

DESIGN OF SOLAR CHARGE CONTROLLER (SCC) FOR IoT-BASED FOREST FIRE DETECTION PROTOTYPE

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ABSTRACT

Indonesia is a tropical area that has a very large amount of sunlight which is a potential renewable energy. Sunlight is not polluting and will never run out. This energy source can be used for electricity through the Solar Power Generation (PLTS) system. Solar panels utilize sunlight to produce DC electricity, which can be converted into AC electricity through an inverter if needed, so even if the weather is cloudy as long as there is light, the solar panels will still produce electricity. In this study, a solar panel will be made which is used as a source of electricity and to charge the battery. This research method uses solar panels as the main source. From the results of measurements and analysis in this research, the panels used are able to supply the load and battery charging needs. Then if within one day the PV does not get sunlight, the battery capacity in 100% condition is able to supply the load for only 1.37 days. And the battery charge time from 0% to 100% takes 1.36 days.

Keywords: *Renewable Energy, PLTS, Solar Panels.*