

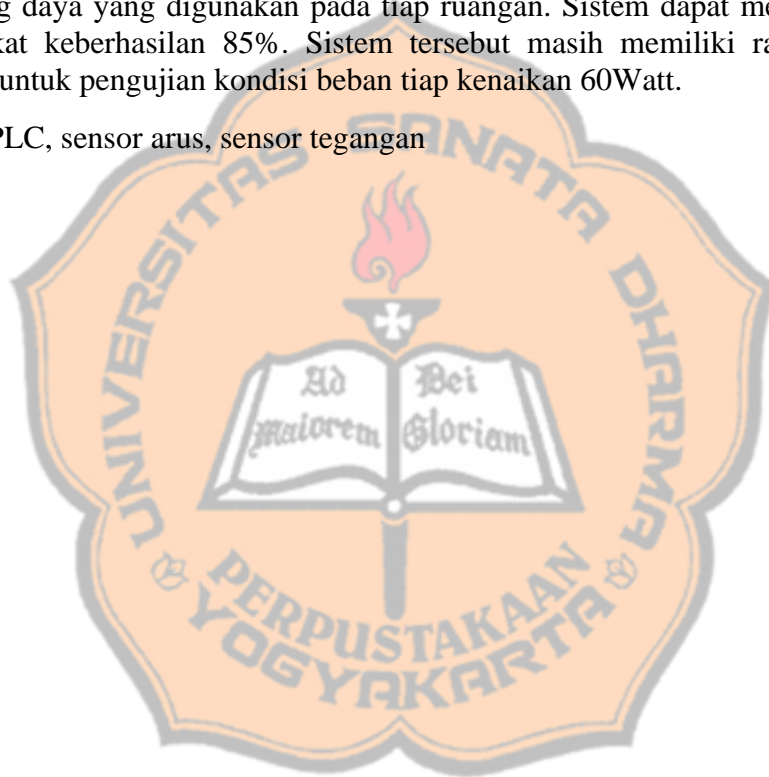
INTISARI

Pemakaian daya listrik pada tiap kamar kos selalu berbeda-beda. Pemakaian daya listrik yang berbeda tiap kamar kos menyebabkan pembayaran tiap kamar seharusnya berbeda. Penelitian ini membuat sistem pengendalian dan monitoring daya listrik tiap ruangan kamar kos berbasis PLC M221. PLC ini bisa mengendalikan besarnya daya tiap kamar dan bisa melihat pemakaian daya tiap kamar.

Proses kerja pada PLC diawali mengambil nilai tegangan dari sensor tegangan yang telah dirancang dan nilai arus yang didapat dari rangkaian sensor arus. Nilai tegangan dan nilai arus kemudian di proses menggunakan *software SoMachine Basic* untuk mencari nilai dari tegangan, arus, daya, dan daya telah dipakai setiap kamar. Hasil dari nilai tersebut dimunculkan ke tampilan GUI *Wonderware InTouch*.

Hasil implementasi sistem tersebut dapat mengatur daya tiap ruangan dan dapat memonitoring daya yang digunakan pada tiap ruangan. Sistem dapat membaca nilai daya dengan tingkat keberhasilan 85%. Sistem tersebut masih memiliki rata-rata kesalahan sebesar 15% untuk pengujian kondisi beban tiap kenaikan 60Watt.

Kata kunci: PLC, sensor arus, sensor tegangan



ABSTRACT

The use of electricity in each room in a boarding house is different so that each room is supposed to pay differently based on the use of electricity. This research created power controlling and monitoring system in every room of a boarding house based on PLC M221. This PLC is able to control the power in each room and to know the use of power in each room.

The process in PLC is started by taking the voltage values from the voltage sensors, that have been designed, and the current values from the current sensor circuits. Then, the voltage values and the current values are processed using SoMachine Basic software to get the values of voltage, current, power, and power that has been used in each room. The result is displayed on GUI Wonderware InTouch.

The system implementation result is able to control the power of each room from 0 to 300watt and to monitor the power that has been used in each room. The system can read the power value with the success rate of 85%. It still has the average error rate of 15% in the load trial for the escalation of 60Watt.

Key words: PLC, current sensor, voltage sensor

