

Fence Hawk™ RG-7781



USER GUIDE

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Introduction :

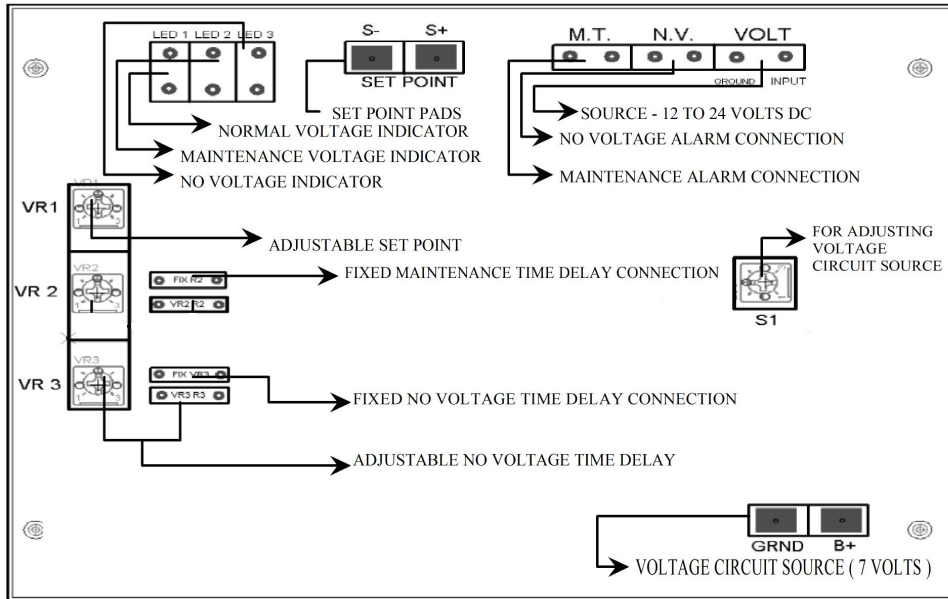
This manual covers information about the high voltage sensor, Fence Hawk Model RG-7781, and how to install and use the sensor. It has easy-to-follow diagrams for your convenience. For more information feel free to contact either your dealer where you purchased this product, or contact us directly at engineering@IntelligentFence.com.

NOTE: PLEASE READ ALL INSTRUCTIONS AND EXPLANATIONS IN THIS MANUAL BEFORE YOU START TO INSTALL YOUR RG-7781 SENSOR.

About the RG-7781 sensor:

The RG-7781 high voltage sensor and alarm is designed for the purpose of continuous monitoring the operational condition of an electric fence. The circuitry involved takes minimal current and provides an extremely stable and reliable operating system that is highly resistant to transient and stray voltages from lightning and other sources.

CIRCUIT GUIDE



POINTS TO REMEMBER:

SET POINT – The voltage level where the sensor determines if a drop of voltage on the fence requires maintenance. Once the voltage on the fence falls below the set point value the yellow LED indicator lights up and the Maintenance Alarm contact closes. To adjust the set point value, use a voltmeter to determine the value. Set the voltmeter to DC volts and put its probes on the set point pads while adjusting the VR1 to the desired value. Set point pads are located on the circuit board. (see circuit guide diagram on pg. 3).

HIGH VOLTAGE VALUE	SET POINT VALUE	HIGH VOLTAGE VALUE	SET POINT VALUE
10,000 volts	4.2 volts	5,000 volts	2.1 volts
9,000 volts	3.8 volts	4,000 volts	1.7 volts
8,000 volts	3.4 volts	3,000 volts	1.2 volts
7,000 volts	2.9 volts	2,000 volts	0.8 volts
6,000 volts	2.5 volts	1,000 volts	0.4 volts

LED INDICATORS - Indicates the voltage condition of the fence.

