

Wiring of the Chinese side distribution box



Overview

How to do the wiring work inside the distribution box
The wiring between the main circuit breaker and each sub-circuit breaker in the Power distribution cab.

Key Takeaways

Proper wiring of a Chinese distribution box involves correct wire sizing, terminal connections, labeling, and organized routing to ensure safety and efficiency.
Wire Selection and Sizing

- Main circuit wires should follow the cross-section specified in the wiring diagram, while control circuit wires are typically 1mm^2 , and multi-core cables are 0.3mm^2 .
- For wires 4mm^2 and above, use black RV type; for wires below 4mm^2 , use white RV type, with black cable sheaths preferred.
- Always strip insulation using proper tools to avoid damaging the core, and ensure the stripped length allows full insertion into terminal sleeves with 1-2mm extra for secure crimping.

Terminal Connections

- All copper wires must pass through the terminal sleeve; for 0.5mm^2 wires, fold through the sleeve.
- Avoid using butt connections; if necessary, use soldering with heat-shrink tube protection.

- Ensure tight and secure connections, especially for thick wires like 16mm², as loose lugs can cause arcing due to thermal cycling .

Layout and Routing

- Label all wire heads clearly to identify circuits and avoid confusion during maintenance .
- Route wires to the neutral bar, sub-switches, and ground bar following horizontal and vertical alignment principles .
- Choose the shortest path for connections, keeping PLC input circuits separate from main circuits and other voltage-level control lines .

Component Considerations

- Use appropriate cable glands (M25 or M32 for thick cables) to prevent stress on terminals .
- For compact installations, consider 1P+N RCBOs to save DIN rail space while providing full leakage protection .
- Ensure proper grounding, especially in rural TT systems, by connecting a local earth electrode to the PE busbar .

Safety and Best Practices

- Always turn off the power supply before wiring or maintenance .
- Follow the wiring diagram carefully to understand the flow from the main breaker through circuit breakers, neutral, and ground bars .
- Maintain neat and organized wiring to facilitate troubleshooting and future modifications . By adhering to these guidelines, a Chinese-style distribution box can be wired safely, efficiently, and in compliance with standard practices, ensuring reliable operation and ease of maintenance.

Article Content

How to Install a Cable Distribution Box Safely and Correctly?

In modern electrical systems, cable distribution boxes (also known as electrical distribution boxes or distribution

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