

Why does the high-voltage distribution box make noise



Summary of Content

High-voltage distribution boxes often make noise due to corona discharge, transformer vibrations, and environmental factors, which are usually normal but can indicate maintenance needs.

Corona Discharge

One of the primary causes of noise in high-voltage equipment is corona discharge, which occurs when the electric field around conductors ionizes the surrounding air. This creates a faint, continuous electrical discharge that produces a buzzing or crackling sound. The intensity of this noise increases with higher voltages, sharp points or nicks on conductors, and humid or rainy conditions, as moisture enhances air conductivity and amplifies the discharge sound. Corona discharge can also produce a faint visible glow near the conductors and minor energy loss known as corona loss.

Transformer Hum and Magnetostriction

Transformers inside distribution boxes can generate a low-frequency hum due to magnetostriction, where the transformer core slightly changes shape as the magnetic field fluctuates with alternating current. This vibration occurs at twice the mains frequency (e.g., 120 Hz in North America) and can be amplified by poor installation, rigid mounting, or reflective enclosures. Even well-designed transformers produce some hum, but improper mounting or resonance with the foundation can make it more noticeable.

Environmental and Maintenance Factors

Article Content

Finding & Fixing a Low Electrical Humming Noise

A low electrical humming noise can be more than just a nuisance. Learn how to find and fix a humming electrical

Causes of Electric Circuit Buzz Crackle or Sizzle

What could be causing a buzz and crackle sound in the electric box. How to find out and Locate the Cause of Electrical Circuit Buzz

Troubleshooting electrical noise and transients | Fluke

Electrical noise is the result of more or less random electrical signals getting coupled into circuits where

Power Distribution block noise?

We powered up our system and found a noise coming from the Power distribution block. We disconnected all of the

When Is an Electrical Noise in the House a Reason to Worry?

Alternative current (AC) causes fluctuations in magnetic fields, and this causes vibrations. Most of the time, this isn't

Electrical Distribution Box making a humming noise and...

Current is changing direction 60 times every second and in a large distribution that is amplified by the 1000's of amps

Why do high voltage power lines hum or crackle?

Summary: In other words the audible noise emitted from high-voltage lines is caused by the discharge of energy that

Why Is My Electrical Panel Buzzing?

This sound often vibrates at 60 Hertz (Hz), matching the frequency of the alternating current (AC) supplied by the utility company.

Why does electricity make a humming noise?

But what, exactly, is that hum? And more important, is it ever a sign of danger? The sound electricity makes is known

Why high-voltage power lines "hum"

OPPD methods OPPD does just that, installing corona rings on the end of some insulators.

Electrical Distribution Box making a humming noise and...

The noise has been identified as coming from the electrical distribution box which is attached to a cement wall that runs

Electric Box Noise: Causes And Troubleshooting Tips

If you hear noise coming from your electric box, it can be concerning. Buzzing, humming, or crackling noises may

Why Does Electricity Make Noise? Causes and Warning Signs

The sizzling, crackling sound you sometimes hear near high-voltage power lines has a completely different cause: corona discharge.

Here's Why High-Voltage Power Lines Make Noise

Learn why high-voltage power lines buzz, crackle, or hum. NCE explains corona discharge,

Corona Discharge Sound: Why Do Power Lines Buzz (Humming

The sound you hear from overhead power lines results from a phenomenon known as corona discharge. This electrical

Power line noise

The noise is generally a medium to low level noise with a higher sounding smoother pitch because the arc is weak with very low

Why Do Power Lines Buzz?

Apart from the buzzing sound associated with transformers, high-voltage power lines themselves can emit a distinct

Is Your Transformer Too Loud? How to Troubleshoot Noise Issues

Transformers are vital components in the electrical power grid, converting voltage levels for efficient power

Electrical System Noise Warnings & Diagnosis

Electrical Equipment or Electrical System Noises in buildings: diagnosis & cure List of Common Sources of Noise from Electrical

Common troubleshooting of distribution boxes: analysis of causes of ...

Distribution boxes are the unsung heroes of our electrical systems, quietly managing power until something goes

What causes the noise emitted from high-voltage power lines--is it ...

"The higher voltages at which modern transmission lines operate have increased the noise problem to the point to

Why Electrical Transformer Noise Happens and How to Reduce It

Step-up and step-down transformers can boost or lower voltages to apply whatever level of power is necessary for a

Why Does Electricity Make Noise? Causes and Warning Signs

Electricity itself is silent, but the devices and materials that carry it vibrate, flex, and ionize the air around them in ways that produce

Why do power lines buzz?

The humming you hear from power supplies, transformers, power meters, high-voltage distribution boxes (which have

Do Electricity Substations Make Noise? A

A Comprehensive Analysis for the UK and US Electricity substations play a crucial role in the power

Why Transformer Noise Could Be More Than Just a Nuisance: What

In this article, we'll dive into the causes of transformer noise, explain why it's more than just a nuisance, and provide

Why is the high-voltage distribution box making noise

That eerie buzz isn't the sound of electricity itself, but the sound of the air around the wire being electrified into a tiny, continuous

Transformer Noise 2025: dB Specs, Causes & Mitigation

This guide examines the physics behind transformer noise generation, explains how

Electrical Transformer Noise: Why It Happens and How to Avoid It

How to Stop an Electrical Transformer From Making Noises While it is not possible to stop electrical transformer

What causes excessive transformer noise, and how can it be reduced?

When installed in more confining electrical rooms and connected to a load, transformers will exhibit higher sound levels than these

What Is Electrical Noise and Where Does It Come From?

Unless we start designing circuits out of superconductors, we'll always have thermal noise, because everything has at

Why do power lines make so much noise?

This increased current causes more power loss due to heating so you have to balance how

Why is the high-voltage distribution box making noise

The audible noise you hear from high-voltage cables occurs because of the energy that is being discharged. This discharge happens

Why Do Power Lines Buzz?

Understanding why power lines buzz not only satisfies our curiosity but also sheds light on

Why Is My Electrical Panel Buzzing? [July 2026]

Discover why your electrical panel is buzzing, what it means, the risks involved, and how to

Why do high-voltage power lines crackle and hiss?

But if a sufficiently high voltage is applied across a small distance, electrons from the air molecules are stripped off and start to form a

Contact Us

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

Website: <https://benniedesignstudio.co.za>

Email: sales@benniedesignstudio.co.za

Phone: +27 82 391 4765

Address: The Towers, 1 St Georges Mall, Cape Town, 8001, South Africa

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