ABSTRACT

Water is a mineral source for all life on earth. However, with the development of times and the increasing density of humans in a place, few of them can enjoy drinkable water. TDS or Total Dissolved Substance is one of the parameters to determine the condition of water. Water which is suitable for consumption has TDS values less than 300 with better quality less than 150.

Water ionizer is a device that utilizes electrolysis to produce alkaline water. Electrolysis can break down electrolyte in water resulting in lower TDS value. It also can increase water temperature. To determine the condition of water during electrolysis process, a SEN044 sensor is used to monitor the TDS value and a DSB18B20 to monitor the water temperature. IoT or Internet of Things is also utilized to remotely monitor water condition.

In this design, the results show that the monitoring system is successfully applied to the water ionizer by utilizing TDS and temperature sensor to monitor conditions during the electrolysis process. In addition, utilizing IoT makes it easier to observe and collect data. By using two branded ready-to-drink mineral water samples, changes in TDS and temperatures vary between each sample. For A branded bottled water has an initial TDS and temperature value of 123 ppm and 26 ºC and final value of 151 ppm and 31ºC with initial pH value of 7,7 and final value of 9,5. And then for B branded bottled water has initial TDS and temperature values of 61 ppm and 27ºC and final values of 71 ppm and 28 ºC with initial pH value of 7,58 and final value of 9,68.

Kata Kunci: *IoT , water ionizer*, electrolysis, alkaline, TDS, temperature