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Setup & Operating Instructions: Fence Hawk

Fence Hawk

Typical Use:

This unit is designed for use in a pasture and/or farm environment, where the function of this fence voltage monitor is just that, to ensure the continuous existence of the high voltage on the fence. The Fence Hawk "smart" circuitry eliminates false alarms from lightning, EMP's, utility voltage variations, and many other causes of false alarms that occur with other fence voltage monitors.

When all the fence conditions are met and correct, **LED3** will flash with each valid fence voltage pulse that is at, or higher than the fence voltage that you have set as the minimum working voltage for your fence.

A Remote Voltage Sensor is part of and included with all Fence Hawks. The voltage sensor is mounted directly on the fence and connected to the Fence Hawk with a single twisted pair (telephone wire). The unit is sealed and the connecting screws and nuts are stainless steel.

The red wire connection at one end that stands apart from the other two wires is to be connected to the high voltage wire on your fence. The opposite wire on the other end which is usually white or green is to be connected to ground (preferable earth ground). The middle wire is your fence voltage signal wire and the actual voltage on this wire is between 10 to 20 volts. The signal is taken between the middle wire and the ground wire.

The Remote Voltage Sensor is connected to the Fence Hawk with a simple twisted pair of low voltage wire (ex: telephone wire) that is 26 gage wire or larger. We use an 18 gage twisted pair on the longer distance separations. Depending on the distance between the voltage sensor mounted on your fence and the Fence Hawk unit which can be located from 0 to 2-3 hundred meters/yards away from the voltage sensor hanging on your fence.

The actual working distance between the fence voltage sensor and the Fence Hawk will determine the wire gage of the twisted pair of connecting conductors. Rule of thumb is that bigger is better. The actual pulse voltage that is carried by this pair will range from 5 to 15 volts and cannot be seen or measured by any ordinary voltmeter,

Fence Hawk Connections:

The connection to the Fence Hawk from the Remote Voltage Sensor via a twisted pair, and is through **IO1** (Fence Voltage in) and **IO2. IO2** is common ground and should be connected to a good earth ground. The fence charger output negative should also be connected to an earth ground.

Power is supplied to the Fence Hawk where **IO3** is the 12 volts DC plus (positive) connection. **IO4** is ground, or 12 volts DC minus connection. **IO4** is internally connected to and common with **IO2**. **NOTE:** Whether you are using utility power or not, a battery is always recommended to be part of the input power. Besides providing backup power, the battery acts as a voltage conditioner, and will eliminate unwanted pulses and surges that have managed to get through your voltage conditioner and may give "false alarms".

The Fence Hawk is designed to be powered by a 12 volt, gel cell or battery and will draw about 15 milli-amps (0.015 amps at 12vdc). A 4 amp-hour sealed battery will energize your fence for about 3 days without recharging. The protective circuitry allows the Fence Hawk to operate with an input DC voltage of 10vdc to 14vdc drawing 0.015 amps.

IO5 and **IO6** are both sides of the output relay, normally open contacts, so when the fence high voltage drops to a preset unacceptable level, the relay activates and these two (2) contacts close and are connected to any device you wish to use. These relay contacts are rated at 500 milli-amps (0.5 amps) at 30 volts DC. If you are switching more voltage and power that this rating, a power relay should be used.

VR1

This voltage adjustment setting is usually set for the minimum voltage level that works with your system and usage needs.

This adjustment will determine the minimum voltage on your fence before you are alerted to clean or repair your fence. By increasing this adjustment until LED3 stops flashing will also determine the actual fence voltage.

(see **VR1** adjustment under the Fence Hawk Plus adjustment instructions.)

When the fence voltage becomes less than your adjusted minimum voltage, and depending on the delay (adjustable from 5 seconds up to 60 plus seconds see:) the Fence Hawk will close output contacts IO5 and IO6. This action combined with the "smart" circuitry eliminates literally 99.9 percent of false alarms generated from any source or reason.

VR2

This adjustment varies the time delay before activating the output relay contacts. This delay can be varied to over a minute. A minute delay will allow blowing weeds and foliage that will reduce the fence voltage momentarily to clear and pretty much eliminate the false alarms ensue from the wind.

When the fence voltage drops below the minimum voltage that you set with **VR1**, this adjustment will determine the time delay before the unit will go into alarm.

Please contact us directly if you have questions or comments.