

Selection of lightning protection level for distribution boxes

Overview

Type 1/1+2 are used at service entrance if an external LPS or direct lightning exposure exists; Type 2 at distribution boards; Type 3 at point-of-use for sensitive loads. Always confirm with local code/standard and manufacturer datasheets. The Lightning Protection Level (LPL) is a metric that defines the required intensity of a system designed to manage the risk associated with a lightning strike. It quantifies the degree of risk reduction necessary for a structure and its contents, rather than measuring absolute protection. Our lightning and surge voltage protection systems are perfectly matched to one another and to the requirements in the different zones – from the air-termination device, which must arrest the full energy of a lightning strike, through to fine power protection, which eliminates the last voltage. In lightning protection, the surge protection device in distribution boxes plays a crucial role. According to the principle of graded lightning protection, and based on the likelihood of a building being struck by lightning, it is necessary to deploy surge protector against lightning in stages to. Lightning protection systems safeguard electrical installations, industrial facilities, and infrastructures against surges, overvoltages, and lightning strikes. Copyright © 2004 by the Institute of Electrical and Electronics Engineers, Inc.



Article Content

Mar 30, 2026

Detailed Explanation of Tiered Surge Protection for Distribution Boxes

According to the principle of graded lightning protection, and based on the likelihood of a building being struck by lightning, it is necessary to deploy surge protector against lightning in stages to ensure the ...

Mar 25, 2026

What Are the Four Lightning Protection Levels?

These levels specify the minimum and maximum lightning current parameters the protection system must manage, based on the statistical probability of a strike's severity. LPL I ...

Feb 07, 2026

IEEE Std 1410 -2004, IEEE Guide for Improving the Lightning ...

This design guide is an attempt to assist the distribution-system design engineer to optimize the lightning insulation capabilities of overhead distribution lines.

Jan 02, 2026

LPI-175 / 2023 Edition

Zone of protection is described in the lightning Standards using a 150 feet (45 meters) radius sphere model to identify items under the protection of higher system elements or building extensions to ...

May 25, 2026

Correct selection of surge protection

Discover the 4 key steps to choosing the perfect surge protection device (SPD) for your needs and effectively protect your building from lightning and surge damage.

May 30, 2026

Lightning protection guide

Just like its predecessors, this edition of the lightning protection guide offers assistance in installing professional lightning protection systems in line with the very latest standards.

Nov 02, 2025

Selecting the right surge protection

Discover the 4 key steps to choosing the perfect surge protection device (SPD) for your needs and effectively protect your building from lightning and surge damage.

Jan 03, 2026

Selection Steps For Surge Protectors In Distribution Boxes

The surge protector in the distribution box can be divided into level 1, level 2 and level 3, with different parameters. The selection of surge protector is a topic of concern to distribution box ...

Nov 15, 2025

First-level Lightning Protection, Second-level Lightning Protection ...

Multi-level protection design: Install primary lightning protection at the entrance of the building, secondary lightning protection in the distribution box, and third-level lightning protection at ...

Dec 03, 2025

Lightning Arrester and Surge Protection Selection ...

Calculate optimal lightning arrester and surge protection solutions per NFPA 780 and IEC 62305 standards for enhanced electrical safety and system reliability.

Contact Us

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