AC distribution box specifications



Overview

Our ACDBs are designed to deliver high performance and added protection by isolating inverter from mains as and when required.

Key Takeaways

AC distribution boxes (ACDBs) are centralized electrical enclosures designed to safely distribute AC power to various loads while providing protection through circuit breakers, surge protection devices, and proper grounding.

Key Components

Main Circuit Breakers (MCCB/MCB): Provide primary protection and allow isolation of faulty circuits.

Four-pole MC

Bs can separate three-phase supply into individual phases and disconnect the system during abnormal conditions like short circuits or overvoltages. Surge Protection Devices (SPD): Protect connected equipment from voltage spikes caused by lightning or utility switching, typically connected in parallel with MCBs and grounded. Terminal Blocks and Bus Bars: Organize and secure wiring paths, ensuring proper current distribution and safety.

Control Wiring and Relays/

Contactors: Manage operation of compressors, motors, and auxiliary components in HVAC or industrial systems. Neutral and Ground Bus: Ensure proper grounding and return paths for safety.

© 2026 AK OPTICAL SYSTEMS - All rights reserved

Construction and Design

Material and Protection: ACDBs are typically made of dust-proof, waterproof, and UV-resistant materials. Indoor units are often vermin-proof and closed, while outdoor units may include weatherproof enclosures. Modular Construction: Allows compartmentalization of feeders, easy installation, and maintenance.

Doors are lockable with neoprene gaskets for sealing. Standards Compliance: ACDBs are tested and certified according to IEC/IS standards, ensuring safety and reliability. Dimensions and Mounting: Typical indoor ACDBs may have dimensions like 1000(H) x 750(W) x 300(D) mm, with floor-mounted or wall-mounted options.

Electrical Specifications

Voltage and Frequency: Commonly designed for 3-phase, 4-wire AC systems at 433–440V, 50 Hz, with ±10% voltage variation tolerance. Capacity: ACDBs can handle capacities ranging from 1.5 kW to 22.5 kW for solar or HVAC applications. Breaker Ratings: MCBs and MCCBs are selected based on load current, with time-delay (slow-blow) types recommended for motor loads to handle startup surges.

Wiring Compatibility: Conductors must meet NEC or local sizing charts, with insulated terminals and secure cable glands or MC4 connectors for solar applications.

Types of AC Distribution Boxes

Exterior Disconnect Boxes: Installed outside for convenient shutdown during service.

Indoor Sub-

Feed Boxes: Feed multiple components within the system, suitable for larger installations. Combined Control and Power Boxes: Integrate control circuits with power distribution for compact layouts. Industrial Duty Panels: Heavy-duty boxes for commercial or industrial AC units with multiple circuits and higher amperage ratings.

Safety and Maintenance Features

Quick isolation of faulty circuits to prevent fault propagation. Clear labeling and serial numbering of terminals for easy maintenance. Shrouded busbars and terminals to reduce risk of electric shock or hot spots.

Doors and panels designed for easy removal and secure mounting of breakers.

A

C distribution boxes are essential for safe, reliable, and organized power distribution in HVAC, solar, and industrial systems, combining protection, monitoring, and ease of maintenance in a single enclosure.

© 2026 AK OPTICAL SYSTEMS - All rights reserved

Article Content

AC Distribution box

Our ACDBs are designed to deliver high performance and added protection by isolating inverter from mains as and when required. All of HPL- AC Distribution

Distribution Box Specifications & IEC Protection Standards

Evaluate distribution box parameters, bus bar configurations, and overcurrent protection requirements for industrial compliance.

Air Conditioning Distribution Box: Essential Guide to Function, Types ...

This article explains what a distribution box does, typical configurations, sizing guidelines, installation considerations, and maintenance tips to help facility owners and homeowners

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, earth bars, RCDs, RCBOs, SPDs, enclosure ratings, and wiring layout.

AC Distribution Box ACDB110-125-2B Datasheet

It can be mounted in a 19-inch rack and measures 175mm x 482.6mm x 72.7mm. It has overcurrent protection, surge protection up to 40kA, and an operating temperature range of -40°C to +65°C.

AC Distribution Unit

The safe supply from multiple sources such as shore power, generator and inverter to each of the electrical consumers is controlled and the unit functions as the central location for circuit breakers

AC Distribution Box Manufacturer

Our AC distribution boxes are equipped with the true AC breaker and AC SPD from 220V-400V. Within a durable PC enclosure, we pre-assemble reliable AC components to reduce working time and error

Technical Document for 3 Phase AC Distribution box

There are various types of junction boxes based on system capacity. This solar AC distribution box have strong capabilities of ageing resistance and UV resistance.

Distribution Boards & Consumer Units

© 2026 AK OPTICAL SYSTEMS - All rights reserved

Mini Center Compact is a reliable range of distribution boards allowing maximum flexibility, offering wide choice of incomers: Switch Disconnector, MCCB, MCB, RCCB, RCD or Direct Cable Connection.

Technical Specifications for Outdoor LT Distribution boxes with ...

They shall be suitable for operation on 433 Volts, 3 Phase, 4 Line, AC 50 cycles systems and required to be installed at the secondary terminals of distribution transformer centers.

Distribution Box Specifications And Models

There are many specifications and models of Distribution box. The following are some common specifications and models of distribution boxes and

GCK Type

GCK Type Enclosure E-able - Residential Boxes - GCK Type A GCK type enclosure is a cabinet designed to house low-voltage AC power distribution

Distribution Boards & Consumer Units

Distribution boards, together with modular ABB system pro M Compact protection devices and Modular Din Rail Components, can be used for many applications in electrical building installation. Solutions

Technical Document for 3 Phase AC Distribution box

Introduction ACDB (AC Distribution Box) is a central power management box. It connects MCCB (Moulded Case Circuit Breaker), MCB (Miniature Circuit Breaker), SPD (Surge protection Device),

What is the use of the AC distribution box?

An AC distribution box is a device used to distribute and control AC power. In the AC power system, as an important part of the power equipment, the AC distribution box mainly plays the following roles:

AC Distribution Box ACDB110-125-2B Datasheet

AC Distribution box ACDB110-125-2B Datasheet - Free download as PDF File (.pdf), Text File (.txt) or read online for free. The ACDB110-125-2B is an AC power distribution box that provides 1 125A/3P

AC Distribution Board | CrimEng

An AC Distribution Board, also known as an AC Distribution Panel or AC Distribution Box, is an essential component of electrical installations used to distribute alternating current (AC) power from a main

© 2026 AK OPTICAL SYSTEMS - All rights reserved

ACDB / DCDB AC / DC Distribution Box

base of any dependable power supply is built around low-voltage distribution systems. Alternative Current Distribution Box (ACDB) receives the AC power from the solar inverter and directs it to AC

Contact Us

Continue your research online:

Website: https://aboutkitchens.biz
Technical inquiry: https://aboutkitchens.biz/project-desk.html
North American project location: Research Triangle Park, North Carolina, United States

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

© 2026 AK OPTICAL SYSTEMS - All rights reserved