



D11 Single-Phase Oil-Immersed Transformer

Model:	D11
OEM and ODM Services:	Available
Enclosure:	PINEELE standard
Brand:	PINEELE, a Brand Under ZHENGXI
Form:	All- packaged Type
Scope of Application:	Ideal for outdoor power distribution networks, particularly suitable for rural and suburban grid infrastructure projects.
Reviewed By:	Zheng Ji, Senior Electrical Engineer at PINEELE 18+ years of experience in HV switchgear design & testing.
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Overview

The Single-Phase Oil-Immersed Transformer provides efficient and reliable power distribution suitable for various outdoor applications. It combines robust performance, energy efficiency, and extended service life by integrating meticulously engineered components and advanced manufacturing techniques.



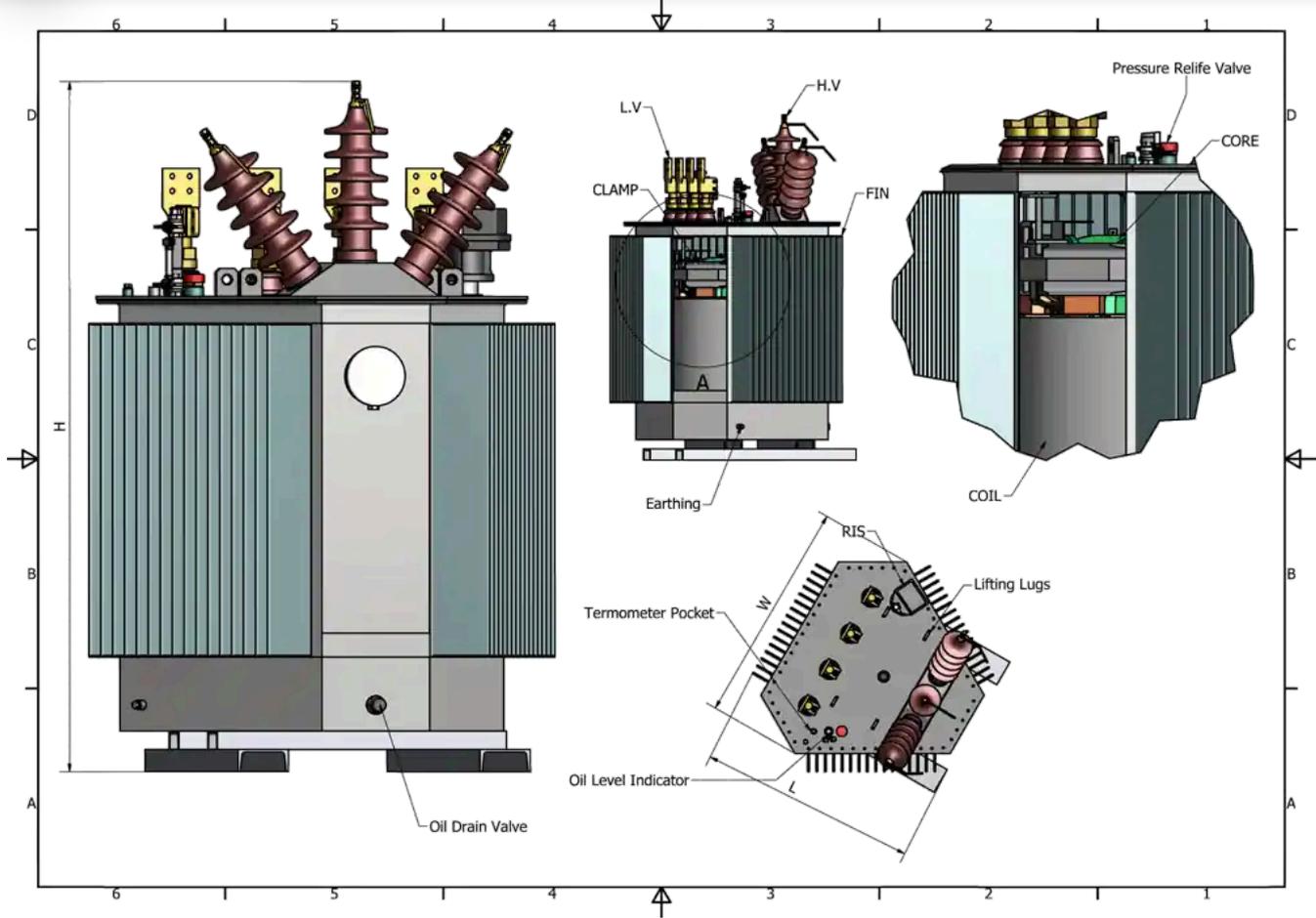
Core Construction

Constructed from high-quality cold-rolled, grain-oriented silicon steel sheets, the transformer core ensures optimal efficiency. These sheets are precision-cut and laser scribed to achieve minimal burrs and superior accuracy. Moreover, a 45° inclined seam aligns the silicon steel with the magnetic flux, significantly reducing load losses, current, and noise.

High-Voltage Winding

For enhanced reliability, the high-voltage winding employs polyvinyl acetal enameled wire in a layered structure, insulated with double-sided adhesive dot paper. This insulation forms a cohesive unit after drying. Additionally, advanced winding technology reduces axial forces during short circuits, improving transformer durability.





Transformer Oil Containment Design

Utilizing a corrugated tank structure, the transformer enclosure is manufactured with precision through automated production lines. Each tank undergoes rigorous leak testing, ensuring superior sealing performance and protecting internal components effectively.

Enhanced Insulation

By filling the transformer with oil under vacuum conditions, insulation strength significantly increases, thus enhancing operational safety and reliability.





Advanced Bushing Design

The transformer bushings incorporate innovative technology without external pressure feet or plates, effectively preventing oil leaks and corrosion. This design enhances both structural integrity and visual appeal.

Magnetic Plate Oil Level Indicator

A specialized oil level indicator completely isolates the oil tank from air exposure, safeguarding transformer oil from ultraviolet damage and maintaining oil integrity.

Efficient Tap Changer