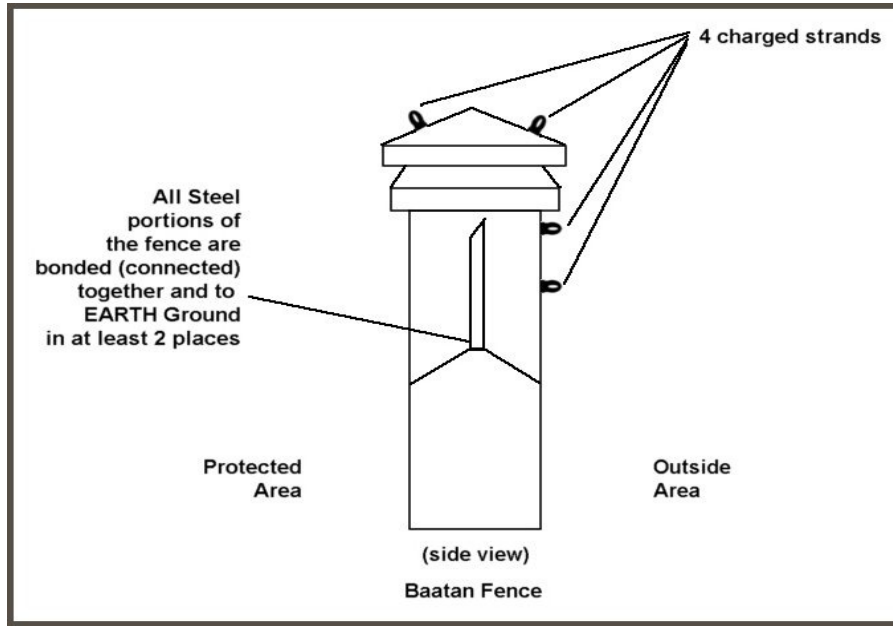
VOLTAGE CIRCUIT SOURCE – This should always be maintained at 7 volts. (Factory preset). Use the S1 trimmer to adjust the circuit source value. Use a voltmeter, put its terminals on the pads for circuit source to determine value (see circuit guide diagram pg. 3).

VR1 – Used to adjust the set point value (factory preset at 2.5V).

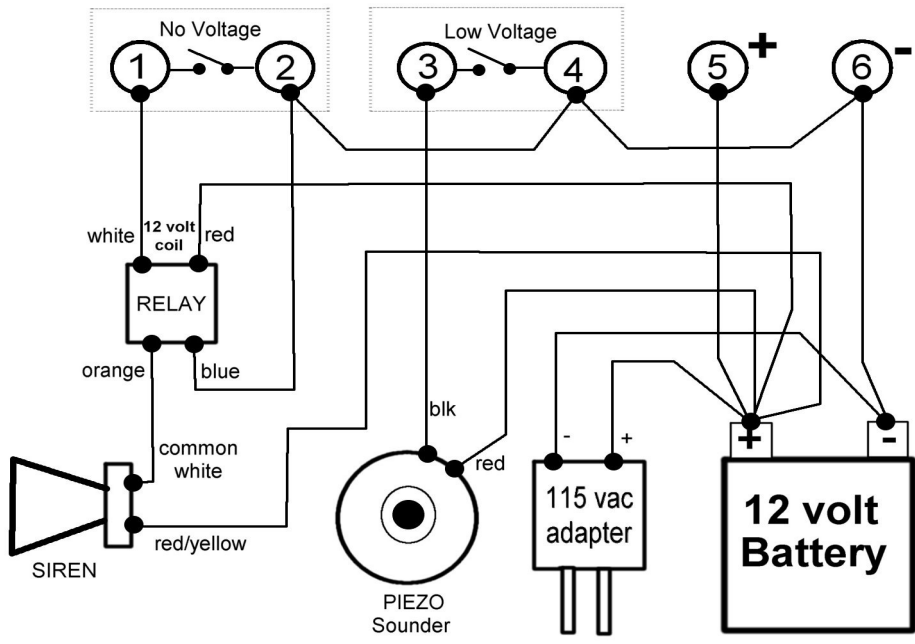
VR3 – Used to adjust the No Voltage alarm time delay (see circuit guide diagram pg. 3).

S1 – Used to adjust the circuit source voltage (factory preset).

When attaching the wire to a concrete post, use insulators.



