Operator's Manual Fault Finder and Fault Finder / Remote

WARRANTY INSTRUCTIONS

LIMITED WARRANTY - A Fault Finder or Fault Finder / Remote Warranty is provided to the original purchaser for a period of one (1) year from the date of purchase, when used in accordance with the operating instructions. You must retain your receipt for proof of purchase. This warranty covers defects in materials and workmanship to the Fault Finder or Fault Finder / Remote.

TERMS THAT APPLY TO THE WARRANTY
Improper installation, misuse, neglect and tampering of any kind are NOT covered under the Limited Warranty. Fault Finder or Fault Finder / Remote, returned under the Warranty will be inspected and if the problem is determined to be the result of neglect or abuse, then no warranty will be applied. No warranty other than the above is expressed or implied. Implied warranties of merchantability and fitness for a particular application are hereby disclaimed unless the law specifically precludes this disclaimer. The manufacturer and seller have no liability for damages, incidental or consequential, resulting from or caused by any failure, malfunction or defect of any product.

TO MAKE A WARRANTY CLAIM -

1. Fault Finder or Fault Finder / Remote, returned for warranty work must be accompanied by a copy of the original sales receipt/invoice and a note showing the customer name, phone number, return address (where the unit will be returned to) and a brief description of the problem.
2. Pack product carefully in oversized carton with crushed newspaper (or other appropriate packing materials) for cushioning.
3. The product should be shipped PREPAID and insured against shipping loss or damage.
4. Send warranties to:

Kencove Farm Fence
344 Kendall Rd
Blairsville, PA 15717
1-800-536-2683

INTRODUCTION

Depending on the model purchased, there are 3 major functions that the Fault Finder or Fault Finder / Remote can perform.

1. **VOLTMETER -** Displays the electric fence voltage in kilovolts (kV). 1kV = 1000 volts.

   BENEFIT: *Measuring fence voltage helps determine the effectiveness of the electric fence system.*

2. **CURRENT METER -** Displays the current in (amps) that is flowing through the fence wire.

   BENEFIT: *Measuring the current through the hot fence wire will help locate faults (shorts) in the fence system. Fence shorts reduce fence energizer [shock] effectiveness.*

3. **REMOTE CONTROL** - Allows the user to turn the Energizer on-or-off from any location on the fence. (This unique function is only available in the Fault Finder with "Remote" and only works with remote-ready electric fence Energizers).

   BENEFIT: *Conveniently save time by turning the energizer on-or-off from any location on the fence (through the hot wire).*

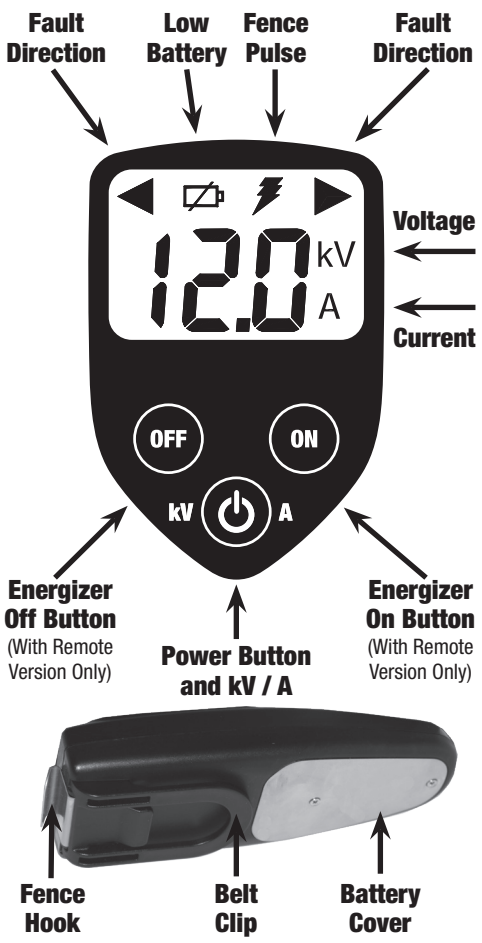
*FAULT FINDER SPECIFICATIONS

- Voltage range - .3 to 18 kV
- Current range - 2 to 150 amps
- Battery - 9 Volt Alkaline

*Specifications are subject to change without notice.

PARTS AND THEIR FUNCTION

IMAGE 1



IMPORTANT: The Fault Finder or Fault Finder / Remote does not have a lighted display and was not designed to work in low light conditions. It is not recommend to install or repair electric fencing in low light conditions.