Featuring a strip-type no-load tap changer, the transformer enables effortless operation with automatic rapid switching and clear manual feedback. This solution resolves common switching challenges, and an additional locking feature prevents unauthorized adjustments, enhancing safety.

Application Advantages

- **Efficient Power Distribution:** Optimized specifically for dispersed power networks, the transformer shortens distribution line lengths, reducing losses and improving power quality.
- **Energy-Efficient Core Design:** Its innovative core reduces line losses by over 60%. Additionally, the pole-mounted design saves installation space.
- **Sealed Structure:** The fully sealed design provides excellent overload capacity, continuous reliability, and low maintenance, ensuring longevity.

Model Description

Code	Meaning
D	Single-phase oil-immersed
11	Performance level code
□□□	Rated capacity (kVA)
□	Voltage level (kV)
□	Special environment code: GY (High altitude), WF (Corrosion-resistant), TA (Dry tropics), TH (Humid tropics)

Service Conditions

Max Ambient Temperature	+40°C
24-hour Avg Temperature	+35°C
Min Ambient Temperature	-25°C (Customizable to -45°C)
Earthquake Intensity	≤8
Altitude	≤1000m
Installation Environment	Free from fire, explosions, chemical corrosion, or earthquakes

Performance Parameters

Rated Capacity (KVA)	High Voltage (kV)	Tap Range (%)	Low Voltage (kV)	Vector Group Symbol	No-load Loss (W)	Load Loss	No-load Current (%)	Short Circuit Impedance (%)
5	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	40	215	3.2	3.5
10	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	45	235	2.8	4.0
15	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	53	315	2.8	4.0
20	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	62	405	2.8	4.0
25	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	70	480	2.8	4.0
30	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	80	560	2.8	4.0
50	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	120	855	2.3	4.0
63	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	135	1020	2.1	4.0
80	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	160	1260	2.0	4.0
100	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	190	1485	1.9	4.0
125	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	220	1755	1.8	4.0
160	6,6.3,10,10.5,11	±2×2.5%, ±5%	0.22, 0.23, 0.24	li0, li6	260	2050	1.6	4.0

The Single-Phase Oil-Immersed Transformer is ideal for efficient, reliable power distribution, providing superior performance and minimal maintenance.

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Compact Substation Transformer



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