

Lightning protection design requirements for energy storage containers

Do I need an external lightning protection system?

Therefore the need for optimized and reliable electrical protection against the influence of lightning and surge events becomes mandatory. A risk assessment per IEC 62305-2 should first be performed to understand better if an external lightning protection system (LPS) is required.

What voltage protection level should a SPD have?

The selected SPDs need to have a voltage protection level that will adequately protect this, usually Up < U_w is used. Generally, the withstand level of the common mode voltages of +DC to ground and -DC to ground need to be carefully evaluated to ensure that no electrical arc to chassis can occur.

How is the separation distance between LPs & BESS equipment maintained?

The separation distance between the LPS and the BESS equipment is maintained. Common grounding, DC cable routed underground in a protected area (LPZ 0b). T2 DC SPDs required; T1/T2 recommended. If the DC cable length is < 10m, only one DC SPD (either at the inverter or the battery) is required. The same approach counts for metal constructions.

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