

Design And Implementation Of Soybean Shed Peeling Machine Control System

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ABSTRACT

The manual peeling of soybean hulls remains a major obstacle in the production process, especially in the MSME sector, as it requires a long time, a large workforce, and produces less uniform products. To address this issue, this research designs an automatic control system based on proximity sensors integrated with a digital relay timer and solenoid valve to regulate the duration and process of watering automatically. This system is also equipped with safety features such as MCB and an emergency button to ensure operational safety. Through a functional testing approach, needs identification, component assembly, as well as input-output testing and power efficiency were conducted. The results show that the system operates stably and accurately with a current consumption of 0.11 amperes, can accelerate the work process, reduce human involvement, and produce more uniform peeling, thereby increasing efficiency, safety, and productivity in soybean processing.

Keywords: automatic control, proximity sensor, timer relay, solenoid valve, soybean peeling machine.