

***Blynk Integrated IoT Based CO and CO₂ Gas Level Monitoring System using
MQ-7 Sensor and MQ-135 Sensor on Waste Processing Equipment***

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ABSTRACT

The issue of improper waste management remains a challenge in Indonesia, particularly within the environment of Ar-Raudlah Islamic Boarding Schools as social institutions, which involve extensive daily interactions. Proper waste management is crucial to maintaining a clean and healthy environment in these settings. The Garbage Disposal Stove technology, equipped with a Wet Scrubber Filtration System, is designed as an innovative solution to expedite waste processing and eliminate emissions, thereby enhancing the health and comfort of the pesantren community. This research aims to optimize real-time monitoring based on the Internet of Things (IoT). The design stages include creating designs, component planning, testing, and data analysis and processing. The system implementation utilizes components such as the ESP32 as the main microcontroller, power supply, MQ-7 and MQ-135 sensors, blower and water pump, along with the Blynk platform to display monitoring processes via smartphones. The designed IoT system demonstrates effective capabilities in measuring and displaying performance data from the MQ-7 and MQ-135 sensors.

Keywords: *Gas Level Monitoring System, Blynk, IoT, MQ-7 Sensor, MQ-135 Sensor, Waste Processor*