Autonomous Smoke Sensor

with LoRaWAN® connectivity

TRINEO Systems

Introducing the Autonomous Smoke Sensor, which uses optical detection method to detect smoke and LoRaWAN® protocol to deliver alarms and messages.

When the concentration of smoke rises above a pre-defined threshold, a loud audible alarm is raised locally and a LoRa WAN message is sent to the network server. Similarly, when the concentration of smoke drops below the threshold, the siren is silenced and another message (alarm-restore) is sent to inform the system that danger has subsided. Additionally, for device health supervision, the sensor sends heartbeat beat messages at user-configurable intervals, which also contain information about the battery status.

The sensor is powered by a single 9V alkaline battery, which lasts up to 3 years (subject to interval of heartbeat message delivery configured by the user).

Smoke detection section:

detection method:	optical
conforms to:	EN14604:2005
siren intensity:	>85dB

Radio section:

band:	868 MHz
protocol:	LoRa WAN®
network enrollment :	OTAA
spreading factor:	7 - 12 (dynamic)

Other characteristics:

operating temp.:	-25°C to 55°C
dimensions:	Ø 112 x 57 mm

system description overleaf

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SENSOR TO CLOUD DIRECT!

TRINEO Systems

Product Overview

Trineo Systems offers innovative monitoring solutions using LoRaWAN® technology to enhance security, industrial safety, and efficiency. Our range includes both off-the-shelf sensors and custom-designed options to meet specific client needs. Whether you need to connect through a public or private LoRaWAN® network, we've got you covered. In the Netherlands, our sensors operate on KPN's public network, each sensor available with a 3-year communication plan for seamless operation.

We also provide a straightforward back-end service for managing these sensors, making it easy to monitor events and alarms. Our system supports direct alarm delivery to Alarm Receiving Centres (ARC) using the SIA DC-09 protocol, helping you respond quickly to emergencies.

Typical applications

Our system significantly reduces the total cost of protecting certain classes of locations where their size or infrastructure availability limits the use of traditional alarm and monitoring systems. Such premises can be monitored for smoke, flooding, intrusion, overheating, freezing, and many other emergencies. The cost efficiency is achieved through the following features:

- The sensors communicate directly with the cloud, eliminating the need for local network infrastructure.
- The sensors are managed remotely via our cloud-based back-end, eliminating the need for a local controller on the protected premises.
- Most of the sensors are battery-powered, eliminating the need for a local power source.
- All of the above significantly reduce installation effort, thereby substantially lowering the total cost.

Success Story

Our collaboration with PZU, the largest Polish insurance company, stands as a testament to the reliability and effectiveness of Trineo Systems' sensors. Integrated into PZU's industrial risk management program, "Ryzyko PRO", our sensors play a crucial role in safeguarding against industrial risks. "Ryzyko PRO" is an innovative industrial loss prevention program designed for corporate clients facing high risks due to their large operations and specialized processes.

By integrating our sensors into industrial settings, we help monitor vital parameters at critical control points, sending real-time data to PZU's Monitoring Center. This ensures that processes and practices are adhered to at all times in the protected facility, thus reducing the risk of loss occurrence.

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