

IoT-Mobile Enabled Smart Air Cooler with Humidity Control

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Abstract

An evaporative air cooler's tendency to get more humid after some period of operation is one of its main issues. and there is not much work is done on making it automatically operate. To address this issue, an IoT-based Smart Evaporative air cooler with humidity control has been developed. This paper introduces a method which maintains the humidity in the human comfort zone. An algorithm is developed by analysing data from the dht22 humidity and temperature measurement sensor in which instead of the pump operating continuously it operated intermittently. To connect air cooler to the internet, ESP8266 Wi-Fi module is used. so that when you will be away from home you wanted a cool room you can turn on the water cooler before entering a home. Arduino Uno microcontroller with Atmega328P chip, Water Level Depth Detection Sensor for Arduino, and Relay is used. This technique makes it very convenient for the user to control air cooler by using a mobile phone, while keeping the humidity within the Human comfort zone.

Keywords

Temperature and Humidity, Arduino Uno, Esp8266Wi-Fi Module, Internet of Things (IoT) and relay module.

Biographies

Chaitanya A. Watane is an engineering Graduate student completed his B.E. in mechanical engineering from Dr. Babasaheb Ambedkar Marathwada university in 2019. He is currently pursuing his Masters in M.Tech in mechatronics specialization Department of Manufacturing Engineering and Industrial Management from College of Engineering Pune.

Dr. B. U. Sonawane is presently working as Associate Professor in Department of Manufacturing Engineering and Industrial Management from College of Engineering Pune. He had completed his PhD in Production Engineering and Masters in Mechanical Engineering. He has a teaching experience of around 17 years in areas like Application of Statistics in Project Management, Reliability Engineering, Tribology and Tool Design etc. He had also published over 30 Research papers in National and International Journals and Conferences in the area of advance manufacturing engineering.