

TRANSFORMERS

SPECIFICATIONS

- Resin Cast / VPI / Oil Cooled
- Winding Material - Aluminium or Copper
- Conductor Types – LITZ / CTC / Wires / Strips / Single layer edge wound
- Core – CRGO / CRNGO / Amorphous / Nano crystalline / Ferrite
- Core Type – Strips / Mitered / Wound / EI, UI, and other shapes
- Cooling – AN /AF / ONAN / ONAF / ANWF / AFWF
- Configuration – Single phase / Three phase / Zig-Zag or Phase Shifting for Harmonic Mitigation
- Power Ratings – Upto 630 KVA
- Voltages – Upto 6.6 KV
- Frequency – 10 Hz to 20 KHz
- IP 00 to IP 65



TYPES

- Harmonic Mitigating Transformers
- Lighting Transformers
- Distribution Transformers
- Control Transformers
- Traction Application
- High Frequency Transformers
- Auto Transformers
- Auto Transformers for starters
- Short Circuit Proof Transformers



INDUCTORS

SPECIFICATIONS

- Resin Cast / VPI / Oil Cooled
- Winding Material - Aluminium or Copper
- Conductor Types – LITZ / CTC / Wires / Strips / Single layer edge wound
- Core – Air / CRGO / CRNGO / Amorphous / Nano crystalline / Ferrite / Powder Core
- Core Type – Strips / Mitered / Wound / EI, UI, and other shapes
- Cooling – AN /AF / ONAN / ONAF / ANWF / AFWF
- Configuration – Single phase / Three phase / Common Mode AC or DC / High Frequency
- Current Ratings – Upto 1500 Amps
- Voltages – Upto 6.6 KV
- Frequency – 10 Hz to 20 KHz
- Frequency Type – Sine / Square / PWM
- IP 00 to IP 65
- Cooling – From AN (Air Natural) upto AFWF (Air Forced Water Forced)



TYPES

- Line Inductor
- Drive Output Inductor
- Output Filter Inductor
- Common Mode Inductor
- DC filter Inductor
- DC Boost Inductor



SPECIAL PRODUCTS

- Harmonic Filters
- Power Factor Improvement Panels
- MCC and PCC Panels
- Special Test Benches



Design

Design Philosophy

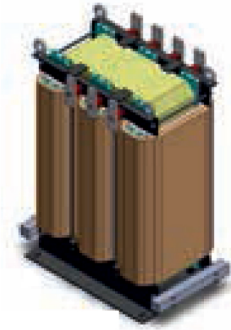
- Confident to create challenging designs and open to Build to print propositions

Design Requirements

- Detail product specification
- Component value current spectrum and size constraints
- We convert either information into a product

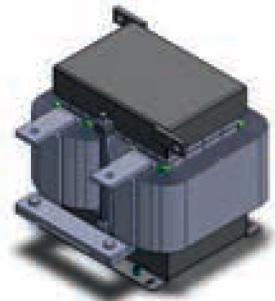
Design Criteria

- Cost Optimization on the basis of performance requirements
- High Efficiency during operation
- Size Minimisation (Volume, Foot print and mass)
- We convert either information into a product
- Develop components that meet safety requirements of various regulatory agencies
- Reduce audible noise
- Offer new designs using new materials to meet the often conflicting demand of the applications
- Selection of core and winding material and type done on the basis of the above requirements



Design Tools

- We have developed a special software for designing of transformer and Inductors for optimized design and loss prediction. We have used our experience of over 30 years in developing the same
- We have in-house solid edge for 3D modeling and simulation
- We outsource 2D/3D FEM analysis for accurate loss and temperature prediction



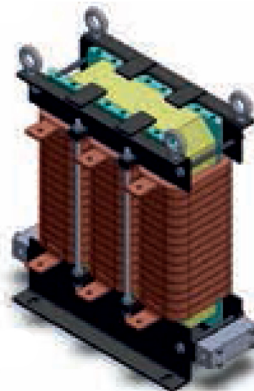
Material Selection

Core material and type Selection on the basis of

- Saturation flux density - Height of BH loops
- Permeability – Ratio of B/H at all point of the loop
- Coercivity-width of the BH loop.
- Also losses at the given frequency and gap loss is considered to select the core for optimized design for the specific applications
- Size restrictions, noise and efficiency
- Properties change with operational frequency, time, Temperature and Mechanical stress.
- We strive to provide optimal

Winding Material and type selection on the basis of

- Frequency and waveform
- Eddy loss and Skin loss calculations
- Proximity losses for the given construction



HILL TECHNICAL SALES CORP.

OEM Component Representatives Since 1966

"We Provide Solutions That Work"

220 West Campus Drive / Suite 101
Arlington Heights, IL 60004
USA

Phone + 1 847 255-4400

Fax + 1 847 255-0192

Website www.hilltech.com

Blog <http://blog.hilltech.com>