

# ***DESIGN OF MONITORING CONTROL SYSTEMS AND PREDICTION OF EXHAUST FAN FEASIBILITY ON INTERNET OF THINGS (IOT) BASED INVERTER PANEL***

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## ***ABSTRACT***

*PT. Pertamina EP is a company engaged in the processing of petroleum. PT. Pertamina EP is able to produce 82,000 barrels of oil per day (BPOD) to support oil revenues which continue to increase every year. Supporting equipment is needed in production wells in the field. One of them is the inverter / Variable Speed Drive (VSD) panel. In the VSD panel there are tools to support the performance of the panel system. One of them is the exhaust fan which makes the air circulation in the panel stable. However, this exhaust fan often experiences damage caused by working continuously, so if the exhaust fan is damaged and stops working it can damage other devices in the panel due to overheating. The purpose of the system to be created by the author is to create a system that controls the exhaust fan based on the temperature in the panel, and can monitor the performance of the exhaust fan itself using the Blynk application. So the author makes a monitoring control system and predicts the feasibility of the inverter panel. The system controls the exhaust fan based on the temperature in the panel by using the DHT 11 sensor to read the panel temperature, and to monitor the RPM of the exhaust fan using a speed sensor (optocoupler). NodeMCU ESP-8266 as the microcontroller used in making the system. There is also a spare exhaust fan to help if there is damage to the main exhaust fan, which can be controlled via Blynk or manual buttons on the panel. Blynk as an application monitors and controls everything on the system.*

*Keywords : Variable Speed Drive (VSD) Panel, NodeMCU ESP8266, Internet Of Things (IoT), Speed Sensor, DHT 11 Sensor.*