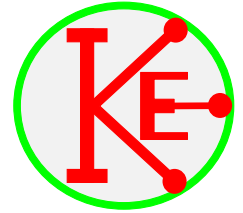


# Continuity tester



A Continuity tester determines whether a material is:

- a good conductor of electricity
- a poor conductor of electricity
- an insulator (does not conduct electricity).

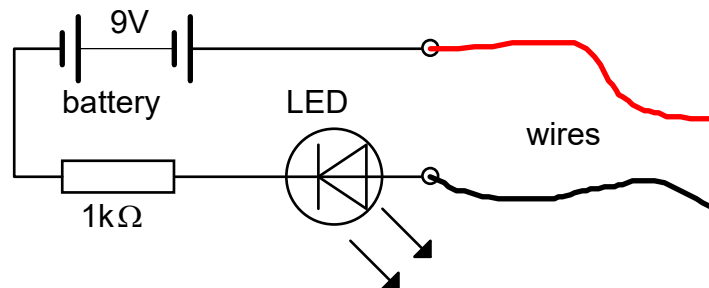
It works by trying to pass a small electric current through the material.

A good conductor lights the LED brightly, a poor conductor lights the LED dimly.

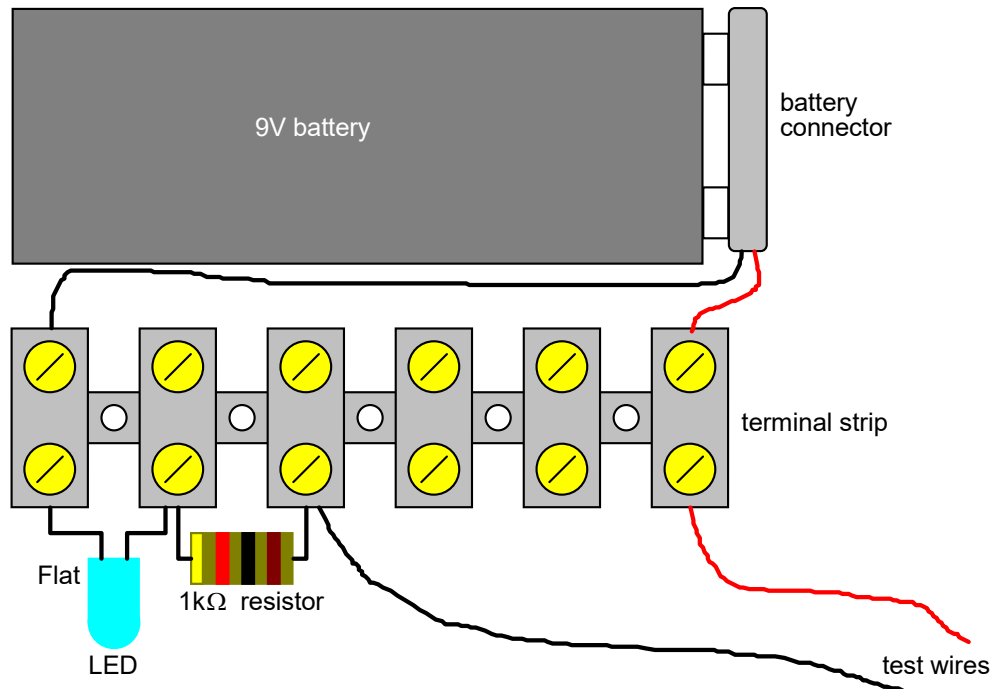
The LED does not light if the material is an insulator.

It can be used to test wires, cables, headphones, fuses as well as electronic components like LEDs, diodes, capacitors, transistors etc. It can also be used to check for damp and when potted plants need watering.

