Fire and Life Safety in Data Centers

usa.siemens.com/datacenters-fire-prevention

Protect people, assets, and data center uptime

Today's digital age means we rely on data centers—and the valuable information they enable and store—for nearly all aspects of our connected lives.

The nature of data center operations, however, means they are more prone to fire mishaps. In fact, data center equipment can present serious challenges in terms of high velocity, complex air patterns and high cases of combustible materials and potential ignition sources. Heavy power loads or a defective piece of equipment can quickly lead to a short circuit or overheating with major repercussions.
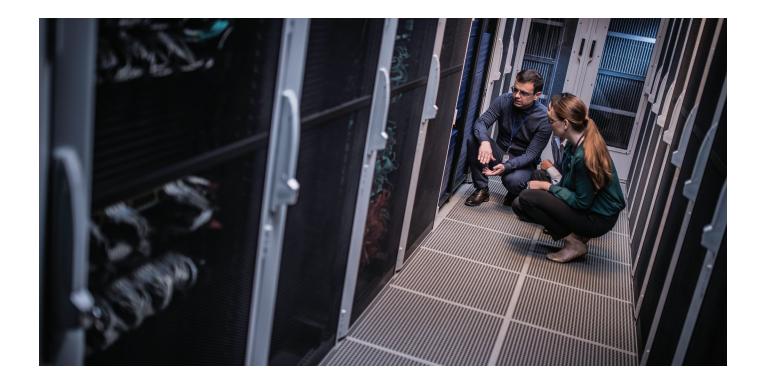
A fire within a data center can have a devastating impact, including massive loss of data, revenue and productivity, as well as business disruption, reputation damage and lawsuits. NFPA 75 and NFPA 76 provide guidelines, and local building and fire codes are in place for the protection of IT equipment and the space from fire damage. But staying current with dynamic codes and regulations can prove challenging, making it essential to work with a partner whose understanding of building codes and regulations can help you achieve and maintain compliance for your fire and life safety systems.

Fires spread quickly.
Every 30 seconds, a fire doubles in size. Thus, a small flame can quickly get out of control and turn into a major fire.

Smart strategies, technologies, and services

A smart data center integrates systems and services within and across networked facilities to deliver real-time and predictive analysis in a single interface providing peace of mind while managing uptime, productivity and operating expenses.

Fire safety involves many disciplines, from detection, alarming, and extinguishing to evacuation and building management. Siemens offers a complete portfolio of smart, fire-focused solutions and services, including fire panels; detection; notification; integrated building management; and inspection, testing, and maintenance services to safeguard data center operations while protecting people in the buildings.

Compliance with codes and standards

Fire and life safety equipment, including fire alarm, sprinklers and suppression, and mass notification systems must comply with a range of NFPA, federal, state, and local requirements. Siemens **Fire and Life Safety Services** provide data centers with comprehensive inspection, testing, maintenance (ITM),and repairs in accordance with codes and standards.

Very early warning fire detection

Data center equipment generates substantial heat and therefore requires a high level of ventilation to maintain proper operating conditions. But, high rates of ventilation can make it difficult for traditional devices to detect a fire. **Siemens Advanced Signal Analysis (ASA)** detectors use forward/backward light scattering, an advanced optical analysis of smoke particles, to increase detector sensitivity while providing the No False Alarm Guarantee. These units comply with NFPA 76 Standard as very early warning fire detection (VEWFD), high- sensitivity detectors.

Fast and clean fire suppression

In case of fire, water can damage a data center's electrical equipment, while the acoustic levels of some clean agent suppression can affect hard disk drives. Siemens integrated **Sinorix Clean Agent Suppression** is a waterless fire extinguishing system that instantly squelches a fire before it becomes large enough to activate the sprinkler system. And, the Sinorix Silent Nozzle features unique linear design to minimize acoustic levels.

FM-approved equipment

Many data centers are insured by FM Global insurance and must maintain their facilities in accordance with FM requirements. Siemens FM-approved **Desigo Fire Safety Modular (FSM)**, together with FM devices, provides the complete data center solution.

Reducing the risk of fires in data centers with smart solutions and services

Combining technology with extensive fire industry expertise, Siemens delivers customized fire solutions and services to reduce the risk of fires in data centers. From an initial fire safety assessment through ongoing support, we provide the systems, services and resources to meet today's challenges and tomorrow's unknowns.

At Siemens, we leverage the power of data to drive optimizations, efficiencies, and reliability through our robust offerings, giving customers deeper insights into their infrastructure and overall data center operations. We can help our data center customers along their digitalization journey with the people,processes, and technology to help intelligently achieve their goals.

Highlights

- **Smart fire detection, suppression, monitoring, communication, and command & control solutions**
- **Inspection, testing, and maintenance services**
- **Remote services for 24/7 monitoring and support**
- **No False Alarm Guarantee with advanced, multi-criteria fire detection**
- **Integrated data center management suite controls cross-discipline processes**

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