Distribution box side bushing

Overview

Bushings Our bushings are the perfect solution for insulating your transformer, thanks to the high level of application fit and easy handling. Standardized.

Key Takeaways

A distribution box side bushing is an insulated interface that allows electrical cables to safely enter or exit a transformer or distribution box while maintaining electrical isolation and mechanical support.

Function and Purpose

Distribution box side bushings serve as critical insulation points where incoming or outgoing cables pass through the transformer enclosure or distribution box. They guide current safely into the transformer windings while preventing contact with grounded surfaces, reducing the risk of arcing, short circuits, and equipment damage. Bushings also provide mechanical support for cables and maintain the integrity of the insulating medium inside the box or transformer.

Types of Bushings

Bushings can be classified based on insulation type and application: Oil/Oil (fully insulated): Both the bushing and surrounding medium are oil-filled, providing high dielectric strength and suitable for high-voltage applications.

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

Oil/

Air (partially insulated): Combines oil insulation inside the bushing with air outside, commonly used in medium-voltage distribution boxes.

Air/

Air (partially insulated): Fully air-insulated bushings, often used indoors or in lower-voltage applications. Solid Porcelain or Composite: Provides robust mechanical support and is often used in indoor transformers or padmount distribution boxes.

Standards and Compliance

Distribution box bushings are designed to meet international standards such as IEC 60137 and EN 50336, ensuring safe operation under rated voltage and current conditions. Some bushings, like the hollow-core liquid-filled types, comply with EN 50180 and EN 50243, offering maintenance-free operation and high reliability.

Installation Considerations

Voltage and Current Ratings: Bushings must match the transformer's voltage and current specifications to prevent dielectric failure.

Dead-

Front vs.

Live-

Front: Dead-front bushings provide fully insulated cable connections, enhancing safety during maintenance, while live-front bushings may be used in specific high-voltage applications. Mechanical Stress: Bushings must withstand environmental conditions such as vibration, temperature changes, and humidity. Maintenance: Some bushings are maintenance-free, while others may require periodic inspection for oil levels, insulation integrity, or signs of wear.

Applications

Distribution box side bushings are commonly used in: Padmount transformers for residential or commercial distribution. Indoor switchgear and medium-voltage distribution panels. High-voltage transformers requiring robust insulation and mechanical support for incoming and outgoing cables.

By selecting the appropriate bushing type and ensuring compliance with standards, utilities and industrial operators can maintain safe, reliable, and efficient electrical distribution.

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

Article Content

Bushings

Our bushings are the perfect solution for insulating your transformer, thanks to the high level of application fit and easy handling. Standardized design up to 52 kV and production expertise

Guide to Transformer Bushings

Learn what transformer bushings are, how they work, their two main types (dead-front and live-front bushings), and when each type works best in padmount and substation transformers.

Bushings

For all applications, GE''s bushings represent a cost-effective solution to facilitate the electric stress control of your equipment. GE offers a large portfolio of condenser bushings for AC or DC operation.

Transformer Bushings

Hitachi Energy''s transformer bushings ensure safe and reliable operation of transformers across diverse applications. As critical components in electrical networks, bushings provide robust insulation and

LV Bushings

Transformer Components manufactures bushings for use in pole and padmount oil-filled distribution transformers and other oil-filled electrical apparatus.

Bushings | Hubbell Power Systems

Hubbell Power Systems, Inc. offers a wide range of electrical bushings and related components and accessories for most applications with bushing technologies from PCORE® Electric, Electro

Bushings

Our bushings for electrical transmission offer AC and DC solutions with high-value customer benefits: longer lifetime and higher reliability, increased safety, no

Guide to Substation Bushings | Maddox Transformer

What bushing layout do you need for your substation transformer? The layout will depend on the bushing location, phasing, and type of terminal enclosures.

Bushings | Prolec

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

We design and manufacture durable low-voltage bushings for reliable insulation and mechanical support. Contact us today to find the right bushing solution.

Cable box bushings

Cable box bushings Products to suit all options With our cable box bushings we can offer products to suit all options. Cable box bushings are designed for indoors use and are suitable for several

Understanding the Types of Transformer Bushing 2025

These components serve as critical interfaces between the internal conductors and the external environment, providing both insulation and mechanical support. Understanding what a bushing in a

A Look into Bushing Failures: Monitoring & Testing Guide

Complete guide to transformer bushing failures, monitoring methods, and testing practices. Learn about different bushing types and maintenance strategies.

Transformer Bushing Basics: A Complete Guide

A comprehensive guide to transformer bushings: Learn about their structure, types, functions, maintenance, and critical design principles for optimal performance in electrical systems.

Bushings

All the winding machines used for condenser bushings product are computer controlled and have been specifically designed and developed for that purpose by GE. Power Transformers •Oil-to-air, for the

Bushings

The superior cooling capability provided by the transformer oil at the ''under-oil'' end of the bushing means that only two parallel palms are required. At the air end of the bushing, it is necessary to

AC bushings pad-mounted HV bushing wells | Hitachi Energy

Hitachi Energy offers both high-voltage and low-voltage bushings designed for use in pad or surface-mounted transformers. The bushings insulate the current-carrying conductor from the tank, allowing

High-voltage bushings

Reliability has always been one of the core demands of the energy market. One such example of reliability can be seen in the exceptional lifetime of power transformers, which often function for 50

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

1.2 kV class secondary bushing installation instructions

Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.
G122.2 iv 1.2 KV CLASS SECONDARY

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