

## SPECIFICATIONS & FEATURES

### Physical / Mechanical:

<b>Size</b>	11.5" H x 5" W x 3.75" D with hook attached
<b>Weight</b>	1.5 pounds
<b>Probe Attachment</b>	1/4-20 UNC threaded connection
<b>Hot Stick Attachment</b>	Slotted fitting designed to mate with standard "universal" fittings.
<b>Switch</b>	Single push button "ON" with automatic OFF
<b>Probe</b>	2" dia. hook

### Electrical:

<b>Power Source</b>	9 volt battery
<b>Power Drain</b>	16 milliamperes
<b>Output</b>	1st Stage - 95 db 2800 hz audio indicator and 4 635 nm red 150 mcd LEDs operating at 72 cycles per minute, 50% duty cycle

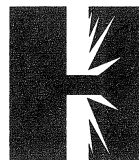
2nd, 3rd and 4th Stage  
each have 4 635 nm red  
150 mcd LEDs. Stage 2  
and 4 flash alternately with  
1 and 3.

All output components  
are recessed in the hous-  
ing for better detection by  
the user.

### VOLTAGE THRESHOLD POINTS

1st Stage	600* Volts
2nd Stage	2,000* Volts
3rd Stage	7,000* Volts
4th Stage	11,000* Volts

\*Line construction will  
affect these values.  
See instructions for  
details.



## HLS-5 INSTRUCTIONS

Cat. No. 6701

Patent No., 5075620



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# INSTRUCTIONS

## WARNING

**This unit must be used in conjunction with an approved insulated stick. Failure to do so could result in injury or death.**

The HLS-5 should be mounted on a universal stick of an appropriate length to allow contact to be made between the HLS-5 and the conductor. The stick must be long enough to meet OSHA and your utility's clearance requirements. The HLS-5 should be considered conductive.

After mounting to the stick with the appropriate probe attached, the unit should be activated by pressing the push button switch. All lights and the audio indicator should operate for a few seconds and then cycle off leaving only the green pilot lamp lit. The unit will shut off automatically after eight minutes of inactivity. This will be indicated by the pilot lamp turning off. Pressing the button again before the pilot lamp turns off will reset the eight minute timer but will not re-activate the test circuit. If the HLS-5 senses an energized line while the green pilot light is on it automatically resets the eight minute timer.

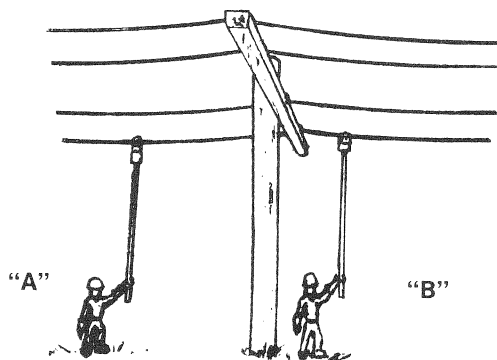
As the unit is moved toward the line and before contact is made, the first lights and audio indicator may come on. This first stage is set at approximately 600 volts and would then be indicating the electric field at that location exceeds that of an electric field immediately around a 600 volt line.

As the field gets stronger, additional sets of lights will be activated. The highest sensitivity (strongest field) is achieved when the unit's probe is in contact with the conductor, therefore, **always engage the conductor with the probe.**

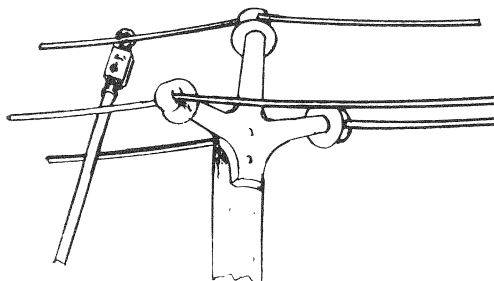
Nominal voltage calibration for the unit is 600, 2,000, 7,000 and 11,000 volts (line to ground).

If the unit is applied to one conductor of an energized 12.470 kV phase to phase system, the first three banks of lights will light indicating the line to ground voltage is more than 7,000 and less than 11,000 volts (actual voltage is 7,200 phase to ground). Should only one set of lights come on, the field is greater than that of a 600 volt line

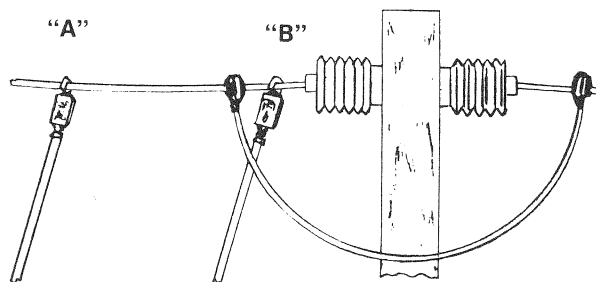
The further the HLS-5 is from all other lines and equipment, the more accurate the reading.



Position A would be more accurate than B due to closeness of a pole and hardware.



Close conductor spacing will cause a higher than normal reading.



Position "A" would give an accurate indication, while "B" would give a **lower** than normal reading.

but less than that of a 2,000 volt line. This would indicate that there is a voltage present but it is less than system voltage. **Induced voltages on lines can present the same hazards to workers as energized lines. All lines regardless of the indication should be treated as energized until grounded.**

Because the HLS-5 measures electric field strength, it will be affected by its location in relation to other lines, poles, hardware, etc. It is possible, in tight construction, to get an indication higher than actual voltage; i.e., three sets of lights instead of two on a 7.2 kV phase to phase (4160 phase to ground) system. See sketch #1 and #2.

It is also possible to get a lower reading if the unit is placed in or surrounded by hardware energized by the same potential as in sketch #3. This indication should be much lower or indicate no voltage, and, therefore **must be avoided. Always check 2 or more positions on the conductor being tested to verify location is not affecting the reading.** The further the HLS-5 is from all other lines and equipment, the more accurate the reading. See sketch #1.

After completing the test of the conductor, the HLS-5 should be disconnected from the line and checked to verify the pilot light is still lit. If it is not, all indications of de-energized line conditions should be verified by re-activating the HLS-5 and repeating the above test procedure.

If the LEDs fail to light or the green "ON" indicator doesn't remain on after the unit is switched on, replace the battery and then retest the unit.