

ABSTRACT

Air pollution produced by the combustion of the manufacturing industry is the formation of carbon monoxide (CO) or carbon dioxide (CO₂). Carbon monoxide binds to hemoglobin more strongly than oxygen. As a result, oxygen transport in the blood is disrupted so that it can cause problems in organs that really need oxygen, such as the heart and lungs. Likewise, carbon dioxide is dangerous if inhaled exceeds the threshold. The problems described above relate to the OHSAS 18001:2007 standard on Occupational Health and Safety (K3) management in organizations. Therefore it is necessary to monitor the quality of CO and CO₂ in the air. With the development of IoT, monitoring can be done in real time with sensor measuring devices. To approach the source of air pollution, a multicopter UAV with a quadcopter type is used as a tool to bring the sensor closer. In this study, two devices were used, namely ESP-Sender and ESP-Receiver. ESP-Sender to retrieve data and ESP-Receiver to receive data and forward to the web. The communication method used is ESP-Now while the IoT web creation method uses the Codeigniter 3 framework. Realtime results of data retrieval are obtained with an average difference of 6.90 seconds. UAV can perform data retrieval in manufacturing industrial areas must have the ability to hover, maneuver, do not require a large field to take off, can fly as high as at least 20 meters, can fly for a long time

Keyword – CO, CO₂, Codeigniter, ESP-Now, IoT, Monitoring, Realtime