VESDA®

Is your portable switchroom or substation protected from fire?

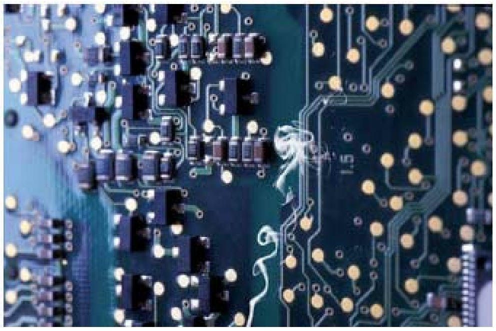
What are the risks?

Portable electrical substations and switchrooms are a critical component of an industrial site's business continuity plan. Without power there is no production and without production there is a financial loss or even business failure.

The electrical components within portable substations or switchrooms are susceptible to fire. A fire within the building is devastating, but it's not just the fire that should concern you - it's the smoke that is destructive and the unseen long term damage.

Latent equipment contamination

Even the smallest amount of smoke released through electrical equipment or components can cause latent contamination and failure. The smoke is spread by the air conditioning system, this smoke contains chloride and sulphur particles, which react with humidity, initiating the corrosion process.



According to The USA Federal Communications Commission (FCC), 95% of all fire damage within facilities housing electronic equipment is corrosion.

Why very early warning is essential

An Xtralis VESDA air sampling smoke detection system will provide the earliest possible warning of a fire in a portable substation or switchroom.

Unlike point-type detectors, Xtralis VESDA systems actively draw air samples to a central detector through a network of pipes.

The sampling holes in the pipes can be placed near the most likely sources of an electrical fire, and along the path that smoke will be carried by air flow from any air-conditioning system. This ensures the earliest possible detection of smoke.

Preventing downtime and asset loss

How much would it cost per hour as a result of production downtime?

- Equipment loss and replacement
- Building loss
- Safety issues
- Overtime payments to staff
- Lost perishable stock
- Lost production costs
- Unfulfilled orders
- Possible lost customers
- Contract penalties
- Damage to company's reputation

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An Xtralis VESDA early warning system specifically designed to address the risks in substations or switch rooms, will ensure the early detection of smoke and provide time to prevent latent equipment contamination.

Fire detection challenges	Xtralis VESDA solution
• Environment is dirty, containing significant dust levels that can influence the detection performance of conventional point detection. • Point detection maintenance may be frequent. • Unwanted alarms are a factor.	• Xtralis VESDA smoke detectors have a built-in, replaceable filter that prevents dust reaching the detector. • A filtered clean air wash ensures the optics are always clean, meaning reliable and repeatable detection every time. • Pre-Filtering can be incorporated in harsh environments.
• Sites are often unmanned, making response to fire alarms difficult and slow	• Xtralis VESDA detectors can be monitored and managed remotely. • The system has multiple programmable alarms, thus allowing staged and planned responses to fire. • Local and remote monitoring ensures a quick response to any fire condition.
• High airflow dilutes incipient smoke, preventing detection during the early stages of a fire.	• Unlike conventional point detectors, Xtralis VESDA sampling points and pipe can be installed in areas where a fire risk may exist and where smoke may travel. • Room sampling • In-cabinet sampling • Sampling across the air-handling unit.
• Unnecessary activation of suppression systems.	• Xtralis VESDA detectors offer multiple alarm level detection and reporting. While the early warning alarms can trigger an investigation, specific thresholds can be used to activate a suppression system if the need arises.

An Xtralis VESDA detector can be installed inside the portable substation or switchroom whilst it is being built or retrofitted onsite.

Capillary tubes branch off the main Xtralis VESDA sampling pipe and into the equipment cabinet, allowing the earliest possible warning of smoke within the cabinet.

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