IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 3, December 2024

IoT Based on LPG Gas Leakage Detection and Prevention

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Abstract: *The growing use of liquefied petroleum gas (LPG) in residential and industrial applications has posed significant safety issues due to the risks involved with gas leakage. This review paper introduces an IoT-based LPG Gas Leakage Detection and Prevention System, which integrates advanced sensor technologies and communication systems to enhance safety measures. The proposed system uses MQ-6 and YG1006 sensors to detect gas concentrations and flames, respectively, thereby providing a dual-layered approach to leak detection. The system is designed to work in real-time, sending immediate alerts via SMS through GSM technology when a gas leak is detected. It also activates an exhaust fan to reduce the accumulation of gas in the environment, further reducing the risk of fire or explosion. This review synthesizes various methodologies employed in existing literature, focusing on the effectiveness of IoT frameworks in monitoring and controlling gas leakage incidents. It covers some of the key features like integration of microcontrollers, such as Arduino, to process sensor data and easy interfaces for monitoring gas levels and automatically responding to detected leaks. It brings to light the need for constant monitoring and rapid response mechanisms in preventing accidents related to the use of LPG. It utilizes the advantage of IoT technologies to make this system a comprehensive one that detects gas leaks while actively preventing potential disasters to ensure overall safety standards in places where LPG is used.*

Keywords: liquefied petroleum gas

DOI: 10.48175/568