ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Sub-level distribution box



Overview

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

Key Takeaways

A sub-level distribution box, or sub-distribution board, is a secondary electrical panel that distributes power from the main panel to specific areas or circuits within a building, enhancing safety, control, and flexibility.Overview

A sub-level distribution box (also called a sub panel or sub-distribution board) is a smaller secondary panel connected to the main electrical panel. It serves as an extension of the main panel to distribute electricity to localized circuits, such as a garage, basement, or additional rooms, without overloading the main panel . This setup allows for easier management, maintenance, and expansion of electrical circuits.

Components

Typical components of a sub-distribution box include :

• Circuit breakers: Protect individual circuits from overloads and short circuits.

• Bus bars: Conduct electricity to multiple circuits efficiently.

• Neutral and ground bars: Ensure proper grounding and safe operation.

• Indication lights: Show the status of mains power supply.

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

• Optional smart modules: Energy monitoring units or communication modules for real-time data and remote control. The enclosure is usually made of thermoplastics like polycarbonate or ASA, or powder-coated stainless steel, providing durability and safety.

Functions and Benefits

• Localized power distribution: Supplies electricity to specific areas or equipment without running long cables from the main panel.

• Safety: Reduces the risk of electrical faults by isolating circuits and providing dedicated protection.

• Flexibility: Allows adding new circuits without overloading the main panel.

• Convenience: Simplifies troubleshooting and maintenance by isolating issues to a specific sub-panel .

• Space efficiency: Modern sub-distribution boards, like ABB's TriLine C or Mirage Pro, offer compact designs with multiple ways (4–18) and variable heights (1000–2000 mm) to fit different installation requirements .

Installation Considerations

• Connection to main panel: A feeder cable links the main panel to the sub-panel.

• Circuit allocation: Each sub-panel breaker controls a specific circuit or appliance.

• Safety compliance: Must follow local electrical codes, including proper grounding and use of leakage protection devices .

• Placement: Typically installed near the area it serves to minimize cable runs and improve accessibility.

Applications

Sub-level distribution boxes are widely used in:

• Residential buildings for additional rooms, garages, or basements.

• Commercial buildings to manage lighting, HVAC, or office equipment.

• Industrial sites for machinery, motor control centers, or localized power distribution . By providing additional capacity, localized control, and enhanced safety, sub-distribution boards are essential for modern electrical systems, especially in large or complex installations.

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

Article Content

Types of Distribution Boxes: Applications and Selection Guide

Compare distribution box types, their applications, and selection tips. Find the best fit for your project with this

Distribution Box and Selection Guide: Internal Structure, Components ...

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

Distribution Box Guide: Types, Components & Solutions

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

Distribution Boxes Types – The Complete Guide

Sub Distribution Board (SDB) These boxes are used in various places, such as residential areas or industries. They

ABB I Sub distribution boards

Depending on your specific application, our range of sub distribution boards includes solutions with mounting plates and DIN-rails

Understanding the Electrical Sub Panel: A Clear

An electrical sub panel, also known as a sub panel box or breaker box, is an essential component of an

Subpanel

Get free shipping on qualified Subpanel Breaker Boxes products or Buy Online Pick Up in Store today in

The Meaning and Function of Primary, Secondary, and Tertiary ...

Secondary distribution boxes, also known as sub-distribution boxes, generally serve specific power supply areas. These

Electron configuration

Electron atomic and molecular orbitals A Bohr diagram of lithium In atomic physics and quantum chemistry, the electron configuration

The difference between the first,second,and third levels of ...

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

Third level distribution box: refers to the final junction box of each electrical appliance, which can be movable and

Distribution Box: Types and Functions | Axis-Electricals

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

Exploring the Electron Configuration with Box Diagrams

The box diagram electron configuration is a notation system used to represent the distribution of electrons among the energy levels

Distribution Box: Types and Functions | Axis-Electricals

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

s, p, d, f Atomic Orbitals

There are s, p, d, and f atomic orbitals each associated with an energy level and corresponding quantum numbers.

A Definitive Guide To Distribution Boxes

The distribution box acts as the center of power distribution, distributing electricity to all connected devices. A

three-level distribution system_switchgear_Switchboard_circuit

The three-level distribution system refers to a system that distributes electric power through three levels of distribution

myusawire

We would like to show you a description here but the site won''t allow us.

The Electron Configuration Explained: Definition, Examples ...

The main atomic sub-levels or subshells are s, p, d and f. Each atomic sub-level has a set number of atomic or electron orbitals with

What Is a Distribution Box in a Septic System?

