

# Configuration of a 130 sq m distribution box

## Article Overview

A 130 sq m distribution box typically includes a main switch, MCBs for individual circuits, RCD/RCBO protection, busbars, neutral and earth bars, surge protection, and complies with IEC 61439 standards.

## Key Components

- o Main Switch/Isolator: Controls the incoming supply and allows complete disconnection for maintenance or emergencies .
- o MCBs (Miniature Circuit Breakers): Protect individual circuits such as lighting, sockets, and appliances. For a 130 sq m residential area, typically 8-12 outgoing circuits are used, with spare ways for future expansion .
- o RCD/RCBO: Provides earth fault protection for safety, especially in wet areas like kitchens and bathrooms .
- o Busbars: Phase busbar for live connections, neutral bar for neutral conductors, and earth bar for protective earth .
- o SPD (Surge Protective Device): Protects sensitive electronics from voltage spikes .
- o DIN Rail and Terminal Blocks: For mounting breakers and organizing wiring neatly .

## Layout and Installation

- o Enclosure: Steel or high-quality plastic with appropriate IP rating (IP42-IP65 depending on indoor/outdoor installation) to protect against dust and moisture .
- o Cable Entry and Wiring Space: Sufficient room for incoming and outgoing cables, with proper separation of live, neutral, and earth conductors .
- o Height and Accessibility: Typically installed at ~1.5 m from the floor for easy access .
- o Labeling: Each circuit should be clearly labeled for identification and maintenance .

## Compliance and Standards

- o IEC 61439: Ensures safety, proper thermal management, and correct assembly of low-voltage switchgear .
- o Local Codes: Follow regional electrical codes (e.g., NEC, BS 7671) for breaker sizing, earthing, and protective devices .
- o Rated Current and Short-Circuit Capacity: Selected based on total load calculation for the 130 sq m area, including lighting, sockets, and appliances .

## Typical Circuit Distribution for 130 sq m Residential Area

- o Lighting circuits: 2-3 MCBs
- o Power sockets: 4-6 MCBs

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- o Kitchen appliances: 1-2 dedicated MCBs
  - o HVAC or water heater: 1-2 dedicated MCBs
  - o Spare circuits: 1-2 MCBs for future expansion
- This configuration ensures safe, organized, and standard-compliant power distribution for a 130 sq m residential or small commercial space, while allowing for future upgrades and maintenance.

Yet the distribution box is a highly complex component that not only ensures safe power distribution, but is also responsible for

Distribution box Rubber Handy 6 Robust full rubber housing, impact resistant, oil-, UV- and acid resistant. Protected with a ground

The distribution box is the central hub of the home circuit and the general control of our daily power consumption. It is an

This article guides you through selecting a distribution box that is both affordable and safe, emphasizing key features,

Distribution boxes, also known as electrical distribution boards or panels, are pivotal components in electrical systems, ensuring the

Learn how to choose a distribution box and understand its internal structure, including MCBs, busbars, neutral bars,

With this configurator, electricians can have the complete parts list, the assembly and wiring diagram and the corresponding

Understand distribution boxes (DB boxes) in 5 minutes. Learn about types, components, functions, and uses. Find

A distribution box, also called an electrical distribution box, distributes incoming power to

This comprises software tools and support for planning and configuring as well as a perfectly harmonized, complete portfolio of

The document provides details for designing the electrical distribution box and circuits for a residence. It includes specifications for

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Whether you are an electrical contractor or a construction brigade, knowing how to properly

Distribution boxes shall be made of non-combustible materials; open distribution boards may be installed in production

Distribution Boxes shall have Isolator (Switch Disconnecter) on incoming circuit and Porcelain CUTOUT fuse base disconnecter on

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General Technical Particulars for LT Distribution Boxes : - The L.T. Distribution Boxes should be of the dimensions as per the

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