

PERENCANAAN SISTEM PHOTOVOLTAIC BEBAN ARUS SEARAH TERHUBUNG JALA-JALA

Title	PERENCANAAN SISTEM PHOTOVOLTAIC BEBAN ARUS SEARAH TERHUBUNG JALA-JALA
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Abstract	Photovoltaic (PV) systems utilize solar energy as a renewable energy source. A PV system can be connected to utility networks to ensure reliability. This study proposes a PV system model with direct current load on residential installation connected to utility grid. Optimal analysis of PV systems is done by comparing the architecture, energy production, losses, reliability and economic aspect considering the constraints of renewable energy fraction and capacity shortage. The results show PV system connections with grid reduce the capacity requirements of photovoltaic modules and batteries with a good level of reliability. The grid connected system equipped with batteries has the best level of renewable energy utilization with an excess electricity value of 2.19%. From an economic aspect, the system with the lower renewable energy fraction has less energy costs. This is due to the high price of PV components compared to the price of electricity from utility. Keyword : photovoltaic system, DC load, grid connected, optimal, utilization, reliability
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