SECTION 2

HARMONIC MITIGATING TRANSFORMERS

Harmonic Mitigating Transformers

Many of today's electronic devices are non-linear loads generating high levels of harmonic currents that are then fed back onto your distribution system. This waveform distortion results in overheating of motors and transformers, increased neutral currents and malfunction/damage to other equipment on the line.

Acme Electric introduces a line of harmonic mitigating transformers that combine the technologies shown in our non-linear load (K-Factor) transformers. Where conventional K-Factor transformers "deal" with harmonics, containing them within the transformer and preventing them from going further upstream; harmonic mitigating transformers eliminate harmonics by pitting them against themselves. This technology not only results in "cleaner power" but also provides the most energy efficient means to deal with harmonic problems.

Available in sizes ranging from 30 thru 225 kVA, with copper windings and a variety of other design options and accessories, Acme harmonic mitigating transformers offer you reduced transformer heat, reduced voltage distortion due to 3rd order harmonics, higher efficiency.

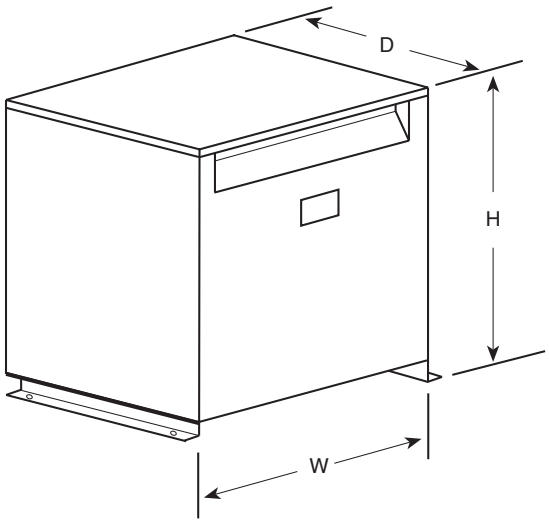
FEATURES

- Unlike K-rated transformers, Harmonic Mitigating transformers actually treat the triplen harmonics in the secondary winding
- Reduce supply voltage flat topping caused by non-linear loads
- Improve overall power factor of supply system
- Suitable for K-Factor loads
- Improved energy efficiency (Meet TP1 at K-1 load)
- Copper conductor construction

APPLICATIONS

- Financial facilities
- Educational facilities
- TV Broadcast facilities
- Office buildings
- Hospitals
- Health care facilities

DIMENSIONAL DRAWING



SELECTION CHARTS

HARMONIC MITIGATING TRANSFORMERS

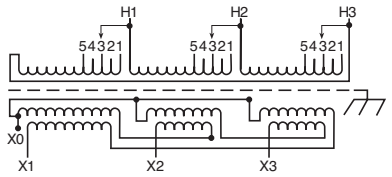
480 DELTA PRIMARY VOLTS — 208Y/120 SECONDARY VOLTS

kVA	CATALOG NO.	APPROX. DIMENSIONS ② Inches (Cm.) HEIGHT	WIDTH	DEPTH	APPROX. SHIP WEIGHT Lbs. (Kg.)	TYPE MTG. W – Wall F – Floor	WEATHER SHIELD P/N	Wiring Diagrams & Design Figures Begin on Page 122
30.0	CMT533124S	29.90 (75.9)	28.15 (71.5)	22.37 (56.8)	535 (242.7)	F①	WSA2	81-E
45.0	CMT533134S	29.90 (75.9)	28.15 (71.5)	22.37 (56.8)	600 (272.2)	F①	WSA2	81-E
75.0	CMT533144S	35.90 (91.2)	31.90 (81.0)	26.88 (68.3)	760 (344.7)	F①	WSA3	81-E
112.5	CMT533154S	41.52 (105.5)	32.90 (83.6)	29.88 (75.9)	1180 (535.2)	F	WSA4	81-E
150.0	CMT533164S	41.52 (105.5)	32.90 (83.6)	29.88 (75.9)	1340 (607.8)	F	WSA4	81-E
225.0	CMT533174S	41.52 (105.5)	32.90 (83.6)	29.88 (75.9)	1970 (893.6)	F	WSA4	81-E

MITIGATING TRANSFORMER WIRING DIAGRAM

81

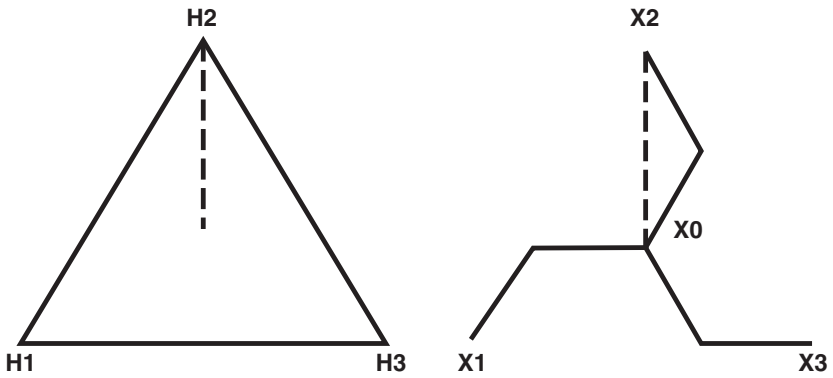
PRIMARY: 480 Volts Delta
SECONDARY: 208Y/120 Volts
TAPS: 2, 2 ½% ANFC, 2, 2 ½% BNFC



Primary Volts	Connect Primary Lines To	Inter-Connect	Connect Secondary Lines To
504	H1, H2, H3	1	
492	H1, H2, H3	2	
480	H1, H2, H3	3	
468	H1, H2, H3	4	
456	H1, H2, H3	5	
Secondary Volts			
208			X1, X2, X3
120 1 phase			X1 to X0 X2 to X0 X3 to X0

Diagram Showing Delta Primary & Zig-Zag Secondary

(Zero degree angular displacement)



Harmonic Mitigating Transformers – How do they work?

They consist of a Delta primary and a Zig-Zag secondary. The Zig-Zag secondary causes a phase shift in the triplen harmonics, which results in a canceling effect. This prevents the triplen harmonic losses from being coupled back into the primary and results in cooler operation and increased energy efficiency.

The Acme Advantages

1. Acme utilizes special winding techniques and "foil" conductors in both its K-Factor and Harmonic Mitigating transformers to minimize the heating effects of harmonic currents.
2. The use of foil conductor increases the dielectric strength of the insulation because one layer is only one turn. Foil also eliminates the effects of axial forces, which can result in failure of wire wound transformers.

NOTES