Object fire protection provides business continuity

Every company around the world is using IT to enable their business processes and production. This IT is often housed in small data rooms with one or two server-racks on-site with possible backups in the cloud or also locally.

Here is now also a tendency towards providing more calculating power locally in micro datacenters thus moving away again from the cloud to improve response time, the so-called edge-computing. These systems are backed-up also in the cloud but are of extreme importance for the continuation of all business activities.

Next to that there is a complete array of small cabinets or enclosures which steer production lines or complete factories. These PLC cabinets have buzz bars, all kinds of high voltage input and control equipment that are vital in this time and capital intensive production era.

These on-site business critical cabinets are the backbone of every company and are often neglected in the risk analysis of business continuity but also from a fire prevention and protection view point.

Fire prevention, detection and suppression are mainly viewed from a life safety and a building technology standpoint. This means that there must be fire safety equipment present to protect the people and the building. But if you also consider production downtime and loss of data than the fire safety picture can look a lot different.

There was a request from a pharmaceutical company to protect their warehouse which is completely robotized. The building had a sprinkler installation according to the building and construction regulations to protect the building, people and it’s content. The only downside was that the building of €30 million had for €2 billion worth of pharmaceutics stored which would be completely ruined if the sprinkler installation went off and there were hardly any people working in that fully automated warehouse. They wanted every potential source of fire protected from fire locally, being the PLC cabinets for the robots.

Edwin Verver

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Three levels of security

Protection against fire spreading to the building with an open cabinet
If the cabinet or server rack is critical to your business processes but is easy to replace without putting the company out of business but is not completely closed. Then it is sufficient to protect the cabinet or rack with a cheap and effective fire protection solution such as aerosols. This form of protection is mainly geared towards the sprinkler installation not going off and/or the fire brigade hosing down your building and ruining your warehouse.

Protecting a closed cabinet
If the cabinet or server rack is critical to your business processes, is easy to replace and the consequential damage need to be average. Then a more advanced fire suppression method using a gaseous system with a heat sensing tube would be advisable. For that type of system to start suppressing a fire it need fire otherwise the heat sensing tube won’t get ruptured. That means that the cabinet or the server rack will sustain considerable damage. But the fire will be suppressed and won’t be spreading to the building.

Protection of the cabinet and components in a closed cabinet
If the cabinet or server rack is critical to your business processes, is not easy to replace and the consequential damage need to be low preventing any down time. Then the most advanced fire suppression method using a gaseous system with an aspirating detection system would be advisable. For that type of system to start suppressing a fire it need smoke, the earliest stage of fire. That means that the cabinet or the server rack will sustain hardly any damage. The faulty component can be replaced and the cabinet is up and running again in no-time.

Start securing your hardware locally
Research has shown that companies sustained severe losses or even went bankrupt when their critical IT hardware failed completely (source: HDI-Gerling). Trading companies survive for 2.5 days, banks for 2 days and the rest won’t reach 24 hours. In total 51% of the businesses ceased trading. Unfortunately fire can be one of the main causes for the downtime of critical hardware. Equipment such as IT racks but also electrical switching and power distribution cabinets are valued most critical to the business next to the human capital, and therefore need protection against fire.

EXXFIRE™ protects your systems against fire without damaging the hardware. The system is plug-and-play, easy to install, reliable and clean, 30% smaller than conventional systems and low-maintenance with state of the art fire-detection capabilities.

The unique feature of the EXXFIRE™ system is the patented cool gas generator. A cool gas generator is like a small solid rocket. The solid propellant is stored as a chemical block inside the generator. An initiator starts the decomposition of the propellant in order to release the required Nitrogen gas at ambient temperature without any residue.

Nitrogen gas is at ambient temperature without any residue.

There is no danger of damaging the equipment by the fire suppressant and there are no cleaning costs afterwards. Due to the patented technology, no filtering or cooling is needed, thus giving a high storage efficiency, resulting in a 30% smaller and lighter system. The pure Nitrogen gas has no Ozone Depletion Potential (ODP) or Global Warming Potential (GWP) and there are no dangerous side effects to humans, a real advantage over chemical gasses. The gas production has a low pressure release profile and noise level. The Nitrogen changes the air composition,

Integrate fire detection and suppression system capable of securing 2,4m³/84 ft³ with Nitrogen at ambient temperature.
lowering the oxygen level and therefore preventing the fire to start or to continue.

The system is equipped with three Apollo™ sensors – based on advanced optical technology – to detect smoke. The unique Votexx™ software makes sure that the system is robust and dependable to prevent any false alarm. The three sensors are ‘voting’ independently to deploy the system only when two of the three sensors are sensing smoke particles.

Multi purpose system

The system is designed in such a way that it can protect multiple types of closed enclosures like server racks but also e-cabinets, power distribution units, switching cabinets or any other cabinet with high value or mission critical equipment.

It can be installed inside the protected area but also outside. The three Apollo™ optical sensors provide enough sensitivity to detect smoke long before fire will occur.

The control system is based on the XP95™ protocol of Apollo™ and can be made compatible with any other fire alarm panel. EXXFIRE™ offers three types of systems the 750, 1500 and 2250 using 1.2 or 3 cool gas generators protecting 1.2, 2.4 or 3.6m³ volume (based on a Class E type of fire), including power supply, back-up battery, led indicator and 2 open circuit connectors.

Plug and Play

The EXXFIRE™ system has unique design characteristics, which makes it a Plug and Play easy to install fire suppression system with a very long lifetime. The mounting plate connection enables a fast installation. The touch display will provide a simple activation of the system plus multiple systems status checks. The Internet connectivity module provides additional capabilities to monitor the system remotely (additional module not included).

Low maintenance costs

The EXXFIRE™ cool gas generator provides maintenance free storage of Nitrogen gas for over 10 years. This robust technology originated from the European Space Agency program (ESA). In comparison to other (high pressure) fire suppression systems, the EXXFIRE™ 750/1500 and 2250 only requires maintenance on the detection part of the system comparable to the smoke detectors in a building. This will give it a considerable cost advantage over the total lifetime of the system.

When the system is deployed, the used generator needs to be recycled. EXXFIRE™ will facilitate the environmentally friendly recycling. The used generator can easily be replaced with a new one with very little downtime to protect your high value equipment again for a very long time.

For more information, go to www.exxfire.com
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