

Uji Kinerja *Integrated Portable Generator* Berbasis Energi Terbarukan (Angin, Surya Dan Biodiesel) Skala Rumah Tangga (*Integrated Portable Generator Performance Testing Based on Renewable Energy (Wind, Solar And Biodiesel) for Household*)

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Abstract

This study aims to examine the Integrated Portable Generator that has been made. Research conducted at the Laboratory of Renewable Energy Engineering, State Polytechnic of Jember and Watu Ulo Beach, District Ambulu, Jember in October. The results showed that the testing of solar cells with average of solar radiation intensity 620.13 W / m^2 to produce power 60.34 W , with a capacity of battery 120 Ah capable to charging the battery for 54 hours. While on wind energy at average speed about 10 m / s able to produce power 17.96 W so with a capacity of battery 120 Ah capable to charging the battery for 164 hours. When using the generator motor fuel with an energy source in the form of biodiesel, the average power generated is 467.43 W so it can charging battery for 7 hours. The third use of the energy source when combined will result in shorter battery charging time, it just need 6 hours.

Keywords : portable generator, hybrid energy, time recharge.