

Flame-retardant micro-modules for IoT in the Maldives



Overview

This study implements an intelligent fire suppression device that connects sensor IoT based on microcapsules to secure initial fire suppression and golden time in the event of a fire in blind spots that cannot be seen by humans or at a time when it is difficult to recognize a. This study implements an intelligent fire suppression device that connects sensor IoT based on microcapsules to secure initial fire suppression and golden time in the event of a fire in blind spots that cannot be seen by humans or at a time when it is difficult to recognize a. This study implements an intelligent fire suppression device that connects sensor IoT based on microcapsules to secure initial fire suppression and golden time in the event of a fire in blind spots that cannot be seen by humans or at a time when it is difficult to recognize a fire. The microcapsule. In this project, we will build an IoT based fire detection project using an Infrared flame sensor, Smoke detector, temperature and humidity sensor and ESP32 with an email alert feature. Our fire detection project will be linked with the IFTTT web service to generate an email alert to notify users. Presented at the 3rd International Conference on Modern Technologies in Mechanical & Materials Engineering (MTME2025), Topi, Pakistan, 16–17 April 2025. Keywords 1 Internet of Things, fire safety, monitoring, microcontroller, ifttt, sensor. Introduction The increasing prevalence of fire incidents and their. Abstarct An extremely effective and cutting-edge technology that uses the Internet of Things to detect fires in real time and send out early alerts for prompt action is a smart fire detection system with early notifications.

Article Content

Sep 28, 2025

FireWatch: LoRa-Connected Fire Detection and Monitoring System

In this research, this technology is adopted to design an IoT-enabled fire detection system. The developed system employs a LoRa transceiver module, an Arduino processor module, a LoRa

Nov 09, 2025

Building a Web-Based Fire Alarm Using ESP32, Flame

Updated: January 4, 2025 In this tutorial, we will build a web-based fire alarm system using an ESP32 microcontroller, a flame sensor, a smoke sensor, and Arduino

Oct 01, 2025

Ultrafast Response and Threshold Adjustable Intelligent

Here, we propose an intelligent self-powered remote IoT fire warning system, by employing single-walled carbon nanotube/titanium carbide

Sep 12, 2025

IoT-Based Fire Alarm Detection and Prevention System Using

Abstract: This project presents an IoT-based fire alarm detection and prevention system utilizing a NodeMCU (ESP8266) microcontroller, fire sensor, alarming buzzer, and automated water sprinkler.

Oct 26, 2025

A Robust and Accurate IoT-Based Fire Alarm System for ...

The system focuses on fire detection and validation using IoT, WSN, and image processing techniques for detecting fire in city environments using smoke, light, humidity, temperature, and a cloud platform

Apr 13, 2026

(PDF) Fire Safety and Alert System Using Arduino

The main objective of this study was to design and integrate Internet of Things (IoT) to an Arduino-based fire safety system that gives alert to fire-fighting

Dec 18, 2025

Fire Detection Using IoT

IoT-based fire detection systems harness the power of various sensors, including flame detectors, smoke detectors, and heat sensors, to continuously monitor environments for any signs of fire. These

Jul 30, 2025

Internet of Things (IoT) Based Fire Detection and Suppression System

This research presents the design and implementation of an Internet of Things (IoT)-based fire detection and suppression system featuring real-time monitoring and scalable sensor integration.

Sep 11, 2025

An IoT based Fire Detection, Precaution & Monitoring System using ...

The investors are losing their interest and the prominence of this sector is getting toneless. In this paper, we designed an IoT based fire alarming system to help detect fire as soon as possible & take

May 28, 2026

Recent advancements in nanostructured flame-retardants: Types ...

This review is mainly focused on nanostructured flame-retardants and their types, mechanisms and applications of flame-retardant polymer composites, emphasizing recent

Aug 16, 2025

IoT as a Platform: For Smart Home Analysis and Monitoring of Fire ...

To prevent and avoid such fire outbreak, we need to cover certain fire parameters like temperature, flame, and smoke, as these parameters help to create an alert whenever there is an

Aug 11, 2025

Mitigation effects on thermal runaway propagation of structure-enhanced ...

Majority existing organic composite phase change materials (CPCMs) are flammable that result in thermal hazards such as fire and explosions in battery modules. Furthermore, the

Jun 06, 2026

IOT BASED SMOKE AND FLAME DETECTOR

In this project, we will build an IoT based fire detection project using an Infrared flame sensor, Smoke detector, temperature and humidity sensor and ESP32 with an email alert feature.

Jun 15, 2026

Intelligent Fire Suppression Devices Based on

This study implements an intelligent fire suppression device that connects sensor IoT based on microcapsules to secure initial fire suppression

Mar 31, 2026

(PDF) Smart Fire Alarm System Using IOT

The research paper proposes the “Smart Fire Alarm System Using IOT” in smart building by integrating IOT devices, including fire alarm devices

Nov 26, 2025

Smart Fire Detection System with Early Notifications Using Iot

To detect flames, temperature changes, and smoke, the system combines a number of sensors, including a Flame Sensor and a DHT11 Temperature and Humidity Sensor, with an Arduino Uno

Aug 14, 2025

Enhancing flame resistance properties and water resistance of rigid ...

These microencapsulated flame retardants were incorporated into RPUF to create flame-retardant RPUF composites. A thorough investigation of their mechanical properties, combustion

Jul 31, 2025

IoT based Forest Fire Detection and Prevention

This flame sensor or fire sensor module works on the concept that when a flame or fire is burning it emits IR signals. This IR signal is then received by the IR receiver on the fire sensor module to

Jun 12, 2026

Thermo-Powered IoT Fire Detector: A Self-Sustained

This study proposes a thermo-powered Thermo-Powered IoT smart fire detector system Smart Fire Detector System, which leverages thermoelectric energy

Oct 14, 2025

Fire Detection and Real Time Monitoring Systems Through IoT Sensors

The Internet of Things (IoT) has become the new area of research and development for variety of applications in industrial and domestic areas. The model proposed in the paper consists of

Jul 18, 2025

Fire Safety Monitoring System Based on Internet of Things

The study shows that an IoT-based fire safety monitoring system has several advantages over traditional fire monitoring systems, including the ability to collect and process large amounts of data, integrate

Aug 11, 2025

Enhancing fire safety through IoT-enabled flame

Enhancing fire safety through IoT-enabled flame detection systems: A cost-effective and scalable approach Augustine Obayuwana 1*, Daniel Olah 1, &

Oct 21, 2025

Real-time fire detection and suppression system using YOLO11n and ...

Khan et al. proposed a fire detection system integrating a Raspberry Pi with the Internet of Things (IoT). Their setup includes a smoke sensor and a Wi-Fi module, with the

Jan 23, 2026

Thermo-Powered IoT Fire Detector: A Self-Sustained

Using the Seebeck effect, the system harvests heat from power plant chimneys, vehicle exhausts, and direct fire sources to power a microcontroller, heat sensors,

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.moletenare-ew.co.za>

Email: info@moletenare-ew.co.za

Phone: +86 138 1658 3346

Address: Ningbo, China

This document is for informational purposes only. Specifications subject to change without notice.

