

ABSTRACT

The development of electric car technology is currently increasing a lot of progress. This represents an electric car is one alternative to future vehicles using battery energy to move it. But now there are many weaknesses in special electric cars in Indonesia. One of them is battery charging that can be said to be ineffective. Charging on an electric car battery that exceeds the charging limit will cause damage and will increase the temperature on the battery that can save the owner of the electric car itself. In addition to the problem that occurs is monitoring battery charging, which like we have to discuss about charging a cellphone for quite a long time.

In this final project an automatic charging system is designed where this charger can cut off the flow of electric current that is provided automatically on a computer that is full. When the battery in this electric car consists of 4 12V batteries, which are equipped with 48V in the charging process. The type of battery used is Battery Sealed Lead Acid where the battery is a sulfuric acid electrolyte rechargeable battery that cannot be stacked because this battery can be coagulated (thickened). In this system a boost converter is used to stabilize the voltage from the PLN that will enter through the charger. Then in monitoring the charger, there needs to be an Internet system Object or an abbreviation of IoT for convenience whether the battery is full or not. And for the microcontroller used is ESP32. In addition to this the IoT system can also calculate the efficiency of the charger for each charging. Related cell phone owners can monitor the battery via a smartphone or laptop connected to the internet.

Keywords : IoT, boost converter, SLA, ESP32.