

ABSTRACT

In the world of agriculture, climate and weather are very influential parameters in determining the quality and quantity of crop yields. In this case, data regarding predictions of future weather and disease in plants will be very influential. Therefore, in facilitating weather and disease prediction, the Weather station Monitoring system technology is used.

The design of this Weather Station is also equipped with a power supply system so that it can be installed in areas that cannot be reached by a power source. Therefore, a security system and sensor data transmission is also designed that can monitor the Weather Station. This security system is also designed to avoid and warn in the event of theft of components in the Weather Station system.

The design of the power supply monitoring system and security system, it is successful to implement the measurement of the voltage sensor on the solar panel with an average error percentage value of 0.53%, the INA 219 sensor measurement for load voltage measurement with an average error percentage value of 0.64% and for load current measurement, the average error percentage value is 0.86% and the system is capable of sending monitoring data to the Thingspeak platform using the GSM SIM900A communication module. In the security system, the magnetic reed sensor is implemented on solar panels and the Weather Station system box will work if there is a movement of the intermagnetic distance on the sensor of 1cm and will send a security SMS notification to the user using the GSM SIM900A module.

Keywords : Weather station, power supply, security system, GSM SIM900A, Thingspeak.