



DEHN protects.

Main low-voltage distribution boards
from G. Klampfer Elektroanlagen GmbH

Customer



G. Klampfer Elektroanlagen
GmbH

Project overview

Sector

Switchgear construction

Application

Tested arc fault protection
concept in the Charité in Berlin

Hardware

Fibre optic sensor
Detection device
Quenching device

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Klampfer Elektroanlagen was founded in 1985 by Gerhard Klampfer as a one-man business in Leonding (Austria), near the current headquarters. Klampfer offers comprehensive single-source services and specialises in electrical systems for industrial plants, business centres, hospitals/medical facilities and commercial projects. The company operates nearly all over the world, from its headquarters in Leonding. It supports its customers from consultation to project implementation and endeavours to continuously react to the challenges of the markets and to the needs of its customers.

Challenge

The failure of a switchgear assembly resulting from an arc fault can cause considerable costs. All production and manufacturing systems connected to it as well as the complete IT systems can fail and even damage to persons cannot be ruled out. In addition to a continuous and reliable power supply, personal protection is a top priority. The explosive release of energy causes temperatures between 10,000 and 20,000 °C, which do not only destroy the switchgear assembly, but also ignite flammable materials in the vicinity. This may result in second-degree and third-degree burns as well as severe injuries resulting from flying debris, not to mention eye and lung damage caused by toxic gases. Therefore, arc faults must be immediately and reliably quenched to protect technicians and maximise system availability.



Solution

To meet these demanding challenges in different projects, Klampfer relies on the DEHNshort arc fault protection system which is optimised for low-voltage switchgear assemblies. It consists of fibre optic light sensors which detect the arc fault, modular detection devices which process the signals and quenching devices which quickly and reliably quench the arc fault. These quenching devices are directly supplied by the busbar – Therefore only a single connection is required per quenching device. Arc faults are detected as they develop and are quenched - The typical arc fault quenching time is only two to three milliseconds. The efficient protection concept allows the relevant switchgear assembly to be quickly recommissioned. Consequently, long downtime and the associated follow-up costs can be minimised.

Benefits of the DEHN solution

- Personal and system protection
- Tested and VdS-certified protection system
- Proven protection against nuisance tripping
- Modular/space-saving system set-up
- No auxiliary energy required for the short-circuiter unit

Customised arc fault protection system pays off



"Our customer, the Charité hospital in Berlin, has chosen DEHNshort since the implemented protection concept ensures system availability and stays in budget at the same time: The arc fault protection system from DEHN eliminated the need for additional battery rooms."
Erwin Roither, Head of Distribution Board Construction & Engineering, G. KLAMPFER Elektroanlagen GmbH, A – Leonding