ABSTRACT

Wind energy is energy that comes from nature and never runs out, wind energy can be converted into electrical energy. Current street lamps use energy sources from PLN and solar cells, the shortage of Solar Cell is an inconsistent power source because the sun does not shine for 24 hours a day. The making of streetlights uses very little wind power. For the manufacture of wind-powered road lights required windmills and microcontrollers to regulate the use of electricity. Windmills use generators as a tool to convert wind power into electrical energy. The microcontroller used is arduino uno, the microcontroller will adjust the light intensity of the street lighting according to the object passing through the street and the street light will be activated automatically during cloudy or dark weather. The working sensor activates the street light automatically is the LDR sensor by detecting the sunlight intensity value. The PIR sensor works to detect a pedestrian object on a streetlight pavement to light a street lamp with 100% light intensity. Ultrasonic sensors will detect vehicles passing through streetlights to turn on streetlights with a light intensity of 70%. If no object passes the road then the street lights will dim with a light intensity of 30%. Street lighting system using wind power will continue to check the battery where the deviation of electrical energy generated. If the battery power is below 40% then the voltage source will be replaced to PLN using the Relay module.

Keywords: Generator, Street Lights, Ultrasonik sensor, PIR sensor and LDR sensor