

ABSTRACT

Energy is a resource that is used by humans to do an activity. The need for electrical energy is needed because of the need for higher electricity. The excessive use of electrical energy without taking into account its usefulness is a waste that results in reduced energy supply due to the limitations of the power source itself which is a non-renewable resource, therefore on this occasion I will explain power management to be more energy efficient Especially in the daily use of electricity for industrial activities, commercial activities as well as in the household.

The workings of this power management is to use tools to manage the loads that have been restricted by the user. This design will regulate the use of power tools based on priorities that have been set through PLC (Programmable Logic Controller) based on scheduling and priority values.

The result of this research is done from hardware measurement ie relay, power supply and current sensor using instrumentation amplifier circuit. The result of the test states that the system works well and the value obtained is not much different. PLC can receive the data signal provided on the current sensor in the form of a voltage to be converted to power to find out how much power is consumed in an electronic device. The current sensor is good for current 0A - 5A. The active power is shown with Watt units, by the formula $P = V \times I \times \text{Pf}$ where pf is assumed to be 1.

Keywords: PLC, Cost, Automation, Current Sensor