

ABSTRACT

In this research, prototyping and analysis of Air Cooler equipped with temperature and humidity monitoring system, to increase the effectiveness of cooling at Telkom University. Conventional Air Coolers often become ineffective when used in areas that have high humidity because conventional Air Coolers use an evaporative cooling process that can increase humidity levels in the air. Therefore, the system made uses ice cubes as the main cooling medium and the fan speed of the Air Cooler is controlled based on the air temperature in the environment using a DHT22 sensor to monitor temperature and humidity directly.

The test results of the Air Cooler show that the system made is able to reduce the air temperature results by 1.9 - 4.5 ° C from the air temperature in the environment without affecting the humidity level in the room. In addition, the fan speed is set automatically with a fan speed of 5 m/s based on the air temperature conditions in the room. With this, the developed Air Cooler can be a more energy-efficient and environmentally friendly solution for users in the tropics specifically at Telkom University.

Keywords: Air Cooler, Temperature monitoring, humidity, energy efficient.