

Non-Linear Three-Phase

15 to 500 kVA

Applications

- To meet the demands of non-linear loads caused by modern office equipment

Specifications

- K-4, K-13, and K-20 rated units standard
- Meets DOE-2016 and C802 standards for energy efficiency
- 60 Hz operation
- Aluminum windings
- 150°C temperature rise
- 220°C insulation class units
- NEMA3R rated enclosures
- Heat-cured ASA-61 gray powder coat finish
- Cores of high quality electrical steel
- Electrostatic shield
- Primary taps on most units
- Lugs provided for units up to and including 75 kVA on catalog items

Features, Functions, Benefits

- Large connection compartment for ease of wiring and installation
- Many sizes in stock and available for immediate shipment
- Quiet operation for installation flexibility
- Seismic certification for all units



Standards

- Meets DOE-2016 standard Part 431, Subpart K for energy efficiency
- Meets NRCAN 2019 requirements, C802.2.18 Standard for energy efficiency
- Built in accordance with NEMA, ANSI, UL and CSA standards

Options and Accessories

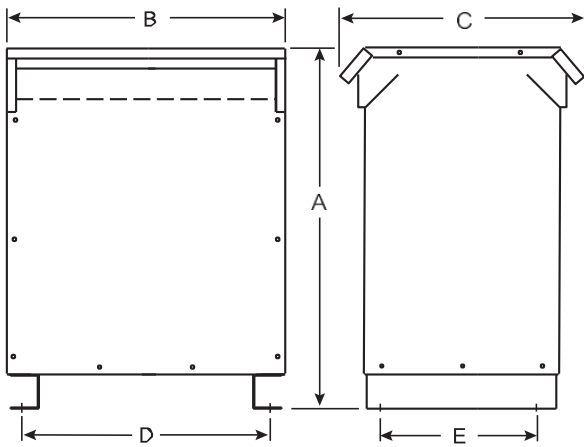
- Other sizes, voltages and temperature rises available
- Copper windings
- CE Marked units available as custom
- Wall brackets available for units up to 75 kVA

Approvals



Enclosure Figure

Figure 24



K-factor

K-factor is a rating devised by Underwriters Laboratories to provide a uniform standard for transformers designed to handle non-linear loads. The more harmonic currents present, the higher the K-factor specified in sizing the transformer.

To calculate the K-factor, multiply the square of the percentage of harmonic current by the square of the harmonic order and add the results. For example, if a load is 60% of the fundamental, 65% of the third harmonic, 30% of the fifth harmonic, and 35% of the seventh harmonic, the resulting K-factor would be 12.42:

$$(.6)^2 1 + (.65)^2(3)^2 + (.30)^2(5)^2 + (.35)^2(7)^2 = 12.42$$

In this example, a transformer with a K-factor of 13 should be specified. The K-factor rating defines the transformer's ability to withstand odd-harmonic currents while operating within its insulation class.

For more information, see catalog Section 13 on Power Quality.

See Lug and Mounting Bracket information on page 3-4.

Model Numbers Defined^o

				824-TXXY-ABC	
				3 Phase Ventilated Non-Linear Floor Mount	
				All models with electrostatic shield	
				Type	
				C802 compliant	5
				DOE compliant	9
kVA Rating / XX		kVA Rating / XX			
15.0	16	150	26		
20	17	167	27		
25	18	200	28		
30	19	225	29		
37.5	20	250	30		
45	21	300	31		
50	22	333	32		
75	23	400	33		
100	24	500	34		
112.5	25				
Primary		Secondary			
208		480Y/277		1	
240		208Y/120		2	
240		480Y/277		3	
480		208Y/120		4	
480		480Y/277		5	
Specials*				6	
Not assigned				7	
208		208Y/120		8	
600		208Y/120		9	
				Wiring	
				Aluminum	0
				Copper	8
				Temperature Rise	
				150°C Rise	0
				115°C Rise	1
				80°C Rise	8
				K-Factor	
				K=4	1
				K=13	2
				K=20	3

* Suffix defined incrementally

^o Not all features listed are compatible

Three-Phase General Purpose Non-Linear Transformers – DOE Compliant

Standard Application Voltages • K-13 • Electrostatic Shield
 150°C Temperature Rise • Aluminum Windings • NEMA3R Enclosures

480V Delta — 208Y/120V • Taps: 2 @ 2.5% FCAN & 4 @ 2.5% FBCN										
kVA	Catalog Number	Enclosure	Height (A) inches	Width (B) inches	Depth (C) inches	(D) inches	(E) inches	Est Ship Wgt	Wall Mounting Bracket Kit	Wiring Diagram
		Figure								
15	824-9164-002	24	25	22	22	18.1	13	360	223-7008-030	T480E
30	824-9194-002	24	28	25	23.5	19.5	14.5	480	223-7008-075	T480E
45	824-9214-002	24	32	27	26	23.5	16	625	223-7008-075	T480E
75	824-9234-002	24	38	29	29	25.5	18	875	n/a	T480E
112.5	824-9254-002	24	42	33	32.5	30	21	1,125	n/a	T480E
150	824-9264-002	24	46	35	37	30.8	25	1,545	n/a	T480E
225	824-9294-002	24	52	35	37	30.8	25	1,895	n/a	T480E
300	824-9314-002	24	60	48	43.5	42	27	2,905	n/a	T480E
600V Delta — 208Y/120V • Taps: 2 @ 2.5% FCAN & 2 @ 2.5% FBCN										
15	824-9169-002	24	25	22	22	18.1	13	360	223-7008-030	T600G
30	824-9199-002	24	28	25	23.5	19.5	14.5	480	223-7008-075	T600G
45	824-9219-002	24	32	27	26	23.5	16	625	223-7008-075	T600G
75	824-9239-002	24	38	29	29	25.5	18	875	n/a	T600G
112.5	824-9259-002	24	42	33	32.5	30	21	1,125	n/a	T600G
150	824-9269-002	24	46	35	37	30.8	25	1,545	n/a	T600G
225	824-9299-002	24	52	35	37	30.8	25	1,895	n/a	T600G
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Three-Phase General Purpose Non-Linear Transformers – NRCAN-2019, C802 Compliant

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300	824-5319-002	24	60	48	43.5	42	27	2,905	n/a	T600G

See website for additional kVA, copper windings and temperature options.
 Housing dimensions subject to change without notice. Consult website or factory where dimensions are critical.
 Use the "Find a Product" tool for detailed specification sheets.

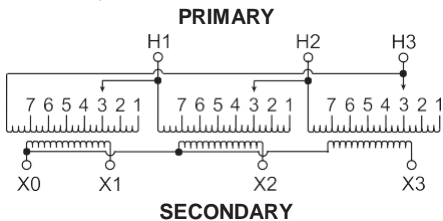
For further information, contact an Application Engineer at 415-960-4852 or at sales@omexindustries.us

Enclosure Figures

T480E Wiring Diagram & Connections

Wiring Diagram

Primary: 480 Volts Delta
Secondary: 208Y/120 Volts



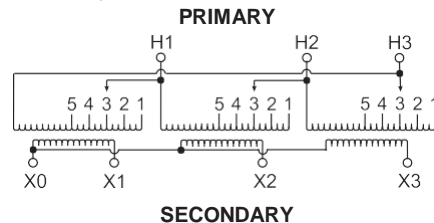
Connections

Primary Volts	On Each Coil Jumper Taps To	Primary Lines Connect To
504	1	H1, H2, H3
492	2	H1, H2, H3
480	3	H1, H2, H3
468	4	H1, H2, H3
456	5	H1, H2, H3
444	6	H1, H2, H3
432	7	H1, H2, H3
Secondary Volts	Secondary Lines Connect To	
208	X1, X2, X3	
120	Between X0 and X1 or X2 or X3	
1 phase		

T600G Wiring Diagram & Connections

Wiring Diagram

Primary: 600 Volts Delta
Secondary: 208Y/120 Volts



Connections

Primary Volts	On Each Coil Jumper Taps To	Primary Lines Connect To
630	1	H1, H2, H3
615	2	H1, H2, H3
600	3	H1, H2, H3
585	4	H1, H2, H3
570	5	H1, H2, H3
Secondary Volts	Secondary Lines Connect To	
208	X1, X2, X3	
120	Between X0 and X1 or X2 or X3	
1 phase		

More wiring diagrams can be found in catalog's appendix, section 15.

Use the "Find a Product" tool on our website for detailed specification sheets.

For further information, contact an Application Engineer at 415-960-4853, sales@omexindustries.us

Lugs

Part Number	kVA	Primary Lug	Qty	Secondary Lug	Qty
4PT-2007-LUG	15	#14 - 2	2	#2/0 - 6	2
4PT-2017-LUG	25	#14 - 2	2	250MCM - 6	2
4PT-2008-LUG	37.5	#14 - 2	2	350MCM - 6	2
4PT-2009-LUG	50	#2/0 - 6	2	600MCM - 6	2
4PT-2018-LUG†	75	#2/0 - 6	2	600MCM - 6	4

† Must be ordered, not included on stock units

Wall Mounting Bracket Kits

Part Number	Description	Max Unit Wgt (lbs)
223-7008-030	For 15 kVA units, 150°C rise	250
223-7008-075	For 16 to 45 kVA units, 150°C rise	750

Wall Mounting Bracket Kits with Drip Pans

400-4701-226	For Three Phase units, 19" width	750
400-4701-227	For Three Phase units, 22" width	750
400-4701-228	For Three Phase units, 25" width	750
400-4701-229	For Three Phase units, 27" width	750