

ABSTRACT

Hydroponics is one of the ways to farm that is used to resolve the problem of limited land. This technique does not use the land as a medium of his planting. Hydroponics is paying more attention to the water supply at the plant so that the plants can grow well. In its application, the hydroponic technique has some drawbacks, such as the existence of the negligence of growers on plant condition checking periodically as well as discharging pump is less effective.

In this final project designed For Hydroponic Water Circulation Controller Based IoT by using NodeMCU which is already integrated in the module ESP8266. Implementation of devices using pvc pipe 3 levels, where each level can be set its mode to save on the use of the pump. In addition the tool can also monitor the planting medium humidity levels, temperature and humidity of the room using a sensor attached.

The test results show, testing functionality and testing all functions of the command is already running as it should, with an average of 2.44 seconds delay for the granting of an order from the database and 0.75 seconds for sending data to the database hardware . The power required by the device for 24 hours at the NFT method is of 0539 kwh, to methods of DFT 0132 kwh, and 0.01122 kwh on the methods of soil moisture sensors

Keywords: Hydroponic, water circulation, automatic, Internet of things