

INTISARI

RANCANG BANGUN SISTEM MONITORING SUHU DAN KELEMBABAN UDARA PADA MARSHALLING ROOM UNIT PHOSPORIC ACID PT PETROKIMIA GRESIK

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Telah dilakukan pengujian dan penelitian perbandingan suhu dan kelembapan udara menggunakan *prototype* berbasis Nodemcu ESP8266 dan sensor DHT22 dengan thermohygrometer di Marshalling Room Pabrik III Unit Phosphoric Acid (PA) 1, PT Petrokimia Gresik. Marshalling Room merupakan ruangan tempat PLC diletakan pada pabrik. Oleh sebab itu perlu dilakukan monitoring suhu dan kelembapan ruangan berbasis Internet Of Things agar dapat dimonitoring suhu dan kelembapan kapan saja tanpa harus ke lokasi. Alat monitoring suhu dan kelembapan marshalling room berbasis Internet Of Things (IoT) dibuat menggunakan NodeMCU ESP8266 dan sensor suhu DHT22.

Proses monitoring suhu dan kelembapan alat ini memanfaatkan jaringan wifi agar data suhu dan kelembapan dapat diakses lewat aplikasi Telegram. Data dari sensor DHT22 dihubungkan dengan NodeMCU dan pengguna dapat memantau suhu dan kelembapan secara real time dengan melakukan chat ke Bot Telegram, dan Bot akan menampilkan suhu dan kelembapan. Apabila terjadi perubahan suhu yang melebihi batas maka akan muncul notifikasi bahaya pada Bot Telegram dan membunyikan alarm pada alat. Sehingga petugas dapat dengan segera menuju ruangan untuk mengecek ruangan tersebut.

Kata Kunci : Marshalling room, Monitoring, Suhu, Kelembapan, Internet Of Things

ABSTRACT

DESIGN SYSTEM OF TEMPERATURE AND HUMIDITY MONITORING AT MARSHALLING ROOM PHOSPHORIC ACID UNIT PT PETROKIMIA GRESIK

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Tests and research on temperature and humidity comparison using Nodemcu ESP8266-based prototypes and DHT22 sensors with thermohygrometers in Marshalling Room III Phosphoric Acid Unit (PA) 1, PT Petrochemical Gresik. Marshalling Room is a room where PLC is placed in the factory. Therefore, it is necessary to monitor the temperature and humidity of the Internet of Things-based room so that it can be monitored for temperature and humidity at any time without have to go the location. The Internet Of Things (IoT) based temperature and humidity monitoring tool was created using NodeMCU ESP8266 and a DHT22 temperature sensor.

The temperature and humidity monitoring process of this tool utilizes the wifi network so that temperature and humidity data can be accessed through the Telegram application. Data from the DHT22 sensor is connected to NodeMCU and users can monitor temperature and humidity in real time by chatting to the Telegram Bot, and the Bot will display temperature and humidity. If there is a change in temperature that exceeds the limit, there will be a danger notification on the Telegram Bot and sound the alarm on the tool. So that the officer can immediately go to the room to check the room.

Keywords : Marshalling room, Monitoring, Temperature, Humidity, Internet of Things