

List of electrical distribution boxes for building



Overview

In this guide, we'll break down the 12 main types of distribution boxes in a way that's easy to understand.

Key Takeaways

Electrical distribution boxes, also known as distribution boards or panelboards, are central hubs that safely distribute incoming power to multiple circuits in residential, commercial, and industrial buildings. Common Types of Distribution Boxes

- Main Distribution Board (MDB)
 - Central hub for incoming power from the utility.
 - Houses main breakers, busbars, and protective devices.
 - Typically used in large buildings or industrial facilities .
- Sub Distribution Board (SDB)
 - Receives power from the MDB and distributes it to specific areas or floors.
 - Contains MCBs, RCDs, or RCBOs for localized protection .
- Residential Distribution Box
 - Compact units for homes or small apartments.
 - Usually includes 4-12 ways for circuits, with MCBs and optional RCCBs .

- Commercial Distribution Box
- Designed for offices, shops, or commercial complexes.
- Can handle higher loads and multiple phases (single-phase or three-phase) with surge protection .
- Industrial Distribution Box
- Heavy-duty enclosures for factories or machinery.
- Supports three-phase power, high short-circuit capacity, and specialized protective devices .
- Outdoor/Weatherproof Distribution Box
- IP-rated enclosures for outdoor installations.
- Resistant to UV, corrosion, and impact; suitable for gardens, construction sites, or solar installations .
- Temporary Power Distribution Box
- Portable units for construction sites or events.
- Provides multiple outlets with built-in protection for temporary setups .
- Solar Distribution Box
- Integrates with photovoltaic systems.
- Includes DC breakers, surge protection, and monitoring devices .
- Panelboard with Metering
- Combines distribution with energy metering.
- Useful for monitoring consumption in commercial or multi-tenant buildings .
- Power Distribution Unit (PDU)
- Common in data centers or server rooms.
- Distributes power to multiple devices efficiently, often with surge and overload protection .
- Fuse Box
- Traditional type using fuses instead of circuit breakers.
- Still used in older buildings or specific industrial applications .
- Modular Distribution Box
- Flexible design with DIN rails for easy installation of MCBs, RCDs, and other modules.
- Allows future expansion and customization .

Key Selection Considerations

- Number of Circuits (Ways): Choose based on current load and future expansion.
- Phase & Voltage: Single-phase (230V) or three-phase (400V) depending on building requirements.
- Protective Devices: MCBs, RCCBs, RCBOs, surge protection, and isolators.
- Enclosure Rating: IP rating, material, UV and corrosion resistance.
- Compliance: Must meet local electrical codes and standards such as IEC 61439, UL/NEC, or BS 7671 . By selecting the appropriate type of distribution box and ensuring proper installation, buildings can achieve safe, reliable, and organized electrical distribution while minimizing risks of overloads, short circuits, and electrical hazards.

Article Content

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Compare distribution box types, their applications, and selection tips. Find the best fit for your project with this

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Learn how to choose a distribution box and understand its internal structure, including MCBs, busbars, neutral bars,

Complete Guide For Distribution Boxes Types

By understanding the specific requirements and characteristics of each type of distribution box, electrical engineers, contractors, and

Electrical Distribution Box: Complete Panel Types

Learn what an electrical distribution box is in simple terms. Complete guide to panel types,

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Discover the key types of distribution boxes with NUOMAK's comprehensive guide. Learn about Main

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This ultimate guide explains what a distribution box does, its internal components, common types, real

10 Distribution Board Types Explained [August 2026]

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Electrical Distribution Boxes -ZHENGKAI

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What is an Electrical Distribution Box? A

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Key Factors in Choosing a Distribution Box Building Type and Size: Start with where it's going. For homes, a

5 Types of Electrical Boxes

Learn about the types of electrical boxes you can use for your home wiring project. From junction boxes to work

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Where Is the Distribution Box Located and How to Find It

A distribution box, commonly known as an electrical panel or breaker box, serves as the

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Types of Electrical Distribution Boards & Their Uses Explained

4. Where will I find the electrical distribution board in a building? The placement of an electric distribution board differs from building

The Importance of Distribution Boxes in Electrical Systems

A distribution box is an exposed or concealed metal box that houses the circuit breakers

12 Different Types Of Electrical Panels Explained

Learn about the different types of electrical panels for your residential, commercial, and industrial needs and get tips

A Definitive Guide To Distribution Boxes

The distribution box acts as the center of power distribution, distributing electricity to all connected devices. A

Understanding Distribution Boxes: Your Guide to Power

What are Distribution Boxes and Their Importance? What are Distribution Boxes and Their

Electrical Enclosure vs Distribution box vs Distribution board

A distribution box (DB) is a type of electrical enclosure specifically designed for the distribution of electrical power. It

DB BOX(Electrical Distribution Box): Everything You Need to Know

Learn everything you need to know about the Electrical Distribution Box (DB Box). Explore types, materials, installation

Distribution Panel: Parts, Types & How to Choose

A poor selection can lead to overheating, failed inspections, repeated shutdowns, or

List of building types

List of building types This is a list of building types. It is sorted by broad category: residential buildings, commercial buildings,

Distribution boards components

Distribution boards (generally only one in residential premises) usually include the meter (s) and in some cases

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Distribution Panel Board: Types, Functions & Working

An electrical panelboard, commonly known as a distribution board or breaker panel, is a vital component in an

Electrical Distribution Box Diagrams | PDF | Power Engineering

This document provides a list of components in an electrical distribution box with their names and associated wiring diagrams. It

Distribution Boxes Types – The Complete Guide

The power distribution boxes deliver electricity from the main electrical main to other circuits. Several distribution boxes

12 Types of Electrical Boxes and How to Choose

Learn about the many common types of wall and ceiling electrical boxes for switches, outlets, light fixtures, ceiling

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

