Automation of Water Tank using Relay Control

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Abstract

Automatic water level control using relay logic is the project that has been proposed to replace existing system. This project is to control water level in tank whether it is low level or high level when sensor detect the water level the pump and control valve will act as controller by relay logic. In Excel industry at Lote, a MIDC authority supplies water and Pumps it directly into tank from which water is regularly used. But sometimes the pressure of MIDC pipeline is low; due to this the water cannot be stored in tank efficiently.

So that there is always requirement of water in industry. Hence for minimizing this problem, the water coming from MIDC line is first stored in storage tank which is at ground level and then passed to the another storage tank as per their requirement. In today's life the study of relay logic becomes one of the most important things in all fields as the relays are low cost and easy to use. The relay logic is used as an automation tool to reduce manual operation and control the level of water.

To Monitor and Control the Influence Of Discharged Water Using SCADA-PLC

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Abstract

This project has been proposed to monitor as well as control the parameters of waste water from chemical industries. The discharged water of chemical industry contains toxic and non-degradable substances. If this discharged water enters in human source of water like lake or river, etc then it will damage the aquatic flora and human body. Industries have been highly charged for such damage of domestic water.

To solve this problem we are monitoring the parameters of discharge water such as BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), TSS (Total Suspended Solid), pH (Potency of Hydrogen Ion) and flow by using HMI (SCAN Con::Cube V1.0). HMI get the values of these parameters online. After that 3G modem of HMI sends this data to the MIDC (Sewage Treatment Plant) in every 15 minutes. In case of emergency the data should be easily available in PC. For that the online system of reading of parameters is feed in each PC of industries. All these parameters of discharged water have their specific limit. If any of these parameters have exceed their limit, then the control valve will close. So the contaminated water will not enter in domestic water. We are controlling these parameters by using PLC ladder logic and SCADA system.

Level Sensor Design

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Abstract

Water is one of the most essential nature's gifts to the manhood and without water no one can imagine their lives. Now man recognized the water significance, particularly where water is not easily available. Now this is being achieved in an appropriate manner in city areas where the use of water is more than its availability.

One of the inspiration is to organize computing techniques in creating a barrier to wastage in order to, not only provide more economic gains and energy saving, but also helps the environment and water cycle which in turn guarantees that we save water for our future. There are several problems of electricity in rural area. Also the small towns are incapable to use electricity based level sensors in small in dustiest or domestic tanks. This project describes the design and implementation of water level sensor prototype without power supply. The sensor consists of low cost materials. Hence sensor is cost effective, reliable and c-could be made easily available in rural area.