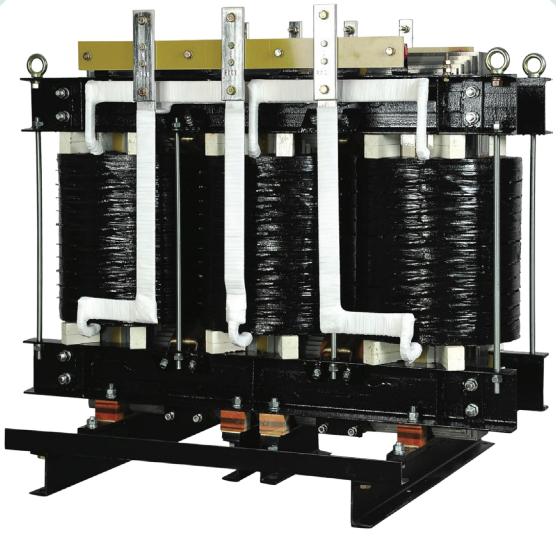
WL POWER
Solutions Pte Ltd



THE LOWEST OPEX

Up to
99.28%
Efficiency

ULTRA LOW LOSS HIGH EFFICIENCY

ISOLATION TRANSFORMER FOR DATA CENTRES

wlpowersolutions.com

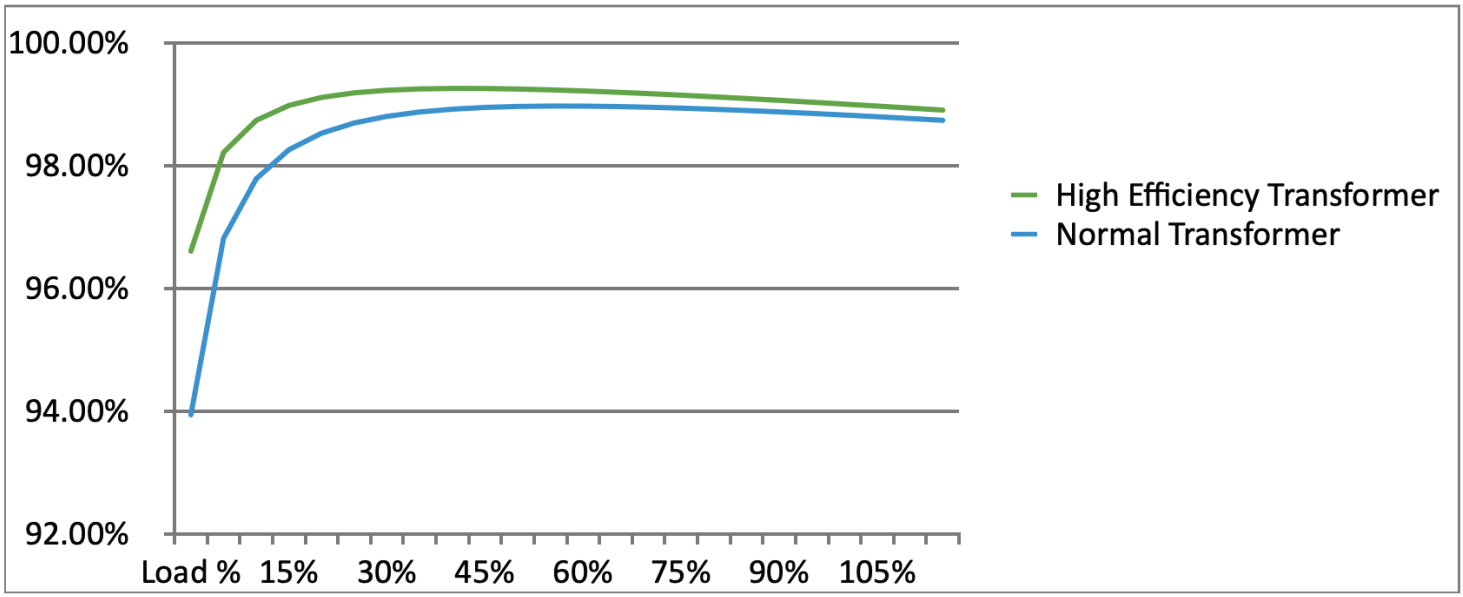
In this current world, being energy efficient is one of the most important aspect to save and protect our environment. In electrical terms, energy efficiency simply means using less energy to perform the same task, to consume less electricity, reduce carbon footprint, eliminating energy waste and most importantly, reduce operating cost.

