DC-powered chargers use a variety of batteries such as the standard 12-volt, 6-volt, 4-volt, or D-cell, as a power source. Generally speaking, bigger batteries last longer and can create more volts. You will have to purchase batteries separately from the charger. Some of batteries can be recharged while others will need to be replaced.

A common question asked about battery or DC powered electric fence energizers is, "How often do the batteries need to be charged?"

The answer: it depends on how many times the fence is grounding. In other words, if the animals are touching the electric fence often or if there are weeds or limbs touching the fence and the ground, the battery will drain faster than if the wire remains clear. Animals that are being trained to avoid the fence will likely touch it more during the early part of training so the battery will drain faster at that time.

We recommend 6-volt or 12-volt rechargeable deep cycle batteries (not included with fence charger).

Note: Frequently check and recharge your batteries to maintain secure fence operation. This can be done by using a voltage meter.

Solar-Powered

Solar-powered electric fence chargers are perfect for fences in remote locations not near an AC outlet or other power source which need a continuous output to remain "hot" constantly. Their lightweight, easy to transport design also make solar-powered chargers the perfect choice for rotational or strip grazing systems. A solar powered electric fence energizer usually contains a battery for energy storage. The solar panel collects the energy from the sun and charges the battery.

Lead acid batteries, which are used in solar fence chargers, typically last around 3 years, or around 1,000 days of charging. It's a good idea to have back-up solar batteries and trickle chargers to assure continuous power for your fence.

Choosing the Right Fence Charger

The fence charger is the heart of your electric fence system. Finding the best-matched charger for your fence is imperative to successfully contain or exclude animals. Consider the following items to ensure you buy the right fence charger to meet your needs.

- **Powering your fence charger:** The recommended and most reliable choice is AC-power. If you need to power your fence from a remote location, DC or solar-powered fence chargers are an excellent choice. Solar-powered fence chargers feature the benefits of charging your battery using solar power.
- **Type of fence line:** Steel wire creates less electrical resistance than polywire, rope or tape, which draw more power. If you are using polyrope or tape, we

recommend a low-impedance fence controller. Aluminum wire has less resistance than steel wire.

- **Number of fence wire strands:** As a general rule for multi-wire fences, divide the charger's distance rating by the number of strands, then select a charger with a mileage rating that meets those needs. Always increase power needs when adding additional wires.

Note: 1 square mile = 4 mile perimeter = 640 acres. Remember that polywire, rope and tape have a higher resistance rating and thus will need a charger with a higher distance rating.

- **Amount of weeds:** The more weeds touching your fence line, the more draw from your charger. If you have light to medium to heavy weeds near your fence, we recommend a low impedance fence controller as they can maintain high energy on the fence even as power is drawn by weeds.
- **Area to enclose:** Give some thought to the possibility of your fence area expanding (which may require a more powerful charger). Chargers will list a mileage rating, but keep in mind that rating is for a single strand of steel wire on a weed-free fence.
- **Type of animal controlled:** Large animals with thicker hide, hair, hooves or foot pads require a stronger shock. Also, more aggressive animals like bulls or stallions require a more powerful fence charger.

Installing Your Fence Charger

When installing, your fence charger should be:

- Sheltered from the weather (except solar chargers), either indoors protected from moisture or outdoors in a protective enclosure.
- Close to 110-volt AC power source (unless battery or solar powered).
- Accessible to a ground rod system that is separate from building or grounding rods used by other systems or buildings.

Mount the fence charger off the ground using a screw or nail through the hanger hole in the charger case. Connect the ground wire to the ground terminal and ground rods using insulated ground wire. Connect the fence terminal to the fence wire using 20,000-volt (or higher) hook up wire. Once installed, test each line of your fence in multiple points around the perimeter to ensure sufficient voltage across the entire system.

Note: If voltage reading varies significantly around the fence, ensure your system is properly grounded in moist soil and double check your lines for any possible shorts touching the line (vegetation, other fencing systems, obstructions, etc.).