ABSTRACT

Energy is one of the main problems faced by almost all countries in the world. This is because energy is one of the major factors for the economic growth of a country . Energy issues are becoming increasingly complex as the increased need for energy from all countries in the world to sustain its economic growth makes supplies of conventional energy reserves become fewer and fewer . Thus the required utilization of solar cells as an alternative electrical energy to work optimally .

This final project will create a cooler that comes from the utilization of solar cell components will be used in this final project include solar cells as a source voltage of 12 V , DC to DC Converter Type Buck connected with the microcontroller and the MOSFET as a switch to control the PWM signal so that the level of output voltage according to the load , and battery 6 V to be connected with a portable cooler .The results of this thesis is expected to cool the drink using sunlight energy

The system is implemented in this final project is expected to be used in a variety of conditions . Especially when on a journey where there is no power source. For traveling community, portable cooling device is an innovation to facilitate the travel. Based on the test results and analysis of the DC to DC Converter Type Buck connected to the microcontroller system is already running well.

Key words: solar cells, cooling, DC to DC Converter type Buck