## Circuit diagram

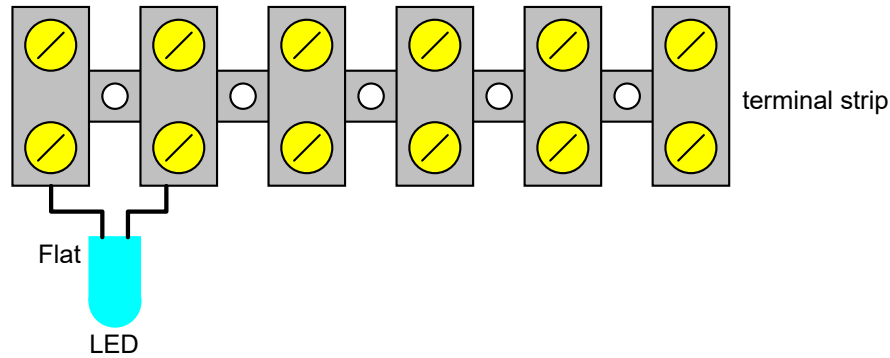


## Terminal strip layout

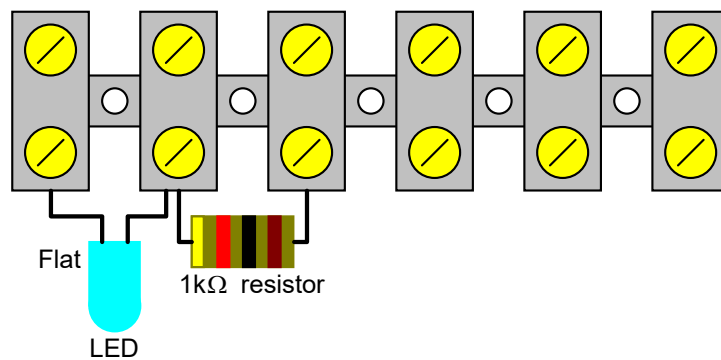


**Step by step construction**

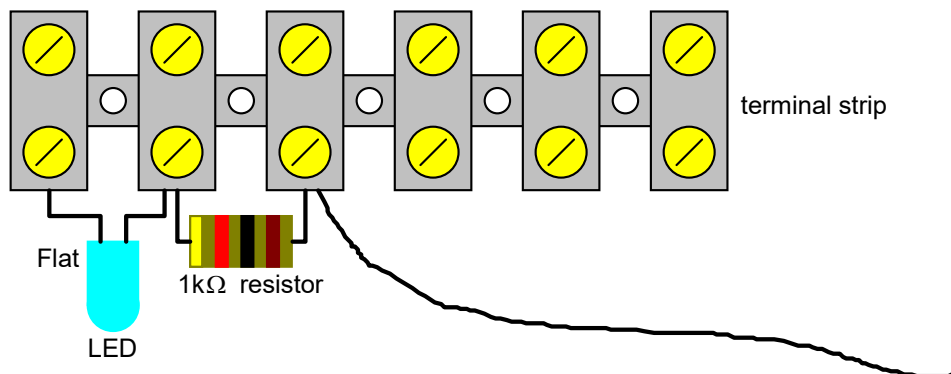
- 1). Take the LED and find the side which is flat.  
Carefully bend the leads so that it will fit into the terminal strip.  
You may need to loosen the screws first.  
Make sure that the flat is at the end of the terminal strip.  
Carefully tighten the screw at the end.



