

WATER-TANK OVERFLOW INDICATOR

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Water is a vital but scarce natural resource. To prevent water wastage, this water-tank overflow indicator comes in handy. It gives audio as well visual alarm whenever the water tank overflows.

Fig. 1 shows the water-tank over-

and filtered by capacitors C1 and C2 to provide +9V at '+B' point and -9V at '-B' point. Connect '+B,' '-B' and 'GND' terminals of the power supply unit to the respective terminals of the water-tank overflow indicator circuit.

The circuit is built around op-amp LM741 (IC1), which is used as a comparator. The pin configuration of melody

and therefore LED1 doesn't glow and the loudspeaker remains silent.

When water in the tank touches the metal plate sensors, it extends ground to pin 2 of IC1. Now pin 3 of IC1 is at a higher potential than pin 2. The high output of the op-amp generates 3.1V across zener diode ZD1. Melody generator IC2 produces a melody, which

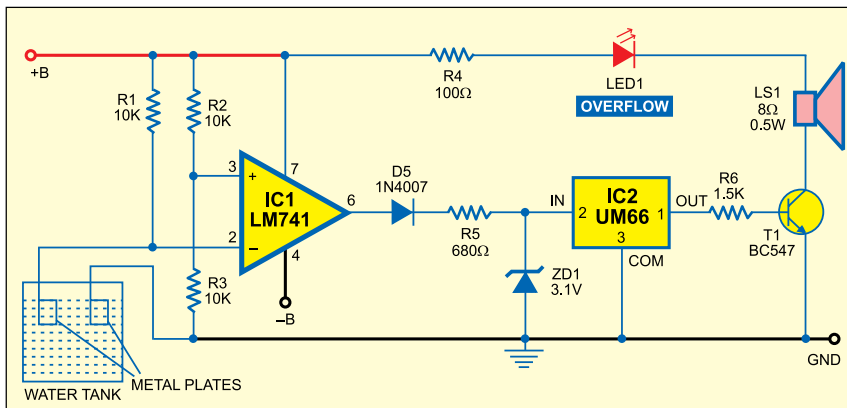


Fig. 1: Circuit of the water-tank overflow audio-visual indicator

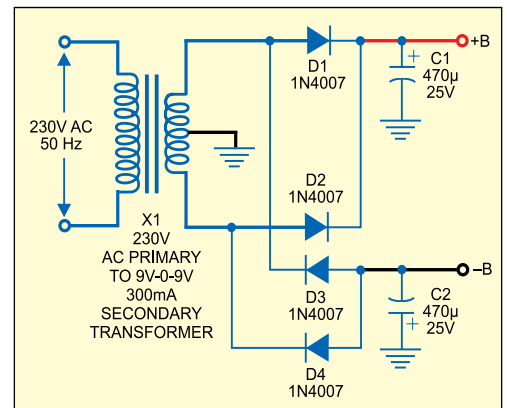


Fig. 2: Power supply circuit

flow indicator circuit and Fig. 2 shows the power supply circuit.

In the power supply unit, mains AC is stepped down by transformer X1 to deliver secondary output of 9V-0-9V AC at 300 mA. The transformer output is rectified by a full-wave bridge rectifier comprising diodes D1 through D4

generator IC1(UM66) is shown in Fig. 3.

When water in the tank is below the metal plate sensors, inverting pin 2 of IC1 is at a higher potential than non-inverting pin 3. Output pin 6 of the op-amp is low and there is no music from programmable melody generator IC UM66 (IC2). Transistor BC547 (T1) remains cut-off

drives the transistor to light up LED1 and sound an alarm from the loud-speaker. Rectifier diode D5 is used to prevent negative polarity to the cathode of the zener diode. ●

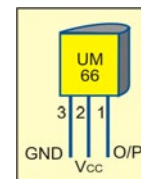


Fig. 3: Pin configuration of UM66