

ABSTRACT

Hydroponics is a way of farming using a planting medium other than soil, because the function of soil as a planting medium can be replaced by using water in the hydroponic system. The hydroponic method has various kinds of systems, one of which is the Deep Flow Technique (DFT). Plants grown using the DFT hydroponic technique must be controlled by nutrients, water pH, and temperature in order to obtain good and quality results. Because you have to control nutrient levels, water pH and also the temperature of hydroponic plants, a system is needed to control nutrient content, air pH and temperature using Total Dissolve Solid (TDS) sensors, air pH sensors, and temperature sensors. In its implementation, the proportion of the monitoring system has succeeded in sending data and receiving data is 100%. The hydroponic plant control system is also able to monitor air temperature with the ds18b20 sensor with an error of 1.70%. The hydroponic plant control system is also able to control part per million (ppm) with a TDS sensor with an error of 3.63% and is able to control pH with a pH sensor with an error of 2.83%.

Keywords : Hydroponic, Deep Flow Technique, TDS Sensor, pH Sensor, Temperature Sensor