ABSTRACT

Warming is one of the process in the food-making industry. Warming process is ezecuted by given the heat energy to dough in a heating room, like using an oven or microwave. Heat energy is generated from LPG gas (Liquid Petroleum Gas) where the valve at the stove is controlled to addapt the temperature that adjust by the user. Two variables that controlled, there are the heating room temperature and the time process.

The Author was design the control system used by the OMRON CP1H PLC with PID control method. To deciding the value of PID Parameter, the Author used the Auto-tuning method to be implemented in ladder diagram program. Performations of PID control also was observed by the author in this final project.

From the experiment, was obtained the degression of Maximum Overshoot Percentage (%Mp) between the PID parameter from reference initiation and the value from the Auto-tuning process.

Keywords: Oven, OMRON CP1H PLC, PID, Auto-tuning, temperature, time