POWERING THE FAULT FINDER ON-OR-OFF

ON - Press and release the Fault Finder (⏻) power button.

OFF - When turned on, the Fault Finder will automatically turn off in 1 minute if not in use. To turn the Fault Finder off manually, press and hold the (⏻) power button for a few seconds.

MEASURING FENCE VOLTAGE

1. Turn the Fault Finder on.
2. Press the (⏻) power button to toggle between the volt and amp function until the kV symbol is displayed on the right hand side of the display.
3. Firmly hold the Fault Finder with your bare hand (do not wear gloves). Pressing your thumb firmly on top of the Fault Finder, position your fingers to make contact with the metal ground plate (battery cover) on the back. *Since the Fault Finder does not require any additional wires for grounding, the Fault Finder relies on your body for the ground. Therefore, making good contact with the metal ground plate is important* **(See image 2)**.
4. Place the Fault Finder's fence hook onto the fence wire **(See image 3)**. *Each time the energizer pulses, a "lightning bolt" will appear at the top of the display to indicate a fence pulse has been measured. The fence voltage will then be displayed, in kilovolts (kV), at the center of the display.*

   NOTE: If the "lightning bolt" is flashing and voltage reading is "LO", then the voltage being measured by the Fault Finder is below the range of measurement.

If the "lightning bolt" is flashing and voltage reading is "HI", then the voltage being measured by the Fault Finder is above its range of measurement.

IMAGE 2

MEASURING FENCE CURRENT

1. Turn on the Fault Finder.
2. Press the Fault Finder (⏻) power button to toggle between the volt and amp function until the "A" symbol is displayed on the right hand side of the display.
3. Firmly hold the Fault Finder with your bare hand (do not wear gloves). Pressing your thumb firmly on top of the Fault Finder,

position your fingers to make contact with the metal ground plate (battery cover) on the back. *Since the Fault Finder does not require any additional wires for grounding, the Fault Finder relies on your body for the ground. Therefore, making good contact with the metal ground plate is important* **(See image 2)**.

4. Place the Fault Finder's fence hook onto the fence wire **(See image 3)**. *Each time the energizer pulses, a "lightning bolt" will appear on the top of the display to indicate a fence pulse has been measured. The fence current will be displayed, in amps (A), at the center of the display. Above the current reading an arrow pointing to either the left or the right will also be displayed. These arrows indicate the direction of the current flow and will help to locate the faults (shorts) in the fence.*

NOTE: *If the "lightning bolt" is flashing and voltage reading is "LO", then the voltage being measured by the Fault Finder is below the range of measurement.*

If the "lightning bolt" is flashing and voltage reading is "HI", then the voltage being measured by the Fault Finder is above its range of measurement.

The current reading should not be taken if the fault finder is in close proximity to the energizer as it will give inaccurate reading.

TURNING THE ENERGIZER ON-OR-OFF

(FAULT FINDER / REMOTE ONLY)

Please check with the manufacturer as to which Energizer is compatible with the Fault Finder / Remote.

1. Turn on the Fault Finder / Remote.
2. Firmly hold the Fault Finder with your bare hand (do not wear gloves). Pressing your thumb firmly on top of the Fault Finder, position your fingers to make contact with the metal ground plate (battery cover) on the back. *Since the Fault Finder does not require any additional wires for grounding, the Fault Finder relies on your body for the ground. Therefore, making good contact with the metal ground plate is important* **(See image 2)**.
3. Place the Fault Finder's fence hook onto the fence wire **(See image 3)**. *Fence hook to fence wire contact is needed to transmit the on/off signals.*

OFF – press and release the (OFF) OFF button and the display will show "OFF" indicating that a signal was sent to the Energizer. After the signal is sent, the Fault Finder / Remote will return to measuring current or voltage.

ON – press and release the (ON) ON button and the display will show "ON" indicating that a signal was sent to the Energizer. After the signal is sent, the Fault Finder / Remote will return to measuring current or voltage.

IMPORTANT TIPS WHEN USING THE REMOTE FEATURE:

Before removing the Remote from the fence, always check the voltage on the fence to ensure the Energizer received the on-or-off signal. The easiest way to determine if the Energizer is on, is to check the display for the "lightning bolt" indicator.

