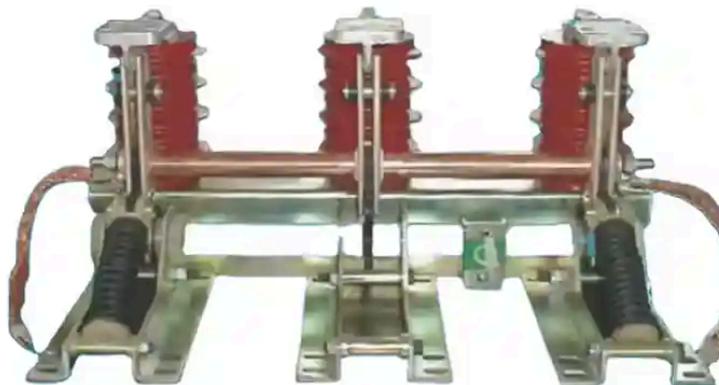


## 12kV Indoor High Voltage Switchgear Earthing Switch



<b>Model:</b>	12kV
<b>OEM and ODM Services:</b>	Available
<b>Enclosure:</b>	PINEELE standard
<b>Brand:</b>	PINEELE, a Brand Under ZHENGXI
<b>Form:</b>	All- packaged Type
<b>Scope of Application:</b>	Suitable for industrial power distribution, voltage stabilization, and transformer protection. Widely used in commercial buildings, manufacturing plants, and utility substations.
<b>Reviewed By:</b>	Zheng Ji, Senior Electrical Engineer at PINEELE 18+ years of experience in HV switchgear design & testing.
<b>Published On:</b>	April 10, 2025
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discharging residual electrical energy.



## Understanding the Core Concept

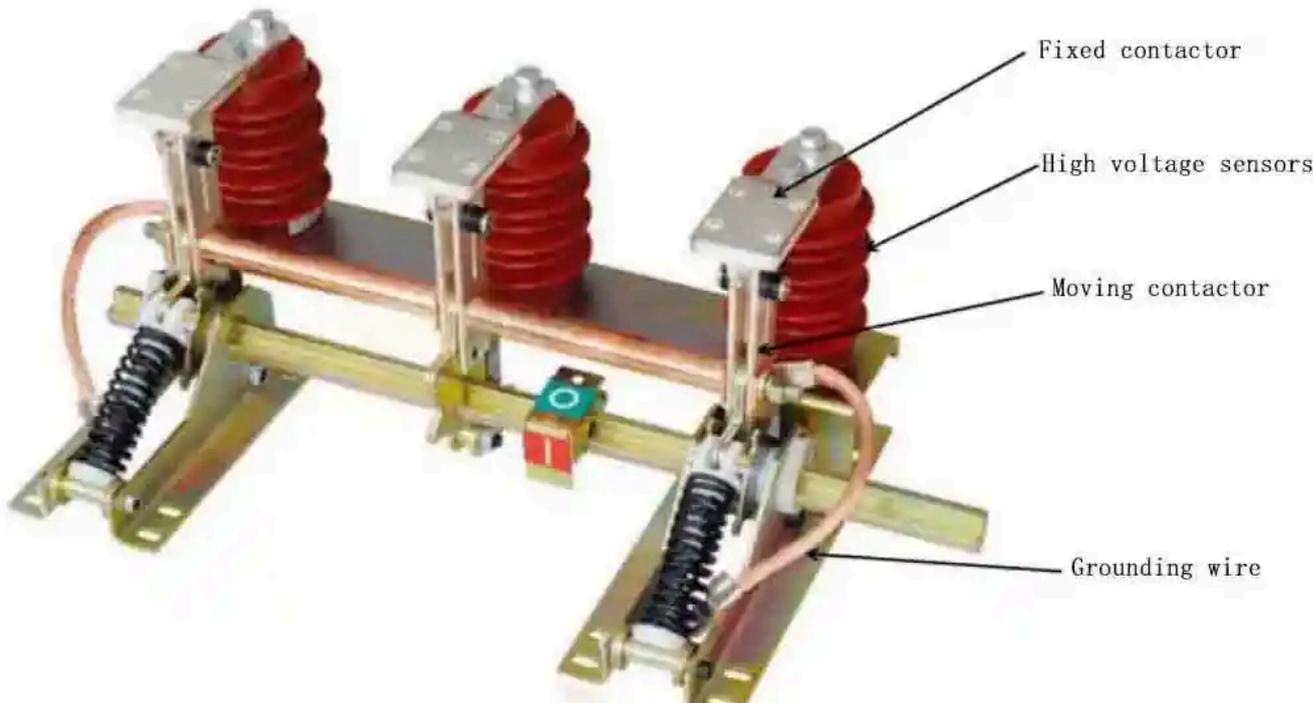
An **electric earthing switch** is a protective device designed to ground electrical circuits when maintenance or abnormal conditions require it. This specific model, rated at 12kV with a high short-time withstand current capacity of 31.5kA, ensures that high-voltage systems are safely de-energized. The use of electrical actuation enhances automation and operational reliability, making it ideal for modern intelligent substations.

