

Commonly Used Distribution Box Models and Specifications



Overview

Distribution Box and Selection Guide: Internal Structure, Components. Learn how to choose a distribution box and understand its internal structure, inclu.

Key Takeaways

Distribution boxes, also known as DB boxes or distribution boards, come in various models and specifications tailored for residential, commercial, and industrial applications, with differences in voltage, mounting, and protective devices. Key Models and Series

Low-Voltage Fixed Switchgear:

- GGD Series: Used in substations and power plants; AC 50Hz, rated voltage 380V, high breaking capacity, stable performance, and modern structure .
- GDH Series: Similar to GGD, with manufacturer-specific parameters for low-voltage fixed applications .
- PGL Series: Provides stable power supply in various settings, widely used in industrial and commercial environments . Low-Voltage Withdrawable Switchgear:
- GCK Series: Composed of power distribution and motor control cabinets; AC 60Hz, working voltage ~660V, suitable for motor control and lighting .
- GCS Series: AC 50Hz, rated voltage 400V, used in power plants, high-rise buildings, and heavy consumption areas .

- MNS Series: Compact, stable, and versatile for small power plants, industrial enterprises, and hotels . Other Common Types:
- Main Distribution Board (MDB): Central hub for distributing electricity to multiple sections; includes busbars, MCCBs, and support equipment .
- Sub Distribution Board (SDB): Transfers electricity to specific areas like garages or parking lots; simplifies control of multiple circuits .
- Meter Panels: Track electricity usage; include primary switches, fuses, and RCDs .
- Panel Fuse Banks: Provide over-current protection and act as load centers, often used in solar power systems .

Mounting and Installation Types

- Surface Mounted: Installed on walls; ideal for retrofits and industrial environments .
- Flush Mounted: Embedded into walls for aesthetic appeal; common in residential and commercial buildings .
- Pole Mounted: Designed for outdoor applications like street lighting and utility distribution .
- Wall-Mounted vs Floor-Standing: Wall-mounted for limited space and easy access; floor-standing for larger systems requiring more circuits and higher load capacity .

Electrical Specifications

- Voltage Ratings: Single-phase (residential/small commercial) or three-phase (industrial/large commercial) systems .
- Frequency: Typically 50Hz or 60Hz depending on regional standards .
- Protective Devices: MCBs, RCDs, RCBOs, fuses, isolators, surge protective devices, and AFDDs for circuit protection and safety .
- Rated Current and Short-Circuit Capacity: Selected based on actual load and fault current availability .
- Internal Layout: Includes phase busbars, neutral bars, earth bars, DIN rail space, and cable entries for organized wiring and heat dissipation .
- Enclosure Material: Metal for industrial durability; plastic for lightweight, corrosion-resistant residential use .
- IP Rating: Ensures protection against dust, moisture, and environmental stress, especially for outdoor installations .

Applications

Distribution boxes are used across residential, commercial, and industrial sectors, including:

- Homes and apartments

- Office buildings and commercial complexes
 - Industrial plants, factories, and mining operations
 - Infrastructure projects and outdoor utilities
 - Solar and renewable energy systems
- Selection Considerations

When choosing a distribution box, consider:

- Application type and load requirements
 - Number of outgoing circuits and future expansion
 - Protective device strategy and compliance with local standards (IEC, UL, NEC, BS 7671)
 - Mounting method and environmental exposure
 - Quality of internal components and manufacturer reliability
- Proper selection, installation, and maintenance of distribution boxes ensure safety, reliability, and long-term operational efficiency in electrical systems.

Article Content

Complete Guide For Distribution Boxes Types

The correct choice and installation of distribution boxes are crucial for electrical safety, efficiency, and reliability. This guide provides

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

