

AC NON-CONTACT VOLTAGE DETECTOR
CODE 946 **LEVEL 1**

This is an AC non-contact voltage detector circuit for checking any electrical wire to find out if there is any voltage or not. If there is voltage, the LED will be blinking or lighted on. It is very easy to notice, just place the circuit close to the electrical wire.

Technical Specifications:

- Power supply : 9VDC.
- Consumption : 4mA. (working), 1.2mA. (standby)
- Distance of detector : 1 cm.
- LED indicator.
- PCB dimensions : 2.31 x 1.29 in.

How to Work:

The circuit diagram is shown in Figure 1. When LOOP SENSOR is detected the AC voltage at electric wire, the AC signal form AC voltage into T point, then TR1 will amplify this signal and TR2 will amplify again, causing TR3 toggle on and off in accordance with the AC signal. LED1 will blink.

Circuit Assembling:

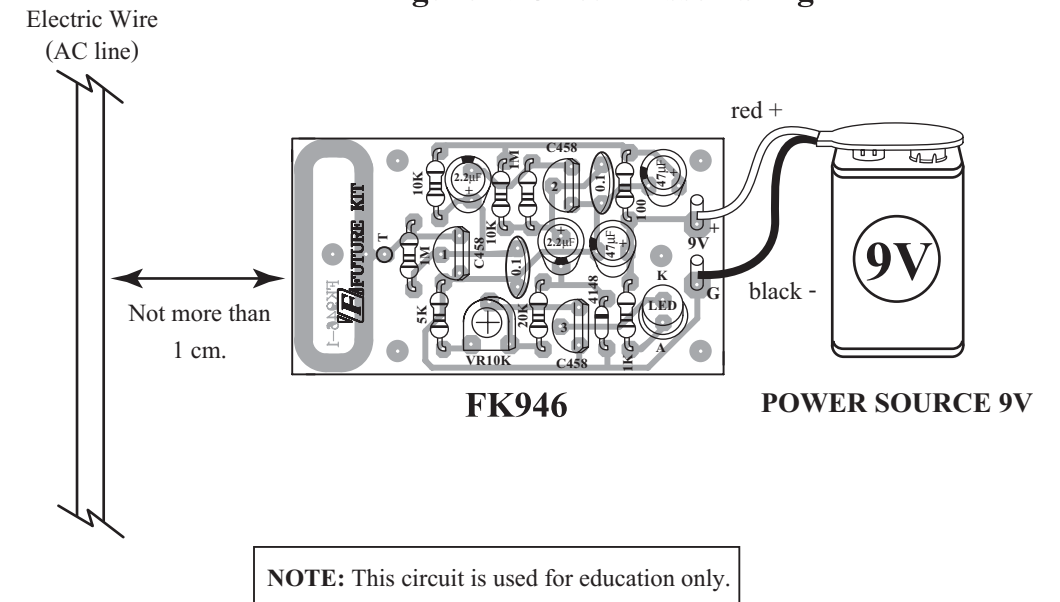
External connecting and fitting of components are shown in Figure 2. It is recommended to assemble the circuit starting with a lower component first i.e. diodes, resistor, electrolyte capacitors and transistors etc. Be careful while assembling and check for the matching of PCB poles and components before soldering as shown in Figure 3. Use a max. 40W. solder and soldering lead with a tin and lead ratio of 60/40 together with a joint solution inside. Recheck the assembled circuit for your own assurance. Better using a lead sucker or a lead wire absorber in case of misplacing component to protect PCB from damage.

Testing:

Supply 9VDC to the circuit that having connected positive pole to position +9V and negative one to position G. Adjust VR1 to middle point and then take the loop sensor to electric wire closely. LED1 will be blinking. When take the loop sensor far from electric wire, LED1 will be lighted off.

For VR1 is used for adjusting sensitivity of detecting. If the sensitivity decrease, adjust to right hand side but the sensitivity increase, adjust to left hand side.

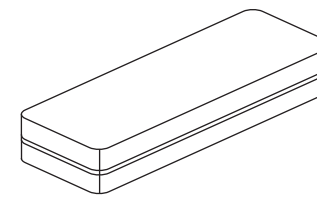
Figure 2. Circuit Assembling



NO.1

Troubleshooting:

As the circuit has only a few components, the main cause of troubles will come from component misplacing and defaulted soldering. When found out that the circuit does not work, check for the proper component placings and various soldering points.



NOTE:
FUTURE BOX FB02 is suitable for this kit.

Figure 3. Components Installing

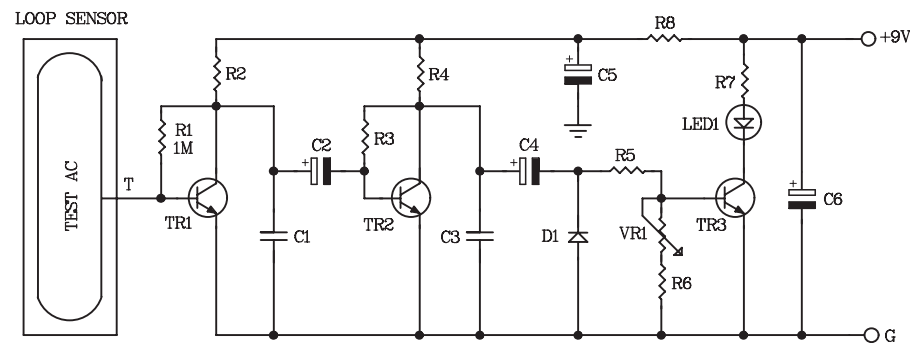
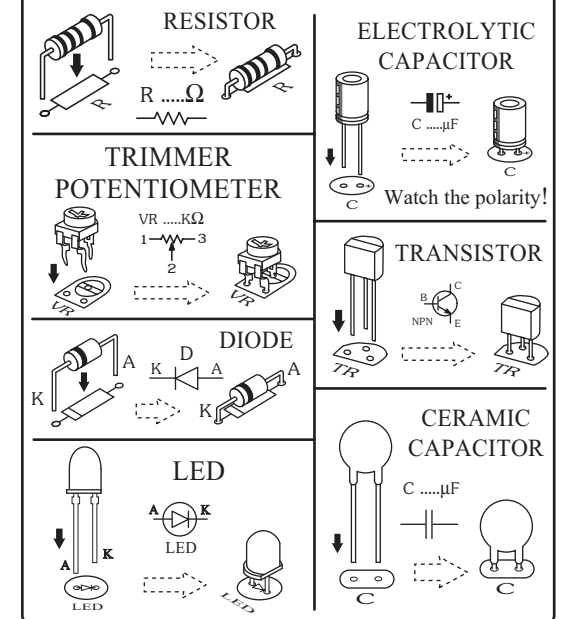


Figure 1. AC Non-Contact Voltage Detector Circuit