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Abstract

The increase in electrical energy consumption of Air Conditioning can be caused by Freon leakage and dirty air filter. When the Freon leak occurs and air filter have been dirty, the compressor of the equipment will operate continuously until the temperature is maintained a desired setpoint, this may lead to an increase in electricity consumption of the equipment. The purpose of this research is how to build a control system that can detect and inform the user of Air Conditioning when the Freon gas has been leaked and the air filter has been dirty, so the user can know when the Air Conditioning needs to maintenance and the type of maintenance should be done, in order that can avoid the waste of electricity consumption. The system is built by integrating temperature sensor modules, current sensors, LCD displays and alarms into the Controller to control the overall workings of the system through the software embedded into it. System testing is done by simulating it through Proteus simulation program. From the results of tests conducted, it turns out that the resulting method can disable the working of Air Conditioning when indicated Freon has been leaked or the air filter has been dirty, and can inform to the user through the LCD display and alarm indicator, that the equipment needs to

maintenance for reduce the occurrence of electricity waste.

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Index Terms

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Keywords

Detection, Information, Freon Leakage, Dirty Air Filters, Air Conditioning.