

ABSTRAK

Monitoring dan sistem kendali suhu serta kelembaban ruang server berbasis *Raspberry Pi* ini, selain menginformasikan suhu dan kelembaban ruangan, juga jumlah orang di dalam ruangan serta dari mana sumber listrik ruangan server tersebut (PLN/Genset). Bagian *setting* suhu dapat dipilih antara 22°C sampai 25°C sedangkan *setting* kelembaban dapat dipilih antara nilai 45 %RH sampai 55 %RH. Digunakan program *python* untuk pengendalian unit AC dan *dehumidifier* sehingga suhu dan kelembaban ruangan dapat sesuai dengan nilai *setting* dan pengendalian lampu penerangan yang ditentukan oleh jumlah orang di dalam ruangan. Sensor PIR HC-501 digunakan untuk menghitung jumlah orang yang masuk/keluar dari ruangan. Sedangkan sensor arus SCT013 digunakan untuk mendeteksi apakah sumber listrik berasal dari Genset. Harapannya sistem ini mampu membantu admin dalam memonitor dan mengendalikan suhu dan kelembaban ruang server ketika tidak berada di tempat sehingga dapat mengefisienkan waktu, tenaga dan lain-lain.

Kata Kunci: **Monitoring, Sistem kendali, *python*, DHT21, PIR HC-501, sensor arus SCT013, *Raspberry Pi*.**

ABSTRACT

This monitoring and control system of temperature and humidity of server rooms based on Raspberry Pi, informing the temperature and humidity of the server room, as well as the number of people in the room and also where the source of the server room's electricity comes from (PLN / Genset). Temperature settings can be selected between 22°C to 25°C while humidity settings can be selected between 45%RH to 55%RH. To get the room temperature and humidity level, the average value of 2 DHT21 sensors is used. Python programming is used to control the AC unit and dehumidifier so that the temperature and humidity match the setting value. And also to control the lighting which is determined by the number of people in the room. The PIR HC-501 sensor is used to calculate the number of people entering/exiting the room. Whereas the the SCT013 sensor is used to detect whether the power source is from a generator. Hopefully this system is able to assist the admin in monitoring and controlling the temperature and humidity of the server room from outside the monitoring room so that it can be more efficient in time, effort and others.

Keywords: *Monitoring, control system, python, DHT21, PIR HC-501, current sensor SCT013, Raspberry Pi.*