## Application Areas

The 12kV earthing switch finds wide application across various sectors, including:

- **Power transmission and distribution stations**
- **Urban and rural substations**
- **Industrial plants**
- **Railway electrification systems**
- **Renewable energy switchgear**

Its compact indoor design and intelligent actuation make it well-suited for enclosed switchgear compartments where safety and rapid switching are critical.



## Technical Specifications

PARAMETER	SPECIFICATION
Rated Voltage	12kV
Rated Current	3150A
Rated Short-Time Withstand Current	31.5kA
Peak Withstand Current	80kA
Power Frequency Withstand Voltage (1 min)	42kV
Lightning Impulse Withstand Voltage	75kV
Control Voltage	AC 220V / AC 110V
Electrode Count	3 poles
Pole Distance	≥125mm
Protection Standard	IEC 62271-102
Origin	Zhejiang, China
Package Dimensions	30cm x 20cm x 30cm
Gross Weight	5 kg

## Market Demand and Technology Background

According to **IEEE** and **IEEMA** reports, the global switchgear market is seeing an increasing shift toward automation, fault tolerance, and smart grid readiness. Products such as this 12kV earthing switch align with these trends, offering intelligent operation, high mechanical endurance, and compliance with international standards like **IEC 62271-102**.

In addition, evolving energy grids and renewable integrations demand earthing systems that can tolerate higher fault currents and deliver quick operational feedback. The electric actuation function significantly reduces human error and improves time-efficiency during maintenance.

## Comparative Advantages Over Traditional Earthing Switches

- **Electric Actuation:** Unlike manually operated switches, this unit can be remotely operated, allowing safer and faster response in emergencies.
- **Compact & Lightweight:** With only 5kg net weight, it suits enclosed and compact switchgear systems without compromising safety margins.
- **High Fault Tolerance:** With 31.5kA withstand capacity, it performs well under severe grid fault conditions.
- **Automation Ready:** Supports intelligent switchgear setups in smart substations.

## Selection Tips and Usage Guidance

When selecting an indoor high-voltage earthing switch, engineers should consider the following:

- **Rated Voltage Compatibility:** Match with your 12kV switchgear environment.
- **Short Circuit Current Profile:** Ensure the device can withstand anticipated fault currents.
- **Control Integration:** Select the appropriate control voltage (220V or 110V AC) to integrate with existing SCADA or relay systems.
- **Physical Dimensions:** Check the available cabinet space for installation compatibility.

## Frequently Asked Questions (FAQ)

**Q1: Is this earthing switch suitable for use in smart substations?**

A: Yes, it is designed with remote operation capability and supports intelligent switchgear systems, making it ideal for smart grid applications.

**Q2: How often does the device require maintenance?**

A: Under normal operating conditions, periodic inspection every 12 months is sufficient. This includes checking mechanical movements, insulation status, and control wiring integrity.

**Q3: Can the switch handle repetitive operations in high-load environments?**

A: Yes. It is rated for high endurance and can sustain frequent operations without loss of reliability, especially in industrial environments.

This **12kV electric earthing switch** exemplifies a robust, smart-compatible, and safety-oriented solution for high-voltage applications. With excellent current handling capabilities, compliance with global standards, and suitability for automation, it supports the future of digital substations and resilient grid infrastructure.

## Related products



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ZW32-12 Outdoor Vacuum Circuit Breaker



ZW8-12 Vacuum Circuit Breaker



FZW28-12 Outdoor Vacuum Circuit Breaker



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