



CASE STUDY

DEVICE-INTEGRATED FIRE PROTECTION FOR A MULTI SERVICE COMPANY

The Duisburger Versorgungs- und Verkehrsgesellschaft mbH (DVV) is a multi-service group in the areas of supply, mobility, IT & telecommunications and services. DVV comprises more than 30 companies, which makes it one of the largest employers in Duisburg and, as a local energy service provider, plays a key role in providing an efficient infrastructure in the city with a population of around 500,000.

This is a great responsibility that demands top performance from man and machine every day.

It must be ensured, that system-relevant technical facilities in all buildings function permanently and failures are quickly remedied. Particularly in the case of electrical equipment, damage caused by overheating is commonplace, and a fire often destroys complex infrastructures or even entire buildings.

On the one hand, this means high financial damage, but on the other hand, it also means a long period of time during which internal operations are severely restricted. 30% of all fires are caused by electricity (source: independent institutes IFS/NFPA).



As **device-integrated fire protection**, the **AMFE** detects and extinguishes fires in electrical appliances and thus **prevents** the spread of fire.

The AMFE (Automatic Mini Fire Extinguishing Unit) protects devices and systems in industry, household and consumer electronics such as control cabinets etc. reliably from the dangers of fire. The AMFE detects and extinguishes the fire in the device and thus prevents the spread of fire.

The principle behind this is identical to that of a sprinkler. Due to the rising heat in a fire scenario, the pressure inside the glass ampoule in the head of the AMFE increases. After the pre-specified operating temperature of the heat-sensitive glass ampoule is reached, the ampoule shatters into small fragments and triggers a mechanism, which releases the extinguishing agent from the cylinder. The extinguishing agent is released through the holes in the outlet body and extinguishes the fire when it is still in its early stages.

The rapid action and effective extinguishing prevent further spread of the fire and help to keep the damage and help to keep the damage to a minimum.

There are different designs of the AMFE. They differ in the way they are triggered.



AMFE
-Thermal release



S-AMFE
Thermal and signal release



R-AMFE
Thermal, signal and remote release

In order to ensure the operational safety of the electrical systems, employees from the safety engineering and preventive fire protection departments of DVV sought advice from the company Multicomssystem OHG from Hilden. The focus was on the fast and residue-free suppression of incipient fires in electrical systems as well as the simultaneous alarming of the control room when a predefined temperature is exceeded.

The decision was made in favor of the automatic miniature fire extinguishing unit AMFE. One, in the control cabinet integrated in the control cabinet (cylinder with thermo ampoule) that triggers an alarm when the temperature exceeds a predefined or by remote triggering (smoke detector) automatically triggers an extinguishing process (sprinkler principle) and at the same time simultaneously sends an alarm to the control room.

PROJECT SUMMARY:

Country: Germany

AMFE partner: Multicomssystem OHG

Customer: Duisburger Versorgungs- und
Verkehrsgesellschaft mbH (DVV)

Segment: Energy Supplier

AMFE Solution: R-AMFE 78°C, cylinder with manometer

For questions about possible applications or technical details about the AMFE mini fire extinguisher, please feel free to contact Nico Kühn.

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