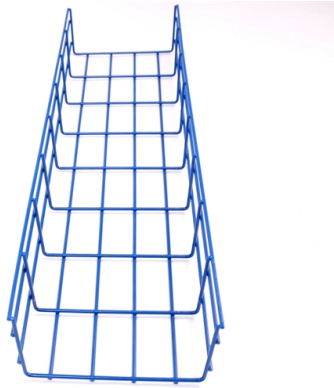


The distribution box is connected to the power lines



Article Overview

A distribution box receives high-voltage electricity from power lines, steps it down to a usable voltage, and safely distributes it to multiple circuits.

Connection to Power Lines

The distribution box, also known as a distribution board or panel, is connected to the power lines coming from a substation or power station. These incoming lines carry high-voltage electricity, which enters the box through the main circuit breaker. The main breaker serves as the first line of protection, allowing the system to be shut off during maintenance or emergencies and preventing damage from overloads or short circuits .

Voltage Conversion

Inside the distribution box, a transformer reduces the high-voltage electricity to a lower, safe voltage suitable for household or industrial use. This step-down process ensures that the electricity can be safely delivered to devices like lights, outlets, and machinery without causing damage or hazards .

Distribution to Circuits

Once the voltage is reduced, the electricity is routed to bus bars, which are metal strips that conduct power to individual circuit breakers. Each circuit breaker controls a specific circuit, providing protection by automatically cutting off power in case of overloads or short circuits. Contactors and relays may also be included to control the flow of electricity to different equipment as needed .

Article Content

Distribution transformer

Single-phase distribution transformer in Canada A distribution transformer or service transformer is a transformer that provides a final

The essentials of electrical distribution systems every engineer should ...

Transferring AC/DC electrical power Electrical distribution systems are an essential part of the electrical power system.

How It Works: Electric Transmission & Distribution and Protective

The power distribution system is the final stage in the delivery of electric power to individual customers. Distribution grids are

How Power Grids Work

In this case, the bus distributes power to two separate sets of distribution lines at two different voltages. The smaller transformers

Distribution grid

The distribution grid uses overhead and underground subtransmission power lines which operate between 26 kV and 69 kV.

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