

Solutions for Harmonics in Power Systems

Multiple transformer-based solutions to reduce energy consumption and improve power quality in distribution systems. The Harmonics Limited family of products contains a variety of technologies, each uniquely designed to address power quality problems caused by harmonic distortion.

Harmonic Suppression System (HSS)

HSS® is the only technology that eliminates harmonic currents from the transformer to the farthest load. Using HSS, energy consumption (kW) can be reduced up to 7% and phase capacity held captive by harmonic currents is released, effectively increasing system capacity up to 20%.

Standards

- Built in accordance with NEMA, ANSI, UL and CSA standards
- UL and CSA Listed

Features, Functions, Benefits

- Patented HSS technology allows transformers to be sized exactly to the load. No need to de-rate or oversize panels.
- Lower installation costs
- Reduced energy consumption
- Longer equipment life
- ROI can be less than 24 months

SystemMax™

A stand-alone, passive harmonic suppression system that blocks the flow of 3rd harmonic current in the secondary of a distribution transformer.

SystemMax installs on the neutral of an existing distribution transformer. It is sized to the transformer (15 kVA to 1,000 kVA).

The enclosure is UL/NEMA Type 1, steel with ANSI –61 gray paint.



TransMax™

DOE-2016 Standard transformer and patented Harmonic Suppression System technology in a single enclosure.

The basic transformer is 480V primary, 208Y/120V secondary, with either copper or aluminum windings, 115°C rise, insulation class 220°C with electrostatic shielding.

Options available include 80°C rise, low noise (-3dB) and 208V primary. The enclosure is UL/NEMA Type 1, steel with ANSI –61 gray paint.

Standard sizes range from 30 kVA to 500 kVA.

The Harmonics Guarantee

Harmonics Limited products are warranted to be free from defects in materials and workmanship under normal use and service for a period of five years from the date of purchase. Our products are UL certified. We are proud members of the U.S. Green Building Council. www.usgbc.org.



The Green Way to Sustained Energy Savings

Solutions for Harmonics in Power Systems

Multiple transformer-based solutions to handle problems caused by third harmonic current.

Dry Type Three Phase Ventilated Transformers

Harmonics Limited offers a full line of transformers within the 600 volt class. All of the units in this line have these properties:

- DOE-2016 Standard for energy efficiency
- NEMA 3R heat cured powder coat finish enclosure
- 220°C insulation class
- Manufactured to NEMA, ANSI, UL and CSA Standards

Features, Functions, Benefits

- Designed with lower weight and smaller size for easier handling and installation
- Large connection compartment for ease of wiring and installation
- Quiet operation for installation flexibility
- Hassle-free front cover installation
- Primary taps provided to compensate for voltage variations

Consult factory for options not listed in descriptions.

Non-Linear Transformers

Harmonics Limited's K-factor rated non-linear transformers provide safe and efficient operation in non-linear load environments designed to meet the needs of a pre-electronic era. These units prevent severe overheating in distribution transformers.

Specifications

- 15 to 750 kVA
- K-4, K-13, K-20 units standard
- Primary voltage range of 600V to 208V
- Secondary voltage 480Y/277V and 208Y/120V
- 60Hz with 50Hz option
- Aluminum windings, copper as an option
- Temperature rise 150°C standard with 115°C and 80°C options
- Electrostatic shield
- Cores designed for reduced flux densities to compensate for harmonic voltage distortion



HMT / Zig-Zag Transformers

The HMT (Harmonic Mitigating Transformer) is a three phase transformer with 0° or -30° displacement between the primary and the secondary.

An HMT is used to reduce current harmonics on the primary side of a transformer and voltage distortion on the secondary. A single HMT reduces the flow of triplen harmonics, 3rd, 9th, 15th, 21st, etc into the transformer primary. Used together on the same power line a 0° and -30° HMT will also reduce the 5th and 7th harmonics.

These transformers are designed to reduce voltage distortion when powering non-linear loads.

Specifications

- 15 to 1,500 kVA
- 480V primary voltage, option of 208V
- Secondary voltage 208Y/120V
- 60Hz with 50Hz option
- Available in copper or aluminum
- K-13 standard with K-4 and K-20 options
- Temperature rise 150°C standard with 15°C and 80°C options
- Electrostatic shield



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