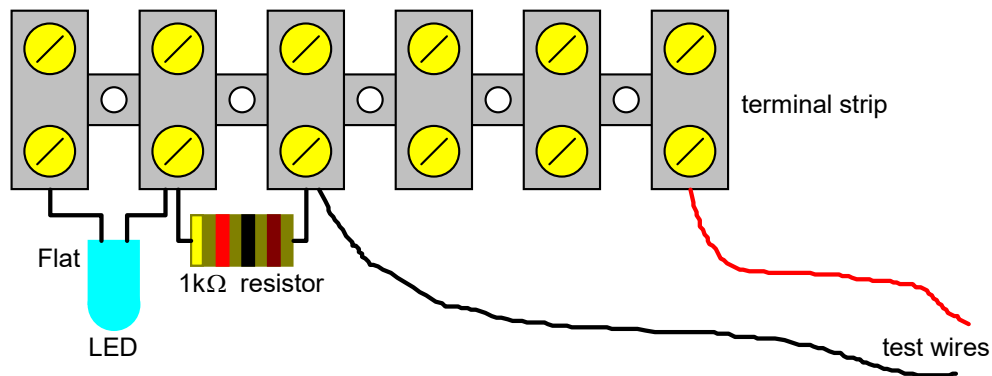
- 2). Take the 1k $\Omega$  resistor (brown, black, red gold).  
Carefully bend the leads so that it will fit into the terminal strip as below  
Carefully tighten the second screw.



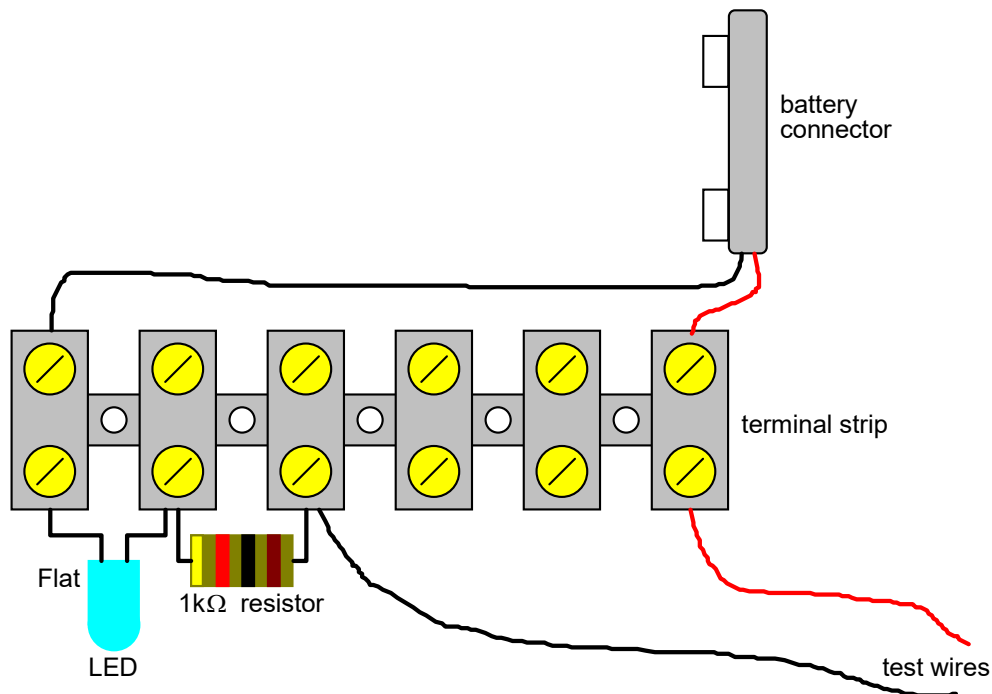
- 3). Take the black test wire and fit it to the terminal strip as below.  
Carefully tighten the third screw.



- 4). Take the red test wire and fit it to the terminal strip as below.  
Carefully tighten the screw.



- 5). Take the battery connector and fit the black and red wires to the terminal strip as below.  
Carefully tighten the screws.



- 6). Connect the battery to the battery connector.  
Touch the test wires together.  
If the LED does not light, check for wiring faults or screws not tightened.  
If the LED does light, fix the terminal strip to the battery with Blu-tac.

## USE

To test a material or device, first touch the ends of the test wires together to check that the LED lights and that the tester is working. Then touch the end of the test wires onto the material. A good conductor lights the LED brightly, a poor conductor lights the LED dimly. The LED does not light if the material is an insulator.