JEEE-U (Journal of Electrical and Electronic Engineering-UMSIDA)
Vol 5 No 2 (2021): October, 165-174
Electrical Engineering

Air Temperature Control System In Silent Generator Box

Sistem Pengontrol Suhu Udara Pada Box Genset Silent

Anif Saukon Kamalul Husna Ponorogo Muhammadiyah University
Desriyanti Desriyanti Ponorogo Muhammadiyah University
Rhesma Intan Vidyastari Ponorogo Muhammadiyah University

For the community, generators are an alternative if there is a power outage or if there is a large enough electricity demand. According to workers in the field of generator rental in Trenggalek, namely "db Genset" which has the address Ds. Gondang, Kec. Tugu, Kab. Trenggalek, there are 2 types of generators, namely open generators and silent generators, and most people choose silent generators because silent generators are specially designed to muffle engine noise so they don't cause noise, very suitable for use in active environments, but silent generators often experience temperature problems rise (Overheating) which is due to a closed engine and less smooth air circulation. Thus the cooling system on the generator set is needed to support the safety of the temperature on the silent generator so that it remains normal below 70°C which is important to minimize overheating problems in the silent generator, so that it can improve the performance of the generator to work for a long time without any problems. overheating. The design of the Temperature Control System in this Silent Genset Box uses Arduino Uno as a system controller and uses the Ds18b20 sensor, the engine temperature cooling process previously relied on radiator water and radiator fans, so the idea arose to add blower fans on both sides of the silent generator box, marked with a green temperature light indicator. being below 70°C indicates the temperature inside the box is normal, the blue light indicator indicates the temperature inside the box is in the 70°C to 95°C temperature range, fan 1 is on, the red light indicator indicates the temperature in the box is in the 95°C to 120°C temperature range, fans 1 and 2 are on, and the red light indicator indicates the temperature in the box is in the temperature range of 95°C to 120°C if the temperature reaches 120°C the generator engine will turn off indicating the temperature in the box maxsimal fan 1 and 2 remain on until the temperature decreases to 40°C, and every change in temperature will send a notification via SMS to the generator operator

References

1. Arifin, S. (2020). Jenis Genset Dan Pengertiannya. Yokyakarta: STMIK Amikom Yogyakarta.
2. Axel Dewo Sujono, A. (2020). Kontrol Suhu Pada Generator Set Dengan Enggunakan Mikrokontroler. Jurnal Maestro Universitas Budi Luhur. Jakarta , 3.
3. Didik Aribowo, A. R. (2013). Sistem Pendingin Generator PT Indonesia Power UPB Suralaya Menggunakan Hidrogen . Universitas Sultan Ageng Tirtayasa, 2.
4. Martina Pineng, S. (2018). Sistem cerdas pengatur suhu secara otomatis sebagai alternatif penghematan energi listrik. Teknik Elektro UKI Toraja, Tana Toraja, 22.
5. PT. HARTEKPRIMA LISTRINDO. (2009) Kebutuhan Genset Dan Macam Macam Jenis Genset. Surabaya.