

# INSTALLING ELECTRIFIED CROWD GATES



**A SELF-HELP GUIDE FROM...**



Electrified crowd gates are often installed incorrectly. This publication will help you to find the right equipment and get it installed correctly so that the crowd gate functions properly. These devices work in a similar way to electric fence systems; however, extreme care must be taken in their installation, because the high voltage pulses are flowing in and around a barn. Special attention must be paid so that these pulses do not appear on parlor stalls, waterlines, or other conducting surfaces in the barn.

## Which Energizer Should I Use?

Never use an energizer designed for powering long runs of fence for a crowd gate. Do not exceed a 2500-volt energizer for a crowd gate. Too much power can cause excessively nervous behavior in animals. Furthermore, higher voltage increases the likelihood of the energizer pulses traveling to undesired locations.

## What about the UL rating?

Buy an energizer with a UL rating. There are many energizers that are not UL approved. The UL rating will ensure that the energizer complies with the National Electric Code.

## How Should Crowd Gates Be Used?

Electric crowd gates are designed to encourage cows to enter a milking parlor. These devices should be fitted with a bell or buzzer so the cows know when it will be moved. The potential for misuse of these devices is great. If an inattentive or overly aggressive operator makes it impossible for cows to

avoid the crowd gate they will be frightened and agitated before being milked.

## How Can I Improve The Safety Of An Electric Crowd Gate?

The energizer should be placed on the outside perimeter of the building, near a 120 volt outlet. To improve the safety of electric crowd gates, use an energized wire alternating with a return wire rather than a single "hot" wire with an earth return. There are several electric fence supply companies that manufacture plastic/metal tape combinations that have both hot and return wires woven into the same material. Keeping the electrical flow in the wires rather than through the floor reduces the possibility of energizer pulses occurring in unintended locations.

## What Kind of Wire Should I Use?

Always use wire with 20,000 volt insulation for the 'hot' lead-out from the energizer. Common wire with 600-volt insulation used for the building wiring must never be used on the hot side of an energizer circuit. Do not connect the high voltage output terminal to anything not associated with the energizer.

The wire for the grounding circuit should be the same high voltage wire (20,000 volt insulation) if the ground wire passes through the wall of a building, as it almost always does with a crowd gate.

## Proper Grounding is Essential!

One of the most important parts of an energizer circuit is the grounding system. An improper ground can result in unintentional shocks to livestock at grounded equipment such as waterers, feeding equipment, or in the milking parlor. Water systems are the most likely place for earth-return currents to appear, because they are usually part of the grounding system for the farms' electrical system. Installation tips for energized crowd gates are shown in the figure.

## Remember These Important Points:

- Each energizer (fencer, trainer, crowd gate) must have its own dedicated earth-return system. DO NOT combine the earth-return systems from two different devices.
- NEVER connect the crowd gate grounding system to the farm electrical grounding system (including utility system grounds, equipotential planes, and metal objects in a building, such as waterlines or stalls).
- Keep the ground rods 50 feet away from building ground rods, cattle waterers,

underground metal water pipes, telephone lines, or lightning rods.

- Use wire with insulation rated at 20,000 volts to connect the energizer to the earth return rods if the wire passes through a building wall.
- Use an acorn-style ground rod type connector for connecting the ground wire to the ground rod.



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## Maintenance

Energizer wires and insulators can become covered with whitewash, dust and dirt that can provide a path for shocks to appear at unwanted locations. Check the coil wires, condition of the insulation, presence of pinch points, and any other fouling, damage or deterioration.

