

Relay protection anti-pumping device



AI Overview

An anti-pumping relay prevents a circuit breaker from repeatedly closing under continuous close commands, ensuring safe operation and protecting equipment from damage.

Function and Purpose The anti-pumping relay is a protective auxiliary device used in circuit breaker systems to prevent multiple or repeated closing operations, commonly referred to as "pumping" (). Pumping occurs when a continuous close command is applied while a fault persists, causing the breaker to open and close repeatedly. This can damage the breaker mechanism, trip coils, and associated equipment, and may create unsafe electrical conditions (). The device ensures that only one close operation is allowed per close command, even if the operator or control system continues to send a closing signal ().

Working Principle The anti-pumping relay typically uses circuit breaker auxiliary contacts and operates as a Normally Open (NO) contact:

- When the circuit breaker is closed, the relay is in the NO state, preventing current from flowing to the closing coil if another close command is issued ().
- When the circuit breaker is open, the relay is in the Normally Closed (NC) state, allowing the breaker to close when a command is given ().

The sequence of operation is as follows ():

- Normal Close Command:** The breaker receives a close command and closes.
- Relay Seals Itself In:** The anti-pumping relay coil energizes, changing its contact state.
- Opens the Close Circuit:** The NC contact opens, disconnecting the closing coil from the control circuit.
- Reset Condition:** After the breaker operates and the fault is cleared, the relay resets, ready for the next close command. This logic ensures that even if the close button is held down or a continuous signal is present, the breaker will not repeatedly close.

Wiring and Application The anti-pumping relay is wired in series with the circuit breaker closing coil (). It is commonly used in generator/alternator breakers, grid breakers, and other high-voltage auxiliary breakers (). The relay can be implemented as a dedicated rel...

Article Content

Anti-Pumping Scheme in Circuit Breakers – A Complete

By implementing an anti-pumping relay, the circuit ensures: Conclusion The anti-pumping scheme is a simple yet vital protection feature in

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Circuit Breaker Antipumping Device

AP is an Auxillary Relay used in the Closing Circuit of the Circuit Breaker for Protection of the Closing Coil and preventing the Hunting Effect in

Anti-Pumping Scheme in Circuit Breakers – A Complete

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

What is Anti Pump Relay?

Anti-Pump relay is used in medium voltage power circuit breaker closing circuit to ensure that if breaker receives simultaneous open and close

What is an anti-pumping relay?

The anti-pumping relay is a device in circuit-breaker whose function is to prevent multiple breaker closures. For instance, if the operator gives the closing command to the breaker by pressing the

Anti-Pumping Relay Diagram & Working Function

The anti-pumping relay is a circuit breaker auxiliary relay that is used to protect the circuit breaker from multiple closing commands. In other words, the

what is the function of anti-pumping in circuit breaker?

Answer / kayode j. The anti-pumping relay is a device in circuit-breaker whose function is to prevent multiple breaker closures. For instance, if the operator gives the closing command to the breaker by

What is an Anti-Pumping Relay?

Anti-pumping relays are required for every possible type of circuit breaker closing circuit. Typically, a DC contactor serves as the anti-pumping

Why Anti-Pumping Relay is Used? | Working Principle

□□ What is an Anti-Pumping Relay? An Anti-Pumping Relay is a crucial protection device in circuit breakers that prevents repeated reclosing (pumping) of the breaker when a fault persists.

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 opening and closing orders does not open and close indefinitely.

Anti-Pumping and Lockout Relays Explained

Anti-pumping and lockout relays are used to prevent circuit breakers from continuously opening and closing, known as "hunting". Without anti-pumping

Anti-pumping device vs. Latching relay

The anti-pump circuit is because stuff happens. Also many, perhaps most in the utility world, breakers don't have lockout relays on them so that they can auto-reclose or be closed via

Anti-pumping device vs. Latching relay

Hello experts I was reading about anti-pumping device. So basically, (if i understood correctly), this device protects tripping mechanism of the circuit breaker from having too many

Anti-Pump Relay Troubleshooting Tips

The anti-pump relay provides an important function feature in control circuits. Without the anti-pump function, if the user connected a maintained contact in the close circuit, and the circuit

Anti-Pumping Relay in Circuit Breakers | PDF | Relay

The document discusses an anti-pumping relay, which is a device that prevents multiple closures of circuit breakers. Multiple closures can damage the breaker's

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 again closing command means the breaker or the closing coil

Anti-Pumping Coil: Essential Protection in Circuit Breakers

An anti-pumping coil, also known as an anti-pumping relay or non-reclosing device, is a protective mechanism integrated into circuit breaker control

Anti Pumping Relay: Working Principle, Circuit Diagram

An anti-pumping relay is a specialized electrical protection device integrated into the closing circuit of circuit breaker control systems to prevent

Anti pumping function in circuit breakers operating

Without the anti-pump function, if the user connected a maintained contact in the close circuit, and the circuit breaker were closed into a fault

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 CB hunting effect (i.e.

Anti pumping relay

An anti-pumping relay —also called a Y-relay, ANSI Device 94, or trip-free relay —is a protective device installed in a circuit breaker's closing circuit. Its purpose is to ensure that one close

Circuit Breaker Anti-Pumping Relay Working Principle

The anti-pumping relay is a small but vital component in circuit breaker control circuits. It ensures that a breaker does not close repeatedly

Antipumping in Circuit Breaker | Why it is needed? Explained ...

This video explains the dangerous "pumping" situation that an electrical breaker can face, which can affect the entire power systems. We dive into how it wor...

Anti-Pumping Relay Function and Diagram

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

Anti-Pumping Coil: Essential Protection in Circuit Breakers

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Switchgear Riddle No.4 – Anti Pumping Relay

The function of an anti-pumping device is to prevent the circuit breaker closing and opening several times in quick succession. This might be caused by

Anti Pumping Relay – Electrical practical fundaz

Anti-Pump relay also provides protection from repeated closing in the event breaker close switch gets jammed in the close position. Anti-Pump relay

Operating Instructions supplement APD (Anti pumping device)

In order to protect technical infrastructures, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art IT security concept.

Contact Us

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