A distribution box splits wastewater evenly across your drain field. Learn how it works, signs it''s failing, and what

Distribution Boxes Types – The Complete Guide

The power distribution boxes deliver electricity from the main electrical main to other circuits. Several distribution boxes

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

2.4 Electron Configurations

When writing an electron configuration, first write the energy level (the period), then the subshell to be filled and the superscript,

Power Distribution Boxes Explained Simply

Learn what a power distribution box is, how it works, key components, types, and why it''s vital for safe and efficient

Septic D Box FAQs

Septic system D box FAQs: Frequently-asked questions and answers about septic system distribution boxes or D-boxes: what is a D

Installing a Septic Distribution Box: D-Box Setup

A drop box should be installed level and should include an inspection port. There are two

Shells, subshells, and orbitals (video) | Khan Academy

The electrons in an atom are arranged in shells that surround the nucleus, with each successive shell being farther from the nucleus.

Cisco N9300 Series Smart Switches

Cisco N9300 Series Smart Switch Infusing security into the data center fabric at scale offers robust and comprehensive protection, all

Understanding Distribution Boxes: Your Guide to Power Distribution

Understanding distribution boxes: Your guide to power distribution. Learn about power distribution box functions and

Configure surface-mounted distribution box now | Boxexperts

Configure fuse and distribution box surface-mounted individually In addition to the high quality, the modern designs and the

Electron configuration

Electron atomic and molecular orbitals A Bohr diagram of lithium In atomic physics and quantum chemistry, the electron configuration

The difference between the first,second,and third levels of ...

Third level distribution box: refers to the final junction box of each electrical appliance, which can be movable and

Distribution Box: Types and Functions | Axis-Electricals

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

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

Exploring the Electron Configuration with Box Diagrams

The box diagram electron configuration is a notation system used to represent the distribution of electrons among the energy levels

Distribution Box: Types and Functions | Axis-Electricals

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

s, p, d, f Atomic Orbitals

There are s, p, d, and f atomic orbitals each associated with an energy level and corresponding quantum numbers.

Distribution Box Guide: Types, Components & Solutions

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

A Definitive Guide To Distribution Boxes

The distribution box acts as the center of power distribution, distributing electricity to all connected devices. A

three-level distribution system_switchgear_Switchboard_circuit

The three-level distribution system refers to a system that distributes electric power through three levels of distribution

myusawire

We would like to show you a description here but the site won''t allow us.

The Electron Configuration Explained: Definition, Examples ...

The main atomic sub-levels or subshells are s, p, d and f. Each atomic sub-level has a set number of atomic or electron orbitals with

Types of Distribution Boxes: Applications and Selection Guide

Compare distribution box types, their applications, and selection tips. Find the best fit for your project with this

Distribution Box and Selection Guide: Internal Structure, Components ...

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

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

Distribution Box Guide: Types, Components & Solutions

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

Distribution Boxes Types – The Complete Guide

Sub Distribution Board (SDB) These boxes are used in various places, such as residential areas or industries. They

ABB I Sub distribution boards

Depending on your specific application, our range of sub distribution boards includes solutions with mounting plates and DIN-rails

Understanding the Electrical Sub Panel: A Clear

An electrical sub panel, also known as a sub panel box or breaker box, is an essential component of an

Subpanel

Get free shipping on qualified Subpanel Breaker Boxes products or Buy Online Pick Up in Store today in

The Meaning and Function of Primary, Secondary, and Tertiary ...

Secondary distribution boxes, also known as sub-distribution boxes, generally serve specific power supply areas. These

10 Distribution Board Types Explained [August 2026]

A Sub Distribution Board (SDB) is connected to the MDB and controls power in a specific

Ultimate Guide To Distribution Boxes Db Boxes Types

This ultimate guide explains what a distribution box does, its internal components, common types, real

Types of Distribution Boxes: Applications and Selection Guide

Compare distribution box types, their applications, and selection tips. Find the best fit for your project with this

Distribution Box and Selection Guide: Internal Structure, Components ...

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

Distribution Box Guide: Types, Components & Solutions

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

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

Distribution Boxes Types – The Complete Guide

Sub Distribution Board (SDB) These boxes are used in various places, such as residential areas or industries. They

ABB I Sub distribution boards

Depending on your specific application, our range of sub distribution boards includes solutions with mounting plates and DIN-rails

Understanding the Electrical Sub Panel: A Clear

An electrical sub panel, also known as a sub panel box or breaker box, is an essential component of an

Subpanel

Get free shipping on qualified Subpanel Breaker Boxes products or Buy Online Pick Up in Store today in

Contact Us

Continue your research online:

Website: https://zithatech.co.za
Technical inquiry: https://zithatech.co.za/contact.html

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

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved