

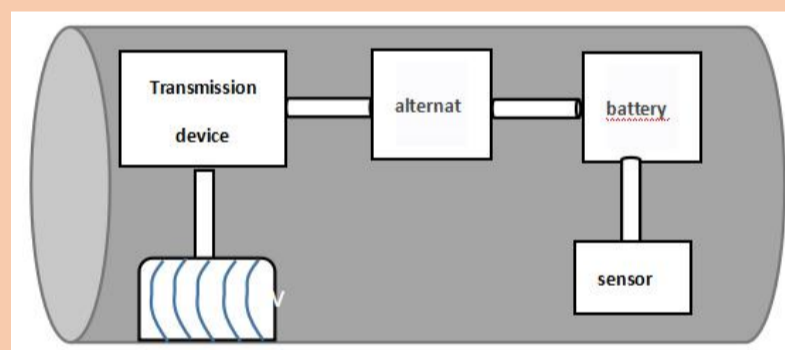


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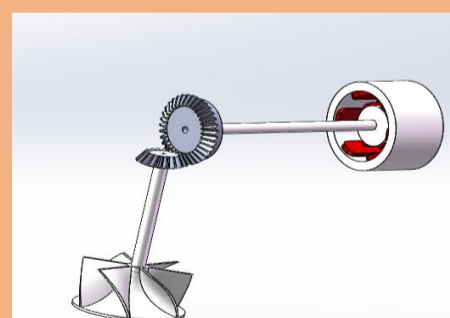
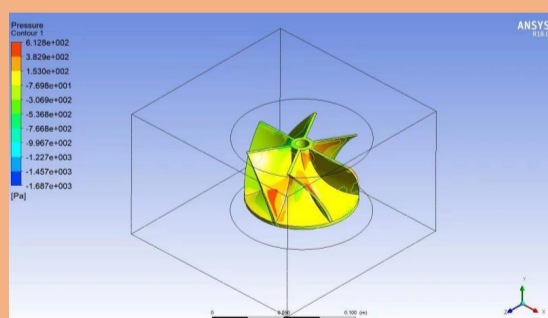
Water Quality Monitoring System Based on Water Outlet Hydroelectric Power Generation

Introduction

With the accelerated pace of national modernization, the issue of sewage discharge in urban and rural industrial parks has attracted more and more attention. Disorderly discharge of industrial sewage by some enterprises has seriously damaged the urban and rural environment. This paper realizes the real-time monitoring of the water quality of the water outlet. In order to realize this system, firstly design a three-dimensional model of a hydroelectric power plant and simulate the water pressure of the turbine, use the GPRS module and STM32 main control chip to control the electric ball valve, and control the electric ball valve through the single-chip microcomputer to block the sewage in time. The high-level wind power generation in the plant is used to generate electricity for the cloud platform server, the GPRS module is used to upload data to the cloud platform, and the BDS positioning module is used to achieve real-time and accurate water quality monitoring in urban and rural industrial parks.



Based on the schematic diagram of water quality detection of drainage outlet hydroelectric power generation



Conclusion

The water quality monitoring system based on the hydroelectric power generation of the water outlet described in this design supplies power to the main control chip and electric ball valve through the electricity generated by the hydro turbine generator, and supplies power to the system server through the wind generator on the roof of the office building of the factory. A variety of water quality sensor networks collect data on the water quality of factory sewage outlets in urban and rural areas, and can timely transmit data to the Internet through GPRS network and store in the cloud background, and use monitoring terminals to access the data in the cloud platform. The normal water quality index, the pre-written threshold program in the main control chip controls the electric ball valve to block the outflow of sewage in time.