Suggested Alarm Device Wiring to Fence Hawk™ RG-7781



The Fence Hawk RG-7781 can be used in many applications as the interface between an electric fence and a variety of other devices. We have interfaced thousands of watts of lighting with sirens, bells and whistles.

The Fence Hawk is also a natural interface to computers with addressable modules.

Ex: Hundreds of fence sections monitored by hundreds of Fence Hawks, all of the contacts going to addressable modules, all connected with a single twisted pair, plus a low voltage power pair. This all went to a map display for the perimeter security of an international airport, for instant status of the fence sections, gates and other openings.

The Fence Hawk is also a natural interface to any Standard Security Control Panel. It can be powered directly and connected directly to the Security Panel, which makes it extremely flexible and usable, limited only by your imagination.

Please refer to these websites for more information:

<http://IntelligentFencing.com>

<http://ElectricFenceAlarm.com>

<http://HVAlarm.com>

If you are having problems, please write us at engineering@IntelligentFencing.com or call us at +1-813-315-8082

The "Maintenance Set-Point" can be used two ways. You can determine the actual High Voltage pulse value on your fence system. With everything connected and the Fence Energizer turned on, you slowly turn the Set-Point trimmer until the Green light stops flashing. The Yellow light will come on in approximately 100 seconds. Measure the Set-Point Voltage with a digital voltmeter (high impedance input) and compare the voltage with the Set-Point table. This will tell you very closely what your actual pulse voltage is.

The Set-Point voltage is set at the factory to approximately 2.5 volts, which corresponds to 6,000 volts. If this is too high for your Fence Energizer, adjust the Set-Point trimmer to a level that is slightly less your Fence Energizer Pulse Voltage. We usually recommend at least a thousand volts less the high voltage pulse. **(VR1)**

NOTE: The B+ voltage should be set to 7.0 volts and is adjusted by the voltage trimmer. **(S1)**

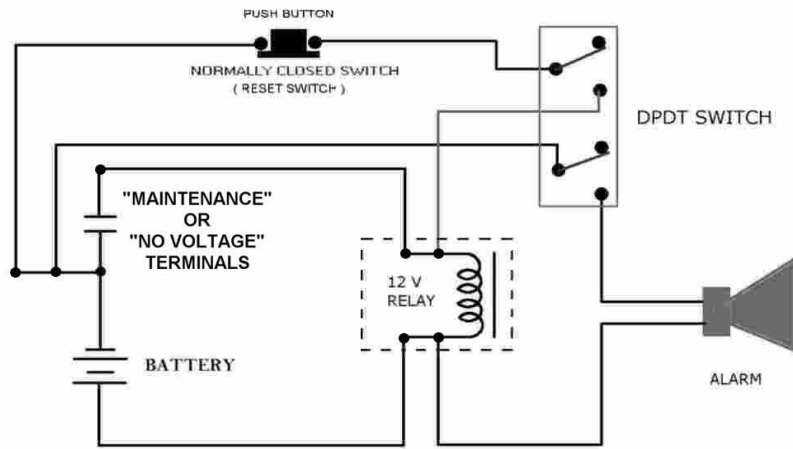
One to two thousand volts less than the actual fence voltage pulse will alert you to maintenance and cleaning problems before the problems become severe enough to compromise the security of your fence.

The actual high voltage pulsed value will vary from fence to fence, even with the same fence energizer. Most fence energizers depend on the capacitance of the fence, with earth, to boost their pulsed output.

One would expect that the actual pulsed voltage of the Fence Energizer to be the rated voltage, however, that pulse value is under “ideal” fence and ground conditions. It will be close to the rated voltage, but can easily vary by one to two thousand volts, almost always a lesser voltage. That is one of the functions of the adjustable “Set-Point.”

