

Implementation of Electronic Nose to Detect LPG Leakage

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Abstract

The application of smart electronic instruments to detect leakage of inflammable or poisonous gases in the environment has significant importance in agricultural, industrial applications. Detecting LPG through an early warning system at home, hotels, restaurants, and LPG warehouses can prevent fire accidents and save lives and avoid economic losses. Digital electronics technology are more reliable in designing smart electronic systems to sense gas, and measure its concentration numerically. Using the AVR Atmega16 microcontroller, a smart electronic nose design has been developed to detect LPG leakage. For present system, LPG sensor Figaro 813 and ferrite based sensor interfaced with on-chip ADC of AVR microcontroller. The system is in agreement with the actual values and can detect the presence of LPG due to a leakage. In this paper, the results of both sensors are interpreted. The device is primarily in use in the security of smart kitchens.

Keywords

LPG Sensor, Ferrite Sensor, AVR Microcontroller, Electronic Nose, Embedded Technology.

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
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