ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Distribution box circuit panel



Overview

North American distribution boards are generally housed in enclosures, with the positioned in two columns operable from the front. Some panelboards are provided with a door covering the breaker switch handles, but all are constructed with a dead front; that is to say the front of the enclosure (whether it has a door or not) prevents the operator of the circuit breakers from contacting live electrical parts within. carry the current from incoming line (hot) conductors to the breakers.

Key Takeaways

A distribution box, also known as a circuit panel or breaker panel, safely distributes electrical power from a main supply to multiple circuits while protecting each circuit from overloads and faults.Overview

A distribution box (DB) is a central hub in an electrical system that receives incoming power from the mains and distributes it to various branch circuits within a building or facility, ensuring safety and organized power management (Wikipedia, 2026). It is commonly referred to as a panelboard, breaker panel, fuse box, or electric panel depending on the region and type of installation .

Key Components
• Busbars: Conduct and distribute electricity to multiple outgoing circuits .

• Circuit breakers or fuses: Protect circuits by interrupting excess current to prevent damage or fire .

• Main switch / isolator: Allows complete shutdown of the panel for maintenance .

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

• Residual current devices (RCDs) or RCBOs: Detect leakage currents and reduce the risk of electric shock .

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

• Optional smart modules: Energy monitoring units and communication modules for real-time data and home automation integration .

Types of Distribution Boxes

• Residential Load Centers: Typically use plug-in breakers and serve homes or small offices .

• Commercial and Industrial Panels: Often use bolt-on breakers, larger enclosures, and support multiple circuits .

• Subpanels: Satellite panels connected to the main panel to distribute power locally; they do not have a main disconnect switch .

• Transfer Switch Panels: Allow switching between utility power and backup generators, available in manual or automatic versions .

• Fuse Boxes: Older type of panel using fuses instead of breakers; less convenient as fuses must be replaced after tripping .

Functions

• Power Distribution: Routes electricity safely to lights, outlets, appliances, and industrial equipment .

• Circuit Protection: Prevents overloads, short circuits, and electrical hazards .

• Energy Management: Modern smart DB boxes allow monitoring, automation, and efficient energy use .

• Safety Compliance: Ensures circuits are clearly identified and separated, reducing risk of electrical accidents .

Applications

Distribution boxes are used in residential, commercial, and industrial settings, including homes, offices, factories, and power centers. They are essential for efficient, safe, and reliable electrical power management, and can be customized for specific voltage, phase, and number of circuits . In summary, a distribution box or circuit panel is the backbone of any electrical system, providing organized power distribution, circuit protection, and safety features, with modern options offering smart monitoring and integration for energy efficiency and automation.

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

Article Content

Breaker Boxes

Circuit breaker boxes – also known as breaker panels or main breaker panels – keep the lights on,

Distribution Panel: Parts, Types & How to Choose

A distribution panel receives electrical power and divides it into protected branch circuits. It

Distribution board

OverviewNorth AmericaUnited KingdomManufacturer differencesLocation and designationTheatre lighting

North American distribution boards are generally housed in sheet metal enclosures, with the circuit breakers positioned in two columns operable from the front. Some panelboards are provided with a door covering the breaker switch handles, but all are constructed with a dead front; that is to say the front of the enclosure (whether it has a door or not) prevents the operator of the circuit breakers from contacting live electrical parts within. Busbars carry the current from incoming line (hot) conductors to the breakers

What Is a Distribution Box? Types, Components & How

A distribution box, also called an electrical distribution box, distributes incoming power to

Panelboards and Distribution Panels: What They Are and How They

What Is a Panelboard? A panelboard is a distribution assembly designed to divide an incoming electrical feed into

Distribution Boards

Distribution boards, often referred to as electrical panels or breaker boxes, serve as the nerve center of any electrical system. Here

Electrical Distribution Box: Complete Panel Types

Learn what an electrical distribution box is in simple terms. Complete guide to panel types,

Complete Guide For Distribution Boxes Types

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

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

12 Different Types Of Electrical Panels Explained

Learn about the different types of electrical panels for your residential, commercial, and industrial needs and get tips

How to determine your panel size

Your home gets its electrical service from the electric grid, and distributes it to the individual circuits and wall outlets in your home

Panelboards and Distribution Panels: What They Are and How They

Confused by electrical distribution terms? Our guide clarifies the differences between panelboards, distribution panels,

Electrical Panels: Replacement Signs, Maintenance, and Basics

The electrical panel—also called a circuit breaker box or service panel—is the central distribution point that connects

