

Allowable deviation of distribution box



Overview

What is the Ideal Installation Height for a Distribution Box
Install a distribution box at 4.5 to 5.5 feet high for safety, accessibility, and compliance. T.

Key Takeaways

The vertical deviation of a distribution box during installation should not exceed 3 mm, and the reserved wall opening should be about 20 mm larger than the box dimensions. Installation Tolerances

When installing a distribution box, it is essential to maintain proper alignment and positioning to ensure safety and functionality. Key allowable deviations include:

- Vertical Deviation: The distribution box must be installed firmly, horizontally, and vertically, with a maximum vertical deviation of 3 mm .
- Wall Opening: For concealed installations, the reserved hole in the wall should be approximately 20 mm larger than the length and width of the distribution box, and the depth should accommodate the box thickness plus plastering .
- Gap and Contact: There should be no gap around the box, and the edges should be close to the wall. Contact surfaces between the box and building structures should be coated with anti-corrosion paint .

Fixing and Support

- Wall Fixing: Distribution boxes are typically fixed using split bolts (expansion bolts), with bolt length calculated as the sum of embedded depth (75-150 mm), box bottom plate thickness, nut and washer thickness, plus a 5 mm head allowance .

- **Concrete Embedding:** For masonry walls, the box can be embedded and secured by filling concrete between the box and the wall .

- **Alternative Support:** Smaller boxes may be fixed using wood bricks and screws at the installation site .

Standards and Specifications

- Distribution boxes should conform to IP-55 protection, with reinforced GI sheet steel construction and proper busbar placement to maintain adequate clearance .

- All busbars, droppers, and terminals should be properly insulated and color-coded according to phase sequence (RYB) to ensure safe operation . Maintaining these tolerances ensures that the distribution box is secure, aligned, and safe for electrical connections, preventing operational issues and facilitating compliance with technical standards.

Article Content

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