

RIVO MULTITRADE OPTICAL SYSTEMS

Building Elevator Distribution Box Size Requirements



Overview

The enclosure shall be building walls, ceiling material, and fireproofing conforming to the governing building codes.

Key Takeaways

Elevator distribution boxes vary by type, but typically feature robust enclosures, standardized dimensions, and safety-compliant electrical components to ensure reliable elevator operation.

General Dimensions and Materials

Elevator distribution boxes are designed to house electrical and control components safely. Common dimensions for modular plastic distribution boxes (used in building applications) range from length 200–328 mm, width 172–174 mm, and height 95 mm for MB-ABC series boxes, with similar variations for MB-AF and MB-AS series. Larger, outdoor or industrial-grade boxes may be fabricated from 2 mm galvanized steel with reinforced channels, slanted roofs, and overhangs for weather protection. Materials are typically flame-resistant ABS plastic for indoor boxes or GI sheet steel for outdoor enclosures, ensuring durability and fire safety.

Functional Specifications

Elevator distribution boxes serve as the central hub for power distribution, control systems, and safety devices. Key specifications include:

- **Voltage and Frequency:** AC 50 Hz, rated voltage 220V/380V for standard building elevators

- **Protection Standards:** Indoor boxes often comply with BS EN60439-3, while outdoor boxes meet IP-55 for dust and water protection .
- **Locking and Security:** Boxes feature secure locking systems, such as Godrej 3-position locks, with concealed hinges and rust-resistant provisions for outdoor units .
- **Bus Bars and MCCBs:** Copper bus bars (e.g., 25x4 mm) with insulation tubing or phase-colored paint, and MCCBs conforming to IS 13947 standards, are used for safe power distribution .
- **Earthing:** Solid earthing points on either side of the box ensure electrical safety .
- **Cable Management:** Heavy-duty, double-compression cable glands for incoming and outgoing cables, with detachable plates for secure installation .

Elevator-Specific Considerations

Elevator distribution boxes are tailored to the type of elevator system:

- **Traction Systems:** Boxes manage hoist motor power, counterweight control, and speed regulation.
- **Hydraulic Systems:** Boxes control piston operation and fluid pressure, typically in low-rise buildings.
- **Machine Room-Less (MRL) Systems:** Compact boxes integrate control and safety functions without a separate machine room, conserving space . Additional features include microprocessor-based controllers, regenerative drives, and safety interlocks to ensure smooth operation, energy efficiency, and passenger safety .

Summary

Elevator distribution boxes are engineered for safety, reliability, and compliance with electrical standards. Their dimensions and materials vary depending on indoor or outdoor use, elevator type, and load requirements. Key considerations include voltage rating, protection class, secure locking, earthing, bus bar arrangement, and cable management, all of which ensure efficient and safe elevator operation .

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Referenced standards provide the requirements for the elevator system and mechanisms. Detailed standards are provided in the

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IBC Elevator and Conveying System Requirements: ASME A17.1

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The Code Corner No. X

In the International Building Code (IBC)¹, Chapter 30 establishes the primary criteria for elevators, while other sections of the IBC

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Q: Section 3007.1 requires fire service access elevators to serve every floor above and including the lowest level of fire department

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14 20 00 Elevator design standard

2.14.1.2 Exception - if the loading requirements exceed 1,219 mm (48") width of a typical service elevator door than a freight elevator

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UpCodes offers a consolidated resource of construction and building code grouped by jurisdiction

NEC Requirements for Panelboards and Load Centers

The National Electrical Code (NEC) provides comprehensive safety standards for electrical installations, including requirements for

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Key ADA Elevator Requirements for Existing Buildings Minimum Elevator Size and Capacity: ADA standards dictate that elevator

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