

Standard wall-mounted distribution box dimensions

Article Overview

Wall-mounted distribution boxes typically range from 200x200x120 mm to 800x600x300 mm, with options in plastic or metal, IP ratings from IP20 to IP65, and modular configurations for residential, commercial, and industrial use.

Materials and Construction

Wall-mounted distribution boxes are commonly made from plastic (thermoplastic or FRP) or metal (steel or galvanized steel). Plastic boxes are lightweight, corrosion-resistant, and suitable for indoor use, while metal boxes offer higher mechanical strength and can be used outdoors when rated for IP65 protection. Metal boxes often feature 1.2-2 mm thick steel, painted (e.g., RAL 7035 gray), with a quarter-turn lockable door and rubber gaskets for water and dust protection.

Protection Ratings

- o IP20: Basic protection against solid objects >12 mm, indoor use.
- o IP55-IP66: Dust-tight and protected against water jets, suitable for outdoor or industrial environments.
- o IP65: Dust-tight and resistant to low-pressure water jets, commonly used for outdoor wall-mounted metal enclosures.

Dimensions

Wall-mounted distribution boxes come in a wide range of sizes depending on application and module capacity:

- o Small residential units: 200x200x120 mm up to 400x300x150 mm
- o Medium commercial units: 500x400x200 mm up to 600x500x250 mm
- o Larger industrial units: 800x600x300 mm or more. These dimensions refer to external height x width x depth, with internal usable space slightly reduced by wall thickness, mounting plates, and door returns.

Mounting and Installation

- o Flush-mounted: Installed inside the wall for a clean finish, common in residential applications.
- o Surface-mounted: Hung on the wall surface, easier for industrial or retrofit installations.
- o Studs and adjustable nuts: Facilitate easy mounting and removal of internal panels or MCBs.
- o Knock-outs and cable entries: Ample top, bottom, and rear openings for conduit or cable entry, often with removable gland plates.

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Internal Layout and Features

- o Mounting plates: Galvanized steel plates for DIN rail or modular device installation .
- o Busbars and terminals: Shrouded for safety, designed to prevent hot spots .
- o Modular capacity: Residential consumer units typically support 7, 10, 15, or 20 modules, while industrial boxes can accommodate larger DIN rail assemblies .
- o Accessories: Transparent inspection flaps, circuit identification labels, and optional extensions for additional modules .

Summary

When selecting a wall-mounted distribution box, consider:

- o Material: Plastic for indoor, metal for robust or outdoor use.
- o IP rating: IP20 for indoor, IP65 for outdoor/industrial.
- o Size: Match external dimensions to internal component layout and cable entry requirements.
- o Mounting type: Flush or surface-mounted depending on installation preference.
- o Modular capacity: Ensure sufficient space for MCBs, RCDs, and future expansion. These specifications ensure safe, flexible, and compliant electrical distribution for residential, commercial, or industrial installations .

Explore NEC-based standards, box dimensions, material guidelines, and installation precision in this complete

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