

Relay protection self-holding function



AI Overview

Self-holding in relay protection refers to a circuit design where a relay maintains its energized state through its own contact, keeping the circuit active even after the initiating signal is removed.

Definition and Principle In relay protection, a self-holding circuit (also called a seal-in circuit) allows a relay coil to remain energized after the start signal is released. When a pushbutton or initiating device momentarily energizes the relay, one of the relay's own normally open (NO) contacts closes and provides a continuous path for current to flow through the coil. This holding path keeps the relay in the ON state until a separate stop signal or normally closed (NC) contact interrupts the current, de-energizing the relay.

How It Works

Start Signal Activation: Pressing a start button or triggering a protection condition energizes the relay coil.

Contact Closure: The relay's NO contact closes, creating a parallel path that bypasses the start button.

Maintained State: Even after releasing the start button, current continues to flow through the relay coil via its own contact, keeping the relay energized.

Deactivation: Pressing a stop button or opening an NC contact breaks the holding path, cutting off current and resetting the relay.

Applications in Relay Protection

Sequence Control: Self-holding ensures that protective relays remain active until a fault is cleared or a manual reset occurs, preventing rapid switching due to transient conditions.

Motor and Circuit Control: It is widely used in start/stop motor circuits, where the relay must stay energized to maintain operation without continuous manual input.

PLC Ladder Logic: The concept is directly applied in ladder diagrams, where the relay's own contact "remembers" the start command, simplifying control logic.

Key Points Self-holding does not require continuous pressing of the start button; the relay sustains itself. A stop mechanism (NC contact) is essential to safely interrupt the holding path. It prevents relay chatter and ensures stable operation in protection circuits, especially under fluctuating conditions. In su...

Article Content

Self Latching Relay Circuit Diagram

A self-latching circuit uses a standard non-latching relay and specific wiring logic to achieve the same result using continuous electrical holding power.

Relay Control: Self-Holding and Step Control Explained | Sequence ...

What is self-holding? By connecting the coil's contact in parallel with the push-button switch, even after releasing the switch, the coil continues to supply current to itself through its own

Self-Holding Circuit Explained with 16 Diagrams | Sequence Control

Self-holding is a circuit where a relay coil maintains its own ON state through its own contact. Once you press the push button to turn it ON, releasing the button keeps the ON state

US7639471B2

H01H47/04 Circuit arrangements not adapted to a particular application of the relay and designed to obtain desired operating characteristics or to provide energising current for modifying the operation of

Latching Logic with Relays | Self-Holding Circuit Explained with Wiring ...

In this video, we explain how latching logic works using relays, also known as a self-holding circuit. This logic allows a device to remain ON even after the push button is released, until a stop ...

Basic protection relay knowledge

On the other hand, unselective protection operation in the extra high voltage network – i.e. at the national grid level- may endanger the stability of the whole power system, possibly leading to a

Introduction to Protective Relaying | Electric Power

Introduction to Protective Relaying What are Protective Relays, or Protection Relays? Protective relays are used in industrial power generation and supply

Protective relay

The digital relay can emulate functions of many discrete electromechanical relays in one device, simplifying protection design and maintenance. Each digital

How to Wire 8-PIN Relay for Holding or Latching Circuit?

One common application of relays is to create a holding circuit, which maintains the state of a circuit even after the control signal is removed. In this

Proceedings of

Self-holding type relay systems are widely used for switching on/off of an engineering system and secures to prevent the unintentional restart of an engineering system after the recovery of ...

Self Holding Relay || Electrical Simulation

This video explains how a self holding relay works by using a push button start and a push button stop and using an indicator light, or commonly called a series of dol starter. Watch the video...

self-holding

When the relay is triggered, the state is retained by a function called a self-holding circuit. For the 61F-GN Level Controller, electrode E2 is the self-holding circuit.

ITPro Today, Network Computing, IoT World Today combine

ITPro Today, Network Computing and IoT World Today have combined with TechTarget . The page you are looking for may no longer exist.

What Is a Self-Holding Circuit? Start/Stop Control

A self-holding circuit, also called a seal-in circuit, keeps an output energized even after the start pushbutton is released. It is one of the most important start/stop

Basic protection relay knowledge

A fast and selective arc fault mitigation for air-insulated LV & MV switchgear and Relion protection and control relays and sensor technology protect staff and plant facilities for many years.

Self-powered protection relays, overcoming challenges

All protection relays were initially electromechanical and self-powered with the sole function of protecting the electrical systems in which they were

(PDF) Reliability Analyses of a Self-Holding Type Relay

In the present paper, a self-holding type relay system is taken up as an example of a dynamic system, and analyses are performed by the GO-FLOW

Circuit diagram for a relay holding circuit

A relay holding circuit diagram is a schematic representation of the components and connections involved in holding a relay in the closed position. The holding circuit

Power System Protective Relays: Principles & Practices

Protective relays and devices have been developed over 100 years ago to provide “last line” of defense for the electrical systems. They are intended to quickly identify a fault and isolate it so the balance of

Intermediate Relay Circuit | Intermediate Relay Self-Locking Wiring ...

This short video explains the wiring method, working principle, and logic behind the relay self-hold function used in industrial control systems.

A review on adaptive power system protection schemes for future

Protection devices such as fuses and protective relays are widely used to identify and isolate faulty areas from operational networks. These devices operate at a pre-defined protection

Latching Relay: What is it? (Circuit Diagram And How it

A SIMPLE explanation of Latching Relays. Learn what a Latching Relay is, how a Latching Relay works, and a Latching Relay circuit diagram. Also

Relay Holding Circuit vs. PLC Holding Program

At the same time, Q100.00 is self-locking. When I0.00 is disconnected, the virtual circuit is still connected through Q100.00 self-locking. When I0.01 is triggered,

GO-FLOW Chart for Self-Holding Type Relay System

Download scientific diagram | GO-FLOW Chart for Self-Holding Type Relay System from publication: Reliability Analyses of a Self-Holding Type Relay System by a

Self-Locking, Interlocking, and Mutual Locking in

In industrial electrical control systems, the concepts of self-locking, interlocking, and mutual locking are fundamental. Although similar in terminology, each has

Self Powered Relays

The relays are self powered by the operating current. No batteries, chargers or any other external power sources are required.

Self-Locking, Interlocking, and Mutual Locking in

Self-locking refers to the ability of a control element (such as a relay or contactor) to maintain its energized state even after the initiating signal disappears.

What Is a Self-Holding Circuit? Start/Stop Control

Learn how a self-holding circuit works in relay and PLC ladder logic. This beginner-friendly guide explains start and stop pushbuttons, holding contacts, output coils,

Contact Us

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

Website: <https://energy-powertools.eu>

Email: info@energy-powertools.eu

Phone: +49 172 6389472

Address: Musterstraße 12, 10115 Berlin, Germany

This document is for informational purposes only. Specifications subject to change without notice.

