

# **Automatic Soap Dispenser**

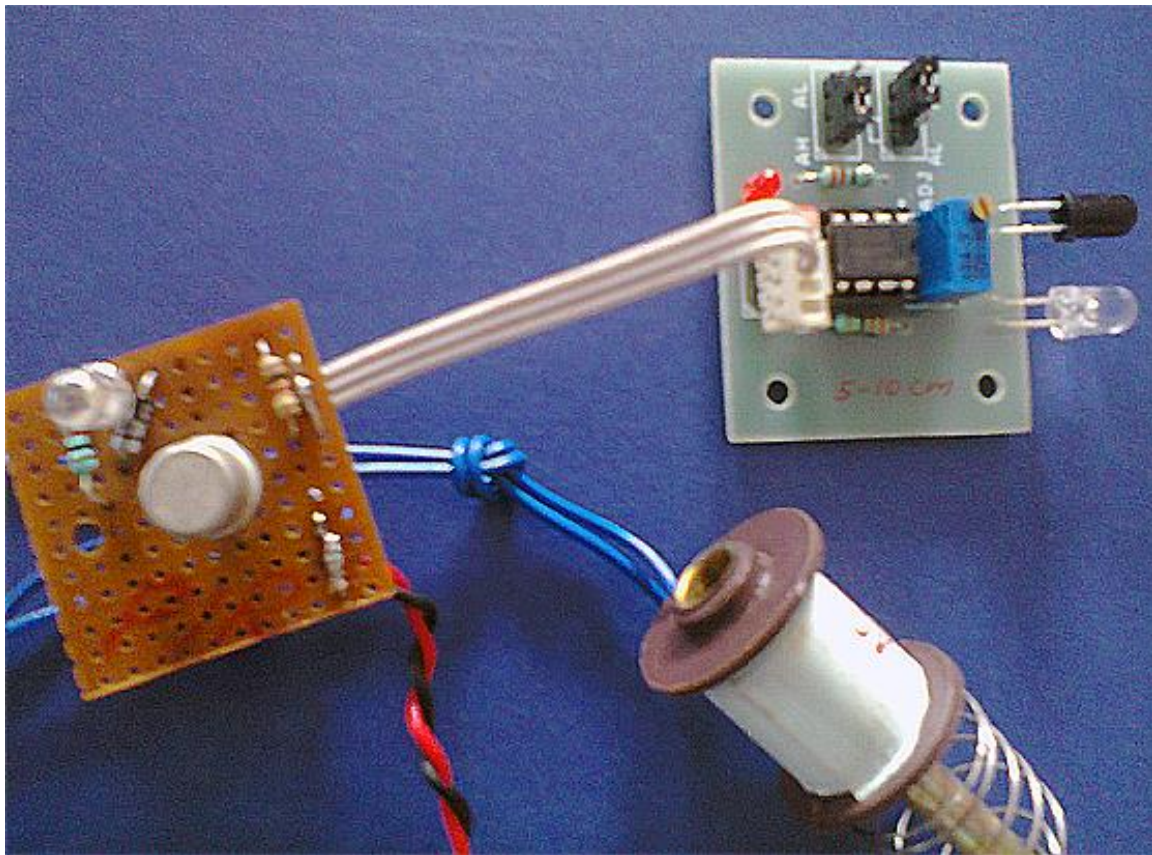
## **Introduction:**

Automatic Soap Dispensers designed for use with liquid soap are now widely available, and you may well know that the hands free operation reduces the spread of germs. How about building one your own? If you have the time and inclination, it may be cheaper and you could learn a lot of useful stuff in the process. Here is a 'Touch Free' design idea for clean and reliable soap dispensing!

An infrared (IR) proximity sensor, and a small solenoid is combined here to make the 6-Volt DC powered automatic soap dispenser unit. When the infrared sensor detects the close proximity of a hand, it enables the solenoid driver. The resulting voltage available at the output of the driver energises the solenoid.

Solenoids are a great way to induce linear motion for pushing, pulling levers. Just couple it with a small rubber tube so that it squeezes the rubber tube in idle condition, and you have a rudimentary but workable 'normally-closed' home-made valve. In certain cases you may need to extend the solenoid arm with custom cut PVC portions suitable for your rubber tube, but that is not really very difficult.

## Final Circuit Diagram:



## Component Required:

- Solenoid
- OpAmp
- Resistor
- IR Sensor
- PCB
- Battery
- Transistor