

Article Overview

Effective lightning protection for tubular busbars involves proper surge protection devices, grounding, bonding, and adherence to international standards.

Surge Protection Devices (SPDs)

For tubular busbars, pluggable surge protection devices can be installed directly onto busbar systems to protect against transient overvoltages. For example, the VARITECTOR PU AC BS60 can be snapped onto 60 mm busbars without tools, providing Type I+II+III or II+III protection for TN-C, TN-S, and TT networks. These devices improve voltage levels, reduce line lengths for phase connections, and allow easy maintenance with visible status indicators and remote signaling contacts .

Grounding and Bonding

A low-impedance grounding and bonding system is essential to safely carry lightning currents to earth. Copper busbars, conductors, and mechanical grounding components should be used to interconnect the tubular busbars with the earth termination network. Exothermic welding (e.g., UltraShot(R) technology) ensures durable, corrosion-resistant connections. Equipotential bonding minimizes potential differences and protects personnel and equipment during fault conditions .

Tubular Busbar Considerations

Tubular busbars, typically made of aluminium or copper, must comply with standards such as ENA TS 41-11 (aluminium) or ENA TS 41-16 (copper). Fittings, clamps, and joints should avoid deformation of the tube conductor, and connections between dissimilar metals must prevent electrochemical corrosion. Fixed fittings require at least two complete clamps for mechanical stability, while sliding fittings are determined by current rating .

Installation Guidelines

- o Follow BS EN/IEC 62305-1 & 3 for conductor placement and lightning protection design .
- o Use test clamps in down conductors for periodic inspection.
- o Employ jointing clamps to maintain low-resistance, corrosion-resistant connections.
- o Select appropriate earth electrodes (rods, plates, or tape) and inspection pits to protect connections.
- o Ensure all fixings are compatible with construction materials and provide mechanical stability.

Best Practices

Lightning protection installation for tubular busbars

- o Minimize the length of phase connections to reduce surge impact.
- o Use pluggable SPDs for easy replacement and maintenance.
- o Ensure all components are rated for the expected current and environmental conditions.
- o Conduct a site survey including soil resistivity measurements to optimize earthing design.
- o Maintain documentation and drawings for compliance and future maintenance. By combining proper surge protection, robust grounding, and careful installation of tubular busbars, lightning currents can be safely diverted, protecting both equipment and personnel while ensuring system reliability .

Lightning and surge protection may only be installed, put into operation and maintained by qualified electricians who are familiar with

Harger University is intended to create a partnership with individuals dedicated to professional design, installation, maintenance, and

Just like its predecessors, this edition of the lightning protection guide offers assistance in installing professional lightning protection

The need for certified lightning protection is increasing, and this guide looks at the requirements that support a safer, code-compliant

Therefore it is critical to have a lightning protection system to protect the persons and machines especially if your facility in a place

Clean installations and details matter when it comes to lightning protection system installations, such as the specific,

nVent ERICO standard and custom grounding busbars and supports are engineered to provide a near-zero voltage differential to

WARNING: Electro-magnetic discharge (lightning) damage is not covered under warranty. The recommendations in

Product Supplies: Bahra manufactures conductors and components for Earthing and lightning protection in its state of the art

The lightning class determines the minimum lightning protection level (LPL) that is used within the lightning protection design.

Lightning protection installation for tubular busbars

High voltage heat shrink busbar insulation tubings provide flashover protection against accidental bridging

The quantitative study of this problem has to be based on establishing equivalent circuits of main wiring, when there

Watch a professional installation of a lightning protection system from start to finish. In this

The VPU AC BS60 is designed for market-leading 60 mm busbar systems, such as those from Wöhner and Rittal. The lightning and

A combination of Furse 25x3mm Copper tape insulated with Raychem Busbar Insulation Tubing, it is used

As demand for reliable power continues to grow worldwide, improving the lightning reliability

Web: <https://www.kremgroup.co.za>