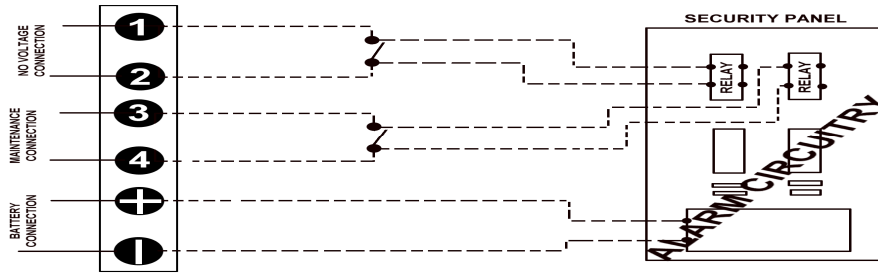
CAUTION: Always use a high impedance meter to measure these voltages, such as a digital meter.

SUGGESTED LATCHING RELAY DIAGRAM :

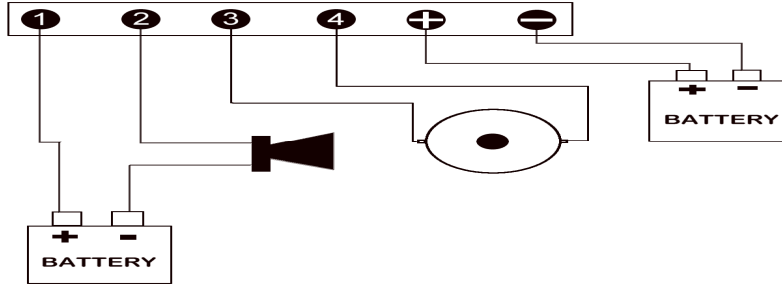


**NOTE: ALARM WILL CONTINUE UNTIL RESET BUTTON IS PUSHED.
" THIS IS A SUGGESTED CONNECTION FOR PUTTING A LATCH ON THE ALARM"**

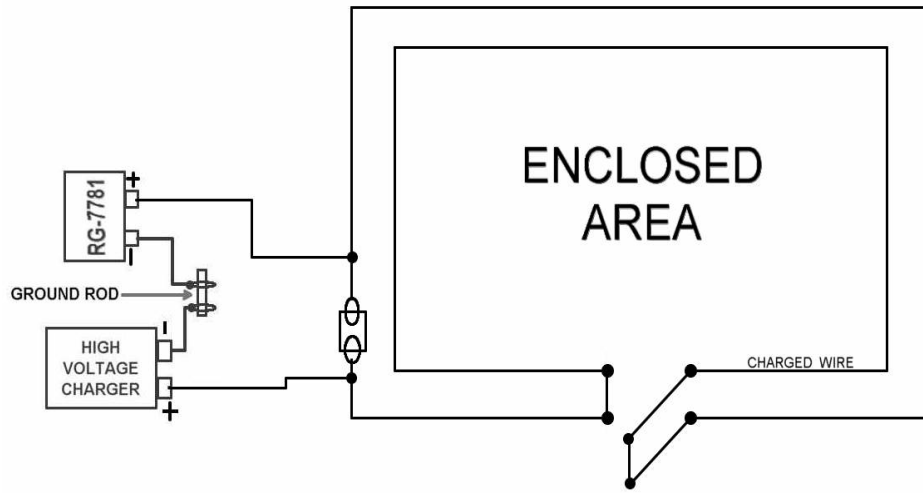
CONNECTIONS FROM THE RG-7781 TO A STANDARD SECURITY PANEL



DEVICES LESS THAN 0.5 AMP.



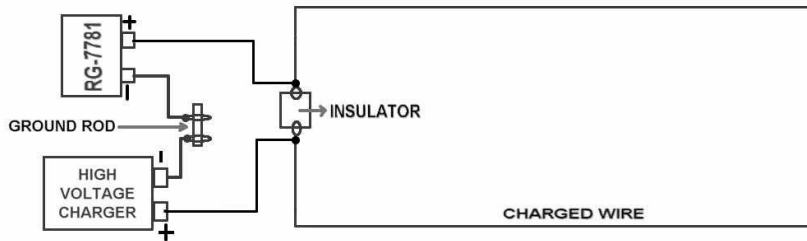
Multi Wire Fence :



Installing the RG-7781 in a multi-wire fence is same as a single wire fence, as in the above diagram. This illustrates installation with one gate opening.

