

What type of electrical distribution box is used in the elevator machine room

Article Overview

A three-phase elevator power distribution box with lockable disconnect and overcurrent protection is typically required in the elevator machine room, installed according to NEC and manufacturer specifications.

Type of Distribution Box

For most commercial and high-capacity elevators, a three-phase elevator distribution box is recommended. This box supplies power to the elevator motor, control board, cabin equipment, and machine room systems. Single-phase boxes are generally limited to residential or home elevators and may not meet the power demands of larger installations. The box typically includes:

- o Three-phase terminals and neutral/earth busbars
- o Internal wiring channels and protective components
- o Overcurrent protection devices such as fuses or circuit breakers
- o Shunt-trip mechanisms for emergency disconnection

Code and Safety Requirements

According to the National Electrical Code (NEC) Article 620, the distribution box must:

- o Be located in the machine room or control space and be lockable to prevent unauthorized access
- o Provide a single means to disconnect ungrounded conductors
- o Include overcurrent protection with selective coordination for multi-elevator feeders
- o Supply dedicated branch circuits for lighting, receptacles, HVAC, and auxiliary equipment in the machine room
- o Ensure grounding and bonding comply with NEC Article 250, with GFCI protection for receptacles in pits, machine rooms, and car tops

Installation Considerations

- o Mount the box near the machine room door at a height of 120-140 cm from the floor, or near the elevator control panel
- o Use a 5-cord cable from the building's main meter, sized according to motor power, efficiency, and elevator capacity
- o Only elevator-related wiring is permitted inside the hoistway and machine room
- o Ensure proper support and secure routing of flexible traveling cables

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Additional Features

- o Shunt-trip fused panels allow remote disconnection in emergencies and are often UL 67 listed for elevator circuits
 - o Spare fuses and fuse pullers should be provided for maintenance
 - o The box should be installed and commissioned by a qualified elevator technician to ensure compliance and safe operation
- In summary, the elevator machine room requires a three-phase, lockable, overcurrent-protected distribution box installed according to NEC standards, with proper grounding, dedicated circuits, and professional installation to ensure safe and reliable elevator operation.

DoD UFC Elevators & Chapter 6 Electrical & 6-1 Elevator Machine Room, Control Room, and Machinery Space Go To Full Code

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Explore different types of electrical distribution boards and their uses. Learn how they manage power safely in homes and

This guide explores control panels, electrical boxes, breaker panels, bus bars, junction boxes, and custom enclosures

An elevator machine room (sometimes known as elevator machinery room or lift motor room) is a room that house elevator drives

Thyssenkrupp Elevator Electrical Specs This document provides the electrical and civil requirements for a machine room and

Flexible cords and cables in lengths not to exceed 6 ft. of a flame-retardant type and located to be protected from

For each elevator group, provide electrical power service from the main building electrical distribution panel to the elevator machine

Explanation-The 240VAC feed should have a black, red, white, and ground wire to the machine room. All electrical contractors will

§3012. Electrical Wiring, Pipes, and Ducts in Elevator Hoistways, Machine Rooms, or Machinery Spaces. (a) Wiring Methods in

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Plan an elevator machine room with correct clearances, cooling, lighting, and rigging access to avoid maintenance

Electrical devices connected to the panel board or elevator disconnecting means are not allowed in the elevator machine or control

AI Overview NEC Article 620 governs electrical installation and wiring for elevators, dumbwaiters, escalators, moving

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

In an elevator machine room, it is likely that the metal raceway will be mounted on the surface of finished walls and

A distribution box ensures that electrical supply is distributed in the building, also known as a distribution board, panel board, breaker

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