

How to calculate the load of a secondary distribution box



Overview

A sub panel sizing calculator is based on NEC guidelines for load calculation. The calculator takes into account: Total connected load in watts (appliances, lighting, outlets, HVAC). Type of load (continuous or non-continuous). Voltage (120V, 240V, or 3-phase). A subpanel, often called a satellite panel, is a secondary distribution point that draws power from a single, dedicated circuit in the main service panel. This approach prevents running numerous long. For those who want to quickly determine proper wire sizes and load distribution, you can also check our detailed sub panel wire size calculator and electrical service calculator which simplify the process by using standard NEC formulas. Many feeders leave substation in a concrete ducts and are routed to a nearby pole. At this. It is The electric load at the receiving terminals averaged over a specified demand interval of time, usually 15 min. It is The. But with some simple math and planning (don't worry, we'll walk through it!), you can design a system that works smoothly even when you're running all the gadgets.



Article Content

Nov 07, 2025

The installation requirements for the distribution box

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

Jul 07, 2025

Size determination, installation method and wiring mode

The distribution box is the central hub of the home circuit and the general control of our daily power consumption. It is an indispensable electrical equipment. If there

Dec 24, 2025

Primary and secondary power distribution systems

Secondary selective service achieves similar results by using switches on secondary voltages rather than primary voltages. With secondary selective

Apr 12, 2026

Electric Power Distribution Systems

Keywords: Distribution system planning, Load characteristics, Subtransmission Lines, Distribution substations, Design of primary and secondary Systems, Distribution system operation.

Feb 10, 2026

How to Size Main Panel, Load Center, and Consumer

In today's step-by-step guide, we will demonstrate how to select the right size panelboard (whether it's a load center, distribution board, or circuit breaker panel)

Jul 02, 2025

Electrical Load Calculation: Ultimate Guide for MEP

This guide dives deep into the principles, methodologies, and tools required to perform accurate electrical load calculations, ensuring compliance

Feb 08, 2026

Calculate Size of Main ELCB & Branch MCB of Distribution Box

Design Distribution Box of one House and Calculation of Size of Main ELCB and branch Circuit MCB as following Load Detail. Power Supply is 430V (P-P), 230 (P-N), 50Hz.

Dec 18, 2025

Primary and secondary power distribution systems

Electric power distribution systems are designed to serve their customers with reliable and high-quality power. The most common distribution

Jan 06, 2026

Power Distribution Boxes Explained Simply

Discover the essentials of a Power Distribution Box—how it works, key types, benefits, and tips to ensure safe, efficient electrical power management.

Feb 06, 2026

Panel Schedule Calculator | Load Distribution & Balancing

Professional electrical panel schedule tool for creating detailed load distributions, calculating circuit loads, balancing phases, and ensuring NEC compliance for

Apr 09, 2026

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

Secondary Distribution Box: Supplies power to specific buildings or floors. Handles three-phase power and typically connects to secondary loads such as motors or machinery. Equipped with larger three

Jan 11, 2026

Understanding Distribution Boxes: Your Guide to Power

Weatherproof Distribution Boxes These serve specific outdoor purposes, with rain, dust, and extreme temperatures sealed shut, protecting any

Oct 26, 2025

MCB & ELCB Sizing for Distribution Box

This document discusses the calculation of the size of the main ELCB and branch MCBs for a distribution box supplying power to 8 branch circuits in a house. It

Jan 11, 2026

Secondary unit substations design guide

Secondary unit substations requiring a primary disconnect are furnished with Eaton's Type MVS metal-enclosed load interrupter switchgear assemblies. Each assembly consists of one

Mar 16, 2026

ELECTRICAL DISTRIBUTION SYSTEMS

Distribution Feeders: Design Considerations of Distribution Feeders: Radial and loop types of primary feeders, voltage levels, Factors affecting the feeder voltage level, Feeder loading, Application of

May 18, 2026

The Ultimate Guide to Distribution Box Types

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

Jan 18, 2026

Secondary LV/MV distribution substations in a nutshell

Go back to Contents Table ↑ 4. Low voltage distribution From the substations described earlier, LV feeders run to subsidiary substations or load

Jul 01, 2025

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

May 19, 2026

Sub Panel Sizing Calculator: Best Tool to Use

Discover the Sub Panel Sizing Calculator – Best Tool to Use for accurate electrical load calculations, circuit breaker sizing, and safe home wiring.

Mar 30, 2026

Electrical Load Calculation

Residential Electrical Load Calculator, Online and Interactive provides accurate main service panel load calculations.

Jan 16, 2026

How to Calculate the Size and Number of Circuits for a Distribution

Okay, let's talk distribution boxes. You know that metal cabinet packed with switches and wires you see in basements? Yeah, that's the heart of your electrical system. Getting its sizing right isn't just about

Apr 06, 2026

Load Planning

Herein, considerations and practices are presented to facilitate load planning to ensure adequate sizing is accomplished while not over-sizing and increasing electrical system infrastructure costs.

Apr 03, 2026

Electric Power Distribution Systems

Summary This chapter provides an overview of electrical distribution network and systems. The primary substation is the load center taking power from the transmission or subtransmission network and

Nov 27, 2025

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

Aug 08, 2025

How to Size a Subpanel for Your Electrical Load

Sizing an electrical subpanel correctly is a foundational step in safely expanding a home or shop's electrical capacity. A subpanel, often called a satellite panel, is a secondary distribution point that

Aug 22, 2025

Load Planning

Abstract: Understanding the loads connected to an electrical system is an essential consideration when designing or operating said system. Determining the size of the equipment required, including fault

Sep 14, 2025

Electrical Load Estimation - Part One ~ Electrical

Calculate the size of a main feeder from substation switchgear that is supplying five feeders with connected loads of 400, 350, 300, 250 and 200 kilovolt-amperes

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.moletenare-ew.co.za>

Email: info@moletenare-ew.co.za

Phone: +86 138 1658 3346

Address: Ningbo, China

This document is for informational purposes only. Specifications subject to change without notice.

