ABSTRACT

Electrolysis of water produces two types of water, namely alkaline water containing hydrogen and acidic water. There is already a water ionizer that utilizes the electrolysis of water to produce alkaline water containing hydrogen and acidic water, but the electrolysis current cannot be controlled and monitored remotely.

The system built is a system that can control the electrolysis current in a water ionizer based on the Internet of Things (IoT). This system can control the current and can select the source of electric power supply, besides that it can monitor the current value, pH and temperature. For that we need an INA219 current sensor, a pH sensor 4520C, and the Ds18b20 temperature sensor which is then processed using ESP32 to get to the firebase server and android application designed using MIT App Inventor.

The results of the design of this electrolysis current control system water ionizer , using an android application that is connected to the server firebase that can be installed on smartphones android versions 8 - 11 when an internet network is available. The current control command and the selection of the power supply source in theapplication water ionizer have a 100% success rate, the application can monitor the electrolysis current, alkaline water pH, and water temperature in the water ionizer using a 20 Wp solar cell power supply source, 12V battery and an electric power supply source. PLN is rectified using a 12V adapter.

Keywords: current control, ds18b20, firebase, ESP32, internet of things, INA219, MIT app inventor, ph module 4520c, water ionizer.