

## 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

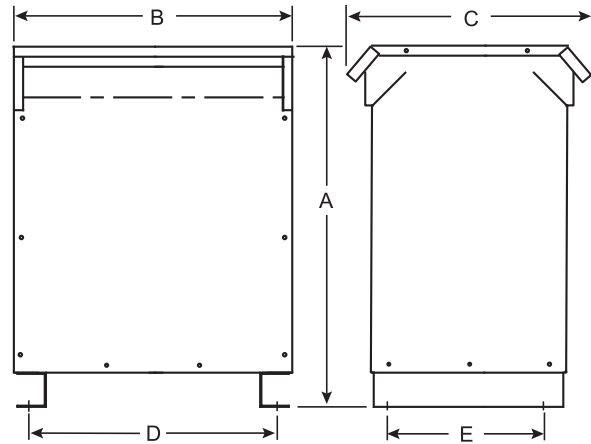
- Other sizes, voltages and temperature rises available
- Copper windings
- CE Marked units available as custom
- Wall brackets available for units up to 75 kVA

### 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** ⚙

**424-TXXY-ABC**

|  |                        |                                      |   |
|--|------------------------|--------------------------------------|---|
| <b>3 Phase Ventilated Non-Linear Floor Mount</b> |                        | All models with electrostatic shield |   |
|  |                        | <b>Type</b>                          |   |
| C802 compliant                                   |                        | 5                                    |   |
| 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

⚙ 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

| <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               | 18.1       | 13         | 360          | 223-7008-030              | T480E          |
| 30  | 424-9194-002   | 24               | 28                | 25               | 23.5             | 19.5       | 14.5       | 480          | 223-7008-075              | T480E          |
| 45  | 424-9214-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 625          | 223-7008-075              | T480E          |
| 75  | 424-9234-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 875          | n/a                       | T480E          |
| 112.5   | 424-9254-002   | 24               | 42                | 33               | 32.5             | 30         | 21         | 1,125        | n/a                       | T480E          |
| 150   | 424-9264-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,545        | n/a                       | T480E          |
| 225   | 424-9294-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,895        | n/a                       | T480E          |
| 300   | 424-9314-002   | 24               | 60                | 48               | 43.5             | 42         | 27         | 2,905        | 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               | 18.1       | 13         | 360          | 223-7008-030              | T600G          |
| 30  | 424-9199-002   | 24               | 28                | 25               | 23.5             | 19.5       | 14.5       | 480          | 223-7008-075              | T600G          |
| 45  | 424-9219-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 625          | 223-7008-075              | T600G          |
| 75  | 424-9239-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 875          | n/a                       | T600G          |
| 112.5   | 424-9259-002   | 24               | 42                | 33               | 32.5             | 30         | 21         | 1,125        | n/a                       | T600G          |
| 150   | 424-9269-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,545        | n/a                       | T600G          |
| 225   | 424-9299-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,895        | n/a                       | T600G          |
| 300   | 424-9319-002   | 24               | 60                | 48               | 43.5             | 42         | 27         | 2,905        | n/a                       | T600G          |

**Three-Phase General Purpose Non-Linear Transformers – NRCAN-2019, 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  | 424-5164-002   | 24               | 25                | 22               | 22               | 18.1       | 13         | 360          | 223-7008-030 | T480E          |
| 30  | 424-5194-002   | 24               | 28                | 25               | 23.5             | 19.5       | 14.5       | 480          | 223-7008-075 | T480E          |
| 45  | 424-5214-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 625          | 223-7008-075 | T480E          |
| 75  | 424-5234-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 875          | n/a          | T480E          |
| 112.5   | 424-5254-002   | 24               | 42                | 33               | 32.5             | 30         | 21         | 1,125        | n/a          | T480E          |
| 150   | 424-5264-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,545        | n/a          | T480E          |
| 225   | 424-5294-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,895        | n/a          | T480E          |
| 300   | 424-5314-002   | 24               | 60                | 48               | 43.5             | 42         | 27         | 2,905        | n/a          | T480E          |
| <b>600V Delta — 208Y/120V • Taps: 2 @ 2.5% FCAN &amp; 2 @ 2.5% FBCN</b> |                |                  |                   |                  |                  |            |            |              |              |                |
| 15  | 424-5169-002   | 24               | 25                | 22               | 22               | 18.1       | 13         | 360          | 223-7008-030 | T600G          |
| 30  | 424-5199-002   | 24               | 28                | 25               | 23.5             | 19.5       | 14.5       | 480          | 223-7008-075 | T600G          |
| 45  | 424-5219-002   | 24               | 32                | 27               | 26               | 23.5       | 16         | 625          | 223-7008-075 | T600G          |
| 75  | 424-5239-002   | 24               | 38                | 29               | 29               | 25.5       | 18         | 875          | n/a          | T600G          |
| 112.5   | 424-5259-002   | 24               | 42                | 33               | 32.5             | 30         | 21         | 1,125        | n/a          | T600G          |
| 150   | 424-5269-002   | 24               | 46                | 35               | 37               | 30.8       | 25         | 1,545        | n/a          | T600G          |
| 225   | 424-5299-002   | 24               | 52                | 35               | 37               | 30.8       | 25         | 1,895        | n/a          | T600G          |
| 300   | 424-5319-002   | 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 800-892-3755, [technical\\_services@jeffersonelectric.com](mailto:technical_services@jeffersonelectric.com)

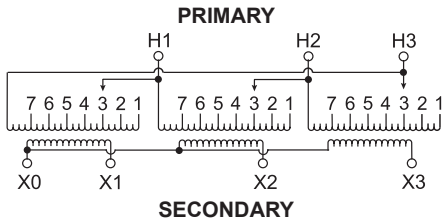


**Enclosure Figures**

**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               |

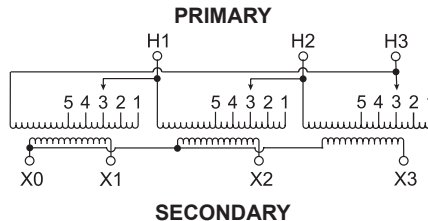
  

| Secondary Volts | Secondary Lines Connect To    |
|-----------------|-------------------------------|
| 208             | X1, X2, X3                    |
| 120             | Between X0 and X1 or X2 or X3 |
| 1 phase         |                               |

**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 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 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 |