ABSTRACT

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Prototipe of an IoT Based Single-Phase Electricity *Monitoring* System

The use of electricity which out of control will lead to waste and an increase in the electricity bills. In the study was designed to produce a 1 phase electrical *monitoring* system using IoT. To realize it requires five main stages, namely system design, system testing, measurement, data collection, and data analysis. In analyzing data, linear regression analysis methods are used to determine the suitability of *monitoring* results.The application of an IoT-based phase 1 electrical *monitoring* system is in the campus canteen of the Faculty of Engineering Untirta.Based on research that has been conducted electricity *monitoring* system 1 phase based on IoT can monitor electricity 1 phase well with a percentage of AC voltage error of 0.044%, current by 4.75%, power by 1.853%, energy by 21.99%, power factor 4.84% and electricity bill by 7.68%.

Key words:
Electricity Bills, Electrical *Monitoring*, Linear Regression.

ABSTRAK

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Rancang Bangun Sistem *Monitoring* Listrik 1 Fasa Berbasis IoT

Penggunaan listrik yang tidak terkontrol akan menyebabkan pemborosan dan peningkatan tagihan listrik. Pada penelitian dilakukan rancang bangun untuk menghasilkan sistem pemantauan pemakaian listrik 1 fasa dengan menggunakan IoT. Untuk merealiasikannya diperlukan lima tahap utama, yaitu perancangan sistem, pengujian sistem, pengukuran, pengumpulan data, dan analisis data. Dalam menganalisis data digunakan metode analisis regresi linier untuk mengetahui kesesuaian hasil *monitoring*. Berdasarkan penelitian yang telah dilakukan yang bertempat di Laboratorium Jurusan Teknik Elektro Untirta. Sistem *monitoring* listrik 1 fasa berbasis IoT dapat memantau listrik 1 fasa secara baik dengan persentase eror rata-rata tegangan AC sebesar 0,044%, arus sebesar 4,75%, daya sebesar 1,853%, energi sebesar 21,99%, faktor daya 4,84% dan tagihan listrik sebesar 7,68%.

Kata Kunci:
Tagihan Listrik, Pemantauan Listrik, Regresi Linier.