Secondary Distribution Box Formula Board

Overview

CATALOGUE Distribution Board Formula Version ABB's series of standard distribution boards have been designed to make it easy for you to achieve cost-effect.

Key Takeaways

A Secondary Distribution Box (SDB) receives power from the main distribution board and distributes it to multiple secondary circuits, often using modular or snap-on connections for flexibility and safety.

Function and Purpose

The Secondary Distribution Box (SDB) acts as an intermediary between the main power distribution board and branch circuits. It receives electrical power via an extender cable from the main distribution box and redistributes it to various sub-circuits, such as electric floor modules or other localized loads. This setup allows for centralized control, modular expansion, and safer distribution of electricity across a facility.

Design and Components

Enclosure: Typically powder-coated for durability and safety, often in black finish. Terminal Blocks: Can be fitted for custom wiring, allowing flexibility in connecting multiple branch circuits. Protection Devices: Each secondary circuit is usually protected by fuses or circuit breakers to prevent overloads and short circuits.

Modular Connections: Snap-on extender cables or modular connectors enable easy installation, maintenance, and expansion.

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Formula Board Concept

While there is no single universal "formula" for an SDB, the design calculation generally involves: Total Load Calculation: Sum the expected current of all secondary circuits. Breaker Sizing: Select breakers or fuses rated slightly above the maximum expected load for each branch. Busbar and Cable Sizing: Ensure busbars and cables can handle the total current without excessive voltage drop or overheating.

Safety Margins: Include a 10–20% margin for future expansion or unexpected load increases. This approach ensures that the SDB can safely distribute power while maintaining flexibility for future modifications.

Applications

Commercial Buildings: Distributing power to lighting, HVAC, and office equipment. Industrial Facilities: Feeding machinery or production lines with modular circuits. Smart Homes and Modular Installations: Connecting floor modules or localized electrical zones efficiently.

Key Advantages

Centralized Distribution: Simplifies wiring and maintenance. Modular and Expandable: Easy to add or remove circuits. Enhanced Safety: Individual circuit protection reduces risk of overloads and electrical hazards.

Customizable Wiring: Terminal blocks allow tailored configurations for specific applications. In summary, a Secondary Distribution Box Formula Board is a modular, flexible, and safe solution for distributing electrical power from a main distribution board to multiple secondary circuits, with design considerations focused on load calculation, protection, and expandability.

Article Content

CATALOGUE Distribution Board Formula Version

ABB''s series of standard distribution boards have been designed to make it easy for you to achieve cost-effective and safe electrical installations in apartments, single-family house, commercial, industrial

Distribution Boards

Easy Installation of outgoings The design of the pan assembly facilitates the installation of outgoing devices. Availability of mixing Mixing two different types of outgoing devices can be provided in

IEC 61439 Distribution Board Design & Assembly Guide

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Guide for designing and assembling ENYSTAR & Mi Power Distribution Boards according to IEC 61439 standards. Includes checklists and verification steps.

Distribution Board Wiring Guide | Consumer Unit Layout | Elec-Mate

The SPD is installed at the distribution board to protect against transient overvoltages caused by lightning strikes, switching surges, and other disturbances on the supply network.

Distribution Box Guide: Types, Components & Solutions

Understand distribution boxes (DB boxes) in 5 minutes. Learn about types, components, functions, and uses. Find the perfect DB box for your needs.

MCB and ELCB Sizing for Distribution Box

The document calculates the size of branch circuit MCBs and a main ELCB for a distribution box based on the loads connected. It determines that the total load current is 32A based on the branch circuits.

A Complete Guide to Distribution Boards

Read this comprehensive buyer''s guide on distribution boards, explaining what they are, their uses, types, how to connect distribution boards,

Electrical distribution boards | Gewiss

The heart of the GEWISS offer is represented by energy connection, distribution, derivation and transport systems. A complete range of innovative products, Made in Italy, and designed to create

Distribution board

Larger commercial, public, and industrial installations generally use three-phase supplies, with distribution boards which have twin vertical rows of breakers. Larger installations will often use

Ormazabal

Thus, we can distinguish between two main phases when we talk about distribution: the primary distribution grid and the secondary distribution grid. Today we will focus on explaining what it is and

Distribution board

A distribution board (also known as panelboard, circuit breaker panel, breaker panel, circuit breaker, electric panel, fuse box or DB box) is a component of an electricity supply system that divides an

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

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

The terms primary, secondary, and tertiary distribution boxes are relative. Let''s make an example for clarity: A newly constructed residential area introduces a 10kV power line to a substation. From the

Formula Student board design review. : r/PrintedCircuitBoard

Album: Schematics + Board Designs + 3D Views Hello chaps, been working on the electronics package design for my formula student team this year and wanted to get some feedback on my designs

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

Follows the principle of "one machine, one switch, one RCD, one box, one lock," ensuring no single switch controls multiple devices. This explanation aims to clarify the roles and functions of

Electrical distribution boards | Gewiss

QDX and CVX The QDX and CVX range are the best system solution for the installation of all the modular and moulded case circuit breakers, starting with the QDX 1600 main distribution cabinets for

secondary distribution box,Class IIdistribution box-Ayump Electric

In other words, each equipment has its own separate distribution box, which is called three-level distribution box. Then, several three-level distribution boxes are summarized to become a two-level

Secondary distribution system solution

CHINT provide one-stop Secondary Distribution System Solution solutions. From consulting services to engineering design and construction, to long-term project maintenance, CHINT is willing to work with

ABB I Sub distribution boards

Starting from compact boards for energy distribution applications up to floor standing energy supplying switchboards for huge sites of manufacturers or office buildings ABB offers a wide range of wall- and

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Contact Us

Continue your research online:

Website: https://alfa-pro.co.za
Technical inquiry: https://alfa-pro.co.za/contact.html

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

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved