Standard Dimensions of Electrical Distribution Boxes for Middle Eastern Construction Sites



Overview

Learn how to choose the right electric db box for your UAE project. Our expert guide covers selection, sizing, and safety for lasting performance.

Key Takeaways

Electrical distribution boxes in the Middle East typically follow modular, IEC-compliant designs, with dimensions varying by type and capacity, ranging from compact 4-way FDBs to large floor-mounted MDBs.

Types of Distribution Boxes

Main Distribution Boards (MDBs): Handle the main power feed from utilities and distribute it to sub-boards. These are usually floor-mounted and can range in height from 1200 mm to 2000 mm, width from 600 mm to 1200 mm, and depth from 300 mm to 600 mm, depending on the number of incoming and outgoing circuits and the amperage rating.

Sub-

Main Distribution Boards (SMDBs): Serve as zonal hubs for floors or high-demand areas. Typical wall-mounted SMDBs have dimensions around 800–1200 mm height, 400–600 mm width, and 200–400 mm depth, with modular DIN-rail mounting for MCBs, RCCBs, and surge protectors. Final Distribution Boards (FDBs): Protect individual circuits for lighting and power.

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These are often compact wall-mounted units, with standard sizes such as 300–600 mm height, 200–400 mm width, and 150–250 mm depth, supporting 4-way, 12-way, or 36-way configurations.

Material and Environmental Considerations

Materials: Carbon steel, stainless steel (SS304/SS316), or thermoplastic, often powder-coated or passivated for corrosion resistance.

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P Ratings: IP65/IP66 for outdoor or harsh environments to prevent ingress of water, dust, and debris. Temperature and Humidity: Designed to withstand temperatures up to +70°C for short periods and humidity up to 90% in low-temperature conditions.

Design Features

Modular DIN-rail mounting for easy installation of MCBs, RCCBs, and surge protection devices. Lockable doors and flame-retardant materials for safety and unauthorized access prevention. Cable management: Dedicated internal space for wiring, gland plates, and bottom clearance (MCFD) to facilitate installation and maintenance.

Compliance and StandardsIEC 61439-1: Ensures safety, reliability, and operational readiness.

U

L 67 and CE certification: Common for imported or high-end units. GB7251. 3-2006: Applicable for certain low-voltage modular switchgear in industrial applications.

Practical Notes

Dimensions are not universally fixed; manufacturers provide custom sizes based on circuit capacity, amperage, and site requirements. For construction sites, ruggedized, weatherproof FDBs are preferred for temporary power distribution, while permanent installations follow the above MDB/SMDB/FDB ranges. Always plan for spare capacity to accommodate future expansion and ensure compliance with local utility regulations.

By following these guidelines, engineers and procurement teams can select distribution boxes that are safe, compliant, and suitable for Middle Eastern construction environments.

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SEC DISTRIBUTION CONSTRUCTION STANDARD

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Distribution Boards – Interplast

A distribution board, also known as panelboard or breaker panel is a component of an electricity supply system which divides an electrical power feed into subsidiary circuits, while providing a protective

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Distribution box and switch box shall be made of iron plate or high-quality insulating material, and the thickness of iron plate shall be greater than 1.5mm The electrical equipment in the distribution box

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Site Boxes IP44 IK09 Single-Phase and Three-Phase

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Site Boxes On a construction site, temporary power supply determines the safety of the entire team and the continuity of work. The site box is the central element of temporary electrical distribution: it

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

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