

ABSTRACT

Nowadays, the application of Programmable Logic Controller is widely known and use in this digital world PLC's application is obviously applied at the industrial sector. Normally, the PLC's that have been used at the industrial field is usually to control a mechanical movement either of the machine or heavy machine in order to create an efficient production and accurate signal processing. In this project, a system that used to prepare automatic mixing liquids and filling bottles is fully controlled using PLC, which acts as the heart of the system. The system sequence of operation is designed by ladder diagram and the programming of this project is done using totally integrated automation. Several electronics and electric devices are used to be controlled by the PLC such as submersible motor pump, sensor, conveyor belt, solenoid valve, push buttons, relays and other devices. Simulation results provide the advantages of high reliability in operation, flexibility in control techniques, small space and computing requirements, expandability, high power handling, reduced human efforts and complete programming and reprogramming in a plant. Practical implementation is designed to operate in the industrial environment with wide ranges of ambient temperature, vibration, and humidity and is not usually affected by the electrical noise that is inherent in most industrial locations. It also provides the cost effective solution for controlling complex systems.