Construction Level 3 Distribution Box Model

Article Overview

A Level 3 Distribution Box is an outdoor, reinforced electrical enclosure designed for safe power distribution with IP-55 protection, bus bars, MCCBs, and earthing provisions.

Construction and Materials

Level 3 distribution boxes are typically fabricated from 2 mm galvanized iron (GI) sheet steel with reinforced channels for structural stability. The roof is slightly slanted with a 50 mm overhang to prevent water ingress, and the door hinges are concealed for security. Locking is provided via a Godrej Type 3 Position Locking System, with additional galvanized manual locking options to prevent rusting. The box includes solid earthing points on both sides to ensure proper grounding and safety compliance (IP-55) .

Enclosure Standards

These boxes conform to NEMA Type 3 or 3R standards, suitable for outdoor use, providing protection against dust, windblown debris, rain, and snow, while remaining undamaged by ice formation. Some models may include corrosion-resistant features for enhanced durability .

Electrical Components

o Bus Bars: Copper flat bars (typically 25x4 mm) with heat-shrinkable insulation or phase-colored paint for Red, Yellow, Blue, and Black phases. Bus bars are arranged to maintain adequate clearance from the enclosure body and allow for one incoming bus bar with a 4-pole MCCB and one outgoing feeder with a 3-pole MCCB .
o Circuit Breakers (MCCBs): Magnetic trip release with manual reset, conforming to IS:13947 standards. Neutral unbalance protection is included, with test certificates from approved laboratories .
o Cable Glands: Heavy-duty, double compression brass glands for incoming and outgoing cables, mounted on detachable plates for easy installation .
o Residual Current Devices (RCCBs): Optional for enhanced safety, detecting phase imbalances to prevent electric shocks .
o Isolators: Manual switches to safely disconnect circuits during maintenance .

Additional Features

o Lighting provisions inside the cabinet for maintenance visibility.
o Identification: Non-detachable nameplates and purchaser-specific markings for asset tracking.
o Optional Smart Features: Some Level 3 boxes may include energy monitoring units or communication

modules for real-time data collection and remote control .

Applications

Level 3 distribution boxes are used in industrial, commercial, and utility installations where outdoor exposure is expected. They serve as sub-distribution points, routing electricity safely from the main supply to multiple circuits, protecting against overloads, short circuits, and environmental hazards . This model ensures robust construction, compliance with electrical standards, and operational safety, making it suitable for demanding outdoor electrical distribution applications.

This level of equipment shall provide protection, monitoring and control for the load. 3) The final power

Hierarchical internetworking model The Hierarchical internetworking model is a three-layer model for network design first proposed

1. The power distribution system at the construction site shall be distributed in different levels. The main distribution box (or

A distribution board (also known as panelboard, breaker panel, electric panel, DB board or DB box) is a component of

2? The rated value and action setting value of the main distribution box shall be compatible with the rated value and action setting

Learn how to install a distribution box safely and correctly. Covers wiring, placement, standards, and expert tips for a

A well-chosen distribution box ensures the safety and efficiency of your household electrical system. This article guides

Discover the key types of distribution boxes with NUOMAK"s comprehensive guide. Learn about Main Distribution Boards (MDB),

Whether you are an electrical contractor or a construction brigade, knowing how to properly and safely install

What to Look for When Choosing a Distribution Box If you"re going to buy a distribution box, there are several things

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Distribution switchboards, including the Main LV Switchboard (MLVS), are critical to the dependability of an electrical

The best distribution system is one that will, cost-effectively and safely, supply adequate electric service to both present and future

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

Enter smart distribution box systems: the unsung heroes that keep construction sites powered, safe, and aligned with

Distribution boxes, also known as electrical distribution boards or panels, are pivotal components in electrical systems, ensuring the

Learn how to choose a distribution box and understand its internal structure, including MCBs, busbars, neutral bars,

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