

Automatic Plant Irrigation System

Dishant Sonawane¹, Aditi Patil², Rishikesh Ekade³, Rushikesh Kashikar⁴,
Prafull Lad⁵, Surekha Dixit⁶

¹Electrical Engineering, Vishwakarma Institute of Technology, (India)

ABSTRACT

Here is a simple project more useful in watering plants automatically without any human interference. We may call it as Automatic plant irrigation system. We know that people do not pour the water on to the plants in their gardens when they go to vacation or often forget to water plants. As a result, there is a chance to get the plants damaged. This project is an excellent solution for such kind of problems.

Keywords: Auto irrigation, Control system, Humidity Control, Moisture control, Soil Moisture.

I. INTRODUCTION

WITH the development of technology in water saving and irrigation, Automatic irrigation is more popular in farms, Gardens, parks etc. Most of the technology and device comes from other countries. They are too expensive. Our project is based on less cost and simple operations.

II. EXPLANATION

1. We used basic concept in this circuit. i.e. soil have high resistance when it is dry and has very low resistance when it is wet. By using this concept, we made the system work. We inserted two probes in soil in such a way that they will conduct when the soil is wet and will not conduct when soil is dry. So, when the probes do not conduct, system will automatically detect with the help of HEX inverter which will become high when the input is low.

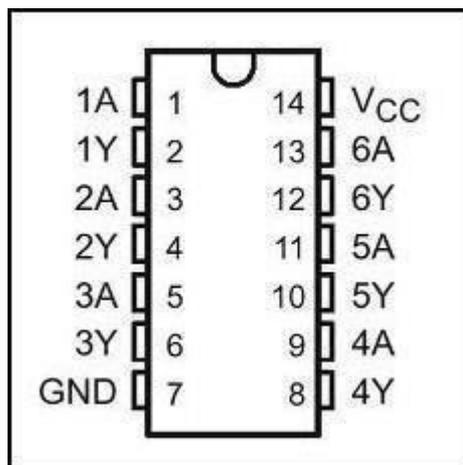
2. HEX inverter will trigger the NE555 timer and this NE555 timer will trigger the another NE555

timer which is connected to the output of first NE555. The second timer will help to switch on the electric valve and as result, it will allow the water to flow into the soil.

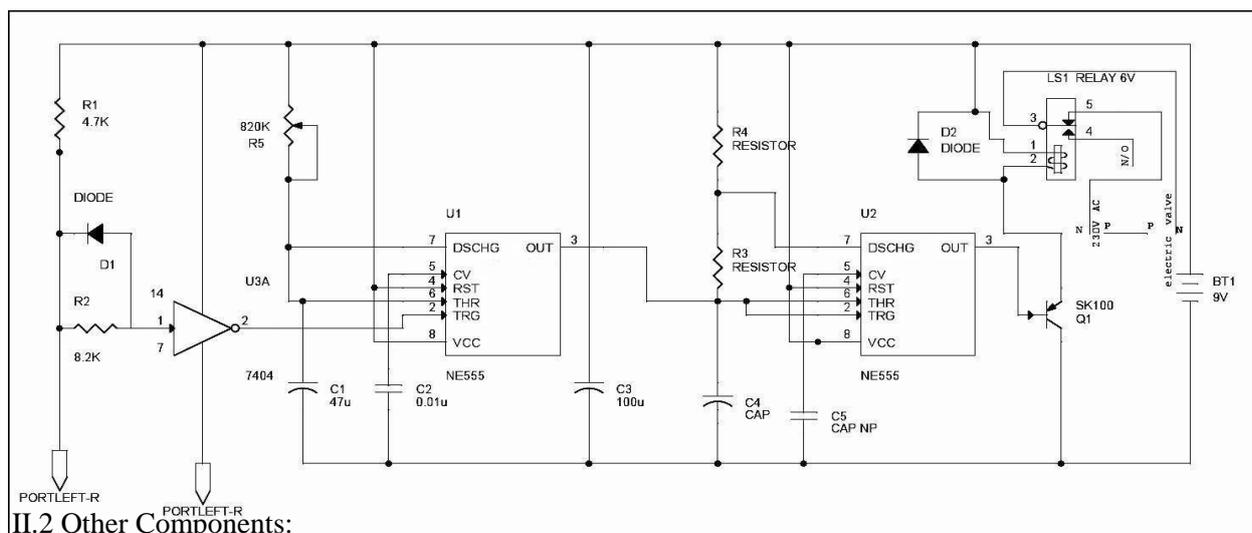
3. When water wet the soil, probes will again conduct and make the output low which will make the first NE555 to low and also drive remaining circuit to low. So, automatically it will switch off the valve.

II.1 Main components:

1.1 HEX inverter: The main function of the inverter is to give the complemented output for its input i.e. it will give output which is opposite to input. For example, if the input is low the output



will be high. Just like normal inverter which gives high output when input is low and gives low output when input is high HEX inverter:



II.2 Other Components:

- 2.1 Capacitor
- 2.3 Resistor
- 2.4 Diode
- 2.5 Relay

CIRCUIT DIAGRAM OF AUTOMATIC PLANT IRRIGATION SYSTEM

III. CONCLUSION

The project is based on simple principals. There are many advantages of this project, such as water saving as the project will give water only when needed and it's a automatic process, so there will be no human interference needed hence it is time saving as well. The project is based on simple components so as to reduce its price and make it affordable to everyone. It can be used anywhere, in farms, gardens, parks etc.

REFERENCES

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