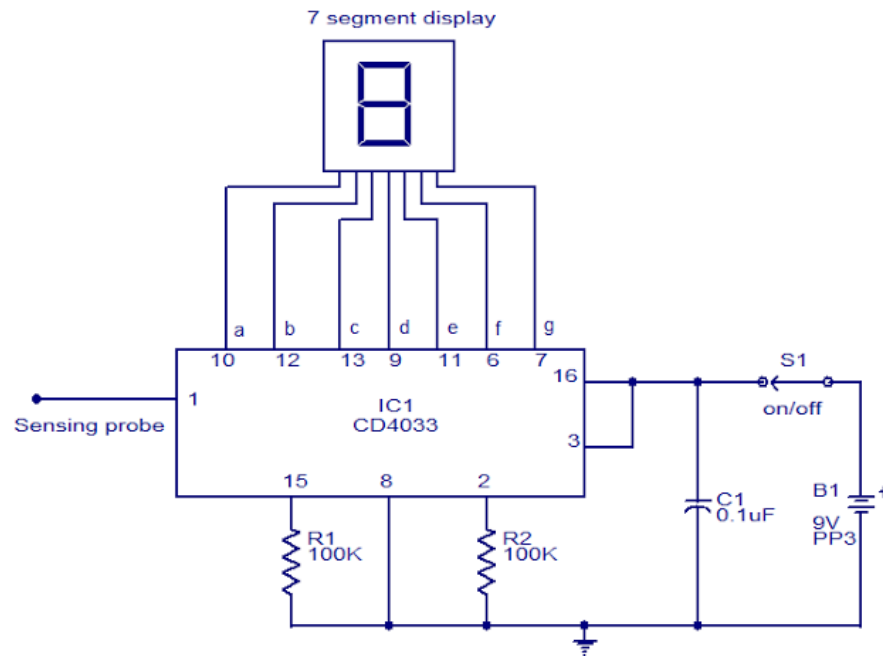


TEST MAINS VOLTAGE WIRELESS

Description.

This circuit can be used to test whether mains voltage is present or not without having electric contact with mains line. The CMOS IC CD4033 is the heart of this circuit. The CD4033 consists of a 5 stage decade Johnson counter and an output decoder for converting the Johnson code to a 7 segment decoded output for driving 7 segment LED display. A 10cm long insulated copper wire connected to the clock pin (pin1) of the IC serves as the sensor. The sensor wire has to be placed in the vicinity of the mains wire to be tested. When there is no voltage in the mains line, no voltage will be induced in the sensor wire and the display will show a random digit. When there is voltage in the mains line, a small voltage will be induced in the sensor wire due to electromagnetic induction and this voltage is sufficient enough to clock the CMOS IC CD4033. Now the display will count from zero to nine and repeat.

Circuit diagram.



Notes.

- ♣ The circuit can be assembled on a Vero board.
- ♣ Use 9V PP3 battery for powering the circuit.
- ♣ Use a 10cm insulated wire as the sensor.
- ♣ The IC must be mounted on a holder.
- ♣ Switch S1 can be a miniature ON/OFF switch.

Source : <http://todayscircuits.blogspot.com/2013/09/tc-test-mains-voltage-wireless.html#.VUCOHdKqqko>