

Dimensions and Specifications of Residual Current Shield Distribution Box



Overview

Distribution Box and Selection Guide: Internal Structure, Components. Below is a simplified internal structure diagram for a typical single-phase AC dist.

Key Takeaways

Residual current shield distribution boxes are typically designed according to IEC 61439, with standard dimensions ranging from compact modular units (~300–400 mm width) to larger floor-standing units (~600–1200 mm width), depending on application and number of circuits. Standard Dimensions and Mounting

Height, Width, and Depth:

- Wall-mounted modular boxes for residential or small commercial installations usually have widths of 300–400 mm, heights of 400–600 mm, and depths of 120–200 mm.
 - Larger floor-standing or industrial boxes can range from 600–1200 mm in width, 800–2000 mm in height, and 200–400 mm in depth, accommodating multiple RCDs, miniature circuit breakers, and busbars .
 - Depth must allow for proper cable entry, toroid placement, and maintenance access, typically 150–250 mm for modular units and deeper for industrial units .
- Mounting and Clearance:

- Boxes are often installed in suspended ceilings, raised floors, or directly on walls, with sufficient clearance for ventilation and safe access to RCDs .
- Front access clearance is recommended at at least 600 mm to allow safe operation and maintenance.
- Side and top clearances depend on local regulations but generally 100–200 mm is maintained for cable entry and heat dissipation . Standards Compliance:
- Residual current shield distribution boxes are designed in accordance with IEC 61439, ensuring compatibility with RCDs, RCBOs, and miniature circuit breakers .
- Boxes may include modular mounting rails (DIN rails) for easy installation of devices like RD3, RCQ020, or S200 series breakers .
- For decentralized or room-specific installations, boxes may be customized to fit specific automation, power, and data distribution requirements . Practical Considerations:
- Ensure the box accommodates the toroid diameters required for the RCDs, which can range from 29 mm to 230 mm depending on cable or busbar size .
- Consider future expansion by selecting a slightly larger box than the immediate requirement.
- Verify compliance with local electrical codes (e.g., BS 7671 in the UK) for RCD type, selectivity, and disconnection requirements . By following these guidelines, installers can ensure that residual current shield distribution boxes are safely mounted, accessible, and compliant with international standards, while providing flexibility for current and future electrical distribution needs.

Article Content

Distribution Boxes Technical Data

Summary of Changes
Four-pin, One Signal per Port Cable Connector Distribution Box
Cable Connector Wiring
Cable Connector Four-pin, One Signal per Port Cable with Terminal Block Connector Distribution Box
Mechanical Product Selection
Cable Mechanical (1.3) Additional Resources
Rockwell Automation Support
This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes. See more on literature.rockwellautomation

Electrical Distribution Box Design Guide

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

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