ABSTRACT

Every use of electrical energy must have a monitoring system. It's the same with solar panels in order to review the performance of the generator. sometimes solar panel monitoring is required on-site in observing solar panel performance. By using the SIM800L module on the GSM/GPRS network and the Thingspeak platform which is integrated with the Android application as a solar monitoring panel. So that the implementation of IoT in terms of solar monitoring panels makes it easier to monitor performance online. From the research conducted, the monitoring system runs well through the GSM/GPRS network with the results that the data is sent properly after receiving a network test in the area where the monitoring is carried out. The results obtained are the average error value of the comparison of the voltage sensor calibration of 0.3% and the temperature sensor of 0.1509%. The measurement results of the monitoring system get an average voltage value of 14.3 volts and a temperature of 24.92 °C. The network strength and quality test is very good with a strong signal value and a BER value of less than 0.1% with a low error value.

Keyword : Monitoring, Solar panel, SIM800L, Thingspeak