

ABSTRACT

Energy is one of many problems that is happening in every countries. Electricity from the generator with the fossil fuel that most countries have been using is getting rare. So we need the use of another source of energy to produce electricity because soon we will run out the energy from fossil fuel. Wind energy is one of many alternative energy that can be used in many places in Indonesia because wind energy doesn't have dangerous chemical impact. But not everyone knows where the effective places to install the wind energy power plants are.

So by this research, I hope Indonesian people can know the places that are capable enough to use the wind energy there to be used as power plant. Wind speed, wind direction, and altitude measuring device is one way to find out the places that are capable enough to use the wind energy there. The measuring device had been designed with power source, microcontroller and LCD, TCRT5000 module as rotary encoder, potentiometer as wind direction sensor, and BME 280 as pressure measuring module.

Standarization of device tested by the anemometer Benetech GM-816. The testing for wind speed had accuracy of 96,18% for comparison. The wind direction indicator using fin to point 8 wind direction with the testing accuracy of 96,625%. But the indicator from the device still show the same direction with the direction point for comparison. The testing of height measurment tested by the Soligen meter gauge. The accuracy of 84,20% for comparison.

Key Words : Alternative energy, the use of wind power in Indonesia, measuring device, wind speed, wind direction, altitude.