

ABSTRACT

Micro-hydro Power Plant (PLTMH), is a small-scale power plant that uses hydropower as its driving force, such as irrigation canals, rivers or natural waterfalls by utilizing the height of the waterfall (head) and the amount of water discharge. The working mechanism of PLTMH is quite simple, namely utilizing the potential and kinetic energy of water to produce rotation in the turbine. The turbine which is the main component for generating electrical energy is located in the powerhouse building which is at a lower elevation than the reservoir. Inside the powerhouse, the flow of water from the reservoir allows the water turbine connected to the generator to rotate, electricity can also be generated. The energy conversion process starts from the potential energy (related to the height) of the water in the reservoir which changes into translational kinetic energy (related to displacement) as the water moves towards the powerhouse in the aqueduct.

in the manufacture/development of power plants only focus on calculating the initial potential, so there is a lack of direct monitoring that can determine the potential for generating electric power, so a series of IoT-based microcontroller tools are designed that can be connected via the internet and smartphones using Blynk which can detect weather and water level in the river, so that you can find out how effective the weather and water level are in generating power at a Micro Hydro Electric Power Plant (PLTMH).

Keywords: water, weather, electricity, microhidro