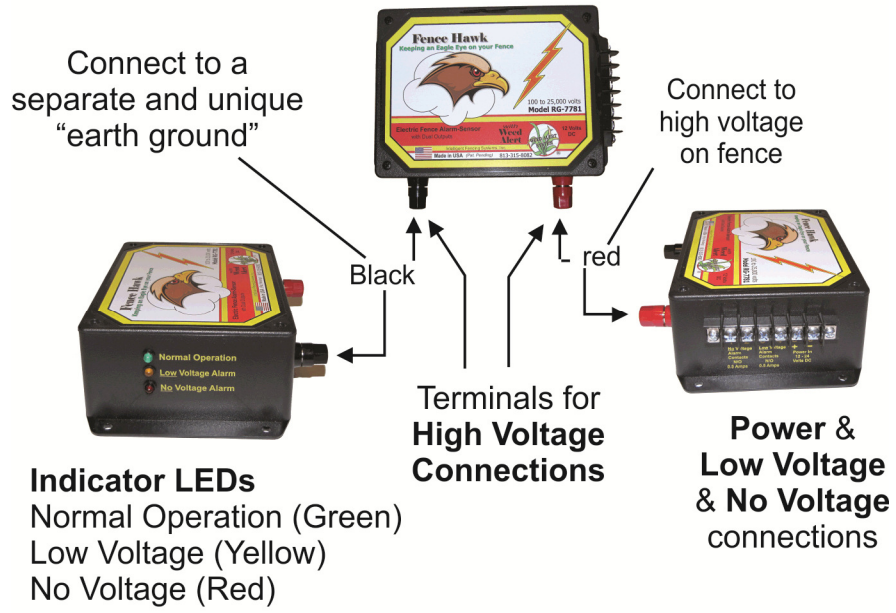
INSTALLING THE FENCE HAWK™ RG-7781

SINGLE WIRE FENCE :



Installing RG-7781 in a single wire fence, use an insulator to divide the charged wire. Connect the trailing end of the fence wire to the positive terminal of RG-7781, while the leading end of the fence wire is connected to the positive terminal of the high voltage charger. Both ground terminals of RG-7781 and high voltage charger should be connected to the ground rod. Please refer to above diagram.

Knowing the RG-7781 Fence Hawk™



How the Fence Hawk™ RG-7781 works :

One of the main problems of an electric fence is maintaining the voltage on the fence when foliage is touching the charged wires - like weeds, branches, grass, etc. - which can cause a partial short. It can lower the voltage on the fence to the point where it is no longer effective. A worse condition exists when if the charged wires are completely broken or shorted and NO VOLTAGE exists on the fence. It may take the owner days, or weeks, to realize that the fence is not functioning.

The main objective of the Fence Hawk™ is to monitor the condition of a high voltage electric fence by sensing the voltage level that is present on the electric fence. The patent-pending “state of the art” circuitry has LED indicators that indicate the voltage level on the electric fence. It becomes an effective warning or alarm device by connecting sirens, buzzers or other indicators to the RG-7781. Besides normal operation there are two alert indicators on the RG-7781. When the voltage on the fence goes low and it's time for maintenance (Yellow), or when there's no voltage at all on the fence (Red). The sensor is equipped with time delay functions to minimize false alarm warnings.

Properly installed, the RG-7781 is an ideal companion device to any electric fence installation

IMPORTANT INFORMATION

Read and understand the manual thoroughly.

Understand and follow diagrams correctly.

Do not reverse the wires when installing the sensor.

Always refer to the diagrams to avoid damaging the sensor.

If you have difficulty installing the sensor

please email or call us with your problem.

Important: Avoid installing the sensor underwater.

1 YEAR LIMITED WARRANTY AS FOLLOWS:

Intelligent Fencing Systems, Inc. warrants to the purchaser for a period of **One year** from the date of purchase that the RG-7781 will remain free from all manufacturing and operational defects, including damage by lightning.

Intelligent Fencing Systems, Inc. **will repair or replace the sensor, at its option, at no charge to the purchaser, provided the sensor is returned securely packaged, and accompanied by a photocopy of the bill of sale within the (1) year.**