BLOWN FUSE INDICATOR

Generally, when an equipment indicates no power, the cause may be just a blown fuse. Here is a circuit that shows the condition of fuse through LEDs. This compact circuit is very useful and reliable. It uses very few components, which makes it inexpensive too.

Under normal conditions (when fuse is alright), voltage drop in first arm is 2V + (2 x 0.7V) = 3.4V, whereas in second arm it is only 2V. So current flows through the second arm, i.e. through the green LED, causing it to glow; whereas the red LED remains off.

When the fuse blows off, the supply to green LED gets blocked, and because only one LED is in the circuit, the red LED glows. In case of power failure, both LEDs remain 'off'.

This circuit can be easily modified to produce a siren in fuse-blown condition (see Fig. 2). An optocoupler is used to trigger the siren. When the fuse blows, red LED glows. Simultaneously it switches 'on' the siren.

In place of a bicolour LED, two LEDs of red and green colour can be used. Similarly, only one diode in place of D1 and D2 may be used. Two diodes are used to increase the voltage drop, since the two LEDs may produce different voltage drops.

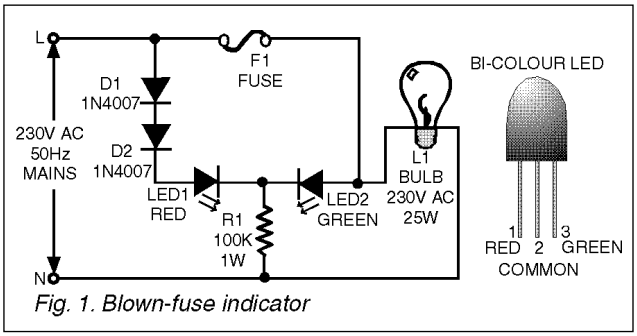

Fig. 1. Blown-fuse indicator

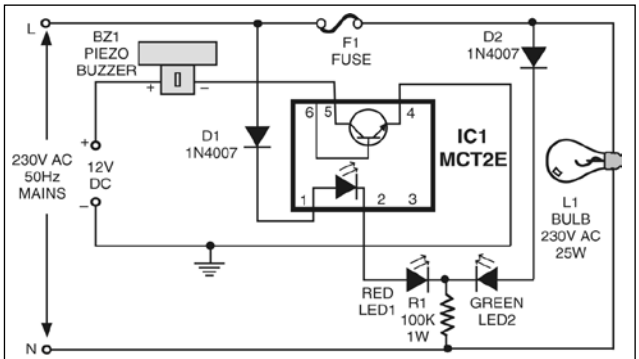

Fig. 2. Blow-fuse indicator with alarm