

ABSTRACT

The spray drying method is one of the methods used to preserve food. Spray Dryer is a type of dryer technology that aims to change the form of liquid into granules and then converted again into dry particle form with hot spray drying media. Some spray dryers use the on/off method as a temperature controller. The on-off controller has several weaknesses, namely the system response is not good so that the system causes a large error. So in this study the PID method will be used in the Spray Drying machine temperature control system. The K-type thermocouple sensor functions as a temperature gauge and the sensor readings will be operated using the MAX6675 module. The display of the sensor readings will be displayed on the 20x4 LCD. The ATmega2560 microcontroller will be used as the central controller, where PID control will be used as the control method. The test was carried out by designing a spray drying type spray drying.

Keywords: thermocouple sensor, Atmega2560 microcontroller, PID control