Wiring of the Chinese side distribution box

Overview

How to do the wiring work inside the distribution boxThe 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 1mm², and multi-core cables are 0.3mm² .

• For wires 4mm² and above, use black RV type; for wires below 4mm², 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 0.5mm² wires, fold through the sleeve .

• Avoid using butt connections; if necessary, use soldering with heat-shrink tube protection .

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• 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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