If the Energizer did not turn on-or-off, ensure that the wire being used to send the signal is not open and is connected to the Energizer's hot wire.

If the hot fence wire being used is rusted or corroded and the Remote will not work, move to a different fence location where the fence wire is not rusted or corroded.

A low battery will reduce the Remote's ability to effectively transit the on-off signal to the energizer. Replace the battery if the battery indicator is shown on the display.

IMAGE 3

SELECTING AND CHANGING THE CHANNEL ON THE FAULT FINDER / REMOTE AND ENERGIZER

(FAULT FINDER / REMOTE ONLY)

By default from the factory the Fault Finder / Remote and the Energizer are both set to channel 1.

It is not necessary to change to a different channel if you do not have multiple Energizers with remote capability next to or on adjacent fences.

To select and change the channel on the Remote and the Energizer:

1. Turn on the Fault Finder / Remote.
2. Hold the Remote next to the Energizer and press the (OFF) OFF button to put the Energizer into standby mode. *See the Energizer's operator manual for details as Energizer models may vary.*
3. Press and hold down the (⏻) power button then press the (OFF) OFF button. The current channel set in the Remote will be displayed. Example "ch1".
4. Press and release the (OFF) OFF button to toggle through the available channels on the Remote.
5. Once the desired channel is displayed on the Remote hold the Remote next to the Energizer and press the (ON) ON button.

The Energizer will now confirm that the new channel has been accepted. "See the Energizer's operator manual for details as Energizer models may vary".

***NOTE:** If changing the channel on the Remote is needed to match the channel on the energizer, perform steps 3 through 5 without holding the Remote next to the energizer.*

WHAT TO KNOW BEFORE LOOKING FOR A FAULT ON YOUR FENCE

It is important to know, when using the Fault Finder for the first time, that a large current reading on the fence does not necessarily mean that there is a critical fault on your fence. The larger the Energizer and the fence that is connected, as well as vegetation on the fence, are all factors that will increase the current reading.

It is recommended to first go around the perimeter of the fence and take voltage readings at various locations to determine the effectiveness of your fence system. If, at various fence locations, you have around 3000 volts or more it is probably not necessary to troubleshoot your fence.

If locations on your fence measure less than 3000 volts (depending on the size of the Energizer), then it is recommended that you troubleshoot your fence. Check the Energizer and grounding system to ensure they are adequate for your electric fence size. If either

the Energizer or the grounding system is insufficient, for your fence size, then correct this before troubleshooting your fence. (Check your fence Energizer manual for details on the Energizer and checking the grounding system).

You should check your ground system 2 times a year, even if the fence seems fine. The ground system is one of the most important aspects of your electric fence system, since it completes the circuit between the hot fence wire, animal contact, and the Energizer.

UNDERSTANDING THE FENCE CURRENT AND VOLTAGE READINGS

To understand how the Fault Finder will help you find a fault on the fence, it is helpful to understand the concept of what you are measuring, as it relates to the effectiveness of your electric fence system.

Let's use a *water hose analogy* to understand your electric fence. Think of the Energizer as a water pump and the electric fence wire as a water hose.

The Fault Finder (amp) reading can be thought of as showing the amount of water leaks in the hose, with small holes (leaks), at various locations along the hose. All fences, even under normal condition, will have small leaks (fence hot to fence ground leaks). Expect a larger fence to show larger current readings since it will naturally have more leaks (faults).

Using a larger Energizer will have more flow and this causes the fence to have bigger leaks (faults). More flow will result in a larger current (amp) reading.

Vegetation on the fence is also a leak and this will also cause a larger current reading. Common leak locations will be grass/weeds in contact with a hot fence wire, tree limbs that are in contact with a hot wire, old cracked insulators, or any other object that comes in contact with both the ground and the hot fence wire.

When you are measuring the current at the beginning of the fence you are measuring all the leaks (faults) in the fence. The farther you go from the Energizer the less the current is on the fence. This is because you are measuring less of the fence total leaks (faults) the farther you walk away.

The voltage reading on the Fault Finder can be thought of as the amount of water in the hose. This is why the more leaks (faults) there are, the lower voltage reading.

This is the reason why fence voltage can be less as you go farther from the Energizer. The less the voltage is on the fence is a result of all the small leaks. (There is less and less water in the hose.)

HOW DO YOU USE THE READING TO FIND A FAULT ON THE FENCE?

