

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

### Options and Accessories

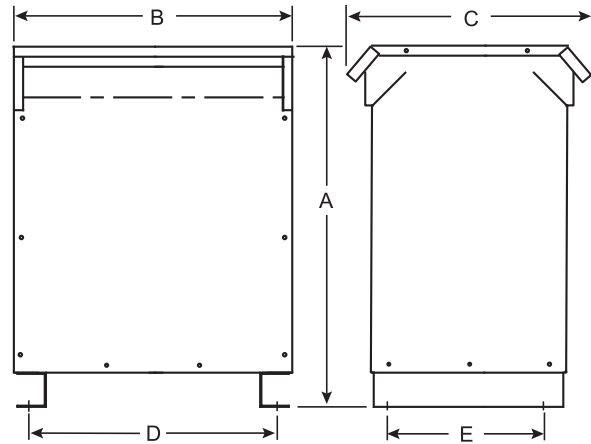
- Other sizes, voltages and temperature rises available
- Copper windings
- CE Marked units available as custom
- Wall brackets available for units up to 75 kVA

### 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**

**424-TXXY-ABC**

|  |                        |                                      |    |  |  |  |  |  |  |  |  |  |
|--|------------------------|--------------------------------------|----|--|--|--|--|--|--|--|--|--|
| <b>3 Phase Ventilated Non-Linear Floor Mount</b> |                        | All models with electrostatic shield |    |  |  |  |  |  |  |  |  |  |
| <b>Type</b>                                      |                        |                                      |    |  |  |  |  |  |  |  |  |  |
| C802 compliant                                   |                        | 2                                    |    |  |  |  |  |  |  |  |  |  |
| DOE compliant                                    |                        | 9                                    |    |  |  |  |  |  |  |  |  |  |
| <b>kVA Rating / XX</b>                           | <b>kVA Rating / XX</b> |                                      |    |  |  |  |  |  |  |  |  |  |
| 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                     |                                      |    |  |  |  |  |  |  |  |  |  |
| <b>Primary</b>                                   | <b>Secondary</b>       |                                      |    |  |  |  |  |  |  |  |  |  |
| 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                                    |    |  |  |  |  |  |  |  |  |  |
| <b>Wiring</b>                                    |                        |                                      |    |  |  |  |  |  |  |  |  |  |
| Aluminum   |                        | 0                                    |    |  |  |  |  |  |  |  |  |  |
| Copper   |                        | 8                                    |    |  |  |  |  |  |  |  |  |  |
| <b>Temperature Rise</b>                          |                        |                                      |    |  |  |  |  |  |  |  |  |  |
| 150°C Rise                                       |                        | 0                                    |    |  |  |  |  |  |  |  |  |  |
| 115°C Rise                                       |                        | 1                                    |    |  |  |  |  |  |  |  |  |  |
| 80°C Rise  |                        | 8                                    |    |  |  |  |  |  |  |  |  |  |
| <b>K-Factor</b>                                  |                        |                                      |    |  |  |  |  |  |  |  |  |  |
| K=4  |                        | 1                                    |    |  |  |  |  |  |  |  |  |  |
| K=13   |                        | 2                                    |    |  |  |  |  |  |  |  |  |  |
| K=20   |                        | 3                                    |    |  |  |  |  |  |  |  |  |  |

\* Suffix defined incrementally

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

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

| <b>480V Delta — 208Y/120V • Taps: 2 @ 2.5% FCAN &amp; 4 @ 2.5% FBCN</b> |                |                  |                   |                  |                  |            |            |              |                           |                |  |
|---|----------------|------------------|-------------------|------------------|------------------|------------|------------|--------------|---------------------------|----------------|--|
| kVA   | Catalog Number | Enclosure Figure | Height (A) inches | Width (B) inches | Depth (C) inches | (D) inches | (E) inches | Est Ship Wgt | Wall Mounting Bracket Kit | Wiring Diagram |  |
| 15  | 424-9164-002   | 24               | 25                | 22               | 22               | 18.2       | 13         | 310          | 223-7008-030              | T480E          |  |
| 30  | 424-9194-002   | 24               | 28                | 25               | 23.5             | 19.1       | 14.5       | 400          | 223-7008-075              | T480E          |  |
| 45  | 424-9214-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 585          | 223-7008-075              | T480E          |  |
| 75  | 424-9234-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 775          | n/a                       | T480E          |  |
| 112.5   | 424-9254-002   | 24               | 42                | 33               | 32.5             | 30.0       | 21         | 1,000        | n/a                       | T480E          |  |
| 150   | 424-9264-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,530        | n/a                       | T480E          |  |
| 225   | 424-9294-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,660        | n/a                       | T480E          |  |
| 300   | 424-9314-002   | 24               | 60                | 48               | 43.5             | 42         | 27         | 2,460        | n/a                       | T480E          |  |
| <b>600V Delta — 208Y/120V • Taps: 2 @ 2.5% FCAN &amp; 2 @ 2.5% FBCN</b> |                |                  |                   |                  |                  |            |            |              |                           |                |  |
| 15  | 424-9169-002   | 24               | 25                | 22               | 22               | 18.2       | 13         | 310          | 223-7008-030              | T600G          |  |
| 30  | 424-9199-002   | 24               | 28                | 25               | 23.5             | 19.1       | 14.5       | 400          | 223-7008-075              | T600G          |  |
| 45  | 424-9219-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 585          | 223-7008-075              | T600G          |  |
| 75  | 424-9239-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 775          | n/a                       | T600G          |  |
| 112.5   | 424-9259-002   | 24               | 42                | 33               | 32.5             | 30.0       | 21         | 1,000        | n/a                       | T600G          |  |
| 150   | 424-9269-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,530        | n/a                       | T600G          |  |
| 225   | 424-9299-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,660        | n/a                       | T600G          |  |
| 300   | 424-9319-002   | 24               | 60                | 48               | 43.5             | 42         | 27         | 2,460        | n/a                       | T600G          |  |

**Three-Phase General Purpose Non-Linear Transformers – C802 Compliant**

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

| <b>480V Delta — 208Y/120V • Taps: 2 @ 2.5% FCAN &amp; 4 @ 2.5% FBCN</b> |                |                  |                   |                  |                  |            |            |              |              |                |  |
|---|----------------|------------------|-------------------|------------------|------------------|------------|------------|--------------|--------------|----------------|--|
| kVA   | Catalog Number | Enclosure Figure | Height (A) inches | Width (B) inches | Depth (C) inches | (D) inches | (E) inches | Est Ship Wgt | Mounting Kit | Wiring Diagram |  |
| 15  | 424-2164-002   | 24               | 25                | 22               | 22               | 18.2       | 13         | 310          | 223-7008-030 | T480E          |  |
| 30  | 424-2194-002   | 24               | 28                | 25               | 23.5             | 19.1       | 14.5       | 400          | 223-7008-075 | T480E          |  |
| 45  | 424-2214-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 585          | 223-7008-075 | T480E          |  |
| 75  | 424-2234-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 775          | n/a          | T480E          |  |
| 112.5   | 424-2254-002   | 24               | 42                | 33               | 32.5             | 30.0       | 21         | 1,000        | n/a          | T480E          |  |
| 150   | 424-2264-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,530        | n/a          | T480E          |  |
| 225   | 424-2294-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,660        | n/a          | T480E          |  |
| 300   | 424-2314-002   | 24               | 60                | 48               | 43.5             | 42         | 27         | 2,460        | n/a          | T480E          |  |
| <b>600V Delta — 208Y/120V • Taps: 2 @ 2.5% FCAN &amp; 2 @ 2.5% FBCN</b> |                |                  |                   |                  |                  |            |            |              |              |                |  |
| 15  | 424-2169-002   | 24               | 25                | 22               | 22               | 18.2       | 13         | 310          | 223-7008-030 | T600G          |  |
| 30  | 424-2199-002   | 24               | 28                | 25               | 23.5             | 19.1       | 14.5       | 400          | 223-7008-075 | T600G          |  |
| 45  | 424-2219-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 585          | 223-7008-075 | T600G          |  |
| 75  | 424-2239-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 775          | n/a          | T600G          |  |
| 112.5   | 424-2259-002   | 24               | 42                | 33               | 32.5             | 30.0       | 21         | 1,000        | n/a          | T600G          |  |
| 150   | 424-2269-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,530        | n/a          | T600G          |  |
| 225   | 424-2299-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,660        | n/a          | T600G          |  |
| 300   | 424-2319-002   | 24               | 60                | 48               | 43.5             | 42         | 27         | 2,460        | 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 800-892-3755, [technical\\_services@jeffersonelectric.com](mailto:technical_services@jeffersonelectric.com)

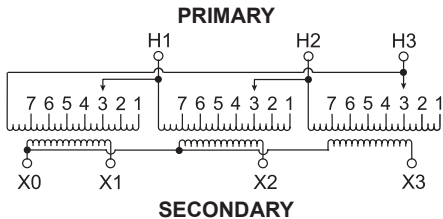


**Enclosure Figures**

**T480E** Wiring Diagram & Connections

**Wiring Diagram**

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



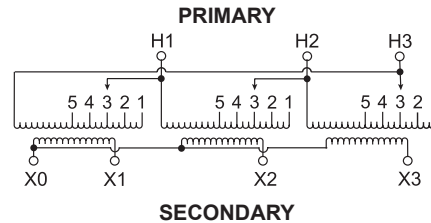
**Connections**

| 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         | X1, X2, X3                    |                          |

**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         | X1, X2, X3                    |                          |

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 800-892-3755, [technical\\_services@jeffersonelectric.com](mailto:technical_services@jeffersonelectric.com)

**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 75 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 |