DESIGN AND CONSTRUCTION OF A FOOD WARMING DISPLAY FOR STREET VENDORS USING SOLAR PANEL POWER SOURCE

Rifki Adianto Pratama
Electrical Engineering Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : adibangkit99@gmail.com

ABSTRACT

Street vendors often face challenges in keeping food warm and hygienic amidst limited resources and facilities. To overcome this problem, this study designed and built a food warming display case that uses solar panels as its power source. This system is designed to utilize solar energy as the main source of power, thereby reducing dependence on conventional electricity and minimizing operational costs. This display case is equipped with solar panels that convert sunlight into electrical energy, which is then stored in batteries. The stored energy is used to operate the air heating element inside the display case which is controlled by a potentiometer. In addition to using a potentiometer, this display case is also regulated by a DHT22 sensor for temperature control so that it does not exceed the specified temperature. The test results show that this food warming display case system is able to work well. In this test, the results showed that the heater was on, but after a while the heater turned off, because the power supply from the battery was insufficient. The battery used in this study only has a power of 7Ah, while the heater in this display case apparently requires a lot of power so that the device can only function for a few moments.

Keywords*: Display Case, Solar Panel, Battery, DHT22, Arduino*