

ABSTRACT

The decreasing oil reserves as the main energy source on Earth forced us to seek other alternative sources of energy. From various existing sources of alternative energy, solar energy is an alternative energy source has advantages, such is its limitless, environmentally friendly and is an energy source of the future. Solar panels are devices for converting solar energy into electrical energy and can be a renewable energy. Given the many problems / disasters that frequently occur in Indonesia such as floods, earthquakes and logsor, with the same background would be a disaster and the energy crisis that hit major cities in Indonesia at this time, the authors will implement the use of solar panels as an alternative energy which is more useful that a portion flood detector integrated with a wireless sensor network (WSN).

At this research is used as a solar panel on the pencatu microcontroller mounted on a flood detector. With the buck converter will lower the initial voltage of solar panels becomes constant. In addition to use 2 batteries with a capacity of 100 Ah and 65 Ah as a backup energy. As well as the relay switch system make it able continuous replacement battery to extend the life cycle of the system.

Results from this study, with the power of a battery of $12 \times 100 = 1200$ watts and the power of the battery B is $12 \times 65 = 780$ watts. The use of full load for 24 hours, then we got the total power needed per day for the system to work is 34.8 watts. Thus, if the battery A full condition will be exhausted during ± 34 days. While the battery B when in full condition to be discharged for ± 22 days

Keyword : Solar panel, battery, flood detetion, wsn