

ABSTRACT

Companies engaged in AMDK especially the washing and filling of gallons has grown in line with the rate of growth of the community. This makes the interest of business actors in developing their business, especially on gallon washing service one of them is CV. Barokah Abadi. In the case of a gallon washing company done manually by an operator that makes the company's lack of productivity time to achieve profit. For that purpose, this research is aimed to design the automation of a gallon washing machine by using Programmable Logic Controller (PLC) control. Design tools designed to customize the user experience operator in ease of use. The design of this tool integrates the input of a switch, limit switch and photoelectric sensor which then produces the output of motor and water pump. In the process of washing the gallon PLC control program scenario created by using ladder logic diagram to maximize the quality of gallon washing. The design of the tool has been successfully realized gallon washing tool with PLC control by comparison in the existing gallon washing conditions reaches an average time of 95.93 seconds and the washing of gallons by using automatic gear rancangan tool reaches an average time of 31.07 seconds. This is accomplished by the realization of the automatic gallon washing machine design with PLC control when the productivity of the company increases up to 68% which affects the company's profit as well.

Keywords: PLC, Automation, Ladder Logic Diagram, Photoelectric, Motor, Water Pump