



## PhG-TL4400-34.5-645Y

**Natural and synthetic ester liquid-immersed transformer (IEEE standard)**



### Low loss

- The core is made of high quality cold rolled grainoriented silicon steel sheet, laminated by multi-stage 45 °ful diagonal joint, with low no-load andload toss.



### Insulation performance

- Inte grates high-voltage load switch, fuse, sand transformer into a single oil tank, with volumesionificantly reduced.



### Heat dissipation performance

- ONAN/KNAN cooling mode is adopted to ensurenormal operation of transformer



### Highly customized

- Design and configuration can be changedaccording to customer requirements.



### Standard(s) for Safety

- IEEE C57.12.00,1st Ed.
- IEEEC57.12.28,1st Ed.

NO	Technical Parameter	Specifications
1	Type	2 winding, Oil immersed, Inverter duty Transformer
2	Rated Output kVA	4400
3	Vector Group	Dy1
4	Type of Cooling	KNAN
	1. Oil Type	FR3
5	Rated Voltage kV	
	1. HV	34.5
	2. LV	0.645
	3. Voltage Variation	± 10%
6	Rated Current A	
	1. HV	73.6
	2. LV1	3938.5
	3. LV 2	N/A
7	Nos. of Phases	3
8	Rated Frequency Hz	60
	1. Frequency Variation	± 1
9	Temp. rise over reference design ambient temperature 107°F(40°C)	4400kVA@107°F(40°C)
	1. In oil thermometer	117°F(65°C)
	2. In winding by resistance [Maximum temperature rise in winding at rated power, frequency and on tap producing highest losses (measured by resistance)]	117°F(65°C)
	3. Hot Spot Temp. based at yearly average ambient temperature at site	233°F(110°C) absolute
10	Conductor material	
	1. HV	Aluminum
	2. LV	Aluminum
11	Tap Changer	OCTC
	1. Type	Off Circuit
	2. Tap Range - % Variation	±2×2.5%
12	Insulation Level	
	1. L.V.	LI 35kV/AC 10kV
	2. H.V.	LI 150kV/AC 50kV

NO	Technical Parameter	Specifications
13	Impedance%	
	1.Reactance	7.95%
	2.Resistance at 188°F(85°C)	0.89%
	3.Impedance at rated current for the principal tapping	8%, ±7.5%
	4.Impedance at Max tap	8.00%
	5.Impedance at Min tap	8.00%
14	Regulation at full load and 188°F(85°C)	
	1.At unity power factor	0.89
	2.At 0.8 power factor lagging	5.48
15	Guaranteed losses at Principle tap, full load and 188°F(85°C) (without +ve tolerance)	
	1.No load losses kW	4.8
	2.Load losses kW	39.2
	3.Total Losses kW	44
16	Efficiency at rated voltage and at rated frequency	
	1. At full load 100%	99.01%
	2. At 3/4 full load 75%	99.19%
	3. At 1/2 full load 50%	99.34%
	4. Maximum Efficiency	99.38%
17	Minimum Peak Efficiency Index (PEI) EU548	
	1. At PEI load PEI	99.38%
18	No load current referred to HV	
	1. At 90% rated voltage 90%	0.38%
	2. At 100% rated voltage 100%	0.55%
	3. At 110% rated voltage 110%	2.20%
19	Approximate maximum Flux density T	
	1. At 90% rated voltage 90%	≤1.566
	2. At 100% rated voltage 100%	≤1.740
	3. At 110% rated voltage 110%	≤1.914
20	Short Circuit withstand duration	
	1. Three phase dead short Circuit at terminal with Rated voltage maintained on the other side.	2 second
	2. Single phase short circuit at terminal with rated Voltage maintained on other side.	2 second
21	Dimension inch(mm)	
	1. Width	84.65inch (2150mm)
	2. Depth	111.42inch (2830mm)
	3. Height	98.43inch (2500mm)

NO	Technical Parameter	Specifications
22	Weight lb(kg)	
	1. Core and Winding	8708.17lb(3950kg)
	2. Oil	4475.34lb(2030kg)
	3. Others	6283.11lb(2850kg)
	4. Total	19466.62lb(8830kg)
23	Accessories	
	LV bushings	6 piece
	HV bushings	3 piece
	Off-load tap changer	1 piece
	Pressure relief device	1 piece
	Oil-level indicator	1 piece
	Oil-temperature indicator	1 piece
	Winding-temperature indicator	NA piece
	vacuum pressure gauge	1 piece
	Load break switch	1 piece
	Fuse	3 piece
	Backup fuse	6 piece
	Drain valve	1 piece
24	Signals	
	Pressure relief trip	1 piece
	Low oil level alarm+extremely low oil level trip	1 piece+1piece
	Oil-temperature alarm and trip	1 piece
	Oil-temperature signal (0~160°C)	1 piece
	Winding-temperature alarm and trip	NA
	Winding-temperature signal	NA
	Load break switch On/Off	1 piece