WL Power Solutions have long recognise this importance and thus developed energy efficient Isolation Transformers to achieve energy targets for all our clients. Especially in the **Data Centres**, our **Ultra Low Loss Isolation Transformer** will increase the overall system efficiency and assist the client to achieve the Building Green Mark.

HIGHER EFFICIENCY THAN NORMAL TRANSFORMER

Depending on transformer capacity, the efficiency of an Ultra Low Loss Isolation Transformer and normal transformer can differ by as much as 0.4% to 2.0%. Our Ultra Low Loss Isolation Transformer design reduces total loss by using high grade iron core with low magnetic density and copper winding with low current density. This design will not only reduce the energy consumed from no load to full load, it will also result in lower operating temperature for the transformer. In the Data Centre environment, it will require less cooling thereby saving more energy and electricity bills.

Example for 750kVA K-13 Dzn0 Isolation Transformer :



SUPER GRADE IRON CORE WITH EXTREMELY LOW LOSS

The impact of the no load loss (core loss) on the transformer efficiency is most vital. The no load loss have to be extremely low for the isolation transformer to achieve high efficiency even at lower load range 35% - 50%. For our Ultra Low Loss Isolation Transformer, we use super grade grain oriented iron core with special stacking method to achieve extremely low no load loss.

LOWER OPERATING COST AND FASTER RETURN ON INVESTMENT (ROI)

Needless to say, using our Ultra Low Loss Isolation Transformer will result in much lower operating cost than the normal isolation transformer. In long term operation, the savings for the electricity bill will be very significant.

Sample Calculation for 750KVA Transformer with half load for 10 years operation

Normal transformer with 50% load (375KW)	High Efficiency Transformer with 50% load (375KW)
Efficiency = 98.95%	Efficiency = 99.26%
Losses KW = 3.938KW	Losses KW = 2.775KW
Power losses for 10 years operation = 3.938KW x 24 hours x 365 days x 10 years= 344,969KW	Power losses for 10 years operation = 2.775KW x 24 hours x 365 days x 10 years= 243,090KW
Power saving amount for 10 years operation = 101,879KW (23,432$ @ tariff 23 cents)	

US DOE 2016 COMPLIANT

The U.S. Department of Energy (DOE) efficiency standard for transformers has been in effect since 2016 and it is one of the most stringent energy standard in the world. More and more projects around the world have been adopting DOE 2016 in order to achieve the highest level of energy efficiency for the Data Centre isolation transformers. With our high efficiency design, our Ultra Low Loss Isolation Transformers meet DOE 2016 efficiency levels.

BCA Green Mark is a green building rating system to evaluate a building for its environmental impact and performance. It provides a comprehensive framework for assessing the overall environmental performance of new and existing buildings to promote sustainable design, construction and operations practices in buildings. One of the criteria of **BCA Green Mark** is being energy efficient and using our **Ultra Low Loss Isolation Transformer** will assist the whole electrical infrastructure to be more energy efficient.

Efficiency Standard Comparison for 3 Phase Transformer:

SS530 2014		Nema TP-1		DOE 2016	
Rating (kVA)	Efficiency (%) at 50% Load	Rating (kVA)	Efficiency (%) at 35% Load	Rating (kVA)	Efficiency (%) at 35% Load
25	97.42	30	97.50	30	98.23
		45	97.50	45	98.40
63	98.01	75	98.00	75	98.60
100	98.28	112.5	98.20	112.5	98.74
		150	98.30	150	98.83
200	98.64	225	98.50	225	98.94
315	98.82	300	98.60	300	99.02
500	98.97	500	98.70	500	99.14
750	99.08	750	98.80	750	99.23
1000	99.14	1000	98.90	1000	99.28

SPECIAL FEATURES

- UL Certified Insulation System (H180°C, N200°C, R220°C)
- K-Factor Rated Transformers (K4, K7, K13, K20, K30)
- Common Mode Noise Attenuation>140dB (For Frequency<90kHz)
- Low Inrush Transformer (<3IN without external device)
- Harmonic Mitigating Dzn0 Zigzag Transformers (Zero Phase Shift)
- Double and Multi Electrostatic Shielded Transformers
- Multiple Tapped Windings (Up to 7 Input taps on Primary Winding)
- Attenuates Triplen Harmonic Current
- Customization of Voltages
- High Overload Capability
- Double Sized Neutral & Earth Bar with Removal Copper Link
- Digital Temperature Monitoring
- Voltage Tap Changer
- High/Low Impedance
- Building Management System (BMS) Interface
- Customized casing/cabinet size and colour
- Additional device for over current and earth fault protection
- Automatic cooling fan control

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