2 TYPES OF FENCE CONFIGURATIONS

Fence does not loop back to the Energizer - When using the Fault Finder in a non-looping fence **(See example A or B)**, the current arrow direction is not needed to determine the location of the fault, and can be ignored.

Fence loops back to the Energizer - When using the Fault Finder with a fence that loops back to the Energizer **(See example C)**, the current arrows are used to determine the location of the fault.

In normal conditions, as you test along a fence with no loops or faults, the fence current will decrease the farther you are from the Energizer **(See example A)**.

If you have a fence with one or more major faults, as you test along the fence there will be excess amounts of current on the fence. As you pass the point of the fault, the current will rapidly drop. At this point simply go backwards on the fence and find the exact point, where, on each side, there is the large change in current. This is where your fault is located **(See example B)**.

With a fence with loops and faults, as you test along the fence the current will point in the direction of the current and as you pass

the point of the fault the current direction will change. At this point simply go backwards on the fence and find the exact point, where, on each side, there is a change in the direction of the current. This is where your fault is located.

REPLACING THE BATTERY

When the (▭) *low battery*

symbol appears on the display it is time to replace the 9 volt battery. For longer battery life it is recommend using a 9 volt alkaline type battery.

1. Remove the battery cover by unscrewing the 2 screws on the bottom/back metal piece of the Fault Finder. *It's recommended you do this over a table so you do not lose the 2 small battery cover screws.*

2. Remove the old battery and replace it with the new battery. *When replacing the new battery check the polarity as shown in the battery compartment to ensure the battery is connected correctly. If you must force the battery then the polarity is most likely reversed.*
3. Put the battery cover back in place and carefully screw in the 2 screws. ***Tighten the screws but don't apply excessive force to prevent stripping the screw.***

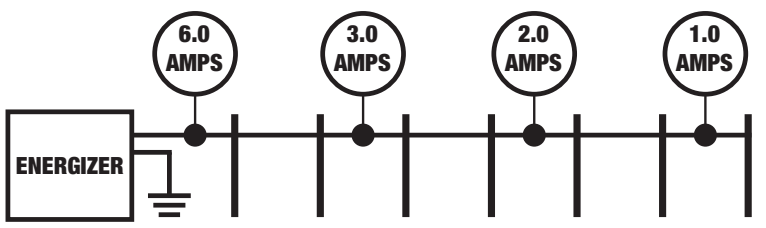
CARING FOR THE FAULT FINDER / REMOTE

- Do not leave the Fault Finder in direct sunlight, for instance on the dash of a vehicle. The

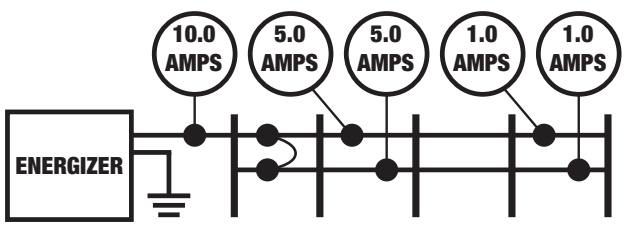
extreme heat may damage the Fault Finder.

- Use only a damp cloth to clean the Fault Finder.
- Your Fault Finder is water resistant not water proof. Avoid submerging the Fault Finder in water.
- Remove the battery if the Fault Finder is not being used for an extended period of time. This will prevent damage to the Fault Finder from battery leakage.

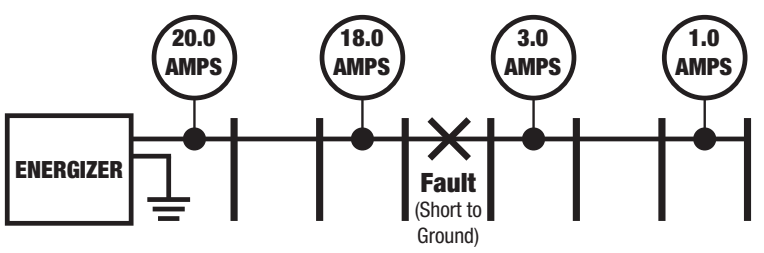
EXAMPLE A - NON-LOOPING FENCE WITHOUT FAULTS



EXAMPLE A - NON-LOOPING FENCE WITH CURRENT SHARED THROUGH BOTH WIRES



EXAMPLE B - FENCE WITH ONE OR MORE MAJOR FAULTS



EXAMPLE C - FENCE LOOPS BACK TO ENERGIZER