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# EMBEDDED GREEN HOUSE AUTOMATION SYSTEM

## ABSTRACT

The main idea is to implement micro controller based application which can sense environmental parameters like temperature, humidity and sunlight. This equipment is used in green house for increasing the growth of plants and continuingly monitoring the variations of parameters and take required precautions. This project can be implemented with low cost and easy to install and easy maintenance.

Humidity, temperature and LDR sensors are used for judging different parameters and information is communicated with microcontroller. The status of the sensors is displayed on the LCD. The controller will poll the present state of those sensors and if there is any change in the state of the sensors, controller will automatically take corresponding action in order to bring the previous state. That means we are setting predetermined temperature value to the microcontroller, when the temperature exceeds the value corresponding relay (any device connected o relay depending on requirement) should be turned ON automatically and bring back to the previous state. When the humidity value goes below or above the predefined value the corresponding value should be displayed on LCD and corresponding relay should be turned ON. When sufficient light conditions are not matched to the predefined value the corresponding relay should be turned ON .The temperature sensor is connected to the microcontroller through an ADC in between.

Appropriate environmental conditions are necessary for optimum plant growth. Automating the data acquisition process of the soil conditions and various climatic parameters that govern plant growth allows information to be collected at high frequency with less labor requirements. This makes the proposed system to be an economical, portable and a low maintenance solution for greenhouse applications, especially in rural areas and for small scale agriculturists.

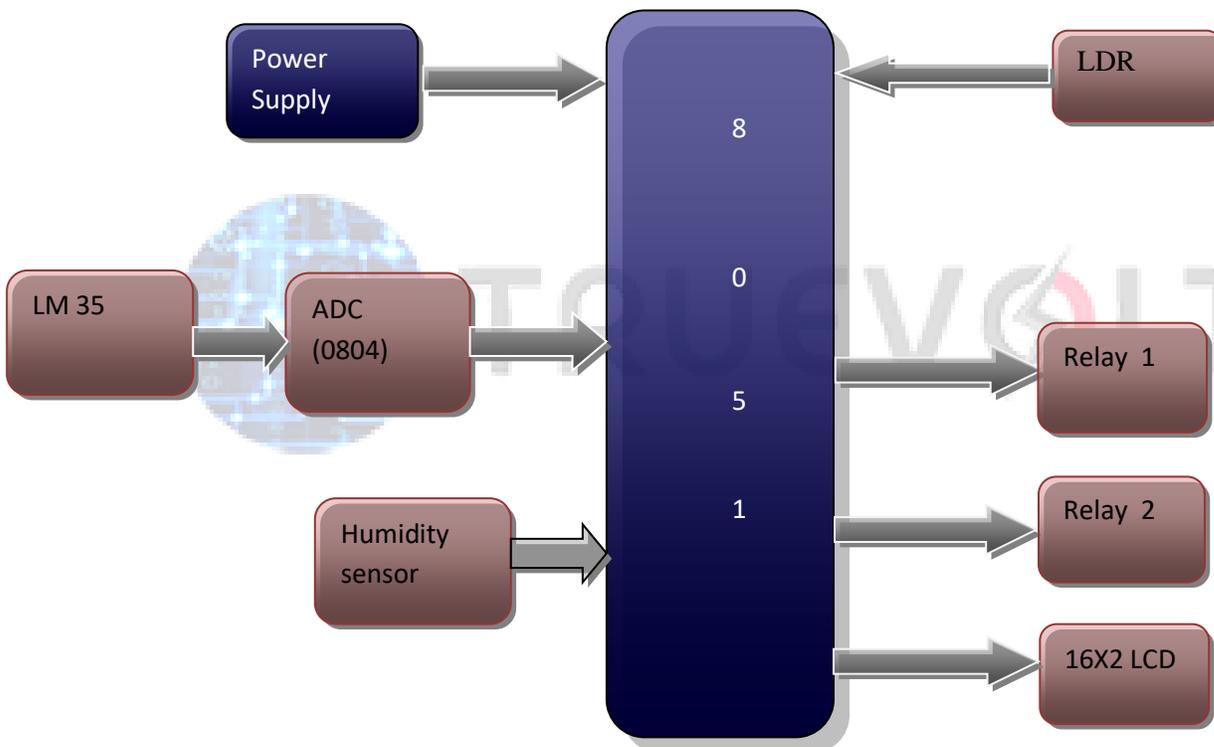
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This project uses regulated 5V, 500mA power supply. Unregulated 12V DC is used for relay. 7805 three terminal voltage regulator is used for voltage regulation. Full wave bridge rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.

### APPLICATIONS

- For small scale agriculturists.

### BLOCK DIAGRAM:



### POWER SUPPLY BLOCKDIAGRAM:



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A1, 2<sup>nd</sup> FLOOR, EUREKA COURT, KS BAKERY BUILDING, OPP. R.S.BROTHERS LANE, AMEERPET,  
HYDERABAD,TELANGANA-500073.

Call: +91 9908665239

email: [info@truevolts.com](mailto:info@truevolts.com)

Website: [www.truevolts.com](http://www.truevolts.com)