Abstract

The paper presents the control of 1kw heaters in 10*10*10 cubic feet room area through ZigBee remote. ZigBee Remote is capable to set the desired temperature command to the heater node by the user. Heater node is having dimmer, processing unit and ZigBee modem. The four temperature node is placed in appropriate location in the room and capable to communicate the temperature information to the heater node. Heater node sends the optimized room temperature data which is collected from the four sensor nodes, to the remote. Remote contains the optimized room temperature data and having the facility to feed the desired temperature data to heater node. This will be an intelligent network in which heater node intelligently maintains the room temperature as set by the remote, using PID and Particle Swarm Optimizing (PSO) algorithm on collected data and adjust the voltage levels of heating
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elements. Remote, heater node and sensor node having communication ability with baud rate of 9600. sensor nodes are capable to communicate upto 30 meters and remote and heater node is 100 meters. The proposed heater system is an intelligent, low cost and energy efficient.

References

- Vineet Shekher, Dr. Pankaj Rai, Dr. Om Prakash: "Design and Evaluation of Classic PID, Gain and Phase Margin Based Controller and Intelligent Controller Design for a Ceramic Infrared Heater", ARPN Journal of Science and Technology, VOL. 3, NO. 3, ISSN 2225-7217, April 2012.
Index Terms

Computer Science  Circuits And Systems

Keywords

Heater node  Intelligent network  PSO  PID  Sensor node  remote control  sensor node  Zigbee