

What are the wires in the distribution box called



Overview

This picture shows the interior of a typical distribution panel in the United Kingdom. The three incoming phase wires connect to the busbars via a main switch in the centre of the panel. On each side of the panel are two, for neutral and earth. The incoming neutral connects to the lower busbar on the right side of the panel, which is in turn connected to the neutral busbar at the top left. The incoming earth wire connects to the earth busbar at the top right.

Key Takeaways

The wires in a distribution box are typically called live (phase), neutral, and earth (ground) wires.

- **Live (Phase) Wire** This wire carries the current from the main supply to the distribution box and then to individual circuits. It is usually connected to the MCBs (Miniature Circuit Breakers) or main switch and is often color-coded red, brown, or black depending on regional standards .
- **Neutral Wire** The neutral wire completes the electrical circuit by returning current back to the power source. It is connected to the neutral bus bar inside the distribution box and is typically color-coded blue or white .



- **Earth (Ground) Wire** The earth wire provides a safety path for fault currents to prevent electric shocks. It is connected to the earth bus bar and is usually green, green-yellow striped, or bare copper .

Additional Wiring Components

- **Busbars:** These are metallic strips that distribute power from the incoming supply to multiple outgoing circuits. Live, neutral, and earth wires are connected to their respective busbars .
- **Outgoing Circuit Wires:** Each branch circuit leaving the distribution box has its own set of live, neutral, and earth wires connected to the corresponding MCB or RCCB .
- **Incoming Supply Wires:** The main supply enters the distribution box through a set of live, neutral, and earth wires, which feed the main switch or main breaker .

Summary

In a distribution box, the live (phase) wire carries current to circuits, the neutral wire returns current, and the earth wire ensures safety. These wires are organized and connected to busbars, MCBs, RCCBs, or other protective devices to safely distribute electricity throughout a building .

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