Outgoing cable location of distribution box

Overview

Cable Distribution: The primary function of a distribution box is to facilitate the distribution of cables to multiple directions.

Key Takeaways

Outgoing cables in a distribution box are typically connected at designated terminals on the output side of protective devices, routed through cable glands at the bottom or sides of the box, and clearly identified for phase, neutral, and earth connections.General Layout

In a distribution box, the outgoing cables carry power from the main protective devices (such as MCBs, MCCBs, or RCCBs) to downstream circuits or loads. These cables are usually connected to the output terminals of the protective devices. For single-phase systems, the outgoing phase wire connects to the output of the MCB, while the neutral wire connects to the neutral bus bar. In three-phase systems, each phase (R, Y, B) is connected to its respective terminal, with neutral and earth wires connected to their designated bus bars ( ).

Cable Entry and Routing

Outgoing cables are generally routed through cable glands provided at the bottom or sides of the distribution box. These glands secure the cables, maintain the IP rating of the enclosure, and prevent mechanical strain on the connections. Heavy-duty, double-compression cable glands are recommended for industrial applications to ensure a secure and safe termination ( ).

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Identification and Safety

Each outgoing cable should be clearly labeled to indicate its destination or load. Phase wires are typically color-coded (e.g., red, yellow, blue for three-phase; brown or black for single-phase), and the neutral and earth wires are connected to their respective bus bars. Proper segregation of power and signal cables, along with short, direct paths for protective earth conductors, improves safety and reduces interference ( ).

Practical Tips
• Ensure the outgoing cables are crimped or terminated properly using ferrules or lugs suitable for the conductor size.

• Maintain adequate clearance between cables and components to prevent overheating.

• Follow the wiring diagram or schematic for the distribution box to verify correct connections before energizing ( ).

• Perform continuity, insulation resistance, and polarity tests after installation to ensure safe operation. By following these practices, outgoing cables can be safely and efficiently routed from a distribution box to supply power to all connected loads.

Article Content

Distribution Box

Cable Distribution: The primary function of a distribution box is to facilitate the distribution of cables to multiple directions. It acts as a

Contact Us

Continue your research online:

Website: https://alfa-pro.co.za
Technical inquiry: https://alfa-pro.co.za/contact.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved