Design of Hydrocarbon Gas Detectors (HC) in Uno Arduino Based Car Cabins

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ABSTRACT

An instrument for monitoring the gas content of hydrocarbon (HC) compounds in the car cabin has been made using an Arduino-based TGS 2610 gas sensor. Growth in the number of vehicles and increase air pollution. HC gas in the air with a maximum content of 1000 ppm can be detected using the TGS 2610 gas sensor combined with Arduino. HC gas detector data retrieval is done with a variation of 3 points 3 times the sampling in the cabin that is front, center and rear. The calibration of the HC gas detector using the TGS 2610 sensor is calibrated with a gas analyzer to determine the value of the sensor voltage output with the actual value. At this stage it is done by comparing the output value with a valid tool that is using a gas analyzer. In order to find the HC gas regression function and the TGS 2610 Sensor Error Percentage value. In studies that have been carried out the higher HC gas content in the rear cabin position, the smaller the HC gas at the front of the steering wheel. The buzzer will light up when HC gas levels are detected above 50 ppm. The results of testing hydrocarbon gas detectors are known to tgs 2610 gas sensor error compared to the gas analyzer at the front by 14.6%, 14.8% for the center of the car cabin, and 8.6% at the rear of the Toyota Avanza car cabin, with a value The average total error is 12.66%.

Keywords : *Detector gas Hc, Arduino UNO, sensor TGS - 2610*