Power Distribution & Circuit Protection

Circuit breakers are grouped in breaker boxes or electrical panels and come in single-pole or double-pole options. A ground-fault

What Is a Distribution Box? Types, Components & How

A distribution box, also called an electrical distribution box, distributes incoming power to

Distribution Box vs Control Box vs Junction Box: Key

What Is a Distribution Box? A distribution box, also known as a distribution board or panel, is

What is Electrical Panel – Its Types, Components

What is Electrical Panel – Its Types, Components & Function An electrical panel is like the

Main Breaker Panel

Get free shipping on qualified Main Breaker Panel Breaker Boxes products or Buy Online Pick Up in Store today in the Electrical

Distribution Boards

Distribution boards, often referred to as electrical panels or breaker boxes, serve as the nerve center of any electrical system. Here

Electrical Distribution Box: Complete Panel Types

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

Learn what an electrical distribution box is in simple terms. Complete guide to panel types,

Complete Guide For Distribution Boxes Types

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

12 Different Types Of Electrical Panels Explained

Learn about the different types of electrical panels for your residential, commercial, and industrial needs and get tips

How to determine your panel size

Your home gets its electrical service from the electric grid, and distributes it to the individual circuits and wall outlets in your home

Panelboards and Distribution Panels: What They Are and How They

Confused by electrical distribution terms? Our guide clarifies the differences between panelboards, distribution panels,

Breaker Boxes

Circuit breaker boxes – also known as breaker panels or main breaker panels – keep the lights on,

Distribution Panel: Parts, Types & How to Choose

A distribution panel receives electrical power and divides it into protected branch circuits. It

Distribution board

OverviewNorth AmericaUnited KingdomManufacturer differencesLocation and designationTheatre lighting

North American distribution boards are generally housed in sheet metal enclosures, with the circuit breakers positioned in two columns operable from the front. Some panelboards are provided with a door covering the breaker switch handles, but all are constructed with a dead front; that is to say the front of the enclosure (whether it has a door or not) prevents the operator of the circuit breakers from contacting live electrical parts within. Busbars carry the current from incoming line (hot) conductors to the breakers

What Is a Distribution Box? Types, Components & How

A distribution box, also called an electrical distribution box, distributes incoming power to

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

Panelboards and Distribution Panels: What They Are and How They

What Is a Panelboard? A panelboard is a distribution assembly designed to divide an incoming electrical feed into

Electrical Control Panels & Distribution Boxes: Sizes,

Learn about control panels, breaker boxes, junction boxes, and custom enclosures. Explore

Distribution Panel: Parts, Types & How to Choose

A distribution panel receives electrical power and divides it into protected branch circuits. It

Distribution board

OverviewNorth AmericaUnited KingdomManufacturer differencesLocation and designationTheatre lighting

North American distribution boards are generally housed in sheet metal enclosures, with the circuit breakers positioned in two columns operable from the front. Some panelboards are provided with a door covering the breaker switch handles, but all are constructed with a dead front; that is to say the front of the enclosure (whether it has a door or not) prevents the operator of the circuit breakers from contacting live electrical parts within. Busbars carry the current from incoming line (hot) conductors to the breakers

What Is a Distribution Box? Types, Components & How

A distribution box, also called an electrical distribution box, distributes incoming power to

Panelboards and Distribution Panels: What They Are and How They

What Is a Panelboard? A panelboard is a distribution assembly designed to divide an incoming electrical feed into

Electrical Control Panels & Distribution Boxes: Sizes,

Learn about control panels, breaker boxes, junction boxes, and custom enclosures. Explore

Electrical Distribution Box: Complete Panel Types

What is the difference between an electrical distribution box and a circuit breaker panel?

Distribution Box Guide: Types, Components & Solutions

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

From traditional main circuit breaker panels to innovative smart distribution boxes, the evolution of this essential

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,

Subpanel

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

North American distribution boards are generally housed in enclosures, with the positioned in two columns operable from the front. Some panelboards are provided with a door covering the breaker switch handles, but all are constructed with a dead front; that is to say the front of the enclosure (whether it has a door or not) prevents the operator of the circuit breakers from contacting live electrical parts within. carry the current from incoming line (hot) conductors to the breakers...

North American distribution boards are generally housed in enclosures, with the positioned in two columns operable from the front. Some panelboards are provided with a door covering the breaker switch handles, but all are constructed with a dead front; that is to say the front of the enclosure (whether it has a door or not) prevents the operator of the circuit breakers from contacting live electrical parts within. carry the current from incoming line (hot) conductors to the breakers...

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