

Relay protection anti-pumping operation



AI Overview

The anti-pumping function prevents repeated or uncontrolled closing of a circuit breaker during fault conditions, ensuring safe operation and protecting equipment from mechanical and electrical stress.

Overview

The anti-pumping relay is an auxiliary protective device integrated into the circuit breaker control system to prevent "pumping," which refers to the rapid, repeated closing and opening of a circuit breaker when a close command persists while a fault exists in the system . This repeated operation can cause severe mechanical stress on breaker contacts, excessive electromagnetic stress, and potential damage to the closing coil or associated equipment .

Working Principle

The anti-pumping relay typically operates as a normally open (NO) contact. When the circuit breaker is open, the relay allows the closing command to energize the breaker coil. Once the breaker closes, the relay contact changes to normally closed (NC), interrupting the current to the closing coil and preventing further closing attempts until the control signal is reset . This ensures that even if the operator continues to hold the close button or a control signal remains active, the breaker will not repeatedly attempt to close . In practical terms:

- Closing function: The breaker closes normally when the TNC (Trip-Normal Close) switch is operated, and the anti-pumping relay allows the initial current to the closi...

Article Content

Mar 24, 2026

Application Note A Guide for Performing the Anti-Pump relay check

Abstract This document provides guidance on performing the anti-pump relay check on a circuit breaker using the CIBANO 500 test

Apr 21, 2026

Anti Pumping And Lockout Relays

The function of anti pumping relay is to cut off the supply to closing coil in case of TNC switch spring failure and prevent

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Anti Pumping Relay in Circuit Breaker

The operating mechanism will start operating for closing operation. Meanwhile a fault has taken place and fault

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Anti-Pumping Relay in Circuit Breakers | PDF

This document discusses anti-pumping relays used in circuit breakers. It explains that anti-pumping relays prevent continuous

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Anti-Pumping Relay Function and Diagram

The document discusses anti-pumping relays, which are used to protect circuit breakers from receiving multiple closing commands.

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Anti-Pumping Relay Diagram & Working Function Explained

The anti-pumping function is a protective feature in circuit breakers that prevents the

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Anti-Pumping Relay Diagram & Working Function Explained

This article describes the anti-pumping relay, its definition, function, and circuit diagram. In a circuit breaker it is

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Anti-Pumping Scheme in Circuit Breakers – A Complete

By implementing an anti-pumping relay, the circuit ensures: Conclusion The anti-pumping

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Anti-Pumping and Lockout Relays Explained

Without anti-pumping relays, a failed switch spring could keep a breaker closing even during a fault. Lockout relays maintain a

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Anti-Pumping relay diagram and Working Function Explanation

Anti-pumping-relay is used to protect the circuit breaker from multiple closing command. Once the breaker closed means, if we give

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Anti-Pumping Scheme in Circuit Breakers – A Complete Guide

The anti-pumping scheme is a simple yet vital protection feature in circuit breaker control circuits. By ensuring that the

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Anti-pump function of breakers and the “Y” relay

The correct operation of the “Y” relay could be the difference between a simple “fault

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ANTI-PUMPING RELAY in Circuit Breaker | Explained Simply with

You will learn: What is pumping in a circuit breaker Why anti-pumping protection is

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Anti-Pumping Relay in Circuit Breakers | PDF | Relay | Switch

The document discusses an anti-pumping relay, which is a device that prevents multiple closures of circuit breakers. Multiple

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What is an Anti-Pumping Relay?

The anti pumping relay belongs to the category of auxiliary relays, which are designed to

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Understanding the Antipumping Relay in Switchgears: Ensuring Safe

The antipumping relay is a vital component in switchgears, providing essential protection against repeated and

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Anti-Pump Relay Troubleshooting Tips

The anti-pump relay provides an important function feature in control circuits. Without the anti-pump function, if the

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What is an Anti-Pumping Relay?

DC closing command is utilised to power the Anti pumping relay. As shown in the diagram,

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Anti pumping relay

What is the use of an anti-pumping relay? It prevents a circuit breaker from closing more than once per close

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Anti Pumping Relay Functionality Explained

1) Anti-pumping relay prevents continuous closing and opening operation of a circuit breaker during a fault by cutting off power to the

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What is Anti Pump Relay?

Anti-Pump relay ensures that one close command will result in only one close operation irrespective of the duration of

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Anti Pumping Relay: Working Principle, Circuit Diagram & Testing ...

In this technical guide we will discuss what is an Anti Pumping Relay, how does Anti Pumping Relay works, circuit

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Circuit Breaker Anti-Pumping Relay Working Principle

Learn the working principle of the circuit breaker anti-pumping relay, its function, advantages, common issues, and

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Anti Pumping Relay – Electrical practical fundaz

Anti-Pump relay ensures that one close command will result in only one close operation irrespective of the duration of

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Anti pumping relay

What Is an Anti-Pumping Relay? An anti-pumping relay —also called a Y-relay, ANSI Device 94, or trip-free relay —is

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What is meant by Anti-pumping function in closing the Circuit breaker ...

The purpose of the mechanical anti-pumping function is to ensure that a circuit breaker receiving simultaneous

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What is Anti Pump Relay?

Anti-Pump relay is used in medium voltage power circuit breaker closing circuit to ensure

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Anti-Pumping Coil: Essential Protection in Circuit Breakers

One essential component that ensures the safe and reliable operation of circuit breakers is the anti-pumping coil.

Contact Us

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