

Which type of switch should be used in a secondary distribution box



Overview

The Ultimate Guide to Distribution Box Types A Unitized Panel is a modular type of switchgear or distribution panel designed for specific, high-power Distr.

Key Takeaways

A secondary distribution box should be equipped with appropriately rated circuit breakers for each branch circuit, including main and individual protective switches, along with neutral and ground bars for safe distribution. Key Components and Switches



1. **Main Circuit Breaker:** The sub-panel should have a main breaker that controls the overall power supply from the primary panel. This acts as a disconnecting means and provides overcurrent protection for the entire sub-panel .

2. **Branch Circuit Breakers:** Each secondary circuit should have its own circuit breaker. These are typically miniature circuit breakers (MCBs) or molded case circuit breakers (MCCBs) depending on the load. They protect individual circuits such as lighting, outlets, or specific appliances .

3. **Residual Current Devices (RCDs) or Ground Fault Circuit Interrupters (GFCIs):** For areas requiring additional safety, such as bathrooms, kitchens, or outdoor circuits, RCDs or GFCIs should be installed to protect against earth leakage and reduce the risk of electric shock .

4. **Neutral and Ground Bars:** The sub-panel must include separate neutral and ground bars. The neutral bar is connected to the feeder neutral from the main panel, and the ground bar is bonded to the panel enclosure. In sub-panels, the neutral and ground should remain isolated to prevent parallel paths .

5. **Switch Arrangement and Wiring:** Circuit breakers should be arranged from left to right, with the main breaker typically on the left. Wiring should follow standard color codes (e.g., blue for neutral, yellow/green/red for phases) and appropriate wire sizes based on load (e.g., 2.5mm² for lighting and sockets, 4mm² for air conditioning), . Proper labeling of each circuit is essential for safety and maintenance .

6. **Optional Control and Indication Switches:** Some sub-panels may include additional switches for controlling specific equipment or indicator lamps to show circuit status. These are mounted on the front face for easy access .

Safety and Compliance

- Ensure all breakers are rated for the expected load and comply with local electrical codes.
- Maintain proper clearances and bending space for wiring inside the panel .
- Clearly mark AC, DC, or different voltage levels within the distribution box .
- Conduct a safety inspection after installation to check for short circuits, overloads, or improper connections . By installing these switches and components correctly, a secondary distribution box can safely and efficiently distribute power to multiple circuits while providing protection against overloads, short circuits, and electrical faults.

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The cable is connected to the distribution board and the power is distributed through the breakers in the secondary

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

