

WATER CHECKER
CODE 944

LEVEL 1

This water checker circuit is the basic water tester by probing and displaying with LED. This circuit uses the 9V battery.

Technical Specifications:

- Power supply : 9VDC.
- Consumption : 8mA. (Stand by) and 21mA. (working).

- LED level indication : 8 LEDs.
- LED operate indication.
- Level adjust : 3 Level.
- PCB dimensions : 2.78 x 1.79 in.

How to Work:

When supply voltage to the circuits (shown in Figure 1), LED POWER light is on and then the voltage will step-down to 5.1 volts by zener diode ZD1 and this voltage to supply the circuit.

Normally, water has different resistance thus when measuring the water by probe, the voltage will feed to the water. If the water has a little resistance, the most voltage is fed to the water but if the water has many resistances, the little voltage is fed to the water. This voltage is compared by IC1 and IC2 causing LED light is on following the input voltage. For switch SW is for adjusting the level of LED.

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 i.e. diodes, resistor, electrolite 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:

Connect the component following Figure 2. Supply the power supply to the circuit, LED POWER light is on. Slide switch SW to position "1". Take the probe to the water, LED1 to LED8 will display following the resistance of water. If some LED light is on, slide switch SW to position "2" and "3" (normally, at position "1", the water supply is displaying 9 LEDs and the water filter is displaying 1 LEDs).

Note: This water checker is a basic measurer only.

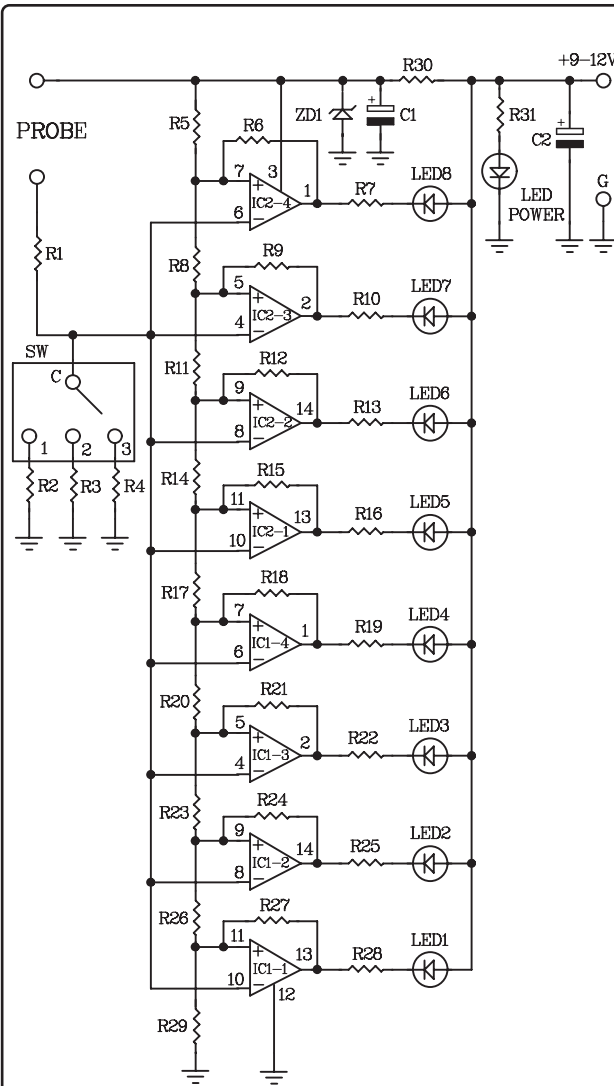


Figure 1. Water Checker Circuit

Figure 2. Circuit Assembling

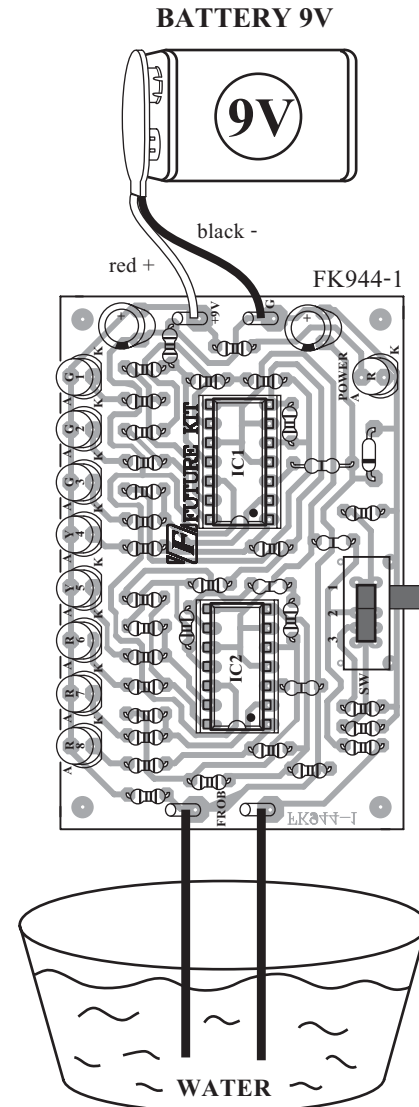
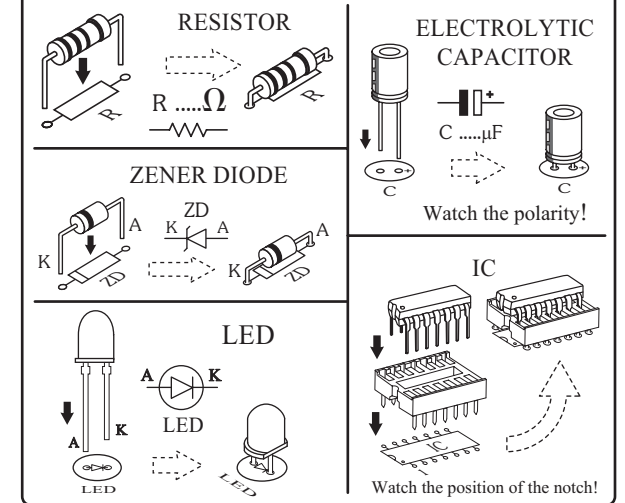
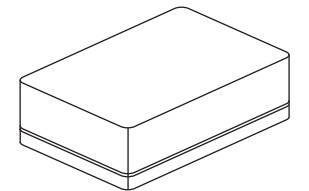


Figure 3. Components Installing



Troubleshooting:

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



NOTE:

FUTURE BOX FB03 is suitable for this kit.