

ABSTRACT

Granulated coconut sugar is one of the prominent products in Banyumas Regency. This product is exported with HS Code 17029099. Although the export market requires strict product quality standards, granulated coconut sugar still uses a drying machine with manual control in the production process. The drying process aims to maintain the product expiration date, to prevent microorganism and fungi. The reference standard used is SNI 01-3743-1995 where for granulated coconut sugar the maximum moisture content is 3%. The dryer used is a drying rack type (cabinet dryer) with a heat source from hot air blown by a blower with combustion element fueled by LPG gas. Using manual temperature control, it requires careful and thorough supervision to avoid the risk of the granulated coconut sugar being too moist, or too burned. Therefore it needed a tool that can work automatically in order to decrease human work and the risk of human error mentioned above. The research methodology used is to design and test an analysis of the needs of a temperature monitoring and control system. The result of the research, the controlling gas flow using valve with actuator is successful 100%. The transfer monitoring data to the Antares server is successful 100%.

Keywords: *Automatic temperature monitoring and control system, microcontroller, valve with actuator, Antares server, Internet of Things*