

KLVN 12kV Zinc Oxide Arrester Distribution Type

KLVN 12kV Zinc Oxide Arrester

INSTRUCTION MANUAL

Model: 12kV Zinc Oxide Arrester Distribution Type

1. Product Overview

The KLVN 12kV Zinc Oxide Arrester is a high-performance distribution type surge arrester designed to protect electrical equipment from overvoltage transients caused by lightning strikes or switching surges. Utilizing advanced zinc oxide varistor technology, it provides reliable and efficient protection for power systems up to 12 kilovolts. This device is crucial for maintaining the integrity and operational continuity of electrical infrastructure.



Figure 1: Front view of the KLVN 12kV Zinc Oxide Arrester, showing the main body with multiple sheds and the mounting bracket.

2. Safety Information

WARNING: Installation and maintenance of this voltage arrester must only be performed by qualified and authorized personnel. Improper installation or handling can result in severe injury, death, or damage to equipment. Always follow local electrical codes and safety regulations.

- Ensure power is disconnected and locked out before beginning any installation or maintenance work.
- Wear appropriate personal protective equipment (PPE), including insulated gloves, safety glasses, and arc-rated clothing.
- Verify proper grounding of the arrester and associated equipment.
- Do not attempt to repair a damaged arrester. Replace it with a new unit.
- Keep children and unauthorized personnel away from electrical installations.

3. Product Components

The KLVN 12kV Zinc Oxide Arrester consists of the following primary components:

- **Zinc Oxide Varistor Elements:** The core of the arrester, providing non-linear resistance to dissipate surge energy.
- **Silica Gel Housing:** An insulating and weather-resistant polymer housing with sheds to increase creepage distance and prevent flashover.
- **Terminal Connections:** Upper and lower terminals for connection to the electrical system and ground.
- **Mounting Bracket:** Integrated or separate bracket for secure installation on poles or structures.



Figure 2: Side view of the arrester, highlighting the robust silica gel housing and mounting arm.



Figure 3: Angled view showing the connection points and the design of the sheds for insulation.

4. Setup and Installation

Installation of the KLVN 12kV Zinc Oxide Arrester should only be performed by certified electricians or utility professionals. Adherence to all applicable national and local electrical codes (e.g., NEC, NESC) is mandatory.

1. **Pre-Installation Check:** Inspect the arrester for any visible damage during shipping. Do not install if damage is found. Verify that the arrester's voltage rating matches the system voltage.
2. **Mounting:** Securely mount the arrester to the designated structure (e.g., pole, cross-arm) using appropriate hardware. Ensure the mounting bracket is firmly attached and the arrester is oriented correctly for drainage.
3. **Electrical Connections:** Connect the line terminal of the arrester to the phase conductor and the ground terminal to a reliable earth ground. Use appropriate connectors and ensure all connections are tight and corrosion-free.
4. **Grounding:** Verify the integrity of the grounding system. A low-impedance ground path is critical for effective surge protection.
5. **Post-Installation Inspection:** After installation, visually inspect all connections and mounting points to ensure security and proper alignment.

5. Operating Principles

The KLVN 12kV Zinc Oxide Arrester operates on the principle of non-linear resistance. Under normal operating voltage, the zinc oxide varistor elements exhibit very high resistance, allowing only a negligible leakage current. When an overvoltage surge (e.g., from lightning or switching) occurs, the resistance of the varistor elements rapidly decreases,

diverting the surge current safely to ground. Once the overvoltage passes, the varistor elements revert to their high-resistance state, restoring normal insulation. This process protects connected equipment from damaging voltage spikes.

6. Maintenance

Voltage arresters are generally low-maintenance devices. However, periodic inspection is recommended to ensure continued reliable operation.

- **Visual Inspection (Annually):** Check the arrester housing for any signs of cracking, discoloration, or physical damage. Inspect connections for corrosion or looseness.
- **Cleaning:** If excessive dirt or contamination accumulates on the sheds, clean the surface with a damp cloth. Ensure the power is off and proper safety procedures are followed before cleaning.
- **Performance Testing (Periodically):** For critical applications, specialized testing (e.g., leakage current measurement, insulation resistance) may be performed by qualified technicians to assess the arrester's condition.
- **Replacement:** Replace the arrester if any damage is observed, if it has experienced a significant surge event (indicated by a surge counter, if equipped, or system fault), or if performance tests indicate degradation.

7. Troubleshooting

If issues are suspected with the voltage arrester or the protected system, consider the following:

Problem	Possible Cause	Solution
Frequent system outages/equipment damage despite arrester presence.	Arrester failure, improper grounding, inadequate arrester rating, or severe surge conditions exceeding arrester capacity.	Inspect arrester for damage. Verify grounding system integrity. Consult an electrical engineer to review system protection design and arrester rating.
Visible damage to arrester housing (cracks, burns).	Arrester has absorbed a significant surge or has failed internally.	Immediately de-energize the circuit and replace the arrester.
Unusual noise or heating from arrester.	Internal degradation or partial discharge.	De-energize and replace the arrester. This indicates a critical failure.

Note: For any suspected malfunction, always consult a qualified electrical professional. Do not attempt repairs on energized equipment.

8. Specifications

Key technical specifications for the KLVN 12kV Zinc Oxide Arrester:

Model: 12kV Zinc Oxide Arrester Distribution Type

Brand: KLVN

Rated Voltage: 12kV

Arrester Type: Zinc Oxide (ZnO) Distribution Type

Housing Material: Silica Gel Polymer

Item Weight: 1.1 pounds (approximately 0.5 kg)

Country of Origin: China

ASIN: B0CG5L6LVS

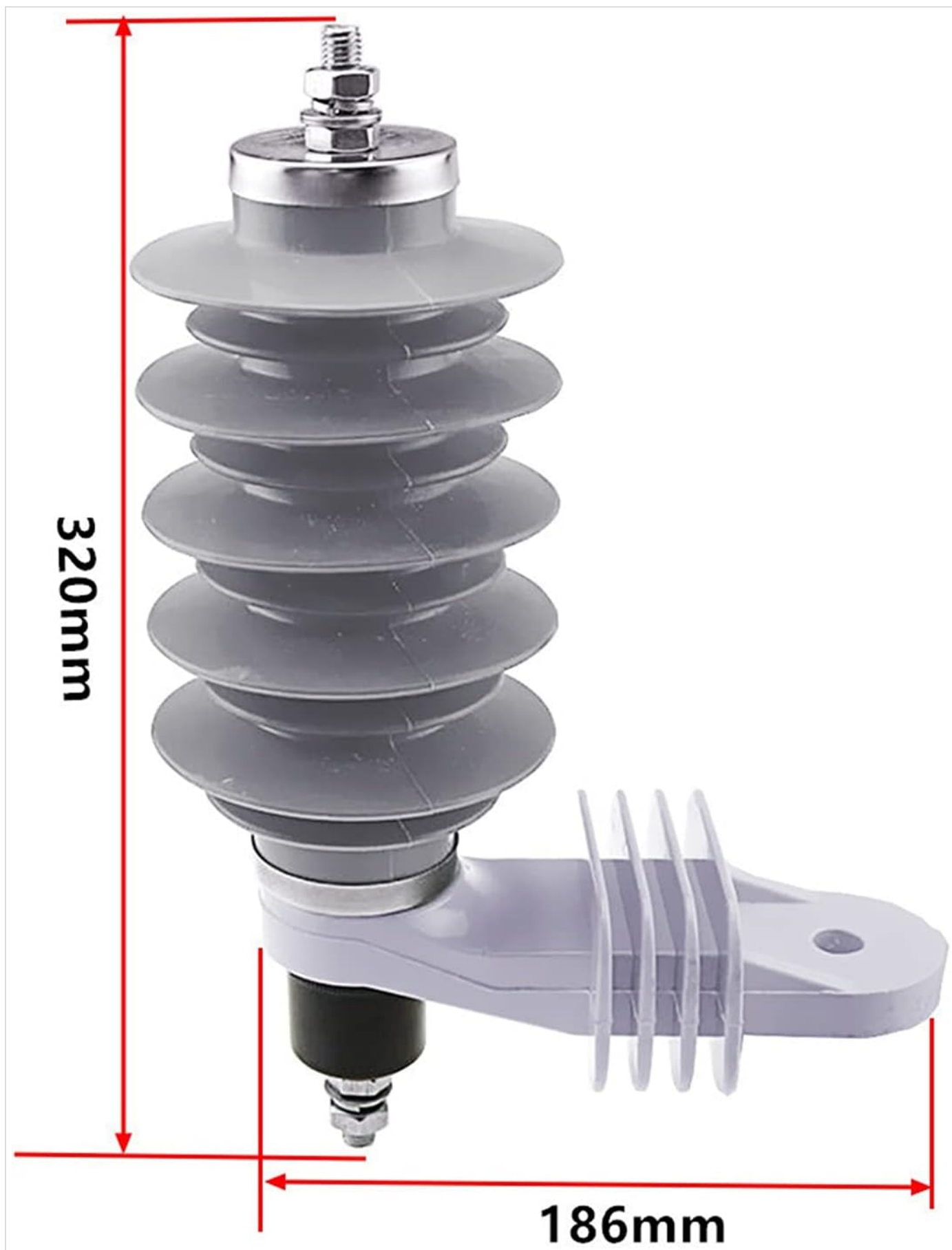


Figure 4: Dimensions of the KLVN 12kV Zinc Oxide Arrester, showing approximate height of 320mm and width of 186mm.

9. Warranty and Support

KLVN products are manufactured to high quality standards. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or contact KLVN customer support directly. In case of technical inquiries or

support needs, please reach out to the manufacturer or your authorized distributor.

Manufacturer: KLVN

Contact Information: Please refer to the official KLVN website or your purchase invoice for the most current contact details.

© 2023 KLVN. All rights reserved. Information subject to change without notice.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

<https://manuals.plus/asin/B0CG5L6LVS>

More documents and user manuals: <https://manuals.plus/>