

## **ABSTRACT**

*Electrical energy is one of the most important energies today. Because electrical energy can be used for various needs, one of which is to charge smartphones. Generally, to charge smartphones using conventional electrical energy, the source of which comes from coal. However, resources such coal will eventually run out, so alternative energy is needed whose resources will not run out. One way to overcome these problems is to use a solar power plant (PLTS) that utilizes solar energy as the main source of this plant.*

*The smartphone charging circuit uses the OFF-GRID PLTS method where PLTS requires solar energy to be able to produce electrical energy. One of the important components of this PLTS is solar panels. The electrical energy produced by solar panels is then stored in a battery with a charging system. Due to the fluctuating electrical energy produced and very risky for the electrical circuit, a solar charge controller is needed to regulate the electrical energy generated by solar panels.*

*The design of this power plant is to create a smartphone charging station that can be used by the people in public facilities and can reduce the use of electricity from PLN.*

***Keywords: Solar Panel, OFF-GRID, Charging Smartphone, Solar Charge Controller***