Mission Critical Fire Protection

Smoke Detection in Data Centres

Driving 100% uptime in data centres & IT facilities

The Facts

- 64% of all commercial building fires start in power and climate control equipment, both critical elements of any data centre
- A 2014 report by SUSE revealed that 75% of datacentres cited zero downtime as a top priority
- Research from DCD Intelligence highlighted a 15.2% increase in the number of high-density cabinets and servers (over 10kW), between 2012 and 2013

The FAAST Solution

FAAST™ Fire Alarm Aspiration Sensing Technology offers the earliest and most accurate fire detection so you can detect fires and overheating cables before they happen, whilst removing false alarm risks. Ultra sensitive very early warning protection is an essential safety measure in enterprise critical operations, combined with remote monitoring from anywhere in the world and seamless building management system integration.

The Results

- Greater focus on data and hardware management
- More time to transfer data
- No business disruption
- No use of suppression systems
- Optimal detection 24/7

www.faast-detection.com
The Fire Detection Challenge in Data Centres & IT Facilities

Data centres and IT facilities are home to mission critical equipment. Every second lost, every transaction missed and every byte of data destroyed means major financial losses.

The potential for smoke and fire is heightened in data facilities as the electrical equipment they contain, such as cabling and PCBs, creates a high heat density environment. Air conditioning devices create high air flow and air filters used by the AC units can remove smoke particulates, making smoke detection extremely challenging.

In order to fully protect a data centre from smoke and fire damage, a system capable of achieving very early warning detection is critical.

Unique hardware and software features

FAAST is able to provide such a high-level of protection through a number of unique hardware and software features:

• **Internet / IP connectivity**, which enables remote monitoring and management of the full system from anywhere in the world by direct integration into local and wide area networks

• **Ultra sensitive detection** of 0.0015%/m (0.00046%/ft)

• **Multi-angle and multi-wavelength optics** and complex algorithms to differentiate combustible particles from dust particles, a critical requirement in avoiding false alarms and achieving 100% uptime

• **First of its kind three-stage filtration**, which includes an aerospace-designed patented wing filter to prevent particles larger than 20 microns from entering the detection chamber, again reducing the possibility of false alarms

• **Seamless Modbus building system integration** without any additional hardware or software; reduces ongoing costs via detailed diagnostics and remote device integration

• **Seamless Modbus building system integration** without any additional hardware required

• **Environmental extremes resilience** from -28°C to +65°C, 0-95% condensation/humidity and seismic stability up to Richter Scale 9 (qualified by Independent Nuclear Compatibility Testing)

Manage your response strategy

Ultra sensitive detection, along with FAAST’s five fully customizable alarm levels, enables a strategic response plan to be created so appropriate personnel can address incipient fire conditions up to two hours before costly damage can occur. In a data centre, the ability to detect a fire before it happens gives you more time to investigate what has happened and to action your response, such as removing the energy source or transferring data to an unaffected part of the system.

Using the onboard Ethernet connection, FAAST can be monitored anywhere in the facility via a Local Area Network (LAN) or anywhere in the world using a Web browser and a VPN-capable device.

Combining Very Early Warning Fire Detection, and immunity to false alarms, FAAST is a data centre’s first line of defence against downtime and damage caused by smoke and fire.

Higher server power increases fire risks

The Data Center Users’ Group estimates cabinet and server density will rise to 52kW per rack by 2025, based on current trends. This dramatic increase is expected to radically change the physical environment of the data centre and dramatically increase fire risks through additional heat build-up.

Amazon.com outage costs $66,240 per minute

January and August 2013

Amazon.com went offline on two occasions in 2013; the first incident lasting 49 minutes and the second 30 minutes. The brand lost £66,240 per minute of outage in lost sales revenue during these two events.

The mission critical mindset

- Goal is to identify and mitigate risks before a catastrophic event occurs
- Focus on efficiency, uptime and proactive maintenance
- View very early warning smoke detection as an active part of the building management system
- View the fire system as an important piece of equipment in the data centre
- Want the fire system to communicate with the IT infrastructure