

ABSTACT

In the food processing industry made from potatoes with a large amount of production if the cutting process is done manually, it will take a long time and requires a lot of labor. In this final project discussed an application of a pneumatic system as an actuator and the use of TM221CE16R Schneider PLC as a system controller on potato cutting tools. This tool uses an infrared sensor to detect the presence or absence of potatoes on a pneumatic cylinder. The infrared sensor will control the movement of the pneumatic cylinder to process the potato until it is cut by a cutting knife when the potato is detected by the sensor. On the HMI display, this tool can provide information on the type of cutting knife used and the number of potatoes cut by the type of cutting knife. From the results of testing the entire system it can be seen that the infrared sensor is able to detect as far as 14 cm. The results of cutting potatoes produced when using a cutting knife 1 has a size of almost the same thickness that is 1,1 x 1,2 cm, while the results of the cut of potatoes when using a cutting knife 2 has a size of almost the same thickness that is 0,5 x 0,6 cm , for the length of the result of the potato cut using either cutting knife 1 or cutting knife 2 depends on the position of the potato when cut.

Keywords: *HMI, Infrared Sensor, PLC Schneider TM221CE16R, Pneumatic, Potato Cutter.*