



Introduction to Automatic Water Level Controller

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Abstract: The drinking water crisis in India is reaching alarming proportions. It might very soon attain the nature of global crisis. Hence, it is of utmost importance to preserve water. In many houses there is unnecessary wastage of water due to overflow in Overhead Tanks. Automatic Water Level Controller can provide a solution to this problem. The operation of water level controller works upon the fact that water conducts electricity. So water can be used to open or close a circuit. As the water level rises or falls, different circuits in the controller send different signals. These signals are used to switch ON or switch OFF the motor pump as per our requirements.

Keywords: System Analysis, Fluid Level Detector Sensors, Step Down transformer, Diodes, Types of Diodes, Light Emitting Diodes or LEDs, Resistors, Relays, Hardware Subsystem, Power Supply Unit, Display Unit

I. INTRODUCTION

The project “automatic water level control with an automatic pump control system” is design to monitor the level of liquid in the tank. The system has an automatic pumping system attached to it so as to refill the tank once the liquid gets to the lower threshold, while offing the pump once the liquid gets to the higher threshold. Sustainability of available water resource in many reason of the word is now a dominant issue. This problem is quietly related to poor water allocation, inefficient use, and lack of adequate and integrated water management. Water is commonly used for agriculture, industry, and domestic consumption. Therefore, efficient use and water monitoring are potential constraint for home or office water management system.

Moreover, the common method of level control for home appliance is simply to start the feed pump at a low level and allow it to run until a higher water level is reached in the water tank. This water level control, controls monitor and maintain the water level in the overhead tank and ensures the continuous flow of water round the clock without the stress of going to switch the pump ON or OFF thereby saving time, energy, water, and 13 prevent the pump from overworking Besides this, liquid level control systems are widely used for monitoring of liquid levels in reservoirs, silos. Proper monitoring is needed to ensure water sustainability is actually being reached with disbursement linked to sensing and automation, such programmatic approach entails microcontroller based automated water level sensing and controlling or using 555 timer IC.

1.1.1 AIMS AND OBJECTIVES

The goal or objectives of which the designed device is expected to accomplish is to build an automatic water level control with automatic control system. In this project sensors are place at different level of the tank and with the aid of this sensors, the micro-controller monitor the level of the liquid at any particular point in time, some of the objectives are as follows

1. to design an automatic water monitoring system
2. to incorporate an interactive medium between the end user and the machine
3. to prevent over labor of the pumping machine and prevent it from getting bad
4. to avoid wastage of water
5. since the demand of electricity is very high, automatic water level control saves energy.

III. APPLICATIONS

- Can be used in water tanks to control water levels
- Automatically turn ON/OFF pumps
- Can be used in factories, commercial complexes, apartments, home,
- Fuel tank level gauging



- Oil tank level control
- High & low-level alarms
- Pool water level control
- Life station switches
- Leachate level control
- Cooling tower water level control
- Sewage pump level control
- Remote monitoring liquid
- Water level control
- Pump controller
- Stream level monitoring
- Sump pump
- Tsunami warning and sea level monitoring
- Process batch control & monitoring
- Irrigation control

IV. CONCLUSION

Going through the planning, flow process, design and software implementation, the system has been a tough one, the chapter one to four has actually tried as much as possible to explain vividly almost all (if not all) what is involved in the construction of this project. After the complete design of the system, the deviation between the expected result and the actual result was very close. The performance and efficiency was beyond expectation and from every ramification the design of automatic water controller was successful.

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