ABSTRACT

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Title : *Solar Power Plant Design Equipped With Automatic Transfer Switches As Urgency For Home Installation*

An Automatic Transfer Switch (ATS) is an electrical circuit that functions as an automatic switch, transferring electricity from a primary source to a backup source (such as a generator) in the event of a power outage or failure. This ATS panel supports two load transfer systems: automatic and manual. In this study, the primary source was a solar power plant (PLTS), while the backup source was PLN (State Electricity Company).

The researcher's house, located on Jalan Yudadarma, Tasikmalaya City, is one of the homes that uses PLN as its energy source, with a daily electricity consumption of 5,303 kWh. Solar power plants are a potential renewable energy source, with a solar radiation potential of 4.85 kWh/m^2/day.

An innovation was created by designing a solar power generation system equipped with an Automatic Transfer Switch (ATS) with a backup source from PLN. The solar power plant (PLTS) serves as the primary power generator, while PLN serves as the backup energy source. The ATS acts as an emergency backup. If one source fails, it will automatically switch to the other backup source with a delay of approximately 1 second, ensuring continuous electricity supply to homes without any power outages.

Keywords: Automatic Transfer Switch, Solar Power Plant.