

Article Overview

The main line of a distribution box socket is the primary input power cable that feeds electricity into the distribution box, where it is protected and then distributed to branch circuits and sockets.

Overview of the Main Line

The main line is the single, heavy-duty cable that brings electrical power from the utility supply or main panel into the distribution box (DB box) of a building . This line is typically connected to the main circuit breaker (MCB) or main switch, which serves as the first point of protection against overloads or short circuits . In single-phase domestic systems, this is usually a double-pole MCB, while in three-phase systems, three-phase MCBs are used .

Connection and Protection

- o Input Connection: The main line (phase and neutral) enters the DB box and connects to the main MCB. This ensures that all downstream circuits can be shut off in case of a fault .
- o Protective Devices: After the main MCB, the power is routed through RCCBs (Residual Current Circuit Breakers) for protection against leakage currents and electrical shocks . The RCCB output then feeds the individual branch MCBs, which supply sockets, lighting, or other loads.
- o Neutral and Earth Links: The neutral wire from the main line is connected to a neutral bus bar, distributing neutral to all branch circuits. The earth wire is connected to an earthing terminal, ensuring safety for all connected devices .

Distribution to Sockets

Once the main line is properly connected and protected, the DB box distributes power to multiple sockets and other loads via branch circuits. Each socket circuit is typically protected by a single-pole MCB, while special or high-power sockets may use double-pole MCBs . This setup ensures that faults in one socket or circuit do not affect the entire system.

Key Points

- o The main line is the primary source of electricity entering the DB box.
- o It must be connected to a main breaker for overall protection.
- o RCCBs and branch MCBs provide additional safety for sockets and appliances.
- o Proper neutral and earth connections are essential for safe operation . By following these principles, the main line of a distribution box socket ensures safe, organized, and efficient power distribution throughout a building.

Main line of distribution box socket

Below is a simplified internal structure diagram for a typical single-phase AC distribution box using an incoming main

This single line diagram shows the layout and connections of a main distribution board. It includes the incoming power supply, circuit

You can see the wiring diagram of single phase distribution box from main meter to DB and other sub-circuit in the

Domestic electricity explores electrical circuits and the safety devices around the home, like fuses and circuit breakers, the ring main

This document provides a wiring diagram for a 230V single-phase 63A distribution board with RCD protection for lighting circuits, an

Understand distribution boxes (DB boxes) in 5 minutes. Learn about types, components, functions, and uses. Find

Mains electricity, utility power, grid power, domestic power, wall power, household current, or, in some parts of Canada, hydro, is

Some distribution boxes have a longer cord than others. When choosing a distribution box, make sure the cord is

A distribution box ensures that electrical supply is distributed in the building, also known as a distribution board, panel board, breaker

These protective devices are usually mounted in a central panel--most commonly a distribution board or consumer unit--in a

This AutoCAD DWG file includes a complete Single Line Diagram (SLD) of a Distribution Board, showing

Raised floor distribution and outlet (socket) boxes. Accordingly, EAE offers flexible, sound, modular,

The wiring diagram of a main distribution board - often referred to as the heart of your home's electrical system - is

The Main Lug Panel does not have a main breaker but connects directly to a breaker from the main panel or other

Main line of distribution box socket

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

3-Phase & Single Phase Electrical Distribution Wiring Installation in Home How to Wire There Phase Main

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