

ABSTRACT

At this time there are many monitoring systems using a cable as a connector between the plant with the server. One example of the implementation of it is Indoor Air Quality Monitoring System. But the weakness of the monitoring system that uses a connector cable are limited distance between plant and server.

In this thesis will be made indoor air quality monitoring system with the method of sending data to a server on a personal computer (PC) using wireless communication, is using Zigbee Technology. Parameter data will be sent to the server and will be displayed on a PC or stored in database. The sensor is used at the plant is TGS2600 air sensor which sensitive to pollutant gases and ATmega16 microcontroller is used as a data processor of sensor readings. Monitoring process on PC is an interface application created using Visual Studio 2010 software. Data shown are indoor air quality monitoring with the database interface and real-time graphics.

The system is built using Zigbee commination, consisting of two pcs of sensor nodes and one server. Air parameter measured are carbon monoxide (CO). Levels are pollutants that are read by both sensors have an average that is not significantly different. Maximum transmission range of the Xbee is 17 meters, which is the connection between XBP24-ACI-001 Xbee-PRO Zigbee module chip antenna with XBP24-ACI-001 Xbee-PRO Zigbee module chip antenna.

Keywords: monitoring, air quality, microcontroller, TGS2600, Xbee